SAMOA®

LEADING THROUGH INNOVATION

AIR OPERATED DOUBLE DIAPHRAGM PUMPS

PIVOT SERIES

UNIVERSAL DESIGN

PRODUCT INNOVATION SINCE 1958

SAMOA Headquarters and Technical Centre in Gijón (Spain).

SAMOA Industrial is a **leading manufacturer of pumps, systems, and solutions for complex fluid handling**. With a focus on quality and innovation, SAMOA designs, develops, manufactures, and distributes products used in transferring, dispensing, applying, measuring, and controlling fluids across various industries.

Founded with an international vision, SAMOA has expanded its presence to over 110 countries through subsidiaries and specialized distributors. The company's core values include innovation, with a **strong R&D department** focused on developing advanced pneumatic pumps and fluid management systems, and excellence, ensuring **high-quality manufacturing and service** through state-of-the-art facilities and strict quality controls. Always committed to **environmental sustainability and a healthy and safe workplace**, our work processes and facilities are consequently ISO 9001, ISO 14001 and ISO 45001 certified.

SAMOA also relies on integrity and trust to foster long-term professional relationships with its stakeholders. The company has three product divisions: lubrication equipment, process pumps, and applied industrial fluid solutions. A third-generation family business, SAMOA has been a trusted leader in fluid handling since 1958.

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Get to know us

Product design

Innovation

Every product we manufacture at SAMOA tells a story of precision and dedication. Our passion for pursuing excellence is reflected in every stage of the process, from design aimed at meeting market needs to after-sales support that ensures optimal performance over time. In a world where it is increasingly common to sacrifice quality to reduce costs, at SAMOA, we take pride in offering industrial **solutions designed to last and withstand even the most demanding working conditions**.

The quality of our European made products is embedded in the DNA of every SAMOA product. We use **first-class materials and precision-machined finishes,** and rigorous controls are applied to ensure that every piece, component, and system meet our high targets.

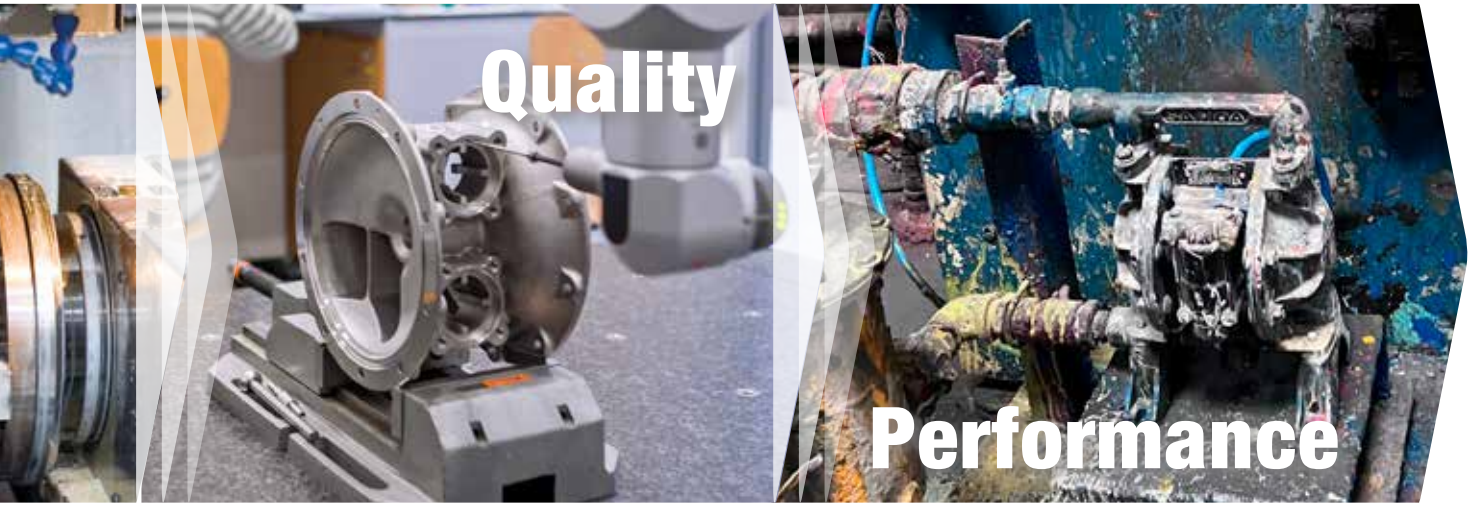
Our reliability and commitment to excellence have been recognized across all continents. Customers have trusted our products for decades to keep their operations running smoothly without interruptions.

Choosing SAMOA Industrial means opting for a company that values precision, reliability, and innovation as much as its customers value results. We are driven by an **unwavering commitment to excellence and a passion for delivering solutions that make a difference**.

NEW PRODUCT LAUNCH PROCESS

- Potential market need and trend detection
- Conceptual design
- Product development & Testing
- Pilot series
- Production release
- Launch phase
- Follow-up and comparison with targets
- Production optimization

Successes



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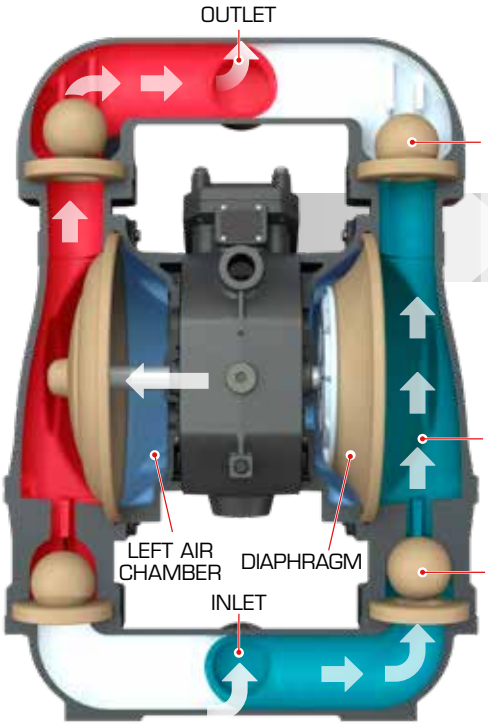
AIR OPERATED DOUBLE DIAPHRAGM

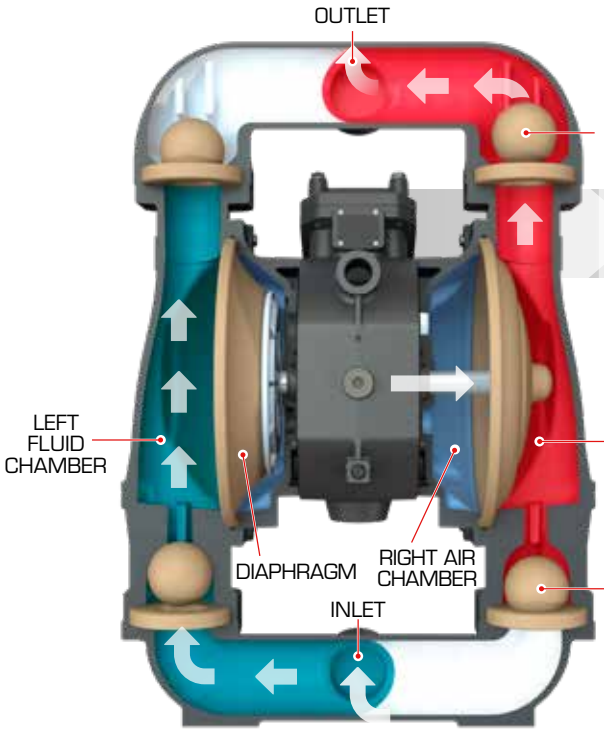
WORKING PRINCIPLE OF AN AODD PUMP

SAMOA PIVOT Universal Pumps are air operated double diaphragm positive displacement pumps. They have two pumping sections, each divided by a diaphragm that separates the air chamber from the fluid chamber. The diaphragms are connected to a shaft that performs the reciprocating motion, enabling the fluid suction and discharge. A suction stroke and a discharge stroke constitute a complete pump cycle. The pump may take several cycles to complete prime depending on the application conditions.



SUCTION STROKE (BLUE)

The central air motor fills the left air chamber with compressed air, causing the right diaphragm to be pulled and generate suction by creating a vacuum. This lifts the lower right check ball, allowing fluid to enter the right fluid chamber. Simultaneously, the left fluid chamber is in Discharge Stroke.



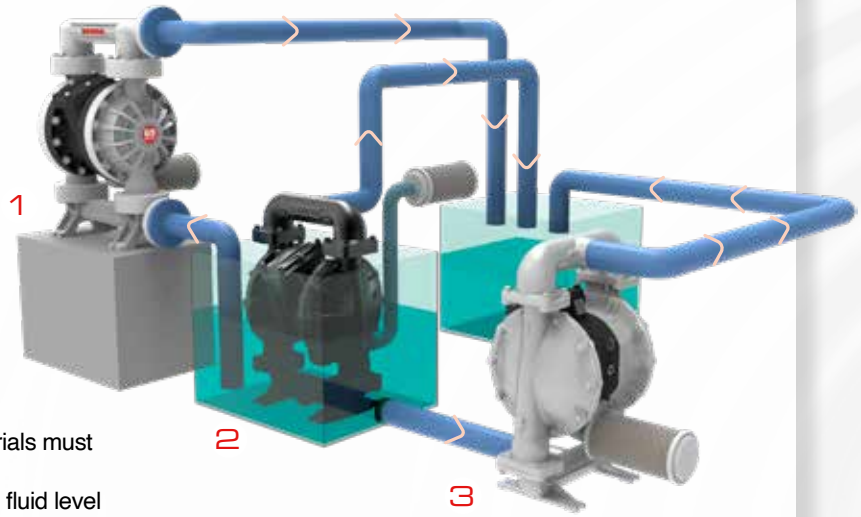
DISCHARGE STROKE (RED)

The air motor alternates the air flow, which now fills the right air chamber, causing the upper right check ball to open and discharge fluid. Simultaneously, the left fluid chamber is working in the Suction Stroke.

(AODD) PUMPS

INSTALLATION OF AODD PUMPS

AODD pumps can be installed in two ways: as fixed installations in process applications or as portable/ mobile units for easy transport.



1 SUCTION LIFT

- Dry self-priming
- Max. lift up to 8,3 m (28 ft) (water) with an adequately sized suction pipe
- Max. dry suction lift up to 5 m (16 ft)

2. SUBMERGED

- Capable of full submersion (all materials must be compatible with liquid)
- Air exhaust outlet must be above the fluid level

3. FLOODED SUCTION

- Most common installation
- Ideal setup for handling viscous fluids
- Suction side inlet pressure should not exceed max. 0,7 bar / 10 psi equivalent to 7 m - 23 ft of water column

ADVANTAGES OF AODD PUMPS

· Pump can run dry with no damage
· Dry self-priming
· Can pump fluids with suspended solids
· Best pump for abrasive, corrosive and shear sensitive fluids
· Air driven pump, no electricity required, no electrical hazard
· Can be submerged completely with no performance or safety issues
· On-demand operation. Pump stops when fluid outlet closes and automatically starts when the fluid outlet opens
· Fluid flow and pressure are fully adjustable with only an air pressure regulator
· No dynamic mechanical seals or packings

AODD PUMPS VS. OTHER PUMP TECHNOLOGIES

PUMP TYPES	AODD Diaphragm	Piston / Plunger	Peristaltic Hose	Lobe	Vane	Gear	Centrifugal
Pump Classification PD = Positive Displacement Pump	PD Reciprocating	PD Reciprocating	PD Rotary	PD Rotary	PD Rotary	PD Rotary	Kinetic
PUMPED FLUID CHARACTERISTICS							
SUSPENDED SOLIDS No pump or product damage	▲	▼	▬	▼	▲	▬	▬
ABRASIVE SLUDGE & SLURRIES Low internal velocities to limit damage	▲	▼	▲	▼	▼	▼	▲
CORROSIVE FLUIDS Compatible pump materials	▲	▼	▲	▬	▼	▼	▼
SHEAR SENSITIVITY Low shear and product separation	▲	▼	▼	▲	▼	▼	▼
PUMP OPERATION							
DRY-RUNNING CAPABILITY No pump or system damage	▲	▲	▲	▼	▬	▼	▼
DRY SELF-PRIMING High suction-lift	▲	▬	▼	▼	▼	▼	▼
PORTABLE & SUBMERSIBLE Integral pump with air motor	▲	▼	▼	▼	▼	▼	▬
COOL OPERATION No heat build-up during transfer	▲	▬	▬	▬	▬	▬	▬
SAFETY (ATEX models) Air Driven. No electrical hazard	▲	▬	▬	▬	▬	▬	▬
PUMP COST ADVANTAGES							
ON-DEMAND OPERATION Bypass and relief valves cost savings	▲	▲	▬	▬	▬	▬	▬
ADJUSTABLE FLOW & PRESSURE Additional regulation costs savings	▲	▬	▬	▬	▬	▬	▬
DYNAMIC & MECHANICAL SEALS Replacement and maintenance cost savings	▲	▼	▼	▼	▼	▼	▼
NO ELECTRICAL INSTALLATION Intrinsically safe, cost savings	▲	▼	▼	▼	▼	▼	▼
INITIAL PURCHASE PRICE Compared to other pump types	▲	▼	▼	▼	▼	▼	▼

▲ = Excellent ▬ = With limitations ▼ = Not recommended




PIVOT SERIES:
THE NEW ERA OF PUMPS THE MARKET DEMANDED

The SAMOA PIVOT Series Universal Pump (UP) combines a standard design with a unique frictionless Pivoting Air Valve that provides maximum performance and energy efficiency, which exceeds performance expectations.

WHY CHOOSE PIVOT SERIES PUMPS?

HIGHER EFFICIENCY: Maximum fluid flow with reduced air consumption, versus competitive pumps.

INCREASED RELIABILITY: No stall, no icing, and reliable start-ups even with the lowest air pressure.

MINIMAL VIBRATION AND PULSATION: Due to the fast action frictionless Pivot-Shaft Air Valve.

BOLTED CONSTRUCTION: Provides improved sealing to eliminate pump leaks. Same size bolts for ease of maintenance.

EASIER SERVICING: Components designed for simpler and easier maintenance, with a reduced number of parts.

UNIVERSAL PUMP: Matches relative dimensions of the main competitive brands. Direct replacement for existing installed pumps.

ABRASION RESISTANCE: Optimized fluid paths and manifolds reduce fluid speed and minimize wear caused by abrasion.

SILENT OPERATION: PIVOT Pumps air valve produces less noise than competition pumps.

Discover PIVOT Series Pumps

YouTube

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RELIABILITY, EFFICIENCY AND SIMPLICITY

PIVOT SERIES RANGE

NON-METALLIC PUMPS

	UP03 (p. 24)	UP05 (p. 26)	UP10 (p. 28)
Port Size & Type	3/8" Threaded	1/2" Threaded	1" Threaded or Flanged
Maximum Flow	31 l/min (8.2 gal/ min)	51 l/min (13.5 gal/ min)	200 l/min (53 gal/min)
Maximum Pressure	7 bar (100 psi)	7 bar (100 psi)	7 bar (100 psi)
Material options: Central Body & Air Chambers / Fluid Chambers & Manifolds	· Conductive Polypropylene / Polypropylene · Conductive Polypropylene / PVDF · Conductive Polypropylene / Conductive Polypropylene · Conductive Polypropylene / Conductive POM (Acetal)	· Conductive Polypropylene / Polypropylene · Conductive Polypropylene / PVDF · Conductive Polypropylene / Conductive Polypropylene · Conductive Polypropylene / Conductive POM (Acetal)	· Conductive Polypropylene / Polypropylene · Conductive Polypropylene / PVDF · Conductive Polypropylene / Conductive Polypropylene
Maximum Solid Size	1,6 mm (1/16")	2,5 mm (3/32")	6,4 mm (1/4")
Maximum Suction Lift	3 m Dry (10 ft), 7 m Wet (23 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)

	UP15 (p. 30)	UP20 (p. 32)
Port Size & Type	1 1/2" Flanged	2" Flanged
Maximum Flow	470 l/min (125 gal/min)	650 l/min (172 gal/min)
Maximum Pressure	7 bar (100 psi)	7 bar (100 psi)
Material options: Central Body & Air Chambers / Fluid Chambers & Manifolds	· Reinforced Polypropylene / Polypropylene · Reinforced Polypropylene / PVDF	· Conductive Polypropylene / Polypropylene · Conductive Polypropylene / PVDF · Conductive Polypropylene / Conductive Polypropylene
Maximum Solid Size	6,4 mm (1/4")	6,4 mm (1/4")
Maximum Suction Lift	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)

METALLIC PUMPS

UP05 (p. 34)

CP10 (p. 36)

UP10 (p. 38)

Port Size & Type	1/2" Threaded	1" Threaded	1" Threaded
Maximum Flow	54 l/min (14.3 gal/ min)	130 l/min (35 gal/min)	200 l/min (53 gal/min)
Maximum Pressure	8 bar (120 psi)	8 bar (120 psi)	8 bar (120 psi)
Material options: Central Body & Air Chambers / Fluid Chambers & Manifolds	· Conductive Polypropylene / 316 Stainless Steel · Aluminium / Aluminium · Aluminium / 316 Stainless Steel	· Aluminium / Aluminium	· Aluminium / Aluminium · Aluminium / Ductile Iron · Aluminium / 316 Stainless Steel · 316 Stainless Steel / 316 Stainless Steel · Conductive Polypropylene / 316 Stainless Steel
Maximum Solid Size	2,5 mm (3/32")	3,2 mm (1/8")	6,4 mm (1/4")
Maximum Suction Lift	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)

UP15 (p. 40)

UP20 (p. 42)

UP30 (p. 44)

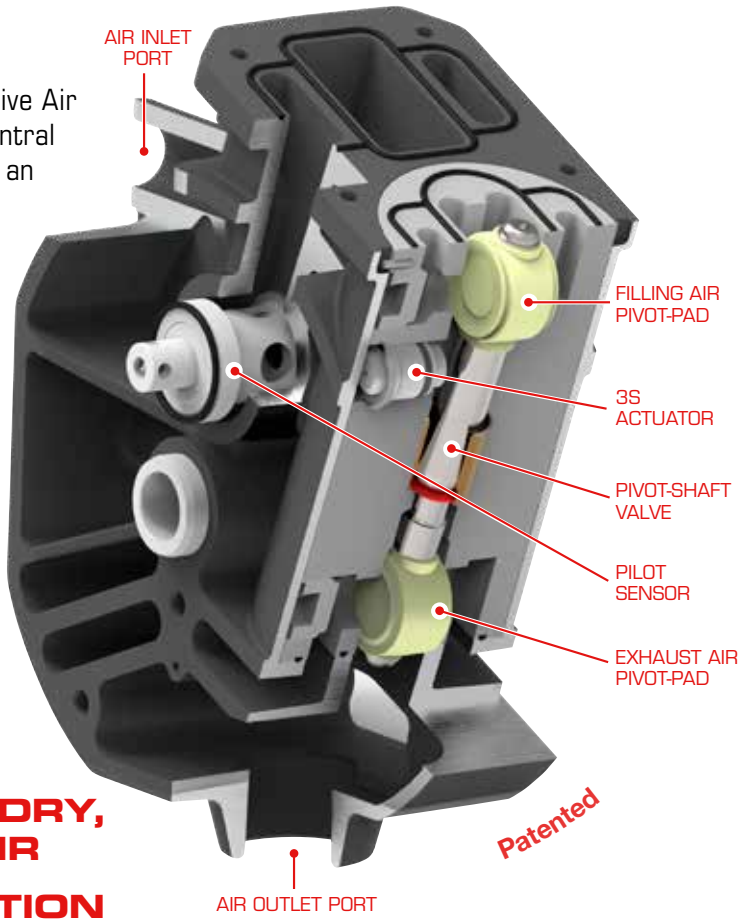
Port Size & Type	1 1/2" Threaded or Flanged	2" Threaded or Flanged	3" Threaded or Flanged
Maximum Flow	470 l/min (125 gal/min)	650 l/min (172 gal/min)	1 000 l/min (264 gal/min)
Maximum Pressure	8 bar (120 psi)	8 bar (120 psi)	8 bar (120 psi)
Material options: Central Body & Air Chambers / Fluid Chambers & Manifolds	· Aluminium / Aluminium · Aluminium / Ductile Iron · Aluminium / 316 Stainless Steel · 316 Stainless Steel / 316 Stainless Steel	· Aluminium / Aluminium · Aluminium / Ductile Iron · Aluminium / 316 Stainless Steel · 316 Stainless Steel / 316 Stainless Steel · Conductive Polypropylene / 316 Stainless Steel	· Aluminium / Aluminium · Aluminium / Ductile Iron · Aluminium / 316 Stainless Steel · 316 Stainless Steel / 316 Stainless Steel
Maximum Solid Size	6,4 mm (1/4")	6,4 mm (1/4")	12,7 mm (1/2")
Maximum Suction Lift	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)	5 m Dry (16 ft), 8 m Wet (26 ft)

AIR DISTRIBUTION SYSTEM: DRIVEN BY

The SAMOA PIVOT Series Pumps feature an exclusive Air Distribution System (ADS) that integrates the Central Body, Air Covers, Air Valve, and Pilot Sensors into an enhanced pump design.

The ADS includes an innovative frictionless Pivot-Shaft assembly with air pads and "Smooth-Start-Shifter" (3S) actuator, ensuring reliable operation even at low air pressure or flow. It also prevents freezing, offers higher and smoother flow, and reduces air consumption compared to other AODD pumps.

With its removable cartridge module, SAMOA's Air Valve is easy to clean and maintain.



Check out the air distribution system in action!

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- **PUMP RUNS WITH DRY, DIRTY OR DAMP AIR**
- **LUBE-FREE OPERATION**
- **LONG LIFE PIVOT-PADS**

MAXIMUM RELIABILITY, NO PUMP STALLING

SAMOA PIVOT Series pumps do not stall even with low air pressure or flow, unlike many competitive pumps. The patented "Smooth-Start-Shifter" (3S) actuator activates the shaft of the frictionless Pivot-Shaft Valve just when needed, preventing stalling.

NO PUMP FREEZING

The Pivot-Shaft Valve efficiently exhausts air from each chamber during the exhaust stroke. Large evacuation ports rapidly vent air to the atmosphere, preventing freezing and pump slowdown.

SMOOTH FLOW

The unique Pivot-Shaft Valve, provides the fastest reciprocating action in the industry against conventional spool or sliding block valves. This provides a smoother flow and reduced vibration when compared to competitive AODD pumps.

EFFICIENT PUMP

The optimized pivot valve pads and pilot-sensors eliminates internal air leaks, reduces air consumption and provides better flow versus competitors.

SIMPLE MAINTENANCE

Our air valve has the fewest number of moving parts in the industry, with no spool valves or O-rings. Its modular, simple cartridge design reduces downtime and simplifies maintenance.The air valve module is fully accessible and can be removed, cleaned, and replaced within a few minutes, without disassembling the pump for maintenance.

See how simple the maintenance is!

YouTube

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INNOVATION TO CONTINUOUSLY IMPROVE PERFORMANCE

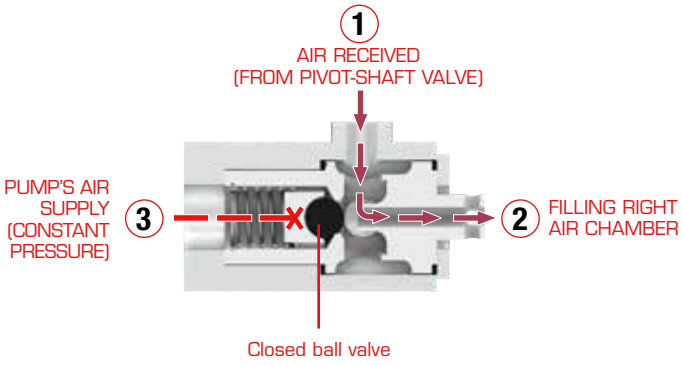
PILOT SENSORS FUNCTIONS

A pilot sensor is also located in each air chamber. They are responsible for sending a pneumatic signal to the Pivot-Shaft Valve to switch its position, changing the air direction to the corresponding air chamber that is being filled. The signal is generated when a diaphragm activates the sensor by reaching the end of stroke.

This pilot sensors have two functions:

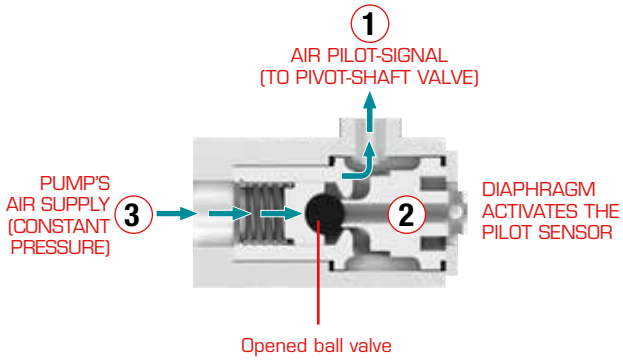
FILLING THE AIR CHAMBERS

The pilot sensor also acts as a filling valve. Port (1) receives air from the Pivot-Shaft Valve to fill the air chamber via port (2). Port (3) is connected to the pump's air supply and maintains constant pressure on the valve, serving as a pneumatic signal when activated by the diaphragm.



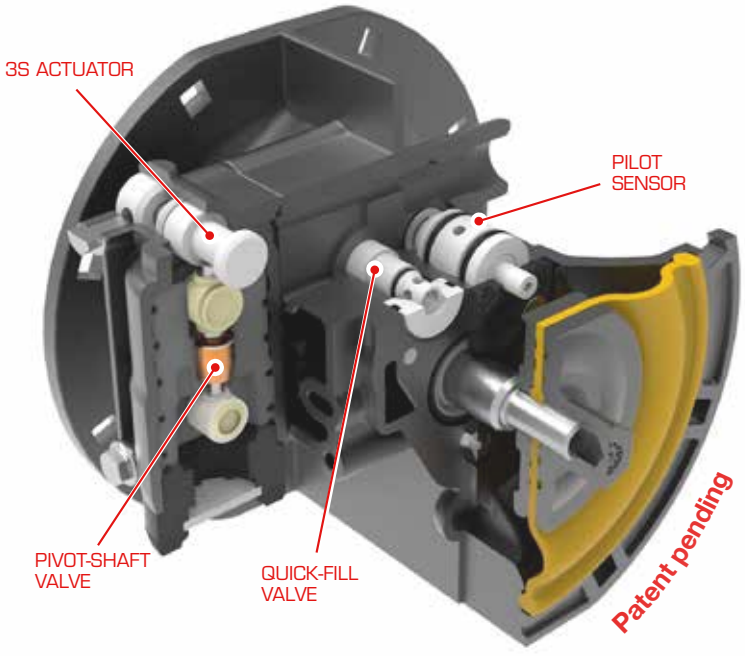
PILOT THE PIVOT-SHAFT

When the diaphragm activates the sensor, the actuator instantaneously pushes the ball, opening port (3) and connecting it to port (1), while simultaneously closing port (2). This allows the pump's air supply entering via port (3) to changeover the Pivot-Shaft Valve, through port (1).



PNEUMATIC QUICK-FILL VALVE

Our recently added CP10 and UP15 AODD pumps, sizes 1" (Compact Line) and 1-1/2", now feature a high-performance Quick-Fill Valve that fills the air chambers, leaving the pilot sensors to only send the pilot signals to the Pivot-Shaft Valve. This new Quick-Fill Valve provides precise air chamber filling, significantly reducing air consumption and improving the pump's overall performance and efficiency.

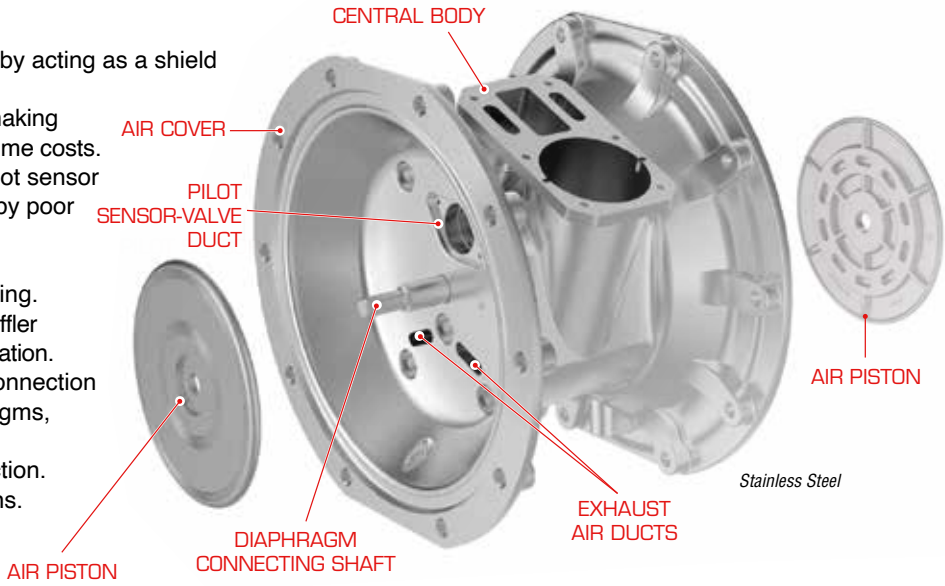


PIVOT SERIES DESIGN:
BUILT TO LAST

MOTOR AIR CAP

AIR MOTOR BODY

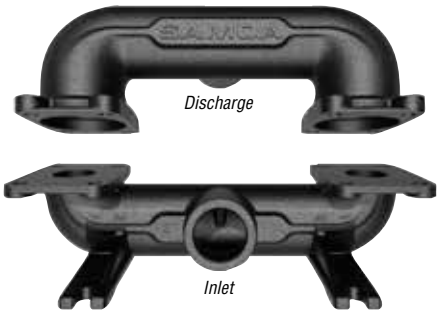
- Robust central body protects the air valves by acting as a shield against accidental impact damage.
- Designed for quick and easy disassembly, making maintenance efficient and minimizing downtime costs.
- Well dimensioned air inlet, air ducts, and pilot sensor ducts eliminate clogging problems caused by poor air quality and contaminants.
- Robust ribs strengthen the air motor body.
- Air chambers are optimally sized to avoid icing.
- Large exhaust port and high-performance muffler reduce noise levels while preventing ice formation.
- The highly corrosion-resistant diaphragm connection shaft is compatible with all types of diaphragms, ensuring easy interchangeability.
- Safe, reliable and strong all-bolted construction.
- Fully groundable materials on ATEX versions.



Fluid chamber

FLUID CHAMBERS

- With up to seven material options for the fluid chambers, SAMOA Industrial AODD Pumps offer excellent adaptability to different fluids.
- Their bolted construction enhances durability and prevents leakage, ensuring reliable performance in demanding applications.



Discharge

Inlet

FLUID MANIFOLDS

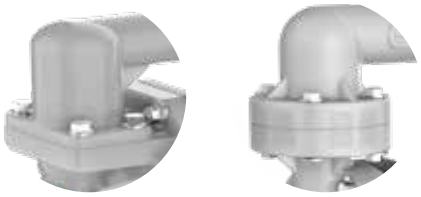
- Optimised fluid path and cross section for minimum internal friction and wear.
- Bolted for enhanced safety, sealing capacity, reliability and easy assembly and disassembly.
- The discharge and inlet manifolds can be rotated 180° for accommodating their connection to inlet/discharge fluid lines.

Reinforced Polypropylene threaded inserts

ANSI/DIN flange

FLUID CONNECTION PORTS

- Available with either BSP or NPT female threads and DIN/ANSI flange coupling depending on pump size and materials.
- Non-metallic versions are always built incorporating reinforced Polypropylene threaded inserts embedded into the Polypropylene material to ensure the strength of the port connection.



Leak-proof all-bolted construction

HARDWARE-BOLTS

- Bolts maintain uniform pressure on the seals and diaphragms, ensuring reliable fluid containment and leak prevention during high-pressure and dead-head conditions.
- Withstands four times the pressure versus clamped pumps.
- Single-sized bolts simplify maintenance.
- Bolts available in Carbon Steel or Stainless Steel as an option.

NON-METALLIC MATERIALS

UP10 Conductive Polypropylene Central Body with Polypropylene Housings

POLYPROPYLENE (NATURAL OR CONDUCTIVE)

- Wide chemical compatibility.
- Conductive Polypropylene can be grounded to comply with ATEX certification requirements.
- Conductive Polypropylene has better mechanical properties than pure Polypropylene.
- 0°C to 65°C (32°F to 150°F).

UP05 Conductive POM (Acetal) Housings

CONDUCTIVE POM (ACETAL)

- Wide range of solvent resistance. Not for use with acids.
- Good level of abrasion resistance. Withstands extreme fatigue.
- Electrically conductive material enables ATEX-compliant groundable pumps.
- -40°C to 120°C (-40°F to 250°F).

UP10 Conductive Polypropylene Central Body with PVDF Housings

PVDF (POLYVINYLIDENE FLUORIDE)

- A fluoroplastic, durable and with excellent chemical resistance to both strong acids and bases.
- High tensile strength and impact resistance.
- Excellent temperature range resistance.
- -40°C to 120°C (-40°F to 250°F).

PDF **Check the compatibility guide!**

CLICK

The maximum operating temperature of a pump is limited by the component with the lowest rated temperature.

METALLIC MATERIALS

ALUMINIUM

- Improved corrosion resistance achieved through internal and external cataphoresis (e-coating) treatment.
- It offers unparalleled uniformity, superior resistance to deformation, and outstanding mechanical properties.
- Suitable for abrasive slurries and ideal for use in the ceramic industry and a variety of resins and solvents.
- Not appropriate for halogenated hydrocarbons.
- -10°C to 130°C (14°F to 266°F).

UP20 Aluminium Central Body & Housings

AISI 316 STAINLESS STEEL

- High level of corrosion resistance, mostly used in the chemical industry. Used in air covers and air pistons combined with either Aluminium, conductive Polypropylene or Stainless Steel central body (selected models).
- High tensile strength.
- Standard-type surface roughness in molded casting parts.
- -25°C to 130°C (-13°F to 266°F).

UP20 Aluminium Central Body & Stainless Steel Housings

DUCTILE IRON

- High abrasion resistance, mostly used in mining, pulp and paper industry and with abrasive materials.
- High tensile strength.
- Enhanced corrosion resistance achieved through internal and external cataphoresis (e-coating) treatment. It offers unparalleled abrasion resistance, superior resistance to deformation, and outstanding mechanical properties.
- -10°C to 130°C (14°F to 266°F).

UP30 Ductile Iron Housings

PDF **Check the compatibility guide!** CLICK

The maximum operating temperature of a pump is limited by the component with the lowest rated temperature.

CHECK-VALVES SPECIFICATIONS

With only six dynamic parts in contact with the fluid (four check-valves & two diaphragms) and a modular design of fluid chambers, manifolds, valves for easy interchangeability, our PIVOT Series leads the market in efficiency, simplicity, and performance.

BALLS AND SEATS

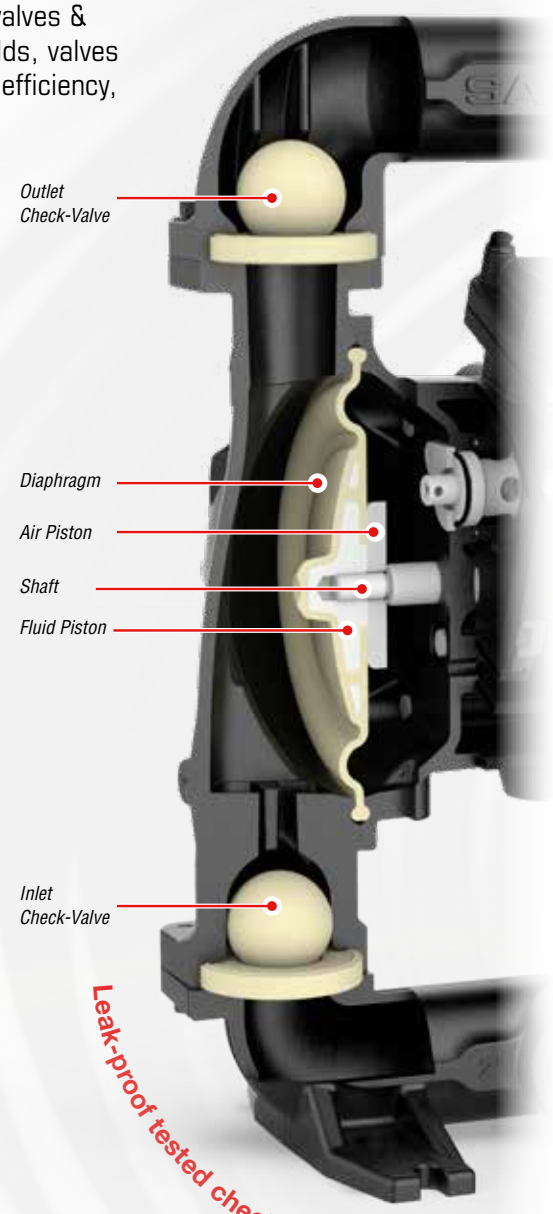
- Two diaphragms connected by pistons to the shaft move alternately displacing the fluid which causes the opening or closing of the four check valves. These valves are composed of a ball and a seat that seals the fluid circuit inside the cage (they only have seals in rigid material versions). Their intelligent design facilitates maintenance in the elastomer versions, since the seat is reversible, doubling their lifespan.
- These balls achieve the discharge or suction of the fluid depending on whether they open or seal the fluid path within the pump. Generally, the balls are made of the same elastomer material as the diaphragms. In the case of viscous fluids, the balls are made of Stainless Steel or a heavier elastomer. Regardless of the manifold and fluid chamber material, any combination of seat and ball can be mounted in pumps of the same size.
- Both valves (balls and seats) should be inspected regularly for wear due to abrasion and replaced if necessary.

CRITERIA FOR THE SELECTION OF CHECK-VALVES:

Their materials must be correctly selected to ensure chemical compatibility with the pumped fluid. In this way, problems such as cracking, swelling or seizure, which are so common in other pumps on the market, will not appear. The combination of materials must be made on the basis of the following criteria:

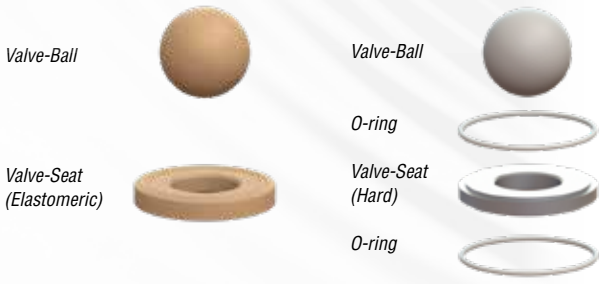
- Resistance to chemical agents and aggressive environments.
- Resistance to abrasion.
- Heavier balls (Stainless Steel) for viscous fluids.
- Ability to withstand the fluid temperatures.

CHECK-VALVE MATERIAL	Characteristics
Nitrile (Buna-N)	Excellent for Petroleum-based fluids.
FKM (Viton®)	Excellent for high temperature applications. Good with some aggressive fluids. Higher in cost.
TPE (Hytrel®)	Excellent for general purpose. For abrasive but non-corrosive fluids. High flex life.
TPV (Santoprene®)	Good for mild acids or caustics. For abrasive fluids. For low temperatures - Best low price.
POM (Acetal)	Wide solvent compatibility. Good abrasion resistance
PTFE (Teflon®) / PVDF	Excellent for highly aggressive fluids including strong solvents, hydrocarbons, acids and caustics. Higher in cost.
Stainless Steel AISI 316	Excellent for highly aggressive fluids, including strong solvents, some acids and caustics. Higher in cost.
Stainless Steel AISI 440	High strength, good toughness, corrosion resistance, wear resistance and dimension and stability at high temperatures.



Leak-proof tested check-valve seats

CHECK-VALVE PARTS



Elastomeric valve-seats do not require O-rings to seal and are reversible.

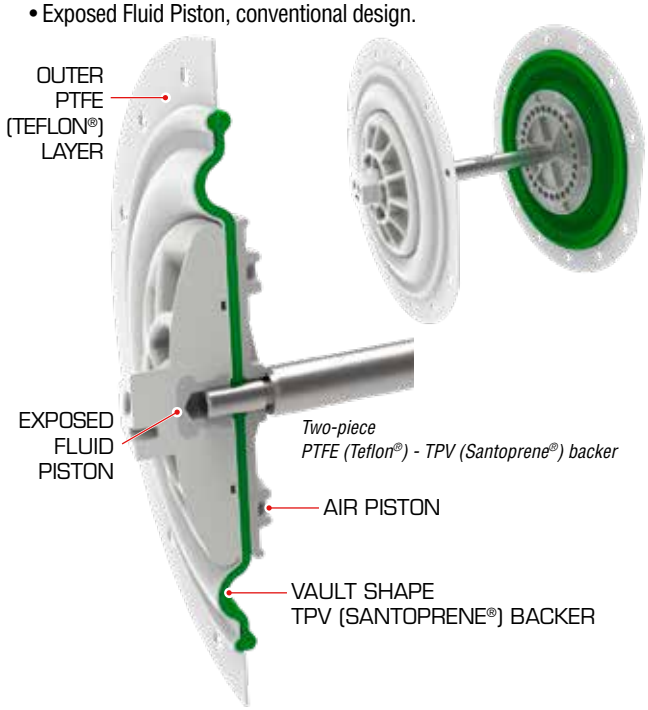
Hard valve-seats require O-rings to seal the pump.

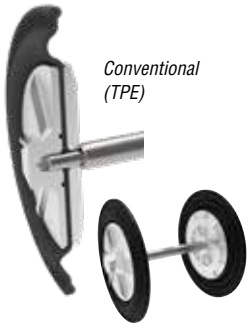
DIAPHRAGMS SPECIFICATIONS

EXPOSED PISTON DIAPHRAGM TYPE

TWO-PIECE (PTFE-TPV) TYPE

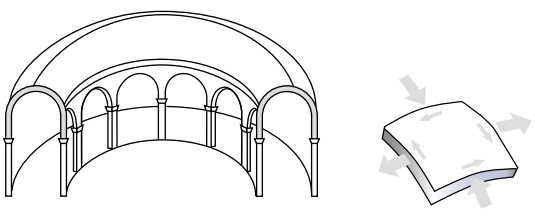
- Outer PTFE (Teflon®) layer compatible with aggressive chemicals.
- PTFE (Teflon®) layer design and material properties provide excellent flex-life.
- Annular-Vault shaped diaphragm and TPV (Santoprene®) backer provide additional support with each diaphragm flexion and extended diaphragm life.
- Exposed Fluid Piston, conventional design.





CONVENTIONAL (TPE OR RUBBER) TYPE

- Annular-Vault shape design extends diaphragm life.
- Low start-up pressure.
- Exposed Fluid Piston, conventional design.
- TPE (Hytrel®) and TPV (Santoprene®) thermo- plastic Elastomers available.
- NBR (Buna-N) and FKM (Viton®) Rubbers available.

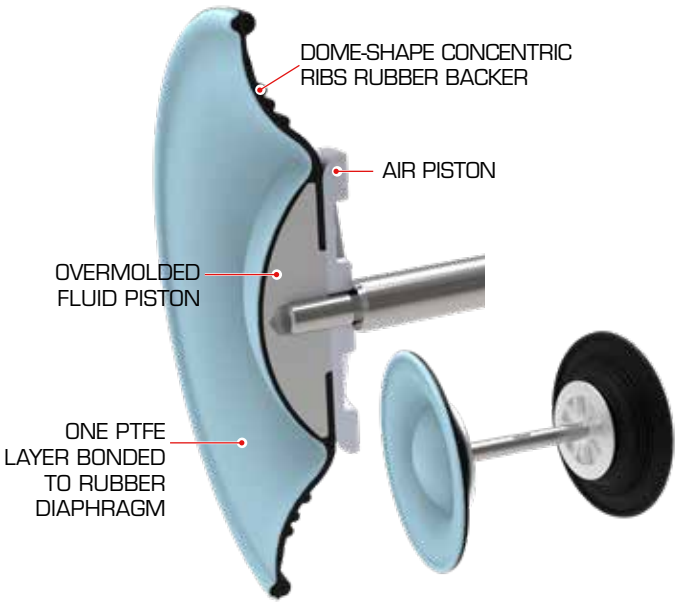


ANNULAR VAULT STRUCTURAL DESIGN

Suitable to withstand high loads if uniformly applied.

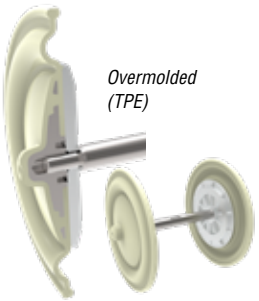
OVERMOLDED PISTON DIAPHRAGM TYPE

Single piece diaphragms present the following advantages:
- Safety: No exposed piston to trap particles that could cause diaphragm wear. Minimum product contamination risk.
- Clean and smooth contour, no exposed piston.
- Durability: excellent flex life.
- No central hole nor tight torque required. Leak free.
- Quick, safe and easy diaphragm replacement.



OVERMOLDED (PTFE-RUBBER BONDED) TYPE

- One-piece inserted piston overmolded with Thermoset Rubber (EPDM).
- Dome-shaped design features concentric back-up ribs to support the diaphragm during flexing motions.
- PTFE (Teflon®) bonded layer in contact with the fluid for pumping aggressive chemicals.



OVERMOLDED (TPE) TYPE

- Inserted Piston overmolded with Thermoplastic Elastomer (TPE).
- Annular-Vault shape design extends diaphragm life.
- Durability: excellent flex life, temperature resistant.
- Available in TPE (Hytrel®).

OVERMOLDED (RUBBER) TYPE

- Inserted Piston overmolded with Thermoset Rubber.
- Dome-shaped design features concentric back-up ribs to support the diaphragm during flexing motions.
- Available in NBR (Buna-N).

DIAPHRAGM MATERIALS

ELASTOMER MATERIAL	Characteristics
Nitrile (Buna-N)	Excellent for petroleum-based fluids.
FKM (Viton®)	Excellent for high temperature applications and with some aggressive fluids.
TPE (Hytrel®)	Excellent for general-purpose transfer applications. Ideal for abrasive and non-corrosive fluids. Provides high flex-life.
TPV (Santoprene®)	Good with mild acids or caustics. Good abrasion resistance and wide chemical compatibility. Provides high flex-life. Good choice for low temperature applications. Most economic diaphragm material.
PTFE (Teflon®)	Excellent for highly aggressive fluids including strong solvents, acids or caustics.

Overmolded diaphragms

Conventional diaphragms

DIAPHRAGM RESISTANCE

DIAPHRAGM MATERIAL	Cost Price	Flex Life	Abrasion Resist	Chemical Resist	Temperature Resist	Temperature Limits* °C	Temperature Limits* °F
Nitrile (Buna-N)	$$$	A-	B	C	C	-23°/+82°	-10°/+180°
FKM (Viton®)	$$$$$	A-	C	A	A+	-40°/+177°	-40°/+350°
TPE (Hytrel®)	$$	A	A+	C	B	-29°/+104°	-20°/+220°
TPV (Santoprene®)	$	A+	A+	B	A+	-40°/+135°	-40°/+275°
PTFE (Teflon®)/TPV (Santoprene ®) (Layer + Backer)	$$$$	B	F	A+	A	-20°/+107°	-4°/+225°
PTFE (Teflon®)/ EPDM (Bonded)	$$$$$	B	F	A+	A	-10°/+107°	-4°/+225°

A= Excellent, B= Good, C= Fair, D= Poor, F= Not recommended.
(*) Maximum temperature limits are based on mechanical stress resistance only. Certain chemicals can significantly reduce the maximum temperature limits.

DIAPHRAGM DESIGN

DIAPHRAGM DESIGN	FLUID TYPE					MOUNTING		REQUIRED DUTY		SERVICE
	Water	Solids charged	Abrasive	High Viscous	Common Fluid	W/Inlet Pressure	Suction Lift	Intermit-tent	Continu-ous	Mainte-nance
Conventional: TPE or Rubber	A	A	A	B	A	A	A	A	A	B+
Conventional Two-Piece: PTFE (Teflon®)/TPV (Santoprene®)	A	B+	C	B	A	A	B+	A	B+	B+
Overmolded: TPE (Hytrel®)	A+	A+	A+	A+	A+	A+	A	A+	A+	A+
Overmolded: Rubber	A+	A	B	A+	A+	A+	A+	A+	A+	A+
Overmolded: PTFE (Teflon®)/EPDM	A+	A+	C+	A+	A+	A+	A	A+	A+	A+

A= Excellent, B= Good, C= Fair.
Please note that excessive inlet pressure or excessive suction lift can shorten diaphragm life.

Always check chemical compatibility of the selected materials.

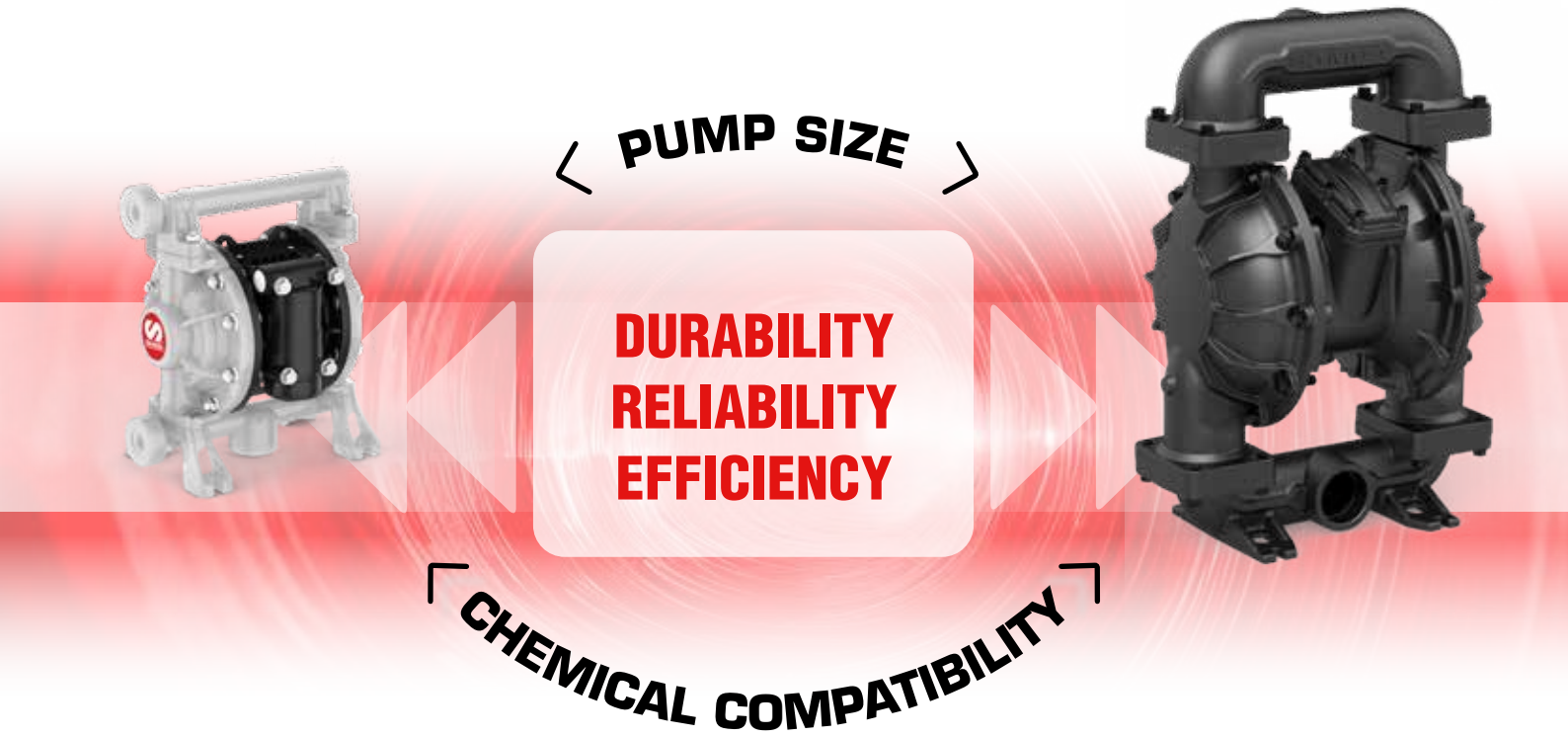
SELECTING THE IDEAL DIAPHRAGM PUMP

Selecting the right diaphragm pump involves understanding several key factors to ensure optimal performance and durability.

BALANCING PUMP SIZE AND PERFORMANCE

The pump size plays a critical role, as it significantly influences the overall performance, energy efficiency, and lifespan of the pump. The desired flow rate, is a primary consideration. Evaluating the system's requirements, including fluid properties, capacity and discharge pressure, ensures that the pump can meet operational demands effectively.

For many applications, different pump sizes can achieve the required flow rate and pressure. Opting for a larger pump size often delivers enhanced performance, reduces air consumption, and extends the pump's service life.



ENSURING CHEMICAL COMPATIBILITY

Additionally, the chemical compatibility of the wetted parts with the fluid being pumped is essential to prevent damage, as it directly affects the longevity and functionality of the wetted components, such as diaphragms, balls, and seats. These parts must be resistant to the chemicals in the fluid to prevent degradation, which can lead to premature failures. Indicators of chemical attack, such as bubbling, cracking, or discoloration in the diaphragm, highlight the importance of material compatibility.

To avoid such issues, thoroughly reviewing the application and selecting materials that match the fluid's chemical properties is essential. Taking this step ensures that the pump operates safely and efficiently, even in challenging chemical environments.

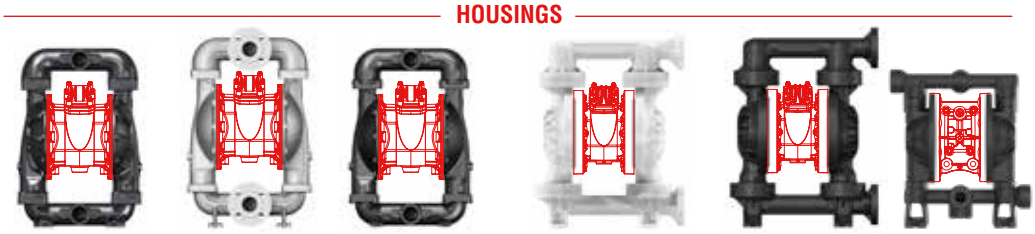
QUICK MATERIAL SELECTION GUIDE

Ensure economical operation and prevent failures by selecting the right materials for your pump.

PDF CLICK

Check the compatibility guide!

HOUSINGS



	METALLIC			NON METALLIC			
	ALUMINIUM	STAINLESS STEEL 316	DUCTILE IRON	POLYPROPYLENE NATURAL	POLYPROPYLENE CONDUCTIVE	PVDF	CONDUCTIVE POM (ACETAL)
PUMP COST	$	$$$$	$$	$$$	$$$$	$$$$$	$$$$
HOUSINGS & FLUID CHARACTERISTICS							
Solids in suspension	A	A	A	B	B	B	B
Large size solids non-suspended	C	C	C	D	D	D	B
Sludge/Slurry	B	B	B	C	C	C	B
Abrasive fluids. High	B	B	A	D	D	D	C
Abrasive fluids. Medium	A	B	A	C	C	C	B
Abrasive fluids. Low	A	A	A	B	B	B	A
Corrosive fluids (Chemicals)	D	B	C	A	A	A	D
Solvents (Ketones / Acetates)	B*	A	C	C	C	A	A

** Do not use with halogenated hydrocarbons.*

HOUSINGS & INSTALLATION TYPE							
Flooded Suction installation	A	A	A	B	B	B	A
Suction lift installation	A	A	A	C	C	C	C
Submerged installation	B	C	A	C	C	C	C
High pressure-drop in the line	A	A	A	B	B	B	B
Fluid Containment (Bolted pump)	A	A	A	A	A	A	A

A = Excellent – B= Good – C= With limitations – D= Not recommended

SEAT MATERIAL	Cost	Abrasion Resist.	Acid Resist.	Caustic Resist.	Solvents (Ketones/ Acetates)	Hydrocarbons (Aromatic/ Chlorinated)	Petroleum Oils
Nitrile (Buna-N)*	$$	B	D	C	C	C	A
TPE (Hytrel®)*	$$	A	C	C	B	C	A
TPV (Santoprene®)*	$	A	B	B	B	D	D
Polypropylene**	$	C	A	A	B	D	D
POM (Acetal)**	$	A	D	D	A	A	A
PTFE (Teflon®)**	$$$$	C	A	A	A	A	A
Aluminium**	$$$	B	F	F	A	F	A
Stainless Steel 316**	$$$$	C	B	B	A	A	A
Stainless Steel 440** Hardened (on request)	$$$$$	A	C	C	B	B	A
PVDF	$$$$$	A	A	A	A	B	A

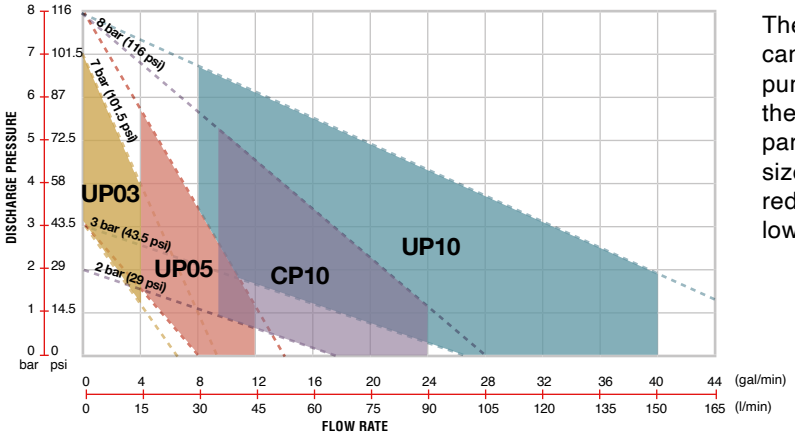
A = Excellent – B= Good – C= Fair – D= Poor – F=Not recommended.
** : Soft-type valve seats (elastomeric) do not require additional "o-rings" – Reversible design.*
***: Hard-type valve seats require adequately selected "o-rings" to provide tightness between the seat and the housing.*
Valve-seat "O-rings" available in Nitrile, EPDM, FKM (Viton®) and PTFE (Teflon®).

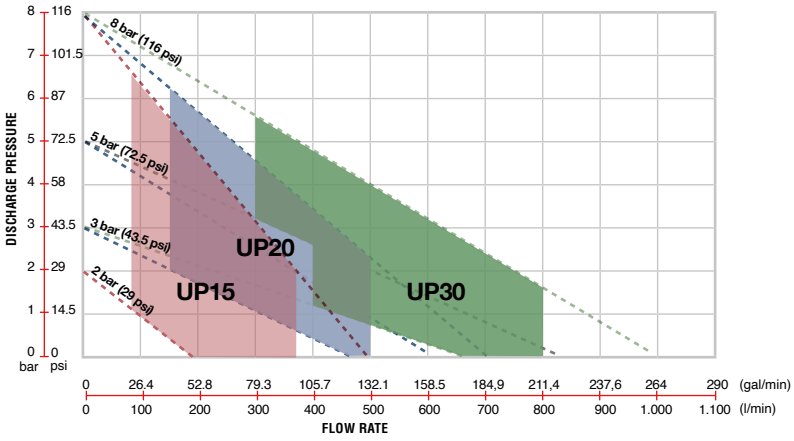
BALL MATERIAL	Cost	Abrasion Resist.	Acid Resist.	Caustic Resist.	Solvents (Ketones/ Acetates)	Hydrocarbons (Aromatic/ Chlorinated)	Petroleum Oils
Nitrile (Buna-N)	$$	B	F	F	C	C	A
FKM (Viton®)	$$$$$	B	A	A	D	A	A
TPE (Hytrel®)	$$	A	D	D	B	C	A
TPV (Santoprene®)	$$	A	B	B	B	D	D
POM (Acetal)	$	A	D	D	A	A	A
PTFE (Teflon®)	$$$$	C	A	A	A	A	A
Stainless Steel 316	$$$$$	A	B	B	A	A	A

A = Excellent – B= Good – C= Fair – D= Poor – F= Not recommended

PIVOT PUMP SIZE SELECTION & PER

PUMP SIZE - PERFORMANCE CHARTS





The desired flow rate and discharge pressure required can be achieved, for most applications, with different pump sizes. The optimal pump size is obtained when the expected pump working conditions are in the middle part of its Performance Chart. Selecting the larger size pump will always result in improved performance, reduced air consumption and longer pump life which lowers the overall cost of ownership.

HOW TO READ A PUMP PERFORMANCE CHART

Pump performance charts provide data regarding how a particular pump performs at certain conditions. The left scale of the chart shows discharge outlet pressure. The bottom scale on the chart shows the flow rate. Performance charts also show the pump air consumption (dotted line on the chart).

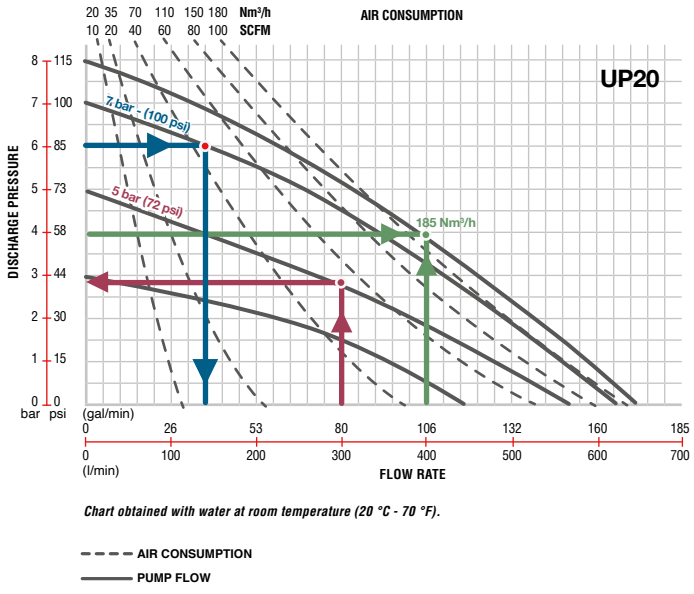


Chart obtained with water at room temperature (20 °C - 70 °F).

AIR CONSUMPTION

PUMP FLOW

TO FIND THE PUMP DISCHARGE PRESSURE

1. Locate the desired flow rate along the bottom of the chart (300 l/min - 80 US gal/min).
2. Follow the vertical line up to the intersection with the pump capacity curve at the fixed air inlet pressure (5 bar - 72 psi).
3. Follow this point left and read the pump discharge pressure (Close to 3 bar - 42 psi).

TO FIND THE PUMP FLOW RATE

1. Locate the desired discharge pressure drop on the left of the chart (6 bar - 85 psi).
2. Follow a horizontal line to the intersection with the pump capacity curve at the desired air inlet pressure (7 bar - 100 psi) feeding the pump.
3. Follow this point down and read the pump flow rate (140 l/min - 37 US gal/min).
4. Air consumption in this case is 75 Nm³/h - 47 SCFM.

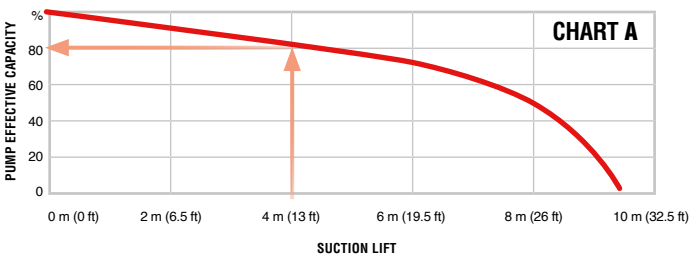
TO FIND THE AIR INLET PRESSURE AND AIR CONSUMPTION

1. Locate the desired flow rate along the bottom of the chart (400 l/min - 106 US gal/min) and follow a vertical line.
2. Locate the known discharge pressure on the left of the chart (4 bar - 58 psi) and follow a horizontal line.
3. The intersection of these two lines determine the pump operating point. Air inlet pressure should be set at 8 bar - 116 psi and the air consumption would be 185 Nm³/h - 115 SCFM.

FORMANCE CHARTS

PUMP CAPACITY, SUCTION LIFT AND FLUID VISCOSITY.

SUCTION LIFT



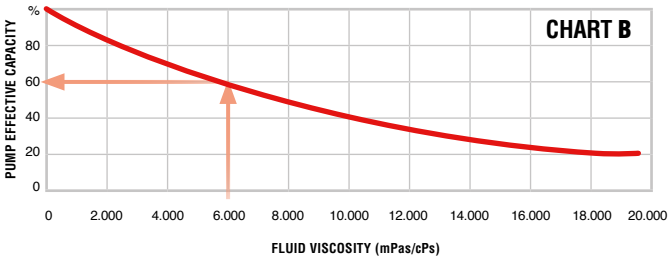
Pump capacity decreases when the suction lift increases. To find out how much the pump capacity is reduced, use chart A.

Example:
300 l/min theoretic delivery (water) and 4 m suction lift

1. Locate the suction lift in meters along the bottom of chart A (4 m).
2. Follow a vertical line up to the intersection with the curve on the chart.
3. Follow this point to the left and read the pump's effective capacity (80%).

FLOW RATE = THEORETIC FLOW RATE X EFFECTIVE CAPACITY/100
Flow rate = 300 l/min x 0,8 = 240 l/min

FLUID VISCOSITY



Pump capacity decreases when the fluid viscosity increases. To find out how much the pump capacity is reduced, use chart B.

Example:
300 l/min theoretic delivery (water) and 6.000 mPas / cps fluid viscosity

1. Locate the fluid viscosity in mPas / cps along the bottom of chart B (6.000 mPas) .
2. Follow a vertical line up to the intersection with the curve on the chart.
3. Follow this point to the left and read the effective pump's capacity (60%).

FLOW RATE = THEORETIC FLOW RATE X EFFECTIVE CAPACITY/100
Flow rate = 300 l/min x 0,6 = 180 l/min

The suction lift flow restriction and the viscosity flow reduction accumulate. If you are pumping a fluid with 6000 mPas viscosity, the installation has 4 m suction lift and if the theoretic delivery (water) is 300 l/min, the real delivery would be:

FLOW RATE = THEORETIC FLOW RATE X EFFECTIVE CAPACITY DUE TO SUCTION LIFT/100 x EFFECTIVE CAPACITY DUE TO FLUID VISCOSITY/100
Flow rate = 300 l/min x 0,8 x 0,6 = 144 l/min

High suction lift reduces pump delivery.

High fluid viscosity reduces pump delivery.

MODEL DESIGNATION SYSTEM

1		2		3	4	5		6	7	8		9	10
X	X	X	X	X	-	X	X	X	-	X	X	X	-	X	Y*
Pump Type & Size				Air Motor			Housings				Wetted Parts		Accessories

**For UE03, UE05 and CE10*

Examples: **UP20A-BAC-HHC**
UE10B-FPS-PTZ-H
UE05A-BAC-SSZ-E0
CE10A-BAC-ATZ-E0

PUMP TYPE & SIZE

1.1 PUMP TYPE
UP = Universal Pump (Bolted type)
UE = Universal Pump with electronic interface
CP = Universal Pump - Compact line
CE = Universal Pump - Compact line with electronic interface

1.2 PUMP SIZE - Connection Ports (Ø)
03 - 3/8" (10 mm)
05 - 1/2" (12.5 mm)
10 - 1" (25 mm)
15 - 1 1/2" (38 mm)
20 - 2" (51 mm)
30 - 3" (76 mm)

AIR MOTOR BODY SPECIFICATIONS

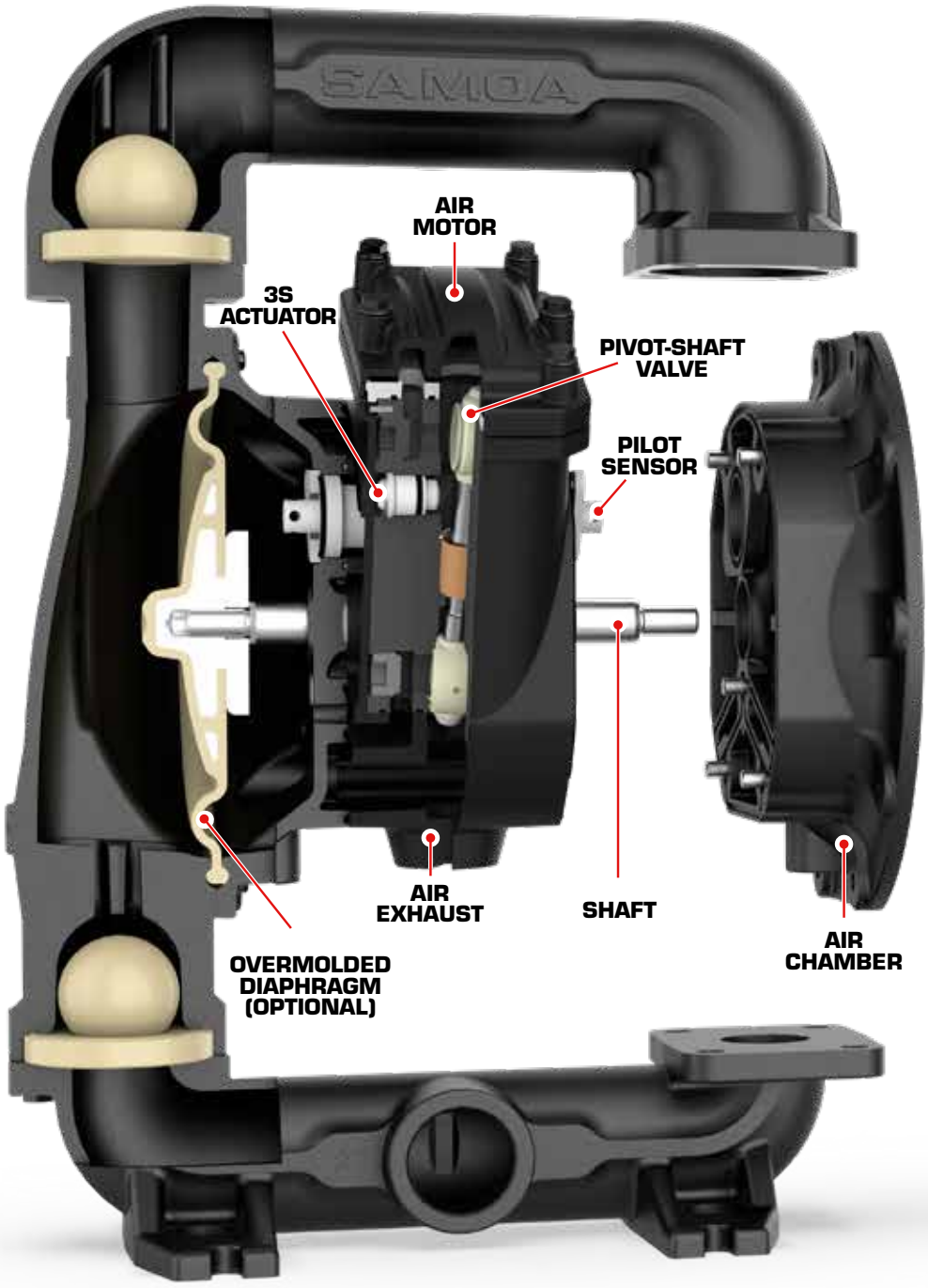
2 AIR MOTOR
A = Aluminium
B = Conductive Polypropylene (ATEX)
L = Conductive Polypropylene (ATEX) with air chambers in AISI 316 Stainless Steel
S = AISI 316 Stainless Steel
P = Reinforced Polypropylene

HOUSINGS SPECIFICATIONS

3 FLUID CONNECTION PORTS
B = BSP (Threaded - Central Location)
N = NPT (Threaded - Central Location)
C = ANSI/DIN (Flanged-Central Location)
F = ANSI/DIN (Flanged-Side Location)
P = BSP (Threaded - Lateral Location)
T = NPT (Threaded - Lateral Location)
V = ANSI/DIN (Flanged-Central inlet/vertical outlet)
D = 1/2" BSP Split Manifolds
S = 1/2" NPT Split Manifolds

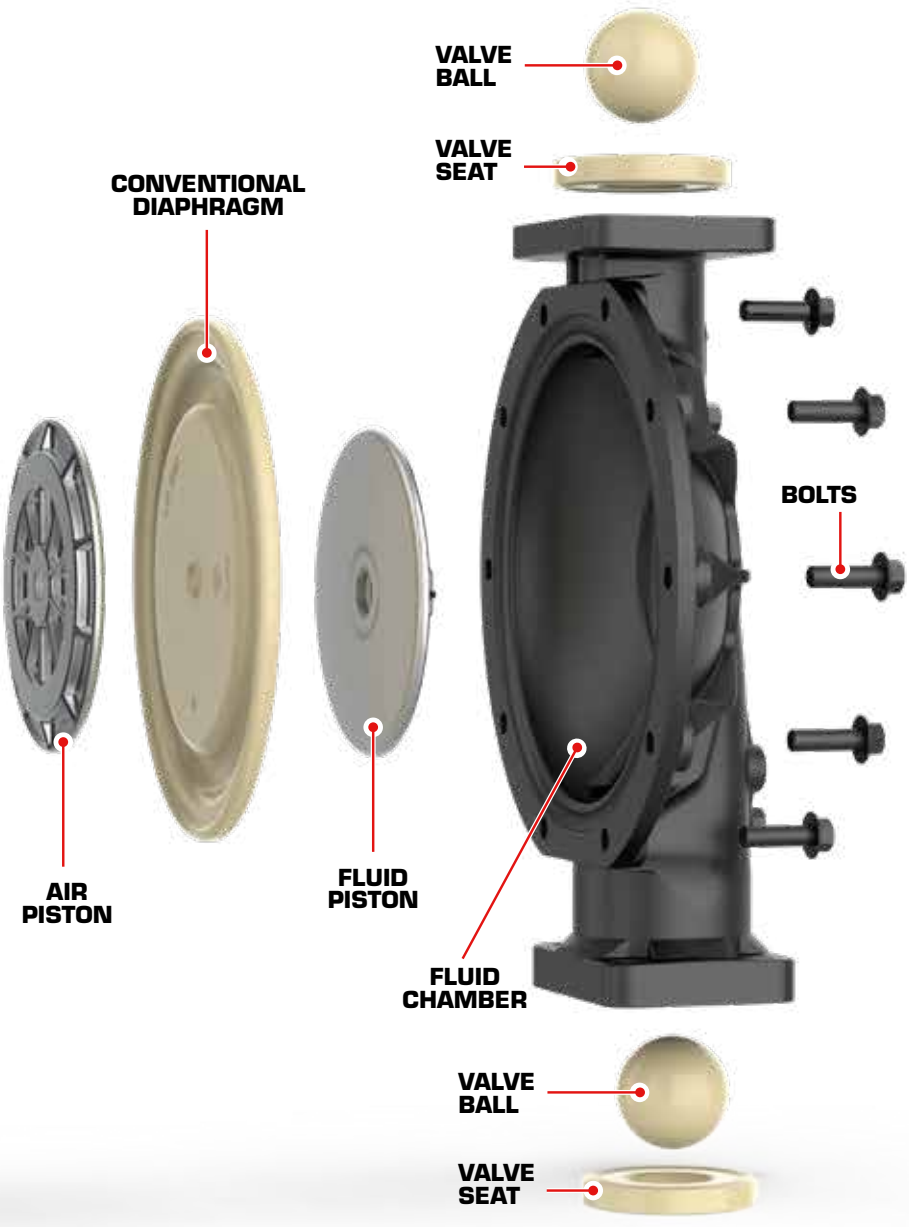
4 FLUID CHAMBERS/MANIFOLDS
A = Aluminium
D = Conductive POM (Acetal) (ATEX)
F = Ductile Iron
P = Polypropylene
B = Conductive Polypropylene (ATEX)
S = AISI 316 Stainless Steel
W = PVDF

5 HARDWARE (Bolts & Nuts)
C = Carbon Steel
S = Stainless Steel



FLEXIBLE, MODULAR DESIGN

Flexible and modular design provides a wide range of materials and pump sizes.
Quick change of wetted parts (diaphragms, seats and balls) makes any pump suitable for use with other fluids.



WETTED PARTS SPECIFICATIONS

6 VALVE SEATS MATERIAL OPTIONS

A = Aluminium
C = POM (Acetal)
D = AISI 440 Hardened Stainless Steel
H = TPE (Hytrel®)
M = TPV (Santoprene®)
N = NBR (Buna-N)
P = Polypropylene
S = AISI 316 Stainless Steel
T = PTFE (Teflon®)
W = PVDF

7 VALVE BALLS MATERIAL OPTIONS

H = TPE (Hytrel®)
C = POM (Acetal)
M = TPV (Santoprene®)
N = NBR (Buna-N)
S = AISI 316 Stainless Steel
T = PTFE (Teflon®)
V = FKM (Viton®)

8 DIAPHRAGM MATERIAL OPTIONS

Conventional Diaphragm (with exposed fluid piston)
A = TPV (Santoprene®)
C = TPE (Hytrel®)
G= NBR (Buna-N)
V = FKM (Viton®)
Z = PTFE with TPV (Santoprene®) backer
Overmolded one piece Diaphragm (inserted fluid piston)
H = TPE (Hytrel®)
T = PTFE/EPDM-Bonded
N = NBR (Buna-N)

ACCESSORIES

9 ACCESSORIES (For UE pumps only)

For use together with U·Pump controller except where otherwise indicated.

A = Diaphragm leak detectors
B = Diaphragm leak detectors (ATEX)
C = Stroke sensor
D = Stroke sensor (PLC based controller)
E = Stroke sensor (ATEX)
F = Diaphragm leak detectors + Stroke sensor
G = Diaphragm leak detectors + Stroke sensor (PLC based controllers)
H = Diaphragm leak detectors + Stroke sensor (ATEX)
O = Without accessories

10 AIR VALVE TYPE (For UE03, UE05 and CE10 pumps only)

0 = Standard air valve
1 = Externally driven pump

Not all material options are available to all pump sizes.

UP03 PIVOT SERIES
3/8" NON-METALLIC PUMPS

3/8"
31 l/min
(8.2 gal/min)

The 3/8" (10 mm) air operated diaphragm pumps, made from injection-molded are available in Natural Polypropylene, Conductive Polypropylene, PVDF, and Conductive POM (Acetal) for optimal fluid compatibility. High chemical compatibility and enhanced resistance to corrosive fluids and atmospheres. Designed with side-offset threaded ports to prevent leaks and 180° rotatable manifolds for versatile installation. A central downward-facing inlet allows direct suction tube connection.

MAIN APPLICATIONS

- OIL & GAS, PETROCHEMICAL
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- ENERGY
- ELECTRONICS

Polypropylene version

Non contractual pictures.

TECHNICAL DATA	UP03 NON-METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	31 l/min (8.2 US gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Solids in suspension, Max. size	1,6 mm (1/16")
Max dry suction lift	3 m (10')
Max wet suction lift	7 m (23')
Displacement per cycle*	0,08 l (0.02 gal)
Fluid inlet/outlet ports	3/8" NPT (F) Threaded 3/8" BSP (F) Threaded
Air Inlet Port	1/4" NPSM (F)
Air Exhaust Port	1/2" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/ Fluid Chamber & Manifolds · Conductive PP / PP · Conductive PP / PVDF · Conductive PP / Conductive PP · Conductive PP / Conductive POM (Acetal)	 1,8 kg (4 lb) 2 kg (4.4 lb) 2 kg (4.4 lb) 2 kg (4.4 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP03B-XXX-XXX**
UE03B-XXX-XXX-XY

UP03B		XXX			XXX			XY	
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**	
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location** **Multiport manifolds: central and lateral**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts & Nuts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**	**10** **Air valve type (UE pumps only)**
UP03 Universal Pump (Bolted) **UE03** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **B***= Conductive Polypropylene	**B** = 3/8" BSP threaded ports **N** = 3/8" NPT threaded ports	**P** = Polypropylene **W** = PVDF **ATEX Certified** **D***= Conductive POM (Acetal) **B***= Conductive Polypropylene	**S** = Stainless Steel	**C** = POM (Acetal) **P** = Polypropylene **W** = PVDF	**C** = POM (Acetal) **T** = PTFE (Teflon®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A =** Diaphragm leak detectors **B =** Diaphragm leak detectors (ATEX) **C =** Stroke sensor **D =** Stroke sensor (PLC) **E =** Stroke sensor (ATEX) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC) **H =** Diaphragm leak detectors + Stroke sensor (ATEX) **0 =** Without accessories	**0 =** Standard air valve **1=** Externally driven pump

* ***ATEX Certified pumps*** *for use in hazardous locations ATEX Group II 2GDx.*

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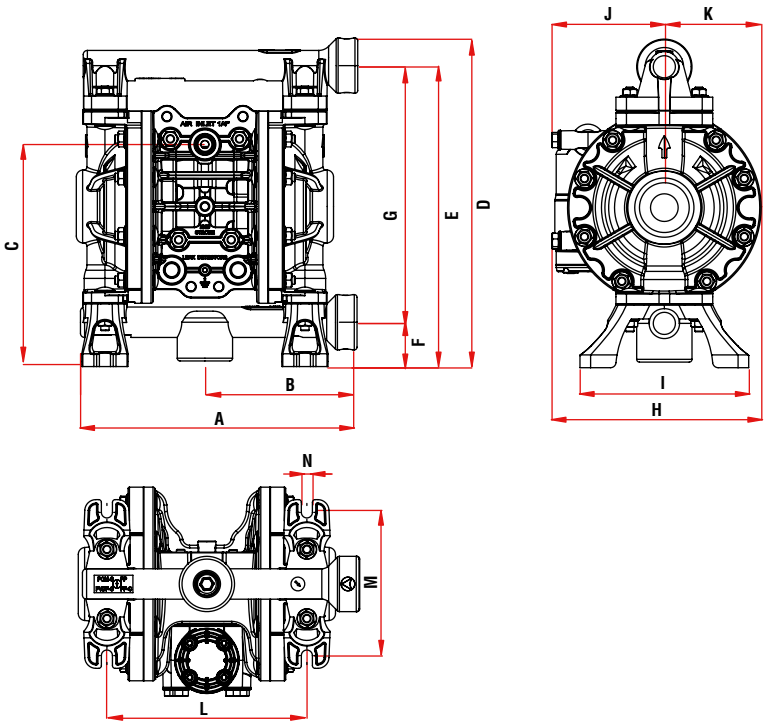
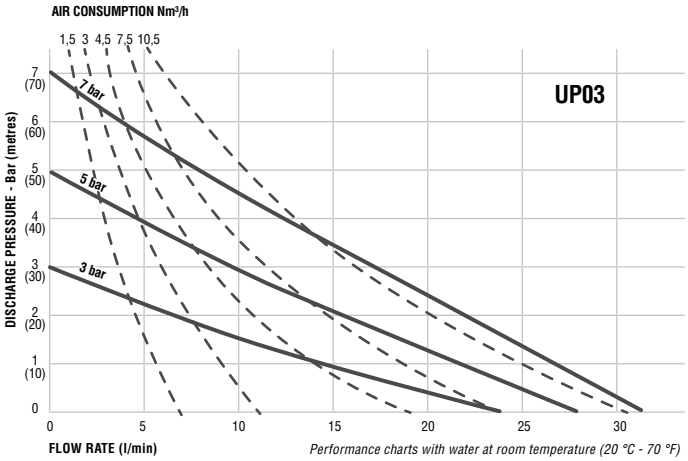
UP03 PIVOT SERIES, 3/8" NON-METALLIC PUMPS

Threaded pumps

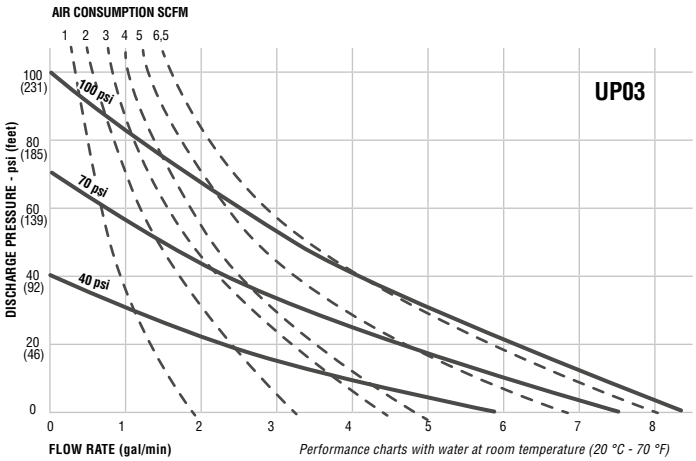


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
UP03	202	110	161	237	217	32	185	151	122	81	70	145	104	8

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
UP03	7.95	4.33	6.34	9.33	8.54	1.26	7.28	5.95	4.80	3.19	2.76	5.71	4.09	0.32



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

THREADED PUMPS

Polypropylene

Conductive Polypropylene

Conductive POM (Acetal)

PVDF

UP05 PIVOT SERIES
1/2" NON-METALLIC PUMPS

1/2"
51 l/min
(13.5 US gal/min)

The 1/2" (13 mm) air operated diaphragm pumps are available in Natural or Conductive Polypropylene, PVDF, or Conductive POM (Acetal) for optimal fluid compatibility. Made from injection-molded non-metallic parts, they offer multiple threaded discharge port options for versatile installation, reinforced with glass-filled polymer inserts to strengthen threaded ports in non-metallic pumps. Manifolds can rotate 180° for added flexibility, and the downward-facing inlet port allows direct connection of a suction tube to the pump. Discharge ports are reinforced with non-metallic plugs.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- ENERGY
- ELECTRONICS

Polypropylene version

Non contractual pictures.

TECHNICAL DATA	UP05 NON-METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	51 l/min (13.5 US gal/min)
Air pressure range*	1,5 to 7 bar (20 to 100 psi)
Solids in suspension, Max. size	2,5 mm (3/32")
Max dry suction lift	5 m (16')
Max wet suction lift	8 m (26')
Displacement per cycle**	0,15 l (0.04 gal)
Fluid inlet/outlet ports	1/2" NPT (F) Threaded
	1/2" BSP (F) Threaded
Air Inlet Port	1/4" NPSM (F)
Air Exhaust Port	1/2" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds	
· Conductive PP / PP	2,7 kg (6 lb)
· Conductive PP / PVDF	3,7 kg (8.2 lb)
· Conductive PP / Conductive PP	3 kg (6.6 lb)
· Conductive PP / Conductive POM (Acetal)	3,3 kg (7.3 lb)

** Minimum working air pressure may vary depending on the diaphragm material.*
*** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

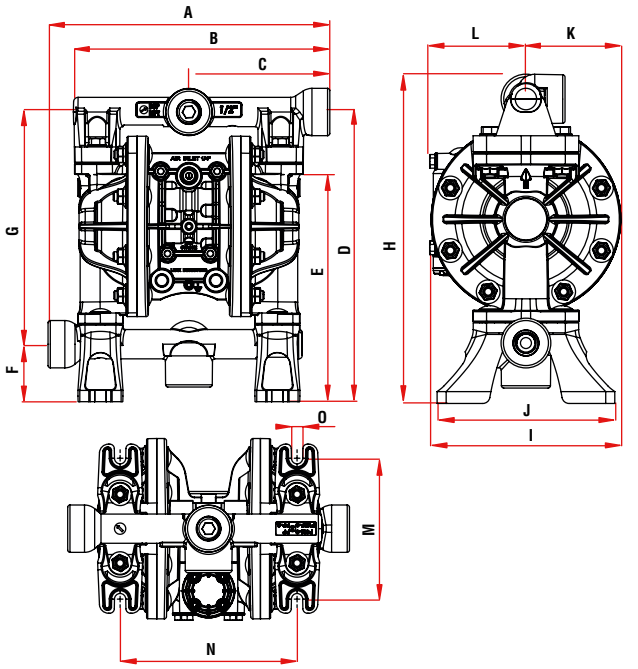
Examples: **UP05B-XXX-XXX**
UE05B-XXX-XXX-XY

UP05B	XXX			XXX			XY	
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**	
1 Pump Type & Size	**2** Central Body & Air Chambers	**3** Fluid Ports / Location Multiport manifolds: central and lateral	**4** Fluid Chambers & Manifolds	**5** Hardware Bolts & Nuts	**6** Valve Seats	**7** Valve Balls	**8** Diaphragms Type & Material	**9** Accessories (UE pumps only)	**10** Air valve type (UE pumps only)
UP05 Universal Pump (Bolted) **UE05** Universal Pump (Bolted) with electronic interface	(Ex) **ATEX Certified** **B***= Conductive Polypropylene	**B** = 1/2" BSP threaded ports **D** = 1/2" BSP Splitted Manifolds (only for polypropylene pumps) **N** = 1/2" NPT threaded ports **S** = 1/2" NPT Splitted Manifolds (only for polypropylene pumps)	**P** = Polypropylene **W** = PVDF (Ex) **ATEX Certified** **B***= Conductive Polypropylene **D***= Conductive POM (Acetal)	**S** = Stainless Steel	**C** = POM (Acetal) **P** = Polypropylene **S** = AISI 316 Stainless Steel **W** = PVDF	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A** = Diaphragm leak detectors **B** = Diaphragm leak detectors (ATEX) **C** = Stroke sensor **D** = Stroke sensor (PLC) **E** = Stroke sensor (ATEX) **F** = Diaphragm leak detectors + Stroke sensor **G** = Diaphragm leak detectors + Stroke sensor (PLC) **H** = Diaphragm leak detectors + Stroke sensor (ATEX) **0** = Without accessories	**0** = Standard air valve **1**= Externally driven pump

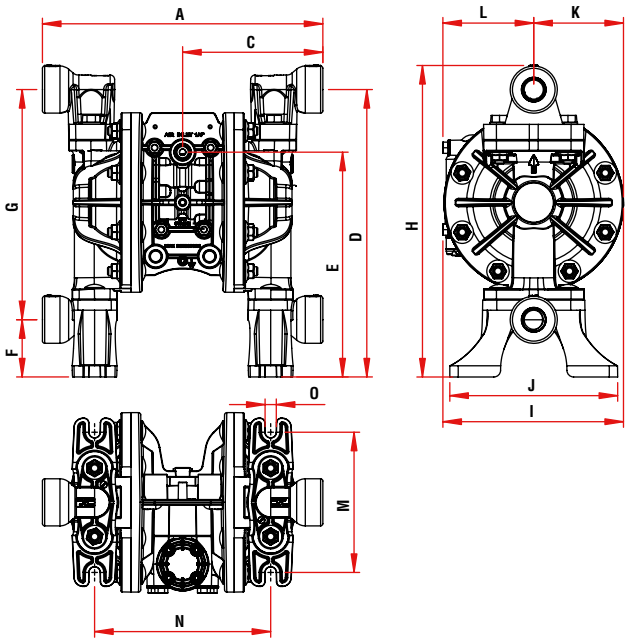
*(Ex) **ATEX Certified pumps** for use in hazardous locations ATEX Group II 2GDx.*

UP05 PIVOT SERIES, 1/2" NON-METALLIC PUMPS

Threaded pumps

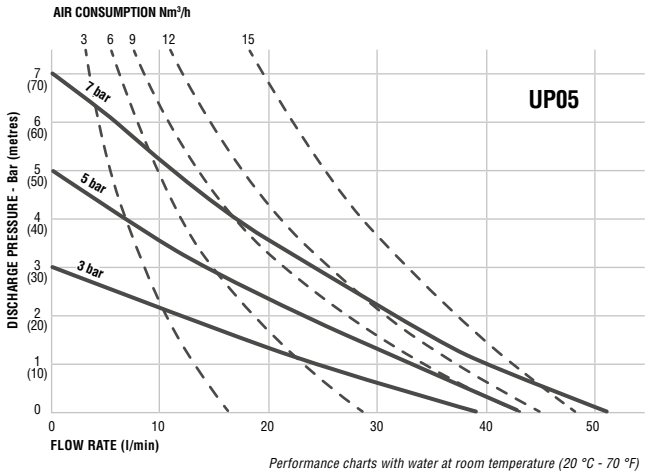


Split manifolds version

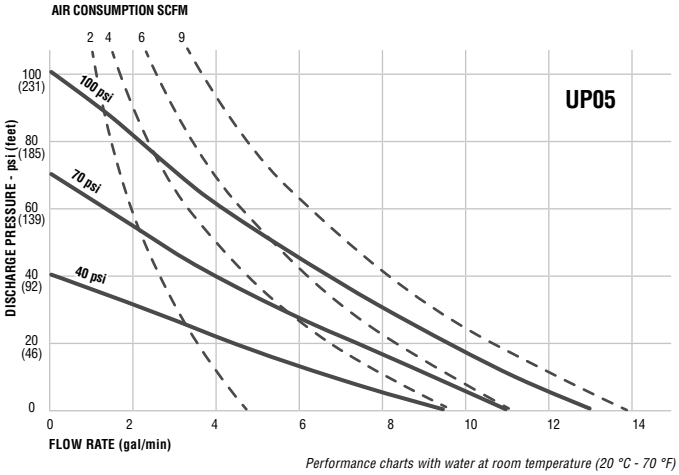


DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
UP05	9.84	8.98	4.92	10.12	7.87	2.01	8.11	10.95	6.34	5.91	3.15	3.19	4.92	6.18	0.39
UP05 SPLITTED MANIFOLDS	9.84	8.98	4.92	10.08	7.87	2.01	8.07	10.95	6.34	5.91	3.15	3.19	4.92	6.18	0.39

DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
UP05	250	-	125	257	200	51	206	278	161	150	80	81	125	157	10
UP05 SPLITTED MANIFOLDS	250	-	125	256	200	51	205	278	161	150	80	81	125	157	10



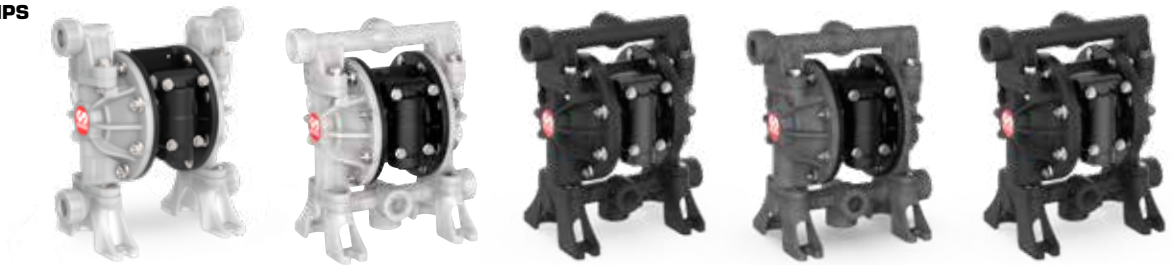
Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

THREADED PUMPS



Polypropylene (split manifolds version) | Polypropylene | Conductive Polypropylene | Conductive POM (Acetal) | PVDF

UP10 PIVOT SERIES
1" NON-METALLIC PUMPS

1"
200 l/min
(53 US gal/min)

The 1" (25 mm) air operated diaphragm pumps, made from injection-molded plastic, are available in Natural or Conductive Polypropylene and PVDF for optimal fluid compatibility. They offer side offset or central flanges or threaded inlet and outlet ports, with 180° rotating manifolds for versatile installation.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- CERAMICS
- ENERGY
- ELECTRONICS

Polypropylene version

Non contractual pictures.

TECHNICAL DATA	UP10 NON-METALLIC PUMPS	
Pressure Ratio	1:1	
Maximum Free Delivery	200 l/min (53 US gal/min)	
Air pressure range	1,5 to 7 bar (20 to 100 psi)	
Solids in suspension, Max. size	6,4 mm (1/4")	
Max dry suction lift	5 m (16')	
Max wet suction lift	8 m (26')	
Displacement per cycle*	0,85 l (0.2 gal)	
Fluid inlet/outlet ports	1" BSP or NPT (F) Threaded 1" ANSI/DIN Flange	
Air Inlet Port	1/2" NPT (F)	
Air Exhaust Port	1" NPT (F)	
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)	
Material and weight: Central Body/Fluid Chamber & Manifolds · Conductive PP / PP · Conductive PP / PVDF · Conductive PP / Conductive PP	**Threaded** 10,2 kg (22.5 lb) 13,5 kg (29.8 lb) 11,6 kg (25.6 lb)	**Flanged** 10,5 kg (23.1 lb) 14,1 kg (31.1 lb) 12 kg (26.4 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP10B-XXX-XXX**
UE10B-XXX-XXX-X

UP10B		XXX			XXX			X
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location** **Multiport manifolds: central or lateral**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts, Nuts & Inserts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**
UP10 Universal Pump (Bolted) **UE10** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **B***= Conductive Polypropylene	**Central ports** **C** = 1" ANSI/DIN flanged ports **B** = 1" BSP threaded ports **N** = 1" NPT threaded ports **Lateral ports** **F** = 1" ANSI/DIN flanged ports **P** = 1" BSP threaded ports **T** = 1" NPT threaded ports	**P** = Polypropylene **W** = PVDF **ATEX Certified** **B***= Conductive Polypropylene	**S** = Stainless Steel	**P** = Polypropylene **W** = PVDF	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A =** Diaphragm leak detectors **B =** Diaphragm leak detectors (ATEX) **C =** Stroke sensor **D =** Stroke sensor (PLC) **E =** Stroke sensor (ATEX) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC) **H =** Diaphragm leak detectors + Stroke sensor (ATEX)

* ***ATEX Certified pumps*** *for use in hazardous locations ATEX Group II 2GDx.*

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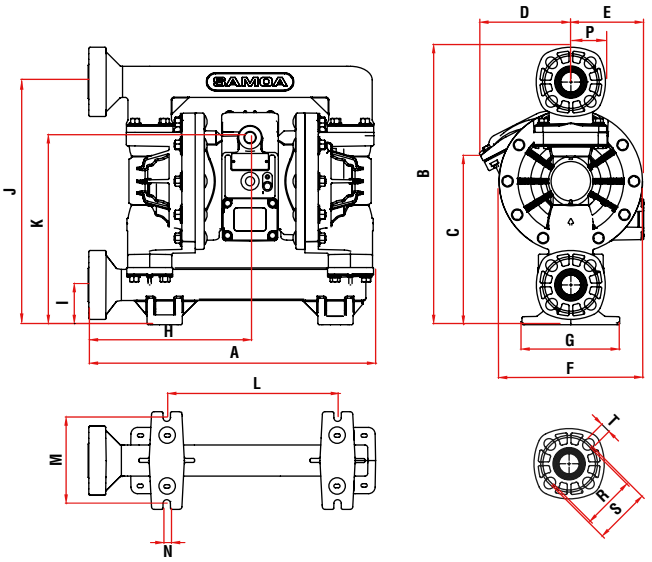
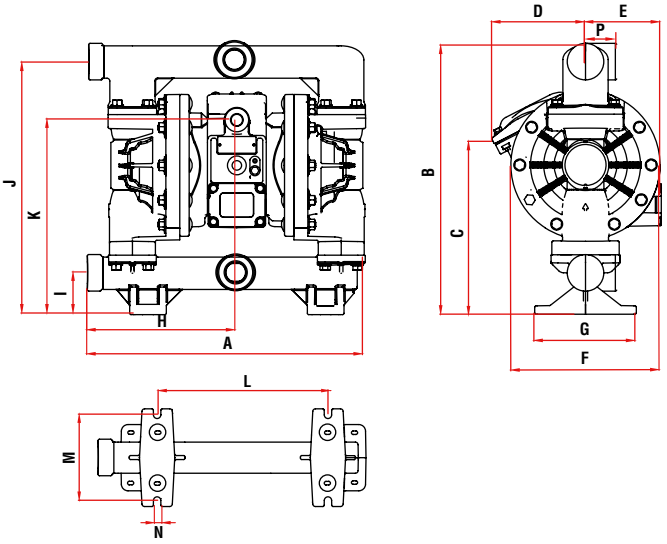
UP10 PIVOT SERIES, 1" NON-METALLIC PUMPS

Lateral flanged/threaded pumps



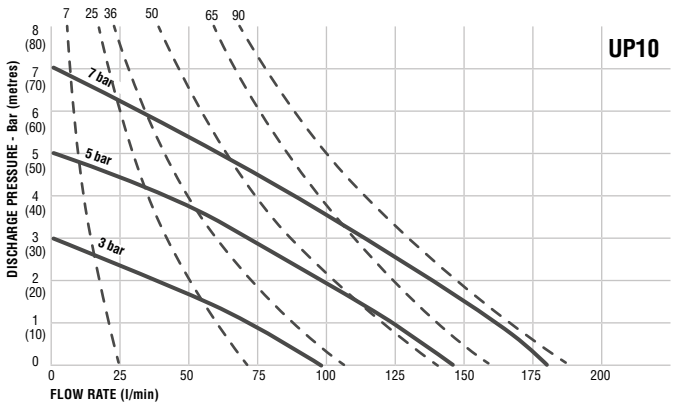
Central flanged/threaded pumps



DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T
UP10 LATERAL-FLANGED	425	415	250	135	108	214	146	241	59	363	280	255	128	11	56	77,5	83,5	15
UP10 CENTRAL-FLANGED	399																	
UP10 LATERAL-THREADED	399	386	250	135	108	214	146	211	59	363	280	255	128	11	40			
UP10 CENTRAL-THREADED																		

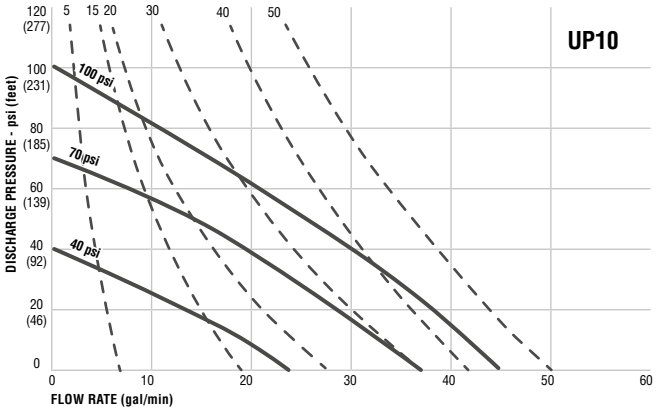
DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T
UP10 LATERAL-FLANGED	16.73	16.34	9.84	5.32	4.25	8.43	5.75	9.49	2.32	14.29	11.02	10.04	5.04	0.43	2.21	3.05	3.29	0.59
UP10 CENTRAL-FLANGED	15.71																	
UP10 LATERAL-THREADED	15.71	15.20	9.84	5.32	4.25	8.43	5.75	8.31	2.32	14.29	11.02	10.04	5.04	0.43	1.58			
UP10 CENTRAL-THREADED																		

AIR CONSUMPTION Nm³/h



Performance charts with water at room temperature (20 °C - 70 °F)

AIR CONSUMPTION SCFM



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

FLANGED PUMPS

Polypropylene | Conductive Polypropylene | PVDF

THREADED PUMPS

Polypropylene | Conductive Polypropylene | PVDF

UP15 PIVOT SERIES
1 1/2" NON-METALLIC PUMPS

1 1/2"
470 l/min
(125 US gal/min)

The 1 1/2" (38 mm) air operated diaphragm pumps, made from injection-molded plastic, are available in Natural Polypropylene and PVDF for optimal fluid compatibility. Additionally, it incorporates the new Quick-fill valve, which ensures precise air chamber filling and reduces consumption. They offer side offset or central flanged ports, with 180° rotating manifolds for versatile installation.

MAIN APPLICATIONS

- OIL & GAS, PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- CERAMICS
- ENERGY
- ELECTRONICS
- LUBRICATION EQUIPMENT

Polypropylene version

Non contractual pictures.

TECHNICAL DATA	UP15 NON-METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	470 l/min (125 US gal/min)
Air pressure range	1,5 to 7 bar (20 to 120 psi)
Solids in suspension, Max. size	6,4 mm (1/4")
Max dry suction lift	5 m (16.4')
Max wet suction lift	9 m (29.5')
Displacement per cycle*	2,5 l (0.66 gal)
Fluid inlet/outlet ports	1 1/2" ANSI/DIN
Air Inlet Port	1/2" NPT (F)
Air Exhaust Port	1" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds · Reinforced PP / PP · Reinforced PP / PVDF	 21,7 kg (47.8 lb) 31,3 kg (70 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP15X-XXX-XXX**
UE15X-XXX-XXX-X

UP15X		**XXX**			**XXX**			**X**
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location** **Multiport manifolds: central or lateral**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts, Nuts & Inserts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**
UP15 Universal Pump (Bolted) **UE15** Universal Pump (Bolted) with electronic interface	**P**= Reinforced Polypropylene	**Central ports** **C** = 1 1/2" ANSI/DIN flanged ports **Lateral ports** **F** = 1 1/2" ANSI/DIN flanged ports	**P** = Polypropylene **W** = PVDF	**S** = Stainless Steel	**P** = Polypropylene **W** = PVDF	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A =** Diaphragm leak detectors **C =** Stroke sensor **D =** Stroke sensor (PLC) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC)

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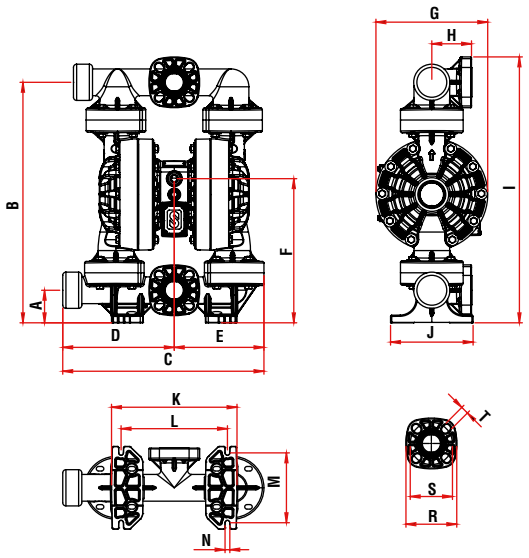
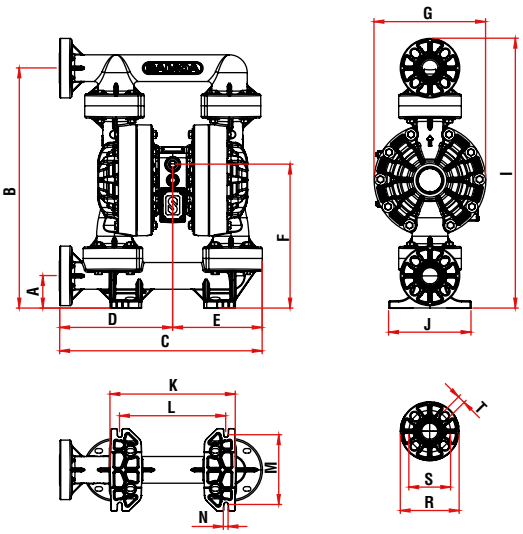
UP15 PIVOT SERIES, 1 1/2" NON-METALLIC PUMPS

Central flanged pumps

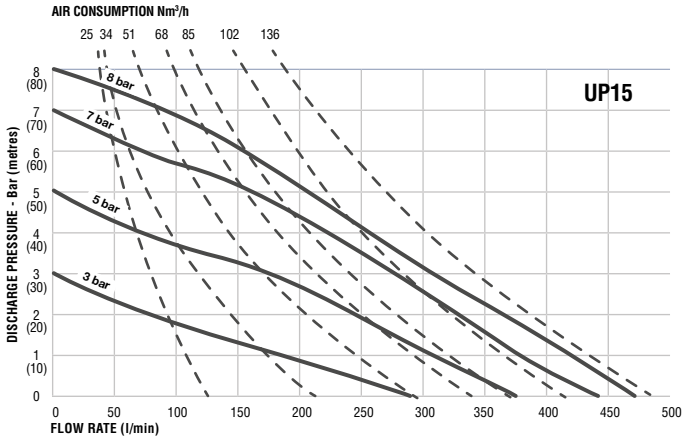


Lateral flanged pumps

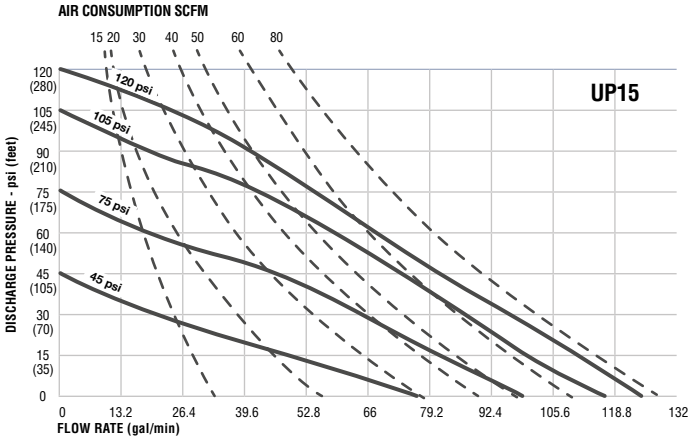


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP15 CENTRAL FLANGED	82	606	507	281	226	363	282	100	670	208	316	268	176	12	128	98,4-110	20
UP15 LATERAL FLANGED	82	606	511	285	226	363	282	-	681	208	316	268	176	12	150	98,4-110	20

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP15 CENTRAL FLANGED	3.23	23.86	19,.96	11.06	8.90	14.29	11.10	3.94	26.38	8.19	12.44	10.55	6.93	0.47	5.04	3.87-4.33	0.79
UP15 LATERAL FLANGED	3.23	23.86	20.12	11.22	8.90	14.29	11.10	-	26.81	8.19	12.44	10.55	6.93	0.47	5.91	3.87-4.33	0.79



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

FLANGED PUMPS

Polypropylene

Polypropylene

PVDF

PVDF

UP20 PIVOT SERIES
2" NON-METALLIC PUMPS

2"
650 l/min
(172 US gal/min)

The 2" (51 mm) air operated diaphragm pumps, made from injection-molded plastic, are available in Natural or Conductive Polypropylene and PVDF for optimal fluid compatibility. They feature side offset inlet and outlet ports to prevent material leaks onto the pump footprint. Manifolds can rotate 180° for maximum installation versatility, and the flanged bolted ports meet both DIN and ANSI standards.

Polypropylene version

Non contractual pictures.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- PAINT & COATING INDUSTRY
- CHEMICAL PROCESSING
- WASTE WATER/WATER TREATMENT
- FILTER PRESS (WATER DISPOSAL)
- PLANT & MECHANICAL ENGINEERING
- PULP & PAPER/CARDBOARD
- POWER STATIONS (ENERGY)
- TANK FARM/BULK TRANSFER

TECHNICAL DATA	UP20 NON-METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	650 l/min (172 US gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Solids in suspension, Max. size	6,4 mm (1/4")
Max dry suction lift	5 m (16')
Max wet suction lift	8 m (26')
Displacement per cycle*	4,5 l (1.2 gal)
Fluid inlet/outlet ports (Flanged)	2" ANSI/DIN. Side Ends.
Air Inlet Port	3/4" NPT (F)
Air Exhaust Port	1 1/2" NPT (F)
Sound level	85 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds · Conductive PP / PP · Conductive PP / PVDF · Conductive PP / Conductive PP	 42 kg (92 lb) 54 kg (120 lb) 46 kg (101 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

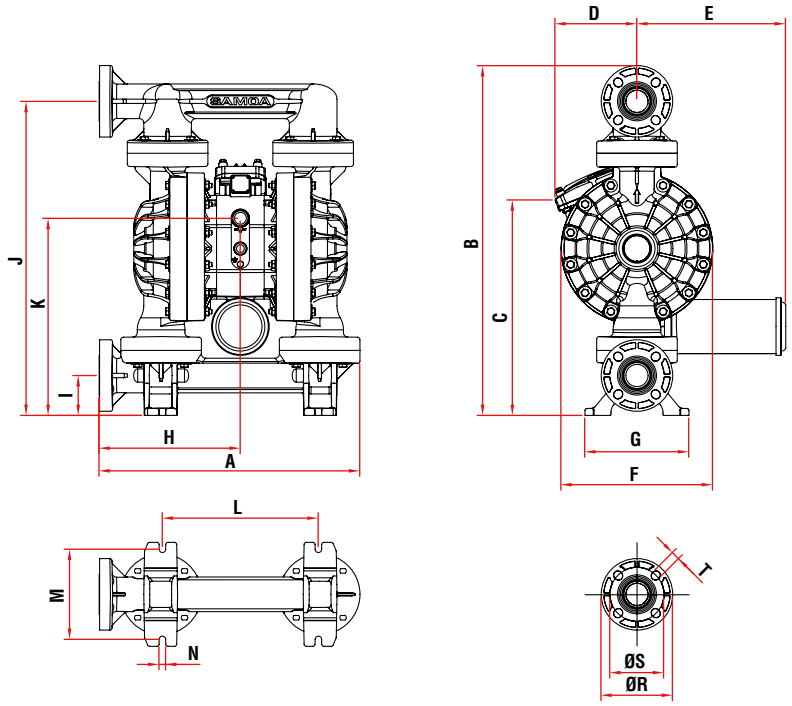
Examples: **UP20B-XXX-XXX**
UE20B-XXX-XXX-X

UP20X		**XXX**			**XXX**			**X**
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts, Nuts & Inserts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**
UP20 Universal Pump (Bolted) **UE20** Universal Pump (Bolted) with electronic interface	**(Ex) ATEX Certified** **B*** = Conductive Polypropylene	**F** = 2" ANSI/DIN Flanged Ports / Side Ends.	**P** = Polypropylene **W** = PVDF **(Ex) ATEX Certified** **B*** = Conductive Polypropylene	**S** = Stainless Steel	**P** = Polypropylene **W** = PVDF	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two-piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer **Overmolded** **H** = TPE (Hytrel®) **N** = Nitrile (Buna N) **T** = PTFE / EPDM (Bonded)	**A =** Diaphragm leak detectors **B =** Diaphragm leak detectors (ATEX) **C =** Stroke sensor **D =** Stroke sensor (PLC) **E =** Stroke sensor (ATEX) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC) **H =** Diaphragm leak detectors + Stroke sensor (ATEX)

** (Ex) **ATEX Certified pumps** for use in hazardous locations ATEX Group II 2GDx.*

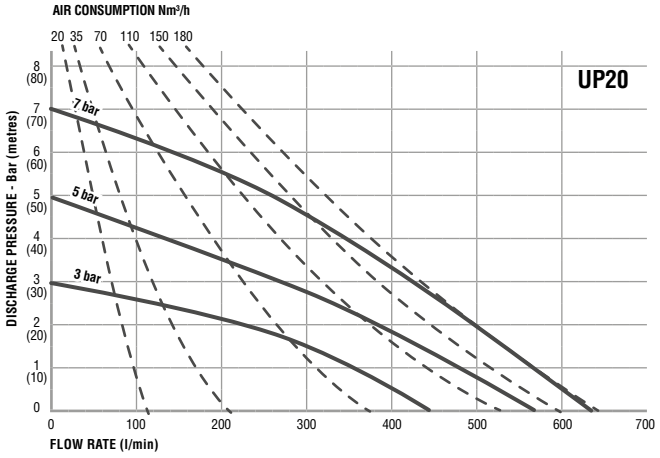
UP20 PIVOT SERIES, 2" NON-METALLIC PUMPS

Flanged pumps

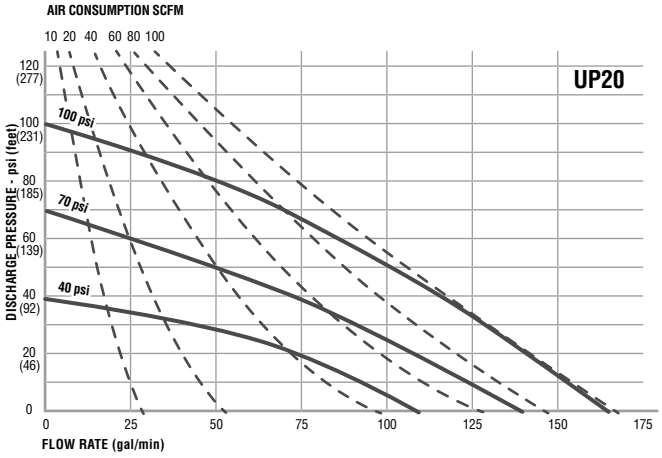


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP20 FLANGED	602	808	497	189	344	350	240	326	92	725	455	360	208	15	165	120,5-125	19

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP20 FLANGED	23.70	31.81	19.57	7.44	13.54	13.78	9.45	12.84	3.62	28.54	17.91	14.17	8.19	0.59	6.50	4.74-4.92	3/4



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

FLANGED PUMPS

Polypropylene

Conductive Polypropylene

PVDF

UP05 PIVOT SERIES
1/2" METALLIC PUMPS

1/2"
54 l/min
(14.3 US gal/min)

The 1/2" (13 mm) air operated diaphragm pumps, made of cast metal, are available in Aluminium and Stainless Steel. Aluminium models feature offset threaded ports with cataphoresis (e-coating) for enhanced corrosion resistance, while Stainless Steel models have central threaded ports. Both types offer 180° rotation for flexible installation, with a downward-facing inlet for direct suction tube connection.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- ENERGY
- ELECTRONICS

ATEX Certified

Aluminium version

Non contractual pictures.

TECHNICAL DATA	UP05 METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	54 l/min (14.3 US gal/min)
Air pressure range*	1,5 to 8 bar (20 to 120 psi)
Solids in suspension, Max. size	2,5 mm (3/32")
Max dry suction lift	5 m (16')
Max wet suction lift	8 m (26')
Displacement per cycle**	0,15 l (0.04 gal)
Fluid inlet/outlet ports	1/2" NPT (F) Threaded
	1/2" BSP (F) Threaded
Air Inlet Port	1/4" NPSM (F)
Air Exhaust Port	1/2" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds	
· Conductive PP / 316 SS	3,9 kg (8.6 lb)
· Aluminium / Aluminium	6,5 kg (14.3 lb)
· Aluminium / 316 SS	6,8 kg (15 lb)

** Minimum working air pressure may vary depending on the diaphragm material.*
*** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP05X-XXX-XXX**
UE05X-XXX-XXX-XY

UP05X		**XXX**			**XXX**			**XY**	
PUMP TYPE AIR MOTOR		**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**	
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location** **Multiport manifolds: central and lateral**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**	**10** **Air valve type (UE pumps only)**
UP05 Universal Pump (Bolted) **UE05** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **A** = Aluminium **B** = Conductive Polypropylene *(only for pumps with Stainless Steel Fluid Chambers & Manifolds)*	**B** = 1/2" BSP threaded ports **N** = 1/2" NPT threaded ports	**ATEX Certified** **A** = Aluminium **S** = AISI 316 Stainless Steel	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with (Santoprene)® backer	**A =** Diaphragm leak detectors **B =** Diaphragm leak detectors (ATEX) **C =** Stroke sensor **D =** Stroke sensor (PLC) **E =** Stroke sensor (ATEX) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC) **H =** Diaphragm leak detectors + Stroke sensor (ATEX) **0 =** Without accessories	**0 =** Standard air valve **1=** Externally driven pump

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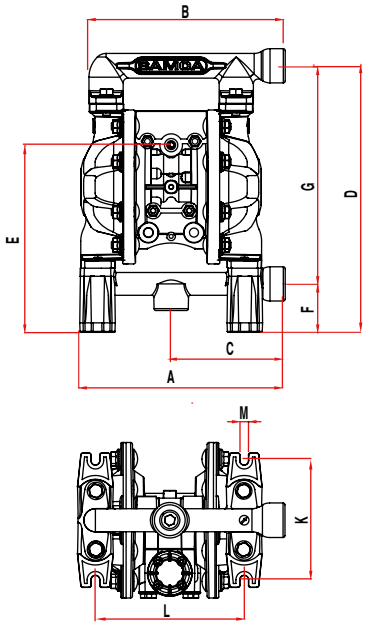
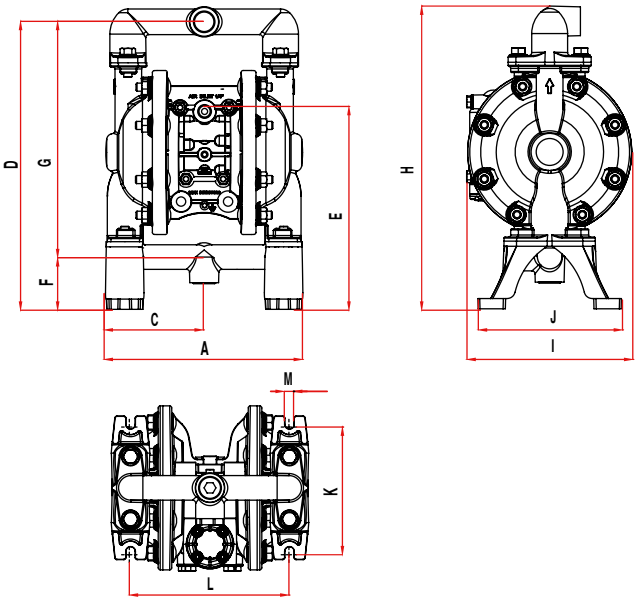
UP05 PIVOT SERIES, 1/2" METALLIC PUMPS

Aluminium threaded pumps

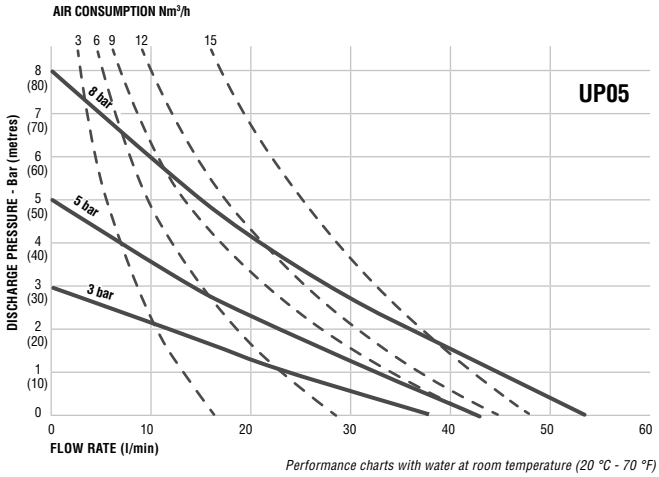


Stainless steel threaded pumps

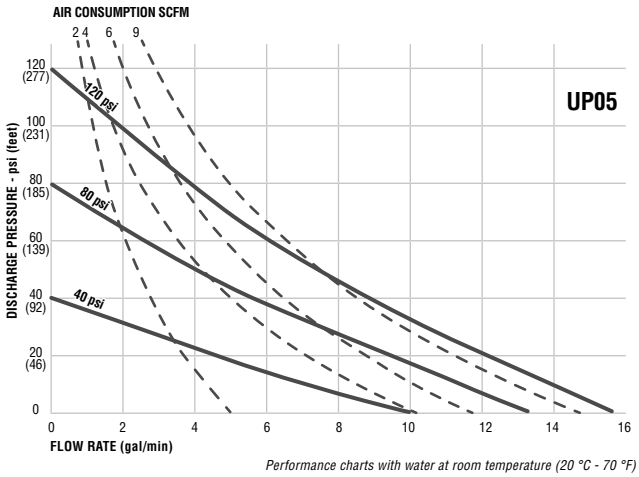


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M
UP05 ALUMINIUM	216	207	120	281	197	51	230	299	162	140	124	155	9
UP05 STAINLESS STEEL	193	-	96	281	198	51	230	295	161	140	124	155	9

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M
UP05 ALUMINIUM	8.50	8.15	4.72	11.06	7.76	2.01	9.06	11.77	6.38	5.52	4.88	6.10	0.35
UP05 STAINLESS STEEL	7.60	-	3.78	11.06	7.80	2.01	9.06	11.61	6.34	5.52	4.88	6.10	0.35



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

THREADED PUMPS

Aluminium

Stainless Steel

CP10 PIVOT SERIES COMPACT LINE
1" METALLIC PUMPS

1"
130 l/min
(35 US gal/min)

The 1" (25 mm) air operated diaphragm pumps, made of cast metal, feature a compact design and can reach a flow rate of up to 130 l/min (35 gal/min). They incorporate the new Quick-fill valve, which ensures precise air chamber filling and reduces consumption. Multiport manifolds can rotate 180° for extraordinary pump installation versatility.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHAICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- CERAMICS
- ENERGY
- ELECTRONICS

ATEX Certified

Aluminium version

Non contractual pictures.

TECHNICAL DATA	CP10 METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	130 l/min (35 US gal/min)
Air pressure range	1,5 to 8 bar (20 to 120 psi)
Solids in suspension, Max. size	3,2 mm (1/8")
Max dry suction lift	5 m (16')
Max wet suction lift	8 m (26')
Displacement per cycle*	0,4 l (0.1 gal)
Fluid inlet/outlet ports	1" BSP or 1"NPT (F) Threaded
Air Inlet Port	3/8" NPT (F)
Air Exhaust Port	1/2" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds Aluminium / Aluminium	6,6 kg (14.5 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **CP10X-XXX-XXX**
CE10X-XXX-XXX-XY

CP10X	XXX			XXX			XY	
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**	
1 Pump Type & Size	**2** Central Body & Air Chambers	**3** Fluid Ports / Location Multiport manifolds: central, vertical and lateral	**4** Fluid Chambers & Manifolds	**5** Hardware Bolts	**6** Valve Seats	**7** Valve Balls	**8** Diaphragms Type & Material	**9** Accessories (CE pumps only)	**10** Air valve type (CE pumps only)
CP10 Compact Pump (Bolted) **CE10** Compact Pump (Bolted) with electronic interface	ATEX Certified **A** = Aluminium	**B** = 1" BSP threaded ports **N** = 1" NPT threaded ports	ATEX Certified **A** = Aluminium	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **S** = AISI 316 Stainless Steel	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A** = Diaphragm leak detectors **B** = Diaphragm leak detectors (ATEX) **C** = Stroke sensor **D** = Stroke sensor (PLC) **E** = Stroke sensor (ATEX) **F** = Diaphragm leak detectors + Stroke sensor **G** = Diaphragm leak detectors + Stroke sensor (PLC) **H** = Diaphragm leak detectors + Stroke sensor (ATEX) **0** = Without accessories	**0** = Standard air valve **1**= Externally driven pump

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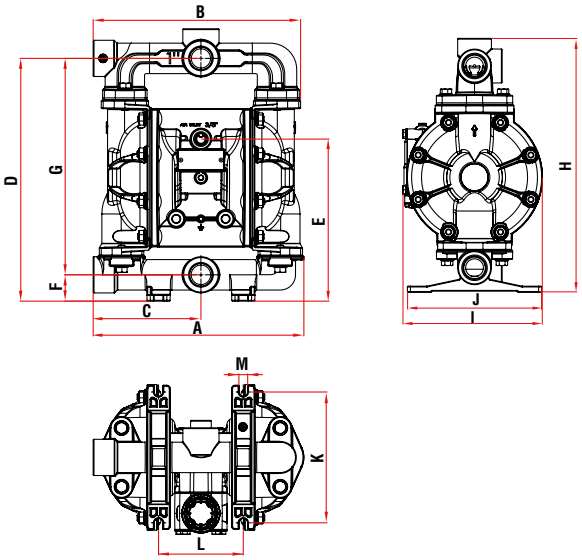
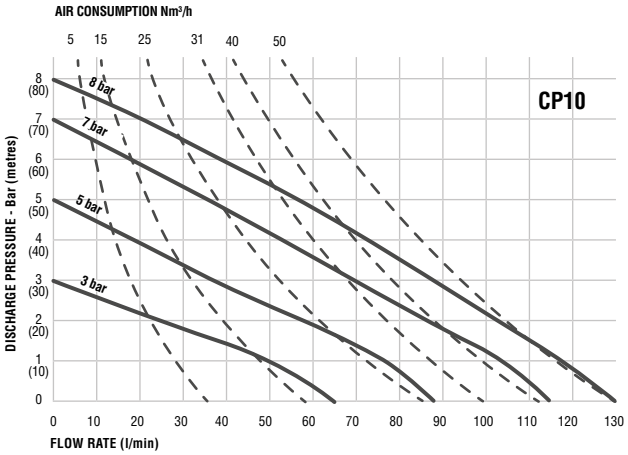
CP10 PIVOT SERIES, 1" METALLIC PUMPS

Threaded pumps

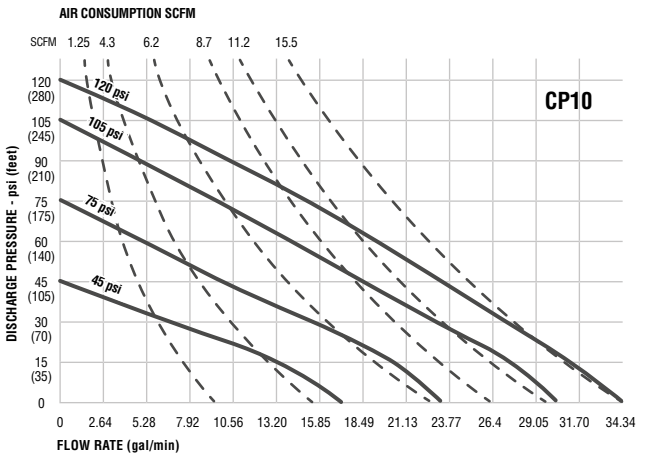


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M
CP10 ALUMINIUM	256	252	131	295	197	32	263	331	182	175	159	103	10

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M
CP10 ALUMINIUM	10.08	9.92	5.16	11.61	7.75	1.26	10.35	13.03	7.16	6.89	6.25	4.05	0.39



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

THREADED PUMPS

Aluminium

UP10 PIVOT SERIES
1" METALLIC PUMPS

1"
200 l/min
(53 US gal/min)

The 1" (25 mm) air operated diaphragm pumps, made of cast metal, offer a variety of construction materials and porting configurations, ensuring high abrasion resistance for abrasive media and low flow resistance. Multiple threaded inlet and outlet options provide maximum installation versatility, with 180° rotating manifolds to enhance installation flexibility.

MAIN APPLICATIONS

- OIL & GAS, PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- CERAMICS
- ENERGY
- ELECTRONICS
- LUBRICATION EQUIPMENT

Aluminium version

Non contractual pictures.

TECHNICAL DATA	UP10 METALLIC PUMPS
Pressure Ratio	1:1
Maximum Free Delivery	200 l/min (53 US gal/min)
Air pressure range	1,5 to 8 bar (20 to 120 psi)
Solids in suspension, Max. size	6,4 mm (1/4")
Max dry suction lift	5 m (16')
Max wet suction lift	8 m (26')
Displacement per cycle*	0,85 l (0.2gal)
Fluid inlet/outlet ports	1" NPT (F) Threaded
	1" BSP (F) Threaded
Air Inlet Port	1/2" NPT (F)
Air Exhaust Port	1" NPT (F)
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)
Material and weight: Central Body/Fluid Chamber & Manifolds	
· Aluminium / Aluminium	11,5 kg (25 lb)
· Aluminium / Ductile Iron	17,1 kg (37.7 lb)
· Aluminium / 316 SS	18,5 kg (40.8 lb)
· 316 SS / 316 SS	26,6 kg (38.6 lb)
· Conductive PP / 316 SS	17,4 kg (38.4 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP10X-XXX-XXX**
UE10X-XXX-XXX-X

UP10X	**XXX**			**XXX**			**X**
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 Pump Type & Size	**2** Central Body & Air Chambers	**3** Fluid Ports / Location Multiport manifolds: central and lateral	**4** Fluid Chambers & Manifolds	**5** Hardware Bolts	**6** Valve Seats	**7** Valve Balls	**8** Diaphragms Type & Material	**9** Accessories (UE pumps only)
UP10 Universal Pump (Bolted) **UE10** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **A** = Aluminium **B** = *Conductive Polypropylene (only for pumps with Stainless Steel Fluid Chambers & Manifolds)* **S** = *AISI 316 Stainless Steel (only for pumps with Stainless Steel Fluid Chambers & Manifolds)*	**B** = 1" BSP threaded ports **N** = 1" NPT threaded ports	**ATEX Certified** **A** = Aluminium **F** = Ductile Iron **S** = AISI 316 Stainless Steel	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **S** = AISI 316 Stainless Steel **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A** = Diaphragm leak detectors **B** = Diaphragm leak detectors (ATEX) **C** = Stroke sensor **D** = Stroke sensor (PLC) **E** = Stroke sensor (ATEX) **F** = Diaphragm leak detectors + Stroke sensor **G** = Diaphragm leak detectors + Stroke sensor (PLC) **H** = Diaphragm leak detectors + Stroke sensor (ATEX)

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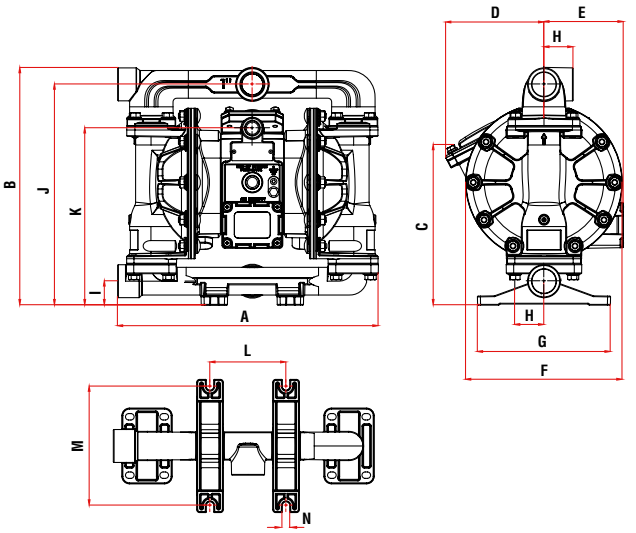
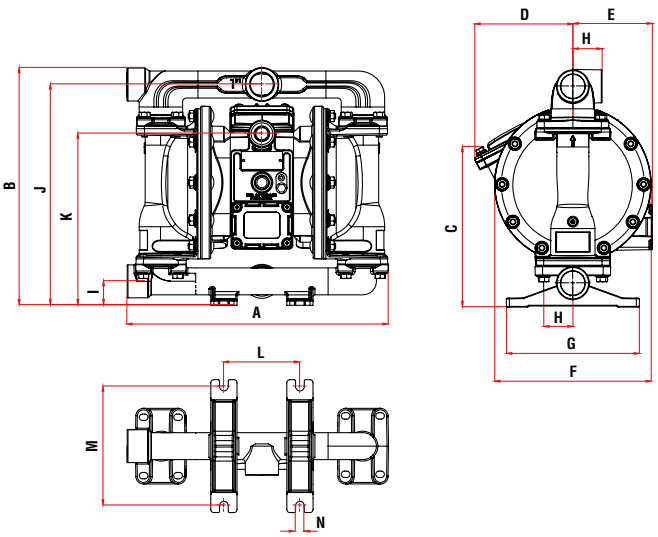
UP10 PIVOT SERIES, 1" METALLIC PUMPS

Aluminium threaded pumps

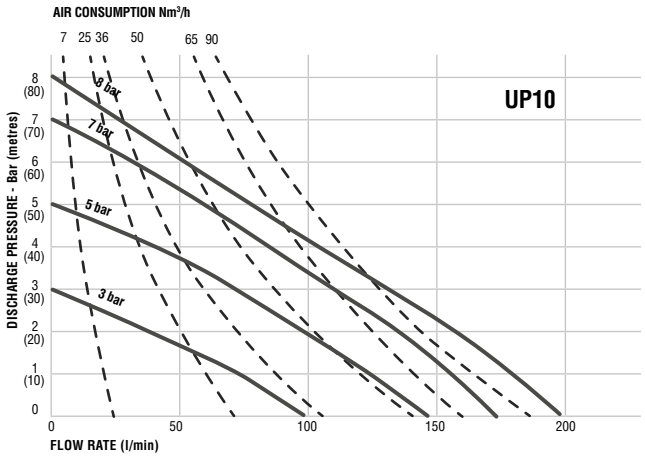


Stainless steel threaded pumps

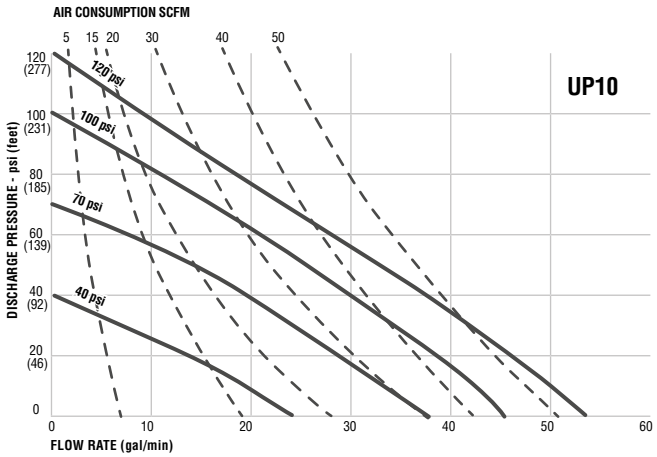


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
UP10 ALUMINIUM & STAINLESS STEEL	348	317	214	131	106	209	177	39	32	295	237	102	159	10

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
UP10 ALUMINIUM & STAINLESS STEEL	13.70	12.48	8.43	5.16	4.17	8.23	6.97	1.54	1.26	11.61	9.33	4.02	6.26	0.39



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

THREADED PUMPS

Aluminium

Stainless Steel

Ductile Iron

UP15 PIVOT SERIES
1 1/2" METALLIC PUMPS

1 1/2"
475 l/min
(125 US gal/min)

The 1 1/2" (38 mm) air operated diaphragm pumps, made of cast metal, feature the innovative SAMOA Air Distribution System for superior performance and efficiency. They can achieve a flow rate of up to 475 l/min (125 gal/min), offering high-capacity fluid transfer. Additionally, it incorporates the new Quick-fill valve, which ensures precise air chamber filling and reduces consumption. In the aluminium and ductile iron versions, external and internal e-coated manifolds, fluid chambers, air chambers, and the central body provide enhanced corrosion resistance and durability. For maximum installation versatility, the manifolds can rotate 180°, allowing flexible positioning to suit various applications.

ATEX Certified

Aluminium version

Non contractual pictures.

MAIN APPLICATIONS

- OIL & GAS/PETROCHEMICAL
- MINING & CONSTRUCTION
- PULP & PAPER
- CHEMICAL PLANT PROCESSING
- PAINTS & COATINGS
- TEXTILES, LEATHERS & GARMENTS
- PLANT AND MECHANICAL ENGINEERING
- WASTEWATER & WATER TREATMENT
- MARINE
- CERAMICS
- ENERGY
- ELECTRONICS

TECHNICAL DATA	UP15 METALLIC PUMPS	
Pressure Ratio	1:1	
Maximum Free Delivery	475 l/min (125 US gal/min)	
Air pressure range	1,5 to 8 bar (20 to 120 psi)	
Solids in suspension, Max. size	6,4 mm (1/4")	
Max dry suction lift	6 m (19.6')	
Max wet suction lift	9 m (29.5')	
Displacement per cycle*	2,5 l (0.66 gal)	
Fluid inlet/outlet ports	1 1/2" NPT (F) Threaded 1 1/2" BSP (F) Threaded 1 1/2" ANSI/DIN Flanged	
Air Inlet Port	1/2" NPT (F)	
Air Exhaust Port	1" NPT (F)	
Sound level	75 dB (A) @50 cycles/min @5 bar (70 psi)	
Material and weight: Central Body/ Fluid Chamber & Manifolds	**Threaded**	**Flanged**
· Aluminium / Aluminium	22 kg (48.5 lb)	-
· Aluminium / Ductile Iron	36 kg (79.4 lb)	-
· Aluminium / 316 SS	38 kg (83.8 lb)	41,5 kg (91.5 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP15A-XXX-XXX**
UE15A-XXX-XXX-X

UP15X		**XXX**			**XXX**			**X**
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location** **Multiport manifolds: central, vertical and lateral**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**
UP15 Universal Pump (Bolted) **UE15** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **A** = Aluminium **S** = AISI 316 Stainless Steel (only for pumps with Stainless Steel Fluid Chambers & Manifolds)	**B =** 1 1/2" BSP threaded ports/ Lateral & Central (only in Aluminium versions) **C** = 1-1/2" ANSI / DIN flanged ports / Central horizontal (only in Stainless Steel) **N** = 1 1/2" NPT threaded ports/ Lateral & Central (only in Aluminium versions) **V**= 1 1/2" ANSI / DIN flanged ports/ Central horizontal inlet, Central vertical outlet (only in Stainless Steel)	**ATEX Certified** **A** = Aluminium **F** = Ductile Iron **S** = AISI 316 Stainless Steel	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **D** = AISI 440 Hardened Stainless Steel **H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **T** = PTFE (Teflon®) **S** = AISI 316 Stainless Steel **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A =** Diaphragm leak detectors **B =** Diaphragm leak detectors (ATEX) **C =** Stroke sensor **D =** Stroke sensor (PLC) **E =** Stroke sensor (ATEX) **F =** Diaphragm leak detectors + Stroke sensor **G =** Diaphragm leak detectors + Stroke sensor (PLC) **H =** Diaphragm leak detectors + Stroke sensor (ATEX)

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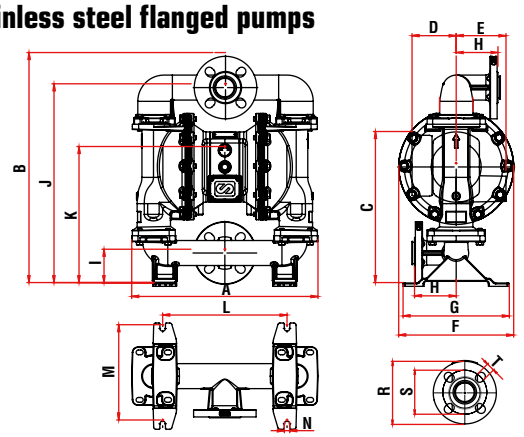
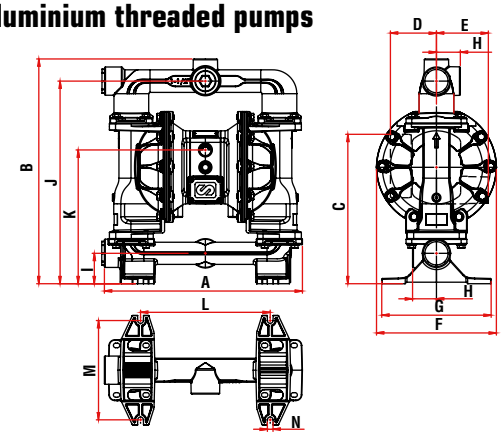
UP15 PIVOT SERIES, 1 1/2" METALLIC PUMPS

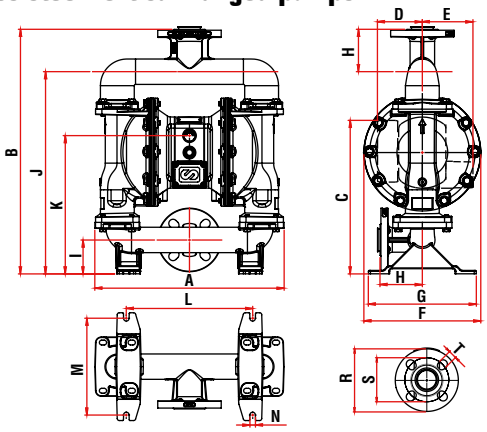
Stainless steel flanged pumps



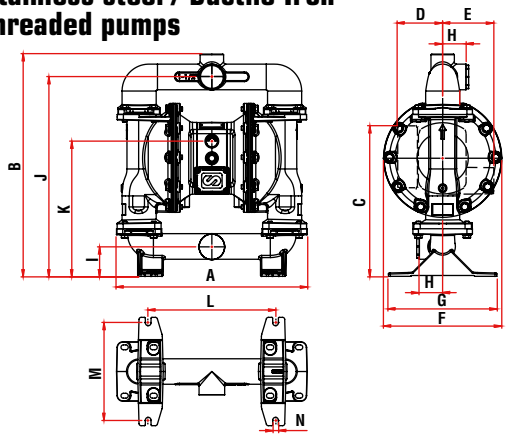
Aluminium threaded pumps



Stainless steel vertical flanged pumps

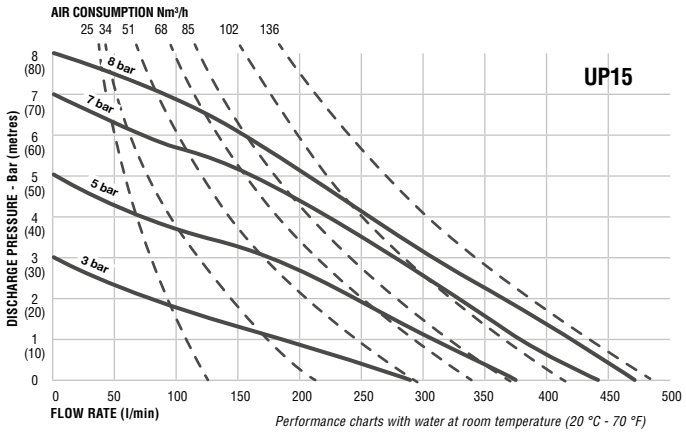


Stainless steel / Ductile Iron threaded pumps

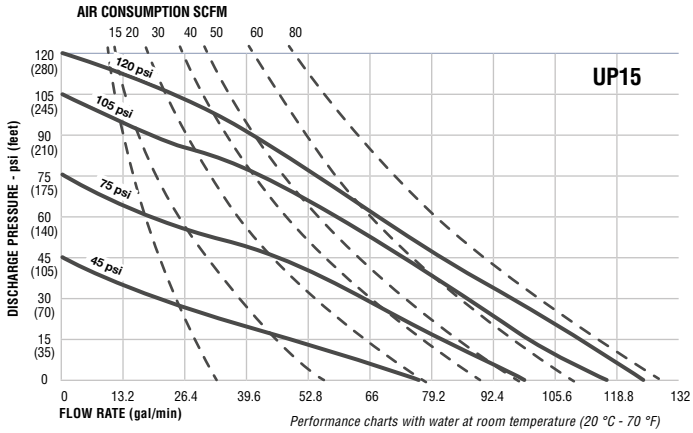


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP15 FLANGED	447	577,5	362,5	106	220	276	255	100	80	477	326,5	298,5	228,6	13	150	104,7	20
UP15 THREADED	456	517,5	344	106	220	276	252	55	70	466,5	308	298,5	228,6	13	-	-	-

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP15 FLANGED	17.6	22.7	14.13	4.2	8.7	10.9	10	3.9	3.2	18.8	18.86	11.8	9	0.59	5.9	4.1	0.78
UP15 THREADED	17.95	20.4	13.5	4.2	8.7	10.9	9.9	2.2	2.8	18.4	12.1	11.8	9	0.59	-	-	-



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

FLANGED PUMPS

Stainless Steel Stainless Steel

THREADED PUMPS

Aluminium Stainless Steel Ductile Iron

UP20 PIVOT SERIES
2" METALLIC PUMPS

2"
650 l/min
(172 US gal/min)

The 2" (51 mm) air operated double diaphragm pumps, made of cast metal, offer a wide range of construction materials and porting configurations. Their design ensures high abrasion resistance for abrasive media and low flow resistance. Available with central threaded or flanged inlet and outlet ports, the pumps feature 180° rotating manifolds for maximum installation versatility.

MAIN APPLICATIONS

- CERAMIC & PORCELAIN
- PAINT & VARNISH INDUSTRY
- OIL & GAS / PETROCHEMICAL
- WASTE WATER / WATER TREATMENT
- MARINE & SHIPBUILDING
- FILTER PRESS
- MINING & CONSTRUCTION
- CHEMICAL / PROCESSING
- PULP AND PAPER / CARDBOARD

Non contractual pictures.

Aluminium version

TECHNICAL DATA	UP20 METALLIC PUMPS	
Pressure Ratio	1:1	
Maximum Free Delivery	650 l/min (172 US gal/min)	
Air pressure range	1,5 to 8 bar (20 to 120 psi)	
Solids in suspension, Max. size	6,4 mm (1/4")	
Max dry suction lift	5 m (16')	
Max wet suction lift	8 m (26')	
Displacement per cycle*	4,5 l (1.2 gal)	
Fluid inlet/outlet ports	2" NPT (F) Threaded 2" BSP (F) Threaded 2" ANSI/DIN Flanged	
Air Inlet Port	3/4" NPT (F)	
Air Exhaust Port	1 1/2" NPT (F)	
Sound level	85 dB (A) @50 cycles/min @5 bar (70 psi)	
Material and weight: Central Body/Fluid Chamber & Manifolds	**Threaded**	**Flanged**
· Aluminium / Aluminium	46 kg (101 lb)	48 kg (106 lb)
· Aluminium / Ductile Iron	74 kg (163 lb)	78 kg (172 lb)
· Aluminium / 316 SS	76 kg (168 lb)	82 kg (181 lb)
· Conductive PP / 316 SS	85 kg (187 lb)	90 kg (198 lb)
· 316 SS / 316 SS	98 kg (216 lb)	102 kg (225 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

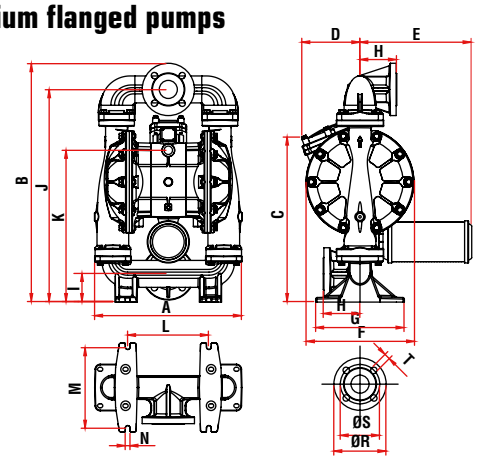
PUMP NOMENCLATURE

Examples: **UP20X-XXX-XXX**
UE20X-XXX-XXX-X

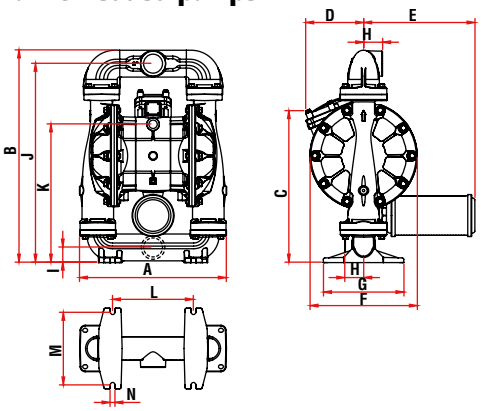
UP20X		XXX			XXX			X
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 Pump Type & Size	**2** Central Body & Air Chambers	**3** Fluid Ports / Location	**4** Fluid Chambers & Manifolds	**5** Hardware Bolts	**6** Valve Seats	**7** Valve Balls	**8** Diaphragms Type & Material	**9** Accessories (UE pumps only)
UP20 Universal Pump (Bolted) **UE20** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **A** = Aluminium **L** = Conductive polypropylene with Stainless Steel air chambers **S** = AISI 316 Stainless Steel	**B** = 2" BSP Threaded Ports / Centre horizontal **C** = 2" ANSI/ DIN Flanged Ports / Centre Horizontal **N** = 2" NPTF Threaded Ports / Centre Horizontal	**ATEX Certified** **A** = Aluminium **F** = Ductile Iron **S** = AISI 316 Stainless Steel	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **D** = AISI 440 Hardened Stainless Steel **H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two-piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer **Overmolded** **H** = TPE (Hytrel®) **N** = Nitrile (Buna-N) **T** = PTFE / EPDM (Bonded)	**A** = Diaphragm leak detectors **B** = Diaphragm leak detectors (ATEX) **C** = Stroke sensor **D** = Stroke sensor (PLC) **E** = Stroke sensor (ATEX) **F** = Diaphragm leak detectors + Stroke sensor **G** = Diaphragm leak detectors + Stroke sensor (PLC) **H** = Diaphragm leak detectors + Stroke sensor (ATEX)

UP20 PIVOT SERIES, 2" METALLIC PUMPS

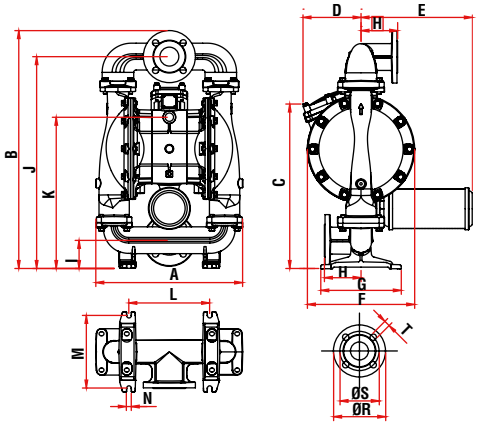
Aluminium flanged pumps



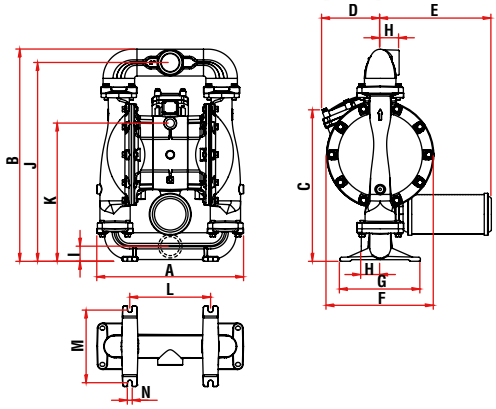
Aluminium threaded pumps



Stainless steel / Iron flanged pumps

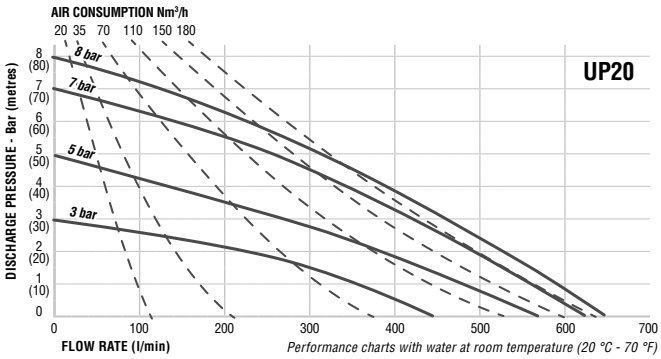


Stainless steel / Iron threaded pumps

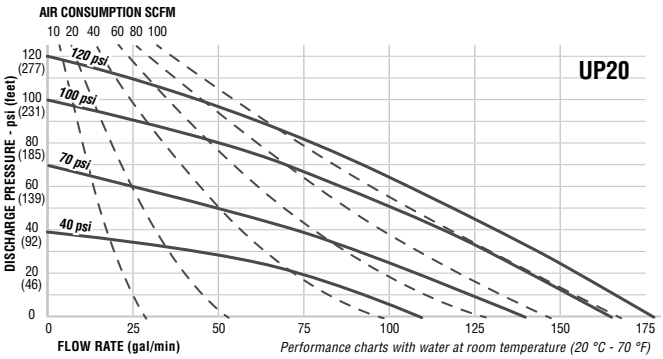


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP20 FLANGED	465	754	521	184	353	340	255	116	89	671	479	256	230	15	165	120,6-125	19
UP20 THREADED	465	672	480	184	353	340	255	60	48	630	438	256	230	15	-	-	-

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S	T
UP20 FLANGED	18.31	29.61	20.51	7.24	13.90	13.39	10.04	4.57	3.50	26.42	18.86	10.08	9.05	0.59	6.50	4.74-4.92	3/4"
UP20 THREADED	18.31	26.46	18.90	7.24	13.90	13.39	10.04	2.36	1.89	24.80	17.24	10.08	9.05	0.59	-	-	-



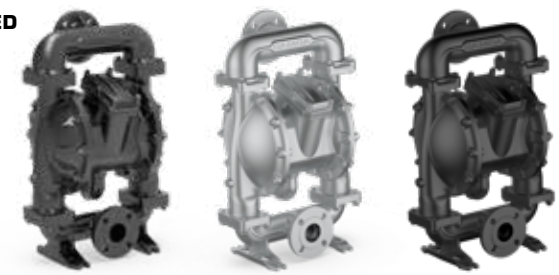
Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

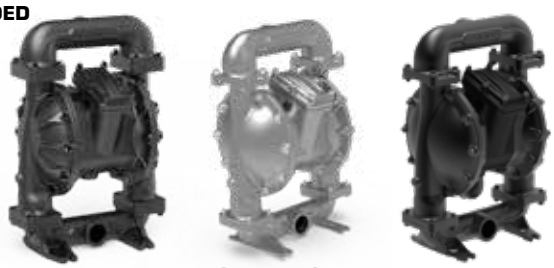
AVAILABLE VERSIONS

FLANGED PUMPS



Aluminium | Stainless Steel | Ductile Iron

THREADED PUMPS



Aluminium | Stainless Steel | Ductile Iron

UP30 PIVOT SERIES
3" METALLIC PUMPS

3"
1.000 l/min
(264 US gal/min)

The 3" (76 mm) air operated double diaphragm pumps, made of cast metal, offer a wide range of construction materials and porting configurations. Their design ensures high abrasion resistance for abrasive media and low flow resistance. Available with central threaded or flanged inlet and outlet ports, the pumps feature 180° rotating manifolds for maximum installation versatility.

MAIN APPLICATIONS

- CERAMIC & PORCELAIN
- PAINT & VARNISH INDUSTRY
- OIL & GAS / PETROCHEMICAL
- WASTE WATER / WATER TREATMENT
- MARINE & SHIPBUILDING
- FILTER PRESS
- MINING & CONSTRUCTION
- CHEMICAL / PROCESSING
- PULP AND PAPER / CARDBOARD

Non contractual pictures.

Aluminium version

TECHNICAL DATA	UP30 METALLIC PUMPS	
Pressure Ratio	1:1	
Maximum Free Delivery	1.000 l/min (264 US gal/min)	
Air pressure range	1,5 to 8 bar (20 to 120 psi)	
Solids in suspension, Max. size	12,7 mm (1/2")	
Max dry suction lift	6 m (19.7')	
Max wet suction lift	8 m (26')	
Displacement per cycle*	10 l (2.6 gal)	
Fluid inlet/outlet ports	3" NPT (F) Threaded 3" BSP (F) Threaded 3" ANSI/DIN Flanged	
Air Inlet Port	3/4" NPT (F)	
Air Exhaust Port	1 1/2" NPT (F)	
Sound level	83 dB (A) @50 cycles/min @5 bar (70 psi)	
Material and weight: Central Body/Fluid Chamber & Manifolds · Aluminium / Aluminium · Aluminium / Ductile Iron · Aluminium / 316 SS · 316 SS / 316 SS	**Threaded** 64 kg (141 lb) 109 kg (240 lb) 118 kg (260 lb) 140 kg (308.6 lb)	**Flanged** 71 kg (156.5 lb) 116 kg (256 lb) 125 kg (275.6 lb) 147 kg (324 lb)

** Delivery per cycle depends on the diaphragm materials, air inlet pressure and fluid viscosity.*

PUMP NOMENCLATURE

Examples: **UP30A-XXX-XXX**
UE30A-XXX-XXX-X

UP30X		**XXX**			**XXX**			**X**
PUMP TYPE	**AIR MOTOR**	**HOUSINGS**			**WETTED PARTS**			**ACCESSORIES**
1 **Pump Type & Size**	**2** **Central Body & Air Chambers**	**3** **Fluid Ports / Location**	**4** **Fluid Chambers & Manifolds**	**5** **Hardware Bolts**	**6** **Valve Seats**	**7** **Valve Balls**	**8** **Diaphragms Type & Material**	**9** **Accessories (UE pumps only)**
UP30 Universal Pump (Bolted) **UE30** Universal Pump (Bolted) with electronic interface	**ATEX Certified** **A** = Aluminium **S** = AISI 316 Stainless Steel (only for pumps with Stainless Steel Fluid Chambers & Manifolds)	**B** = 3" BSP Threaded Ports / Centre Horizontal **C** = 3" ANSI/DIN Flanged Ports / Centre Horizontal **N** = 3" NPTF Threaded Ports / Centre Horizontal	**ATEX Certified** **A** = Aluminium **F** = Ductile Iron **S** = AISI 316 Stainless Steel	**C** = Carbon Steel **S** = Stainless Steel	**A** = Aluminium **D** = AISI 440 Hardened Stainless Steel **H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel	**H** = TPE (Hytrel®) **M** = TPV (Santoprene®) **N** = Nitrile (Buna-N) **S** = AISI 316 Stainless Steel **T** = PTFE (Teflon®) **V** = FKM (Viton®)	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two-piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer	**A** = Diaphragm leak detectors **B** = Diaphragm leak detectors (ATEX) **C** = Stroke sensor **D** = Stroke sensor (PLC) **E** = Stroke sensor (ATEX) **F** = Diaphragm leak detectors + Stroke sensor **G** = Diaphragm leak detectors + Stroke sensor (PLC) **H** = Diaphragm leak detectors + Stroke sensor (ATEX)

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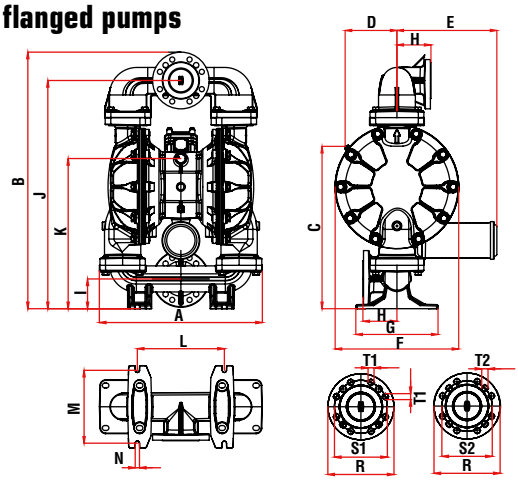
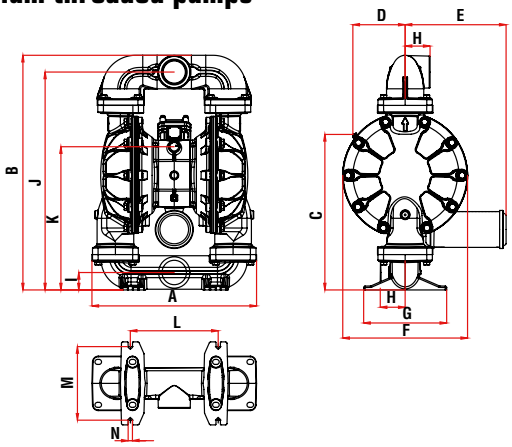
UP30 PIVOT SERIES, 3" METALLIC PUMPS

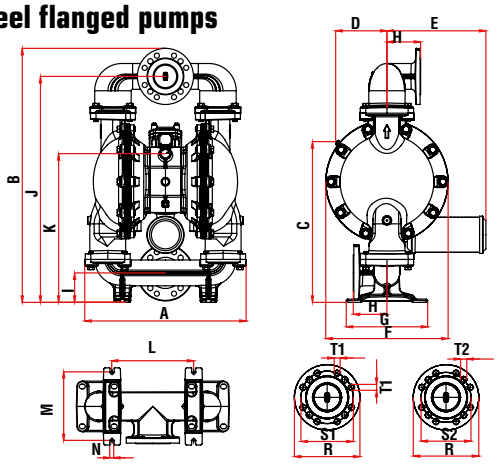
Aluminium flanged pumps



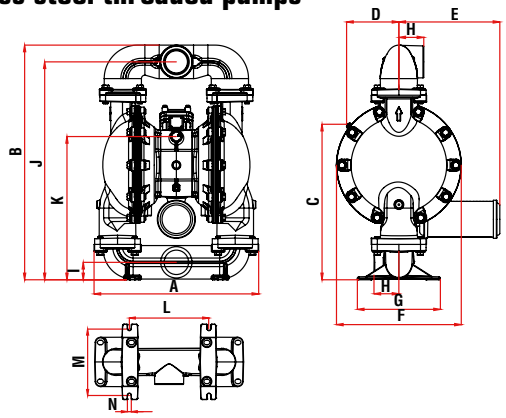
Aluminium threaded pumps



Stainless Steel flanged pumps

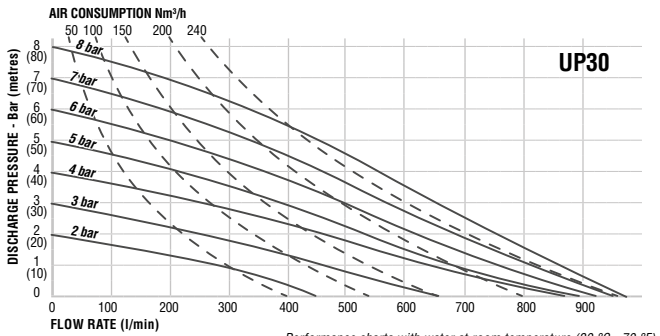


Stainless steel threaded pumps

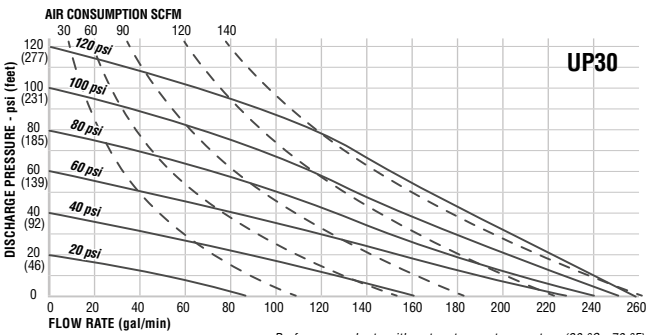


DIMENSIONS (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S1 (DIN)	S2 (ANSI)	T1 (DIN)	T2 (ANSI)
UP30 FLANGED	575	905	579	183	353	436	290	140	105	805	536	307	257	15	200	160	152,4	21	21
UP30 THREADED	575	820	543	183	353	436	290	87	61	761	500	307	257	15	-	-	-	-	-

DIMENSIONS (inches)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	S1 (DIN)	S2 (ANSI)	T1 (DIN)	T2 (ANSI)
UP30 FLANGED	22.64	35.63	22.80	7.21	13.90	17.17	11.42	5.51	4.13	31.69	21.10	12.09	10.12	0.59	7.87	6.30	6	0.83	0.83
UP30 THREADED	22.64	32.28	21.38	7.21	13.90	17.17	11.42	3.43	2.40	29.96	19.69	12.09	10.12	0.59	-	-	-	-	-



Performance charts with water at room temperature (20 °C - 70 °F)



Performance charts with water at room temperature (20 °C - 70 °F)

AVAILABLE VERSIONS

FLANGED PUMPS

Aluminium | Stainless Steel | Ductile Iron

THREADED PUMPS

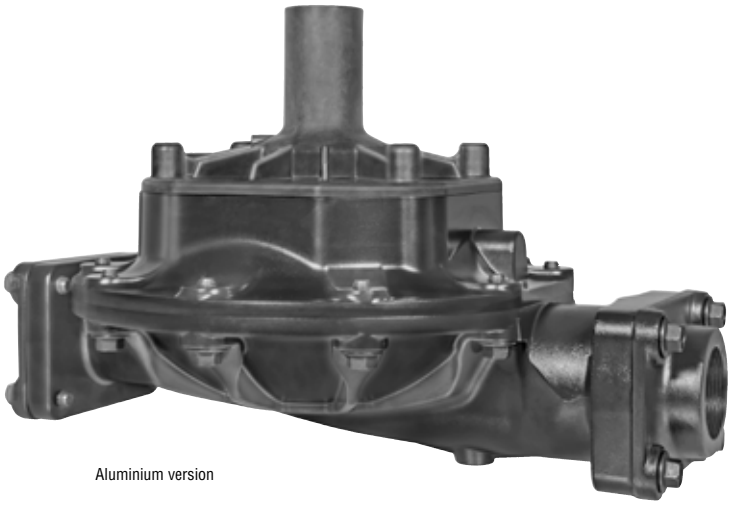
Aluminium | Stainless Steel | Ductile Iron

ACTIVE PULSATION DAMPENERS

When an air operated double diaphragm pump changes the direction of the stroke, it does not supply pressure or flow to the system, causing pressure fluctuations and flow pulsations. An active pulsation dampener, installed at the pump outlet, minimizes pressure fluctuation on the discharge end, providing a consistent laminar flow.

An active pulsation dampener has an air chamber, connected to compressed air, that keeps constant pressure on the diaphragm and divides the dampener into an air and a fluid chamber. When the pump begins the discharge stroke, pressure in the line increases and flexes the diaphragm inward, accumulating fluid in the fluid chamber. Once the pump completes a stroke and redirects its motion, the pressure at the pump outlet decreases and the compressed air in the air chamber flexes the diaphragm outwards, displacing the accumulated fluid into the discharge line.

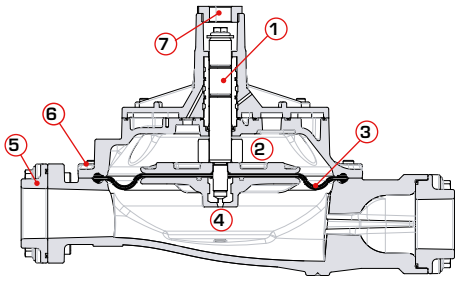
The dampener size and its materials (chambers and diaphragm) must be selected to be compatible with the corresponding pump.



Aluminium version

ADVANTAGES

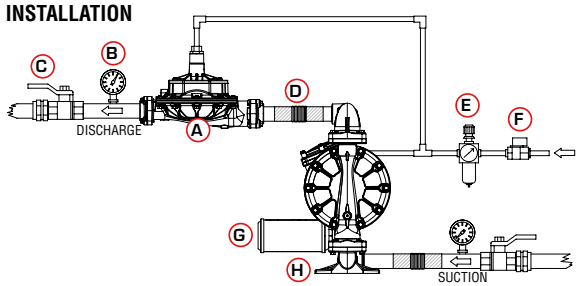
- Stabilized discharge pressure
- Minimized flow pulsation
- No fluid foam formation
- No fluid splashing
- Less piping vibration
- Equipment protection in long pipe runs and valve protection.
- Bolted construction (leak free)
- Automatic air actuation (Active)
- Easy installation



ACTIVE PULSATION DAMPENER

1. Main valve
2. Air chamber
3. Diaphragm
4. Fluid chamber
5. Fluid inlet/outlet ports NPT/BSP
6. Bolted fasteners
7. Air inlet

INSTALLATION



- A Active Pulsation Dampener
- B Gauge (optional)
- C Shut-off Valve
- D Flexible connection
- E Filter Regulator
- F Air Shut-off Valve
- G Muffler
- H Footpad

ACTIVE PULSATION DAMPENERS - NOMENCLATURE

Example: **APDX0X-XXX-X**

APDX0X		XXX			X
PULSATION DAMPENER	**AIR CONTROL SECTION**	**WETTED PATH SECTION**			**FLEXIBLE DIAPHRAGM**
1 **Model Type & Size**	**2** **Air Chamber Material**	**3** **Fluid Ports**	**4** **Fluid Chamber Material**	**5** **Fasteners Bolts**	**6** **Diaphragm Material**
APD10 1" = 0,25 l. Max Volume For use with 1" pump **APD20** 2" = 1 l. Max Volume For use with 1 1/2" & 2" pumps **APD30** 3" = 3,8 l. Max Volume For use with 3" pump	**(Ex) ATEX Certified** **A***= Aluminium **B***= Conductive Polypropylene (only available in 1" and 2" APD)	**THREADED PORTS** **B** = BSP (Female) **N** = NPT (Female) **2" FLANGED PORTS (Non-Metallic APD only)** **F** = ANSI/DIN	**P** = Polypropylene **W**= PVDF (Kynar®) **(Ex) ATEX Certified** **A***= Aluminium **B***= Conductive Polypropylene **F***= Ductile Iron **S***= Stainless Steel	**C**= Carbon Steel **S**= Stainless Steel	**Conventional** **A** = TPV (Santoprene®) **C** = TPE (Hytrel®) **G** = Nitrile (Buna-N) **V** = FKM (Viton®) **Two-piece** **Z** = PTFE (Teflon®) with TPV (Santoprene®) backer

*(Ex) ***ATEX Certified*** *for use in hazardous locations ATEX Group II 2GDx.*

Viton® & Teflon® is a registered trademark of the Chemours Company, Santoprene® and Hytrel® is a registered trademark of the Celanese Corporation, L.P. Kynar® is a registered trademark of Arkema, Inc.

ELECTRONIC INTERFACE ACCESSORIES

Electronic Interface Accessories allow integrating a PIVOT Pump into an automated process. The automated process can use PLC controllers or the U·pump system a batch and pump controller.

With the use of these accessories and the adequate U·pump system process controller you can monitor and control your pumps remotely and program a proactive maintenance interval.

YouTube CLICK
Discover U·pump system

STROKE SENSOR

An inductive sensor sends an electronic pulse when a pump completes a stroke. They can be used for the following pump functions:
- Preventive maintenance, monitoring total number of cycles to establish a maintenance program.
- Proof of operation, monitoring the cycle rate.
- Prevent pump from running dry, whenever a pump reaches a fixed maximum speed, the pump stops.
- Batching, monitoring pump cycles to reach a specific batch application (Tank filling, formulating, etc.).

Part No. 738 911 Pump cycles counter kit - NPN.
Includes a NPN capacity sensor and 2 m (7 ft) cable. For use with U·pump systems.
Part No. 738 912 Pump cycles counter kit - PNP.
Includes a PNP capacity sensor and 2 m (7 ft) cable. For use with PLC controlled systems.
Part No. 738 913 Pump cycles counter kit - ATEX
Includes a NPN capacity sensor, ATEX certified, 2 m (7 ft) cable and an ATEX barrier. For use with U·pump systems.

LEAK DETECTION

Leak detectors are optic-electric sensors used to detect diaphragm failures. They send an electronic signal as soon as they detect fluid in the pump air chamber due to of a diaphragm failure. This signal can be used to control a solenoid valve and stop the pump cutting its compressed air supply.

Part No. 738 909 Leak detector kit
Fits all UE PIVOT Series pumps. Includes two optic-electric sensors, one for each air chamber, with 30 cm (12 in) cable. Can be used with U·pump systems or with a PLC controller.
Part No. 738 910 Leak detector kit, ATEX certified
Fits all UE PIVOT Series pumps. Includes two optic-electric sensors, one for each air chamber, with 3 m (10 ft) cable, and an ATEX barrier. Can be used with U·pump systems or with a PLC controller.

SOLENOID VALVES

24 V Air solenoid valves control the compressed air supply to the pumps. 2/3 solenoid valves, they can be used as normally closed or normally open solenoid valves depending on how they are connected.

Part No. 389 015 1/4" air solenoid valve.
For 3/8" and 1/2" UE and PIVOT pumps.
Part No. 389 017 1/2" air solenoid valve.
For 1" UE and PIVOT pumps
Part No. 389 022 3/4" air solenoid valve.
For 2" and 3" UE and PIVOT pumps.

PIVOT SERIES REPAIR KITS

	UP03	UP05 STANDARD	UP05 SPLITTED MANIFOLDS	CP10
	UP03B-XXS-XXX	UP05B-XXX-XXX UP05A-XXX-XXX	UP05B-DPS-XXX UP05B-SPS-XXX	CP10A-XXX-XXX
VALVE SEATS				
HARD SEATS				
A= Aluminum		UP05R-WP-A00		CP10R-WP-A00
S= Stainless Steel AISI-316		UP05R-WP-S00		CP10R-WP-S00
D= Stainless Steel AISI-440				
C= POM (Acetal)	UP03R-WP-C00	UP05R-WP-C00	UP05R-WP-C00	
P= Polypropylene	UP03R-WP-P00	UP05R-WP-P00	UP05R-WP-P00	
W= PVDF	UP03R-WP-W00	UP05R-WP-W00	UP05R-WP-W00	
T= PTFE (Teflon®)				
SOFT SEATS				
M= TPV (Santoprene®)				CP10R-WP-M00
N= NBR (Buna-N)				CP10R-WP-N00
H= TPE (Hytrel®)				CP10R-WP-H00
VALVE BALLS				
S= Stainless Steel AISI-316		UP05R-WP-0S0	UP05R-WP-0S0	CP10R-WP-0S0
H= TPE (Hytrel®)		UP05R-WP-0H0	UP05R-WP-0H0	CP10R-WP-0H0
M= TPV (Santoprene®)		UP05R-WP-0M0	UP05R-WP-0M0	CP10R-WP-0M0
N= NBR (Buna-N)		UP05R-WP-0N0	UP05R-WP-0N0	CP10R-WP-0N0
T= PTFE (Teflon®)	UP03R-WP-0T0	UP05R-WP-0T0	UP05R-WP-0T0	CP10R-WP-0T0
V= FKM (Viton®)		UP05R-WP-0V0	UP05R-WP-0V0	
C= POM (Acetal)	UP03R-WP-0C0			
DIAPHRAGMS				
CONVENTIONAL DIAPHRAGMS				
A= TPV (Santoprene®)	UP03R-WP-00A	UP05R-WP-00A	UP05R-WP-00A	CP10R-WP-00A
C= TPE (Hytrel®)	UP03R-WP-00C	UP05R-WP-00C	UP05R-WP-00C	CP10R-WP-00C
G= NBR (Buna-N)	UP03R-WP-00G	UP05R-WP-00G	UP05R-WP-00G	CP10R-WP-00G
V= FKM (Viton®)		UP05R-WP-00V	UP05R-WP-00V	
OVERMOLDED				
H= TPE (Hytrel®)				
N= NBR (Buna-N)				
T= PTFE (Teflon®)/EPDM (Bonded)				
TWO-PIECE				
Z= PTFE (Teflon®)+TPV (Santoprene®)	UP03R-WP-00Z	UP05R-WP-00Z	UP05R-WP-00Z	CP10R-WP-00Z
UP20B-XXX-XXX TWO-PIECE				
U= x12 holes PTFE (Teflon®)+ TPV (Santoprene®)				
O-RINGS				
VALVE SEATS O-RINGS				
T = PTFE (Teflon®)	UP03R-WP-99T	UP05R-WP-99T		CP10R-WP-99T
E = EPDM	UP03R-WP-99E	UP05R-WP-99E		CP10R-WP-99E
V = FKM (Viton®)	UP03R-WP-99V	UP05R-WP-99V		CP10R-WP-99V
N = NBR (Buna-N)	UP03R-WP-99N	UP05R-WP-99N		CP10R-WP-99N
UP20B-XXX-XXX VALVE SEATS O-RINGS				
U = PTFE (Teflon®)				
M = EPDM				
F = FKM (Viton®)				
B = NBR (Buna-N)				
UP05B-DPS-XXX & UP05B-SPS-XXX				
D = FKM (Viton®) +FEP (Split Manifolds UP05B)			UP05R-WP-99D	

UP10	UP15	UP20		UP30
UP10A-XXX-XXX **UP10B**-XXX-XXX **UP10S**-XXX-XXX	**UP15A**-XXX-XXX **UP15P**-XXX-XXX	**UP20A**-XXX-XXX **UP20L**-XXX-XXX **UP20S**-XXX-XXX	**UP20B**-XXX-XXX	**UP30A**-XXX-XXX **UP30S**-XXX-XXX
UP10R-WP-A00	UP15R-WP-A00	UP20R-WP-A00	UP20R-WP-A00	UP30R-WP-A00
UP10R-WP-S00	UP15R-WP-S00	UP20R-WP-S00	UP20R-WP-S00	UP30R-WP-S00
	UP15R-WP-D00	UP20R-WP-D00	UP20R-WP-D00	UP30R-WP-D00
UP10R-WP-P00	UP15R-WP-P00	UP20R-WP-P00	UP20R-WP-P00	
UP10R-WP-W00	UP15R-WP-W00	UP20R-WP-W00	UP20R-WP-W00	
		UP20R-WP-T00	UP20R-WP-T00	
UP10R-WP-M00	UP15R-WP-M00	UP20R-WP-M00	UP20R-WP-M00	UP30R-WP-M00
UP10R-WP-N00	UP15R-WP-N00	UP20R-WP-N00	UP20R-WP-N00	UP30R-WP-N00
UP10R-WP-H00	UP15R-WP-H00	UP20R-WP-H00	UP20R-WP-H00	UP30R-WP-H00
UP10R-WP-0S0	UP15R-WP-0S0	UP20R-WP-0S0	UP20R-WP-0S0	UP30R-WP-0S0
UP10R-WP-0H0	UP15R-WP-0H0	UP20R-WP-0H0	UP20R-WP-0H0	UP30R-WP-0H0
UP10R-WP-0M0	UP15R-WP-0M0	UP20R-WP-0M0	UP20R-WP-0M0	UP30R-WP-0M0
UP10R-WP-0N0	UP15R-WP-0N0	UP20R-WP-0N0	UP20R-WP-0N0	UP30R-WP-0N0
UP10R-WP-0T0	UP15R-WP-0T0	UP20R-WP-0T0	UP20R-WP-0T0	UP30R-WP-0T0
UP10R-WP-0V0	UP15R-WP-0V0	UP20R-WP-0V0	UP20R-WP-0V0	UP30R-WP-0V0
UP10R-WP-00A	UP15R-WP-00A	UP20R-WP-00A	UP20R-WP-00A	UP30R-WP-00A
UP10R-WP-00C	UP15R-WP-00C	UP20R-WP-00C	UP20R-WP-00C	UP30R-WP-00C
UP10R-WP-00G	UP15R-WP-00G	UP20R-WP-00G	UP20R-WP-00G	UP30R-WP-00G
UP10R-WP-00V	UP15R-WP-00V	UP20R-WP-00V	UP20R-WP-00V	UP30R-WP-00V
		UP20R-WP-00H	UP20R-WP-00H	
		UP20R-WP-00N	UP20R-WP-00N	
		UP20R-WP-00T	UP20R-WP-00T	
UP10R-WP-00Z	UP15R-WP-00Z	UP20R-WP-00Z		UP30R-WP-00Z
			UP20R-WP-00U	
UP10R-WP-99T	UP15R-WP-99T	UP20R-WP-99T		UP30R-WP-99T
UP10R-WP-99E	UP15R-WP-99E	UP20R-WP-99E		UP30R-WP-99E
UP10R-WP-99V	UP15R-WP-99V	UP20R-WP-99V		UP30R-WP-99V
UP10R-WP-99N	UP15R-WP-99N	UP20R-WP-99N		UP30R-WP-99N
			UP20R-WP-99U	
			UP20R-WP-99M	
			UP20R-WP-99F	
			UP20R-WP-99B	




DIAPHRAGM PUMP MARKETS AND APPLICATIONS

CHEMICAL PLANT PROCESSING

- Loading and unloading tanks, totes and drums
- Packaging
- Acids, alkalis, esters, ethers, alcohols, solvents and polymers transfer
- Dosing
- Chemical effluent transfers

MINING AND CONSTRUCTION

- Loading and unloading of tanks and totes
- Fuel and lubricants transfer
- Waste fluids and water evacuation
- Dewatering
- Cement additives mixing
- Plaster spraying
- Soil testing

PAINTS AND COATINGS

- Loading and unloading of tanks, totes and drums
- Pigments, solvents and resins transfer
- Dosing of chemical additives
- Paint filtration
- Solvent reclamation
- Filling machines

OIL AND GAS. PETROCHEMICAL

- Loading and unloading of tanks, totes, and drums.
- Well stimulation - acidization.
- General utility transfer
- Cellar pump-out
- Oil spill clean-up / response
- Drilling mud make-up
- Glycol feed
- Slurry transfer
- Saltwater transfer and disposal
- Fuel transfer

PULP AND PAPER

- Loading and unloading tanks, totes and drums.
- Paper treatment chemicals for deinking, chelation, filling, sizing, causticizing, strengthening, etc.
- Rosin, bleach and green liquor transfer
- Additive dosing
- Chemical recovery
- Packaging
- Starch preparation and transfer
- Adhesives and ink transfer and dispensing

TEXTILES, LEATHER & GARMENTS

- Loading and unloading tanks, totes and drums
- Filter press
- Dosing
- Transfer of chemicals agents for desizing, scouring, bleaching, mercerizing, etc
- Transfer of dyes, pigments, colors, etc
- Color formulation and color spraying
- Slurry transfer
- Filtration
- Effluent & wastewater disposal / dispensing

TANK FARMS / BULK TRANSFER

- Loading and unloading tanks, totes and drums
- Product storage
- Field treatment
- Fermentation
- CIP (Solvent / Nitric Acid / Sodium Hydroxide) transfer

PLANT AND MECHANICAL ENGINEERING

- Loading and unloading tanks, totes and drums
- Filtration
- Cleaning processes
- Metal refining
- Surface treatment (galvanizing, zinc plating, etc)

MARINE

- Loading and unloading tanks, totes and drums
- Lubricants and fuel transfer
- Seepage clean-up
- Tank strip-outs
- Dewatering
- Bilge pumping

POWER STATIONS (ENERGY)

- Loading and unloading tanks, totes and drums
- Transfer of heat transfer fluids in solar plants
- Water transfer and evacuation
- Refrigeration

ELECTRONICS

- Loading and unloading tanks, totes and drums
- Acid washing
- Chemical treatment of wafers
- Silicon slurry transfer
- Wastewater transfer

WASTEWATER AND WATER TREATMENT

- Mobile water systems
- Wastewater and sewage treatment
- pH neutralization
- Sludge removal
- Irrigation
- Sampling
- Drum unloading for chemical injection skids
- Filtration

CERAMICS

- Mold filling and cleaning
- Ceramic slip transfer
- Glazing and glaze transfer
- Filter press
- Wastewater transfer and evacuation

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LEADING THROUGH INNOVATION

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