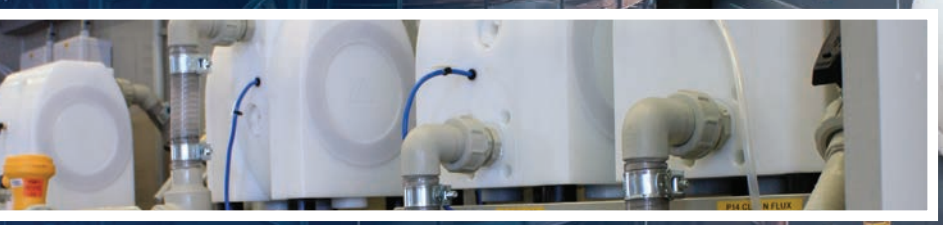
# Brand Portfolio

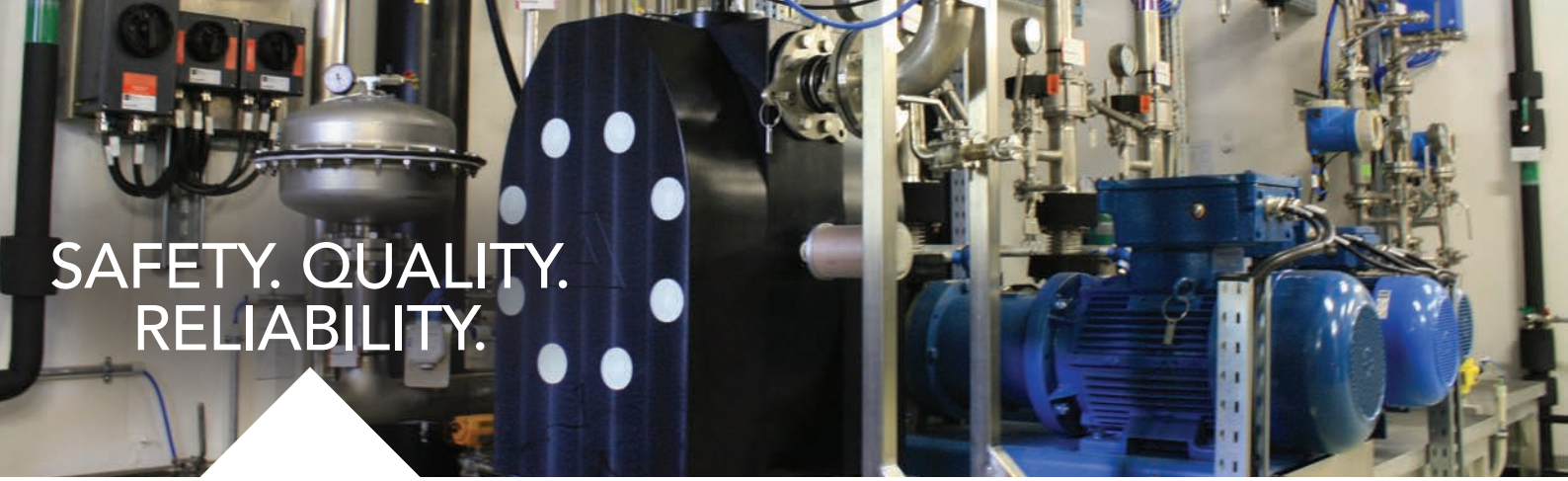
**Safety. Quality. Reliability.**



PSG a DOVER company

ALMATEC

Where Innovation Flows



# SAFETY. QUALITY. RELIABILITY.

ALMATEC®

Almatec® is a premier manufacturer of air-operated double-diaphragm (AODD) pumps. Headquartered in Duisburg, Germany, Almatec is a product brand within PSG®, Oakbrook Terrace, IL, USA, a Dover company. With a reputation for engineering excellence that spans some decades, the Almatec name has become synonymous with safety, quality and reliability.

Since its founding in 1984, Almatec® has established a reputation in the global air-operated double-diaphragm (AODD) pump industry for superior product quality and innovation. Manufactured using state-of-the-art German engineering, more than 200,000 Almatec pumps have been precision built and delivered all over the world – each one featuring Almatec's unique, signature pump design.

Offering one of the most comprehensive production programs of AODD pumps in the world, Almatec can be found across the globe in the most difficult and critical pumping applications. The main markets where Almatec pumps increasingly used are chemical process, semiconductor/solar, ceramic, hygienic, paint & coatings, paper and water treatment.



CHEMICAL



SEMICONDUCTOR/ SOLAR



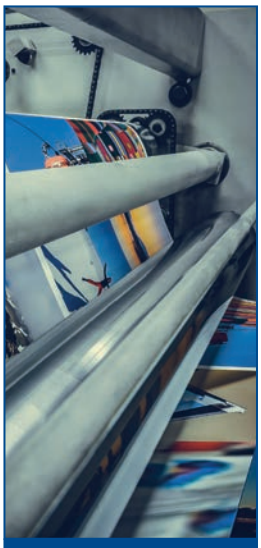
CERAMIC



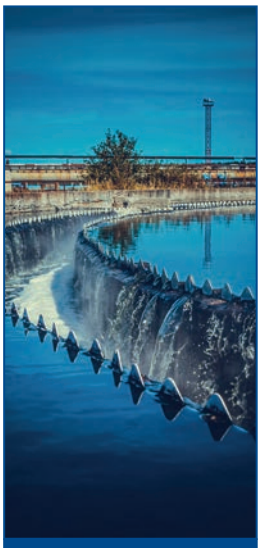

HYGIENIC



PAINT & COATINGS



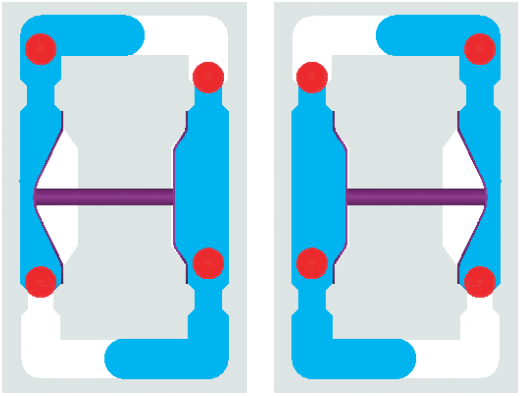
PULP & PAPER



WATER/WASTEWATER

# The Almatec® Advantage

## FUNCTIONAL PRINCIPLE



Based on the functional principle of double-diaphragm pumps, the basic configuration of Almatec pumps consists of two external side housings with a center housing between them. Each of the side housings contains a product chamber which is separated from the center housing by a diaphragm. The two diaphragms are interconnected by a piston rod. Directed by an air control system, they are alternately subjected to compressed air so that they move back and forth. In the first figure, the compressed air has forced the left-hand diaphragm towards the product chamber and displaced the liquid from that chamber through the open valve at the top to the discharge port. Liquid is simultaneously drawn in by the right-hand diaphragm, thus refilling the second product chamber. When the end of the stroke is reached, it reverses automatically and the cycle is repeated in the opposite direction. In the second figure, liquid is drawn in by the left-hand diaphragm and displaced by the right-hand diaphragm. The liquid is displaced – and thus conveyed – by the compressed air. The diaphragms merely serve as barriers and are not pressurized, this is of critical importance for the service life of the diaphragms.



AHD Series

The working principle of the Almatec high-pressure AHD series is the same, but these pumps have a pressure booster centered between the diaphragms that boosts the air pressure to more than twice in the two product chambers. The Futur series as well use the operational principle of two pairs of air and liquid chamber separated diaphragms that are moved by air. However, these pumps are "internal-flow" pumps with a reversed pattern of fluid in the center and air on the sides. The straight-through flow pattern allows the presence of just one wetted housing part.

## FEATURES & BENEFITS

Almatec AODD pumps meet or exceed industry quality requirements and incorporate the standard-setting features and benefits our customers have come to demand: a solid design, the energy-efficient PERSWING P® air control system, cutting-edge diaphragms and best-in-class materials.

- Solid body construction of the plastic pumps with high safety level due to the ring-tightening structure
- Material selection with required corrosive and abrasion resistance for pump housings and internals
- Conductive models for explosion-proof areas and flammable liquids (ATEX conformity)
- Maintenance and lubrication-free PERSWING P® air control system
- Diaphragms with integrated metal core, no diaphragm discs
- Proof against dry running and overloading, no heat generation, submersible
- Self-priming, insensitive to solids, gentle displacement, portable design
- Simple and easy to start-up, repair and maintain
- Can be infinitely controlled via the air volume
- Unattended operation with long service life
- Pulsation dampers available for a virtually uniform flow
- Multiple optional equipment to meet application requirements
- No drives, no rotating parts, no shaft seals within fluid

## PLASTIC & METAL MATERIALS

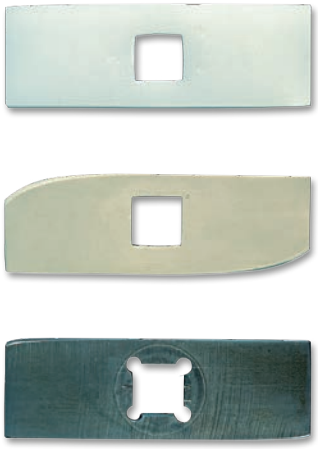
### Solid-Body Design for Strength and Smooth Operation



An important construction element in Almatec® air-operated double-diaphragm (AODD) pumps is the solid-body design of the plastic models. Only a solid-plastic body can support the necessary weight for an oscillating pump. The individual components can be designed so that the required wall thicknesses is arranged where they are needed. The mechanical machining of a solid-plastic block is economical thanks to modern CNC technology, enabling tight tolerances. The high static mass leads to smooth operation and eliminates the need for unnecessary external metal parts that would otherwise be used for reinforcement.

### Polyethylene (PE)

As an air-operated double-diaphragm pump housing, polyethylene (PE) is very tough, exceptionally resistant to wear, has low water absorption capacity and displays good general resistance to chemicals. Only strong oxidants such as nitric acid, oleum and halogens can damage PE. PE competes with polypropylene (PP), which is frequently used in the manufacture of pumps. Thermally and chemically speaking, there are virtually no differences between the two materials. However, the similarity ends where the mechanical properties are concerned. Trials based on the sand-slurry method have shown that the abrasion resistance of the PE (material sample on top) is seven times higher than that of PP (middle) and even 1.6 times higher than that of construction steel (bottom). It is also more wear-resistant than, for example, cast iron or aluminum. This high resistance to abrasion plays a vital role in many applications (e.g. slurry delivery in the wafer manufacturing in the photovoltaic industry, pickling baths in the electroplating industry, printing inks, lime slurry for wet desulfurization, ceramic mass and glazes in the ceramic industry). For explosion-proof areas (ATEX conformity) and for flammable liquids, PE conductive housing material is available.



- Almatec pumps with PE housing: E-Series, C-Series, FUTUR Series, AHD/AHS Series, CXM Series

### Polytetrafluoroethylene (PTFE)

PTFE is also used for our AODD pump housings. PTFE has a smooth surface, very low friction coefficient, is physiologically safe, can be used over a wide range of temperatures and displays virtually universal resistance to chemicals. However, pure PTFE has very little resistance to abrasion and tends to cold flow. For explosion-proof areas (ATEX conformity) and for flammable liquids, PTFE conductive as housing material is available.

- Almatec pumps with PTFE housing: E-Series, C-Series, FUTUR Series

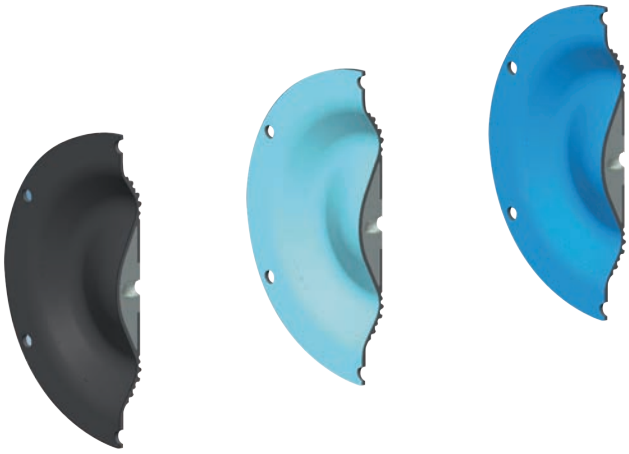
### Stainless Steel

Stainless steel 1.4408/SS316 (G-X 6 CrNiMo 18 10) is a cast steel that is resistant to corrosion and acids, and is frequently used for fittings and pump casings because of its good general chemical stability. In a precision lost-wax casting operation, stainless steel is used for wetted housing parts. The lost-wax process is a complex casting process yielding a smooth and dense surface with increased resistance to corrosion.

Another stainless steel pump housing material is 1.4435/SS316L (Basel Standard II, ferrite content < 1%). It has a surface roughness of ≤ 0.4 µm. 1.4404/SS316L will be used for the wetted housing material of MM and FUTUR S Series pumps.

- Almatec pumps with 1.4408 housing: CHEMICOR Series
- Almatec pumps with 1.4435 housing: BIOCOR Series
- Almatec pumps with 1.4404 housing: MM Series, FUTUR S Series

## DIAPHRAGMS WITH INTEGRATED METAL CORE



The diaphragms in an air-operated double-diaphragm pump mechanically and chemically separate the liquid section and the air section. Diaphragms used in Almatec pumps are precisely matched to the design features of the pumps. An important point is the bidirectional diaphragm clamping. This results in the interaction between diaphragm geometry and housing clamping area an optimum sealing and performance.

The surface of an Almatec® diaphragm is smooth and not interrupted by any seals. Due to their integrated metal core, they do not require diaphragm discs that can frequently result in leaks and attract dirt. Produced in priming position, these diaphragms simplify assembly and almost completely eliminate the dead space on the air side since the inner side of the diaphragms rests against the central housing in the limit position, thus optimizing efficiency and reducing air consumption.

Since the medium is displaced and delivered by compressed air, the diaphragms merely serve as barriers and are not pressurized. This is a fact of decisive importance for the service life of the diaphragms. Almatec diaphragms have always been designed from the "PTFE" point of view. This results in a diaphragm that has a large diameter and short stroke with low flexural load, ensuring uniform delivery regardless of the material used for the diaphragm's construction.

Almatec diaphragms are available in the following materials:

- EPDM – medium strong acids and caustics, slurries, glues, paints
- PTFE/EPDM compound – strong acids and caustics, slurries, paints
- PTFE modified/EPDM compound – liquids with increased diffusion tendency (e. g. benzene, solvents)
- NBR – oils and oily liquids, slurries
- ATEX variations

For the pumps of the series FUTUR specially developed diaphragms made of massive PTFE are used.

The specification of temperature limits of the different diaphragm materials is not applicable, since the maximum permissible temperature of the pumped liquid always depends on the lower temperature limits of the used housing material.

# Summary Of Chemical Resistance

| | | | | HYDROCARBONS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WATER | MINERAL OILS | VEG. ANIMAL FATS | ALIPHATIC | AROMATIC | HALOGENATED | CHLORINATED | ALCOHOLS | KETONES | ESTERS | ACIDS, DILUTED | ACIDS, CONCENTRATED | ALKALIS, DILUTED | ALKALIS, CONCENTRATED | SALTS |
| **Stainless Steel** | + | + | + | + | + | + | + | + | + | + | 0 | 0 | 0 | 0 | 0 |
| **PE** | + | + | + | + | 0 | – | 0 | + | + | + | + | 0 | + | + | + |
| **PTFE** | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| **EPDM** | + | – | – | – | – | – | – | 0 | + | + | + | + | + | + | + |

**+** = Resistant, **0** = Fairly Resistant, **–** = Not Resistant; *All entries are merely intended for guidance.*



# The Almatec® Advantage | Air Control System & Valves

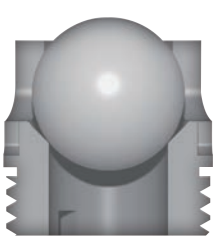
## PERSWING P® AIR CONTROL SYSTEM

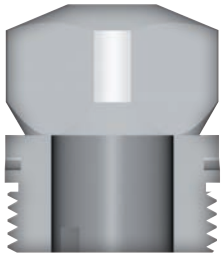


The purpose of the pneumatic diaphragm pump air control system is to ensure automatic operation that is indirectly controlled by the movement of the diaphragms. Reaching its final point, the stroke reverses automatically and the cycle of medium being drawn in by one diaphragm and being displaced by the other is repeated by the opposite side of the pump.

The metal-free, pneumatically pilot-operated PERSWING P Air Control System ensures accurate reversal of the main piston and is characterized by low noise levels. Only two moving parts ensure a stall-free operation. It does not require maintenance, operates without any lubrication and is engineered with no more than four different parts. The complete cartridge can be replaced easily. The PERSWING P is a precision control system and, therefore, requires clean, oil-free compressed air to ensure its optimal function.

## BALL & CYLINDER VALVES





Ball valves are robust and insensitive to media containing solids since they only form a linear seal with the valve seat. They are available in EPDM, PTFE, NBR and stainless steel. The use of stainless steel ball valves is recommended for high-viscosity media.

The surface sealing of cylinder valves shows very good dry priming values. They close gently and uniformly, condition for an accurate delivery. The interior design of the housings is identical, regardless of the type of valve used. This makes it easier to change over to a different valve type at a later date. Cylinder valves are available for the E-Series and CXM pumps as alternative to the ball valves. The design of the Futur series incorporates cylinder valves only.

## Tension Ring



All Almatec plastic pumps (with the exception of the metal-free Futur series) are equipped with a tension ring on both sides of the pump. As common, the housing parts are tightened to each other via housing bolts. However, instead of single bolts pressing punctually against the housing, all housing bolts are tightened together against a diaphragm-sized ring per side. This structure transmits the forces of the housing bolts into the housing parts evenly. A consistent flow of forces and an increased bolt torque are the effect of this construction - ultimately increasing pump safety.

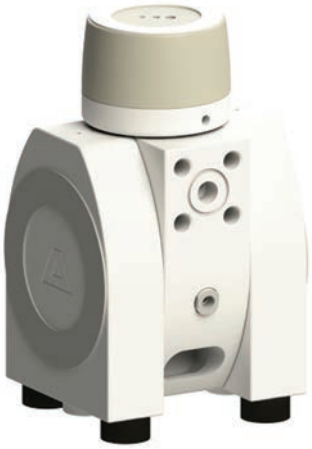


# Pulsation Dampers

## UNIFORM FLOW WITH ACTIVE PULSATION DAMPERS

Due to their design, pumps with oscillating action produce a pulsating flow. While the double-acting design of the Almatec E-Series pump with a direct pneumatic drive already greatly reduces pulsation, a pulsation damper must be installed on the delivery side of the pump in order to obtain a virtually uniform flow.

The dampers are self-regulating. They have their own air connection which must be supplied via the pump connection so that pump and damper always operate with the same air pressure. The pulsation can already be damped effectively with a minimum back pressure of only approximately 1 bar. Like in Almatec pumps, the diaphragm merely serves as a barrier between the product and the air chamber and is, therefore, always without internal pressure. If the pressure on the product side drops due to changes in the operating conditions, the pressure on the other side of the diaphragm will decline accordingly. As soon as the pressure on the product side rises, the pressure on the other side will increase as well. This automatic adjustment optimizes the diaphragm setting and ensures a consistently good damping effect.



Screw-On Damper

Almatec screw-on pulsation dampers represent the latest generation of active pulsation dampers and can be simply screwed onto the pump. Additional connecting elements are not required. Screw on pulsation dampers are available for E-Series and FUTUR Series pumps. The E-Series ET damper is also available in a flange version.

The AT Series inline pulsation damper is used for CHEMICOR Series pumps and the P Series damper for BIOCOR Series pumps.



Screw-On Damper



Flanged Damper



Inline Damper



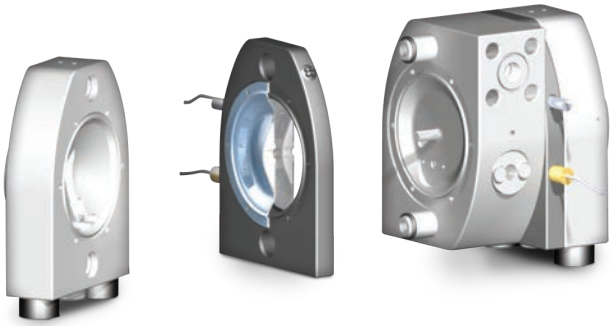
# The Almatec® Advantage | Options

## MEETING SPECIAL APPLICATION REQUIREMENTS

A variety of quality optional equipment completes the Almatec pump program, and allows a precise set up for your specific application.

### Barrier chamber system (code BS)

The Almatec barrier chamber system meets high safety requirements. The individual diaphragm is replaced by two diaphragms arranged in tandem with a barrier chamber of conductive PE between them and filled with non-conductive liquid. The barrier chambers must always be filled entirely to transmit the pressure to the medium. Therefore it is monitored by level sensors. If the diaphragm on the product side breaks, medium merely enters the barrier chamber and the non-conductive liquid flows into the medium. The change in conductivity of the barrier liquid is detected by sensors and signaled to a controller which triggers an alarm or disconnects the pump. The barrier chamber system is available for the E-Series and the CHEMICOR pumps.



### Stroke Counting (Code C)

Almatec air-operated diaphragm pumps can be used continuously (24-hour operation) or intermittently for hours, for minutes or for an exact defined number of strokes. To accurately count the strokes, a sensor can be installed in the pump's center housing (also available as pneumatic version).

### Diaphragm Monitoring (Code D)

A capacitive sensor installed in the pump muffler detects all liquids and in case of a diaphragm rupture it outputs a corresponding signal to a controller which then triggers an alarm or disconnects the pump via a connected solenoid valve.



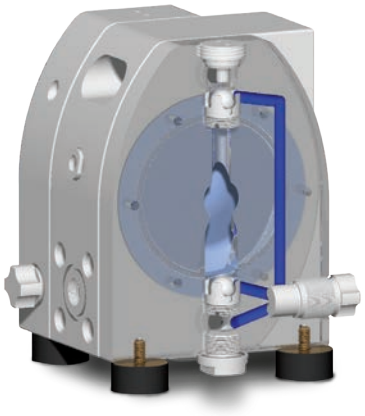


### Flange Connection (Code F)

According to recognized industry safety standards, all E-Series pump sizes from E 15 to E 50 can be equipped with thread bushings and flange O-rings for flange connections (DIN/PN 10 or ANSI B 16.5 150 lbs). For the AHD/AHS Series pumps, the flange connection (DIN/PN 16 or ANSI B 16.5 300 lbs) is standard.

# Options

### Draining System (Code R)



E-Series pumps are available with a special Almatec draining system consisting of a bypass system in the side housings that can be activated easily either via hand-operated valves or pneumatically. In this way, the pump and piping can be drained without having to be dismounted. The amount of cleaning agent and solvent required when changing products is considerably reduced, and this greatly reduces environmental pollution. For metal CHEMICOR pumps, another constructive solution is available. Ball lifters – which are turnable by hand – are fitted to the four ball valves. By turning the handles, the ball valves are lifted out of their seats.

### Special Diaphragms (Code L and P)

For the use of the pumps in the device group IIC (European ATEX regulation) without flanking measures diaphragms made of conductive PTFE/EPDM compound are available (code L). For liquids with increased diffusion tendency (e.g. benzene, solvents) PTFE/EPDM compound diaphragms made of modified PTFE are obtainable (code P).

### EC1935/2004 Certification (Code H)

Since certifications are an important aspect in the hygienic market, an EC1935/2004 conformity declaration can be issued for Almatec pumps with PTFE internals for the applicability of the pump material for food contact.

### USP Class VI Certification (Code USP)

USP CLASS VI

After receiving an increasing number of requests to state "USP Class VI" conformity for the wetted pump materials, Almatec has introduced the "Option Code USP" for defined material types. Whenever ordering such a pump, the customer can be sure to receive a clearly marked pump together with an according certificate. Please contact us for more information about the concerned pump material codes.

### Transport Carts

Many industrial applications need not only stationary air-operated double-diaphragm pumps but also mobile pumping units (e.g. for use as an emergency pump, as a short-time replacement so a pump to be repaired or for decanting between two containers). For these purposes, a transport cart is available.



The transport cart consists of a square-pipe frame made of stainless steel and four fixable conductive castors. Room is available for product and air hoses.

Possible accessories are:

- Complete air supply with clamp connection
- Regulator with integrated filter
- Air supply for pump and damper



# The Almatec® Pump Portfolio

## E-Series

### State-Of-the-Art Plastic Range with High Quality Standards



#### Features & Benefits:

- Almatec pump flagship with high distribution in multiple markets
- Well known pump, meeting customer's expectations for safety, quality and reliability
- Ball or cylinder valves
- Exterior free of metal
- Numerous optional equipment for special applications
- Screw-on and flanged pulsation damper available

#### Materials:

- **Housing:** PE, PTFE, PE Conductive (ATEX), PTFE Conductive (ATEX)
- **Diaphragms:** EPDM, PTFE/EPDM, PTFE modified/EPDM, NBR, ATEX variations
- **Ball Valves:** EPDM, PTFE, NBR, Stainless Steel
- **Cylinder Valves:** PTFE

#### Technical Data:

| Pump Size | E 08 | E 10 | E 15 | E 25 | E 40 | E 50 |
|---|---|---|---|---|---|---|
| Nominal port size (NPT) | 1/4" | 3/8" | 1/2" | 1" | 1 1/2" | 2" |
| Suction lift, dry – mWC (ftWC) | | | | | | |
| Cylinder Valves | 1 (3.3) | 2 (6.6) | 3 (9.8) | 4 (13.1) | 5 (16.4) | 5 (16.4) |
| Ball Valves | 0.5 (1.6) | 1 (3.3) | 2 (6.6) | 3 (9.8) | 4 (13.1) | 4 (13.1) |
| Maximum operating temperature - °C (°F): | | | | | | |
| PE | — | — | 70 (158) | 70 (158) | 70 (158) | 70 (158) |
| PTFE | 100 (212) | 100 (212) | 120 (248) | 120 (248) | 120 (248) | 120 (248) |
| Max. capacities | | | | | | |
| $m^3/h$ | 0.9 | 1.4 | 3.4 | 8 | 20 | 36 |
| l/min | 15 | 23 | 55 | 130 | 330 | 600 |
| gpm | 4 | 6 | 15 | 35 | 88 | 160 |

#### Certifications:

- (Depending on material choice)



# AHD/AHS Series



## High-Pressure Pumps

### Features & Benefits:

- Designed for safe operation in high-pressure applications such as filter press feeding
- Discharge pressure up to 15 bar (218 psig)
- AHD pumps with internal pressure booster, AHS pumps for usage with with increased driving air pressure
- Automatic pressure/volume adjustment for filter press feeding

### Materials:

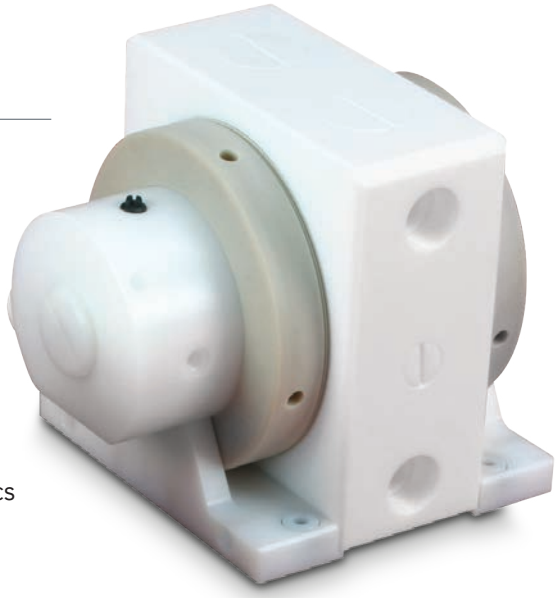
- Wetted **Housing:** PE
- Non-Wetted **Center Block:** PA
- **Diaphragms:** EPDM, PTFE/EPDM, NBR
- **Ball Valves:** EPDM, PTFE, NBR

### Technical Data:

| Pump Size | AHD 15 | AHD 25 | AHD 40 | AHS 15 | AHS 25 |
|---|---|---|---|---|---|
| Flange connections (DIN/PN 16 or ANSI B 16.5 300 lbs) | 15 ($^1/_2$") | 25 (1") | 40 (1 $^1/_2$") | 15 ($^1/_2$") | 25 (1") |
| Suction lift, dry – mWC (ftWC) | | | | | |
| EPDM/NBR ball valves | 2 (6.6) | 3.5 (11.5) | 3.5 (11.5) | 2 (6.6) | 2.5 (8.2) |
| PTFE ball valves | 1.5 (4.9) | 2 (6.6) | 2 (6.6) | 1.5 (4.9) | 1.5 (4.9) |
| Maximum operating temperature - °C (°F): | 70 (158) | 70 (158) | 70 (158) | 70 (158) | 70 (158) |
| Max. capacities | | | | | |
| $m^3/h$ | 4 | 10 | 20 | 4 | 8 |
| l/min | 67 | 165 | 330 | 67 | 130 |
| gpm | 17 | 44 | 88 | 17 | 35 |

# The Almatec® Pump Portfolio

## Futur Series



### The Choice for the Semiconductor Industry

#### Features & Benefits:

- Specialty pumps for supplying and circulating chemicals in the semiconductor industry
- Straight-through flow pattern technology, only one wetted housing part
- Four housing materials (PTFE/PE, PTFE, PE, SS316L) for different applications (e.g. PTFE for hot applications with acids and caustics up to 200°C/392°F)
- Plastic models completely metal-free
- Cleaned, assembled and tested in a cleanroom line
- Appropriate screw-on pulsation damper for every pump size and material available

#### Materials:

- **Wetted Center Housing:** PTFE, PE, 1.4404 (SS316L)
- **Non-Wetted Side Housings:** PTFE, PE, PE Conductive, SS316
- **Diaphragms:** PTFE
- **Cylinder Valves:** PTFE, PE

#### Technical Data:

| Pump Size | FUT 10 | FUT 20 | FUT 50 | FUT 100 |
|---|---|---|---|---|
| Nominal port size (NPT) | 3/8" | 1/2" | 1" | 1 1/4" |
| Suction lift, dry – mWC (ftWC)<br>Cylinder Valves | 1 (3.3) | 2.5 (8.2) | 3.5 (11.5) | 4 (13.1) |
| Maximum operating temperature - °C (°F):<br>(Depends on the housing material and pressure) | 200 (392) | 200 (392) | 130 (266) | 130 (266) |
| Max. capacities<br>$m^3/h$<br>l/min<br>gpm | <br>0.6<br>10<br>2.6 | <br>1.2<br>20<br>5.3 | <br>3<br>50<br>13 | <br>6<br>100<br>26 |



# CXM Series



## For Low- to Middle-Duty Applications

### Features & Benefits:

- General-purpose pumps designed for low- to medium-duty applications and to operate as drum pumps
- Modular design, four sizes with NPT connections and three sizes with BSP connections
- Ball or cylinder valves

### Materials:

- **Housing:** PE Conductive (ATEX)
- **Diaphragms:** EPDM, PTFE/EPDM, NBR
- **Ball Valves:** EPDM, PTFE, NBR, Stainless Steel
- **Cylinder Valves:** PE

### Technical Data:

| Pump Size | CXM 10 | CXM 20 | CXM 25 | CXM 50 | CXM 55 | CXM 130 | CXM 135 |
|---|---|---|---|---|---|---|---|
| Nominal port size | NPT 3/8" | NPT 1/2" | BSP 1/2" | NPT 3/4" | BSP 1" | NPT 1 1/4" | BSP 1 1/2" |
| Suction lift, dry – mWC (ftWC) | | | | | | | |
| Cylinder Valves | 0.7 (2.3) | 2 (6.6) | 2 (6.6) | 4.5 (14.8) | 4.5 (14.8) | 4.5 (14.8) | 4.5 (14.8) |
| EPDM Ball Valves | 0.5 (1.6) | 1 (3.3) | 1 (3.3) | 3 (9.9) | 3 (9.9) | 3 (9.9) | 3 (9.9) |
| PTFE Ball Valves | 0.5 (1.6) | 1 (3.3) | 1 (3.3) | 2 (6.6) | 2 (6.6) | 3 (9.9) | 3 (9.9) |
| Stainless Steel Ball Valves | 0.5 (1.6) | 1 (3.3) | 1 (3.3) | 2 (6.6) | 2 (6.6) | 3 (9.9) | 3 (9.9) |
| Maximum operating temperature - °C (°F): | 70 (158) | 70 (158) | 70 (158) | 70 (158) | 70 (158) | 70 (158) | 70 (158) |
| Max. capacities | | | | | | | |
| $m^3/h$ | 0.7 | 1.6 | 1.6 | 3.3 | 3.3 | 7.5 | 7.8 |
| l/min | 10 | 25 | 25 | 55 | 55 | 125 | 130 |
| gpm | 3 | 7 | 7 | 15 | 15 | 33 | 34 |

### Certifications:

- (Depending on material choice)

# The Almatec® Pump Portfolio

## C-Series



### The Cost-Effective Plastic Pump

#### Features & Benefits:

- Cost-effective solution for a wide array of pumping tasks
- Different connection footprints available to match existing installations
- Diaphragm monitoring and stroke counting as main optional equipment

#### Materials:

- **Wetted Side Housings:** PE, PTFE, PE conductive (ATEX), PTFE conductive (ATEX)
- **Non-Wetted Center Block:** PE, PE conductive (ATEX), PA conductive (ATEX)
- **Diaphragms:** EPDM, PTFE/EPDM
- **Ball Valves:** EPDM, PTFE

#### Technical Data:

| Pump Size | C 10 | C 15 | C 25 | C 40 | C 50 |
|---|---|---|---|---|---|
| Nominal port size (NPT) | 3/8" | 1/2" | 1" | 1 1/2" | 2" |
| Suction lift, dry – mWC (ftWC) | 1 (3.3) | 2 (6.6) | 3 (9.8) | 4 (13.1) | 5 (16.4) |
| Maximum operating temperature - °C (°F): | | | | | |
| PE | 70 (158) | 70 (158) | 70 (158) | 70 (158) | 70 (158) |
| PTFE (with center block, PE conductive) | 80 (176) | 80 (176) | 80 (176) | 80 (176) | 80 (176) |
| PTFE (with center block, PA conductive) | 100 (212) | 100 (212) | 100 (212) | 100 (212) | 100 (212) |
| Max. capacities | | | | | |
| $m^3/h$ | 1.3 | 3.1 | 7 | 18 | 32 |
| l/min | 22 | 52 | 117 | 300 | 530 |
| gpm | 6 | 14 | 31 | 80 | 140 |

#### Certifications:

- (Depending on material choice)





# Chemicor Series

## Standard Range Stainless Steel

### Features & Benefits:

- Product housings made of 1.4408 (SS316) with soft contours, smooth flow channels and no dead spaces
- Freely turnable suction and discharge ports
- High flow, high solid passage
- Optional draining system with ball lifters to drain the pump without having to be dismounted
- Inline pulsation damper available
- Additional options available to meet application requirements

### Materials:

- **Wetted Side Housings:** 1.4408 (SS316)
- **Non-Wetted Center Block:** PA, PE Conductive (ATEX)
- **Diaphragms:** EPDM, PTFE/EPDM, PTFE modified/EPDM, NBR, ATEX variations
- **Ball Valves:** EPDM, PTFE, NBR

### Technical Data:

| Pump Size | AD 20 | AD 32 | AD 50 |
|---|---|---|---|
| Nominal port size (BSP) | 3/4 " | 1 1/4 " | 2 " |
| Suction lift, dry – mWC (ftWC) | | | |
| EPDM Ball Valves | 2 (6.6) | 2 (6.6) | 3 (9.8) |
| PTFE Ball Valves | 1 (3.3) | 1.5 (4.9) | 2 (6.6) |
| Maximum operating temperature - °C (°F): (with center block of PE conductive) | 130 (266) 80 (176) | 130 (266) 80 (176) | 130 (266) 80 (176) |
| Max. capacities | | | |
| $m^3/h$ | 4.5 | 9 | 24 |
| l/min | 75 | 150 | 400 |
| gpm | 20 | 40 | 106 |

### Certifications:

- (Depending on material choice)

# The Almatec® Pump Portfolio

## Biocor Series



### Aseptic Pump for Sterile Applications

#### Features & Benefits:

- Specifically designed for critical sterile applications within the pharmaceutical, biotech and food industries
- EHEDG certified, CIP and SIP capability
- Ball-lifting magnets for pump draining
- Suction and discharge ports suitable for different sanitary standards

#### Materials:

- **Wetted Side Housing:** 1.4435 (SS316L) (Basel Standard II) to ≤ 0.4 µm (15.75 µin)
- **Non-Wetted Center Block:** PE Conductive (ATEX)
- **Diaphragms:** EPDM (FDA), PTFE/EPDM (FDA)
- **Ball Valves:** EPDM (FDA), PTFE (FDA)

#### Technical Data:

| Pump Size | B 20 | B 32 | B 40 |
|---|---|---|---|
| Nominal port size (Depends on the chosen suction and discharge connection) | DN 20 | DN 32 | DN 40 |
| Suction lift, dry – mWC (ftWC) | 2 (6.6) | 2.5 (8.2) | 3 (9.8) |
| Maximum operating temperature - °C (°F): | 80 (176) | 80 (176) | 80 (176) |
| Max. capacities<br>$m^3/h$<br>l/min<br>gpm | <br>3.5<br>58<br>15 | <br>7.5<br>125<br>33 | <br>17<br>283<br>75 |

#### Certifications:

- (Depending on material choice)



# MM Series



## Hygienic Pump for Food and Beverage Applications

### Features & Benefits:

- AODD pump with food-grade wetted materials and a construction based on cleaning demands
- Modular design for easily exchange of the connections
- Different hygienic port options including an open buttwelding end
- CIP and SIP capability due to smooth and steady product channels

### Materials:

- **Wetted Side Housing:** 1.4404 (SS316L), 3.2 µm, as option 0.8 µm
- **Non-Wetted Center Block:** PE Conductive (ATEX)
- **Diaphragms:** EPDM (FDA), PTFE/EPDM (FDA)
- **Ball Valves:** EPDM (FDA), PTFE (FDA)

### Technical Data:

| Pump Size | MM 15 | MM 25 | MM 40 |
|---|---|---|---|
| Nominal port size | 1/2" | 1" | 1 1/2" |
| Suction lift, dry – mWC (ftWC) | 3 (9.8) | 3 (9.8) | 4 (13.1) |
| Maximum operating temperature - °C (°F): | 80 (176) | 80 (176) | 80 (176) |
| Max. capacities<br>$m^3/h$<br>l/min<br>gpm | <br>3.5<br>58<br>15 | <br>9.2<br>153<br>40 | <br>20<br>333<br>88 |

### Certifications:

- (Depending on material choice)

# The Almatec® Pump Portfolio | Overview

| Pump Series | E-SERIES | AHD/AHS | FUTUR | CXM | C-SERIES | CHEMICOR | BIOCOR | MM |
|---|---|---|---|---|---|---|---|---|
| Number of Available Pump Sizes | 6 | 3 | 4 | 7 | 5 | 3 | 3 | 3 |
| Nominal Port Size Range | 1/4" - 2" | 1/2" - 1 1/2" | 3/8" - 1 1/4" | 3/8" - 1 1/2" | 3/8" - 2" | 3/4" - 2" | DN20 - DN40 | 1/2" - 1 1/2" |
| Maximum Capacities Range | | | | | | | | |
| $m^3/h$ | 0.9 - 36 | 4 - 20 | 0.6 - 6 | 0.7 - 7.8 | 1.3 - 32 | 4.5 - 24 | 3.5 - 17 | 3.5 - 20 |
| l/min | 15 - 600 | 67 - 330 | 10 - 100 | 10 - 130 | 22 - 530 | 75 - 400 | 58 - 283 | 58 - 333 |
| gpm | 4 - 160 | 17 - 88 | 2.6 - 26 | 3 - 34 | 6 - 140 | 20 - 106 | 15 - 75 | 15 - 88 |
| Maximum Suction Lift Range, Dry | | | | | | | | |
| mWC | 1 - 5 | 2 - 3.5 | 1 - 4 | 0.7 - 4.5 | 1 - 5 | 2 - 3 | 2 - 3 | 3 - 4 |
| ftWC | 3.3 - 16.4 | 6.6 - 11.5 | 3.3 - 13.1 | 2.3 - 14.8 | 3.3 - 16.4 | 6.6 - 9.8 | 6.6 - 9.8 | 9.8 - 13.1 |
| Material of Wetted Housings with Max. Operating Temp. - °C (°F) | PE 70° (158°)<br>PE Conductive 70° (158°)<br>PTFE 100°-120° (212°-248°)<br>PTFE Conductive 100°-120° (212°-248°) | PE 70° (158°) | PE 70° (158°)<br>PTFE 130°-200° (266-392°)<br>1.4404 (SS316L) 80°-130° (176°-266°) | PE Conductive 70° (158°) | PE 70° (158°)<br>PE Conductive 70° (158°)<br>PTFE 80°-100° (176°-212°)<br>PTFE Conductive 80°-100° (176°-212°) | 1.4408 (SS316) 80°-130° (176°-266°) | 1.4435 (SS316L) 80° (176°) | 1.4404 (SS316L) 80° (176°) |
| **Available Options*** | **E-SERIES** | **AHD/AHS** | **FUTUR** | **CXM** | **C-SERIES** | **CHEMICOR** | **BIOCOR** | **MM** |
| Barrier Chamber System | ● | | | | | ● | | |
| Stroke Counting, Capacitive | ● | ● | | | ● | ● | ● | ● |
| Stroke Counting, Pneumatical | ● | ● | ● | | ● | ● | ● | ● |
| Diaphragm Monitoring | ● | ● | ● | | ● | ● | ● | ● |
| Draining System | ● | | | | | ● | | |
| Special Diaphragms | ● | | | ● | | ● | | |
| Pulsation Damper, Screwed | ● | | ● | | | | | |
| Pulsation Damper, Flanged | ● | | | | | | | |
| Pulsations Damper, Inline | ● | | | ● | ● | ● | ● | ● |
| Sanitary Ports | | | | | | ● | ● | ● |
| Flange Connection | ● | ● | | | | | | |
| External Air Booster | | ● | | | | | | |
| EC1935/2004 Certificate | ● | | | ● | | ● | ● | ● |
| USP Certificate | ● | | | | | ● | ● | ● |
| EHEDG Certificate | | | | | | | ● | |

* Not always available for all pump sizes and material combinations. More details on request.

Specific product brochures and additional information for each pump series can be found at psgdover.com/almatec or almatec.de.




## Milestones in Almatec's History

**1984**
Almatec is founded

**1992**
The expanding company moves into a new, spacious facility located in Kamp-Lintfort, Germany, with 2,200 m² of production and office space

**2004**
Almatec is acquired by the United States-based Dover Corporation

**2006**
Almatec assumes distribution in Germany of Wilden pumps; this new area of focus (pump materials, pump sizes and applications) was an ideal fit for the Almatec pump program

**2008**
Almatec becomes a pump brand within PSG®, a Dover company, and expands its production area by 1,000 m² thanks to a new production hall

**2018**
The company relocates to Duisburg, Germany; new headquarters provides roughly 70% more space, including a much larger manufacturing facility and an ISO Class 7 cleanroom

**TODAY**
Almatec has one of the largest product portfolios in the AODD pump world, offering sophisticated and economical solutions that cover a wide range of applications



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