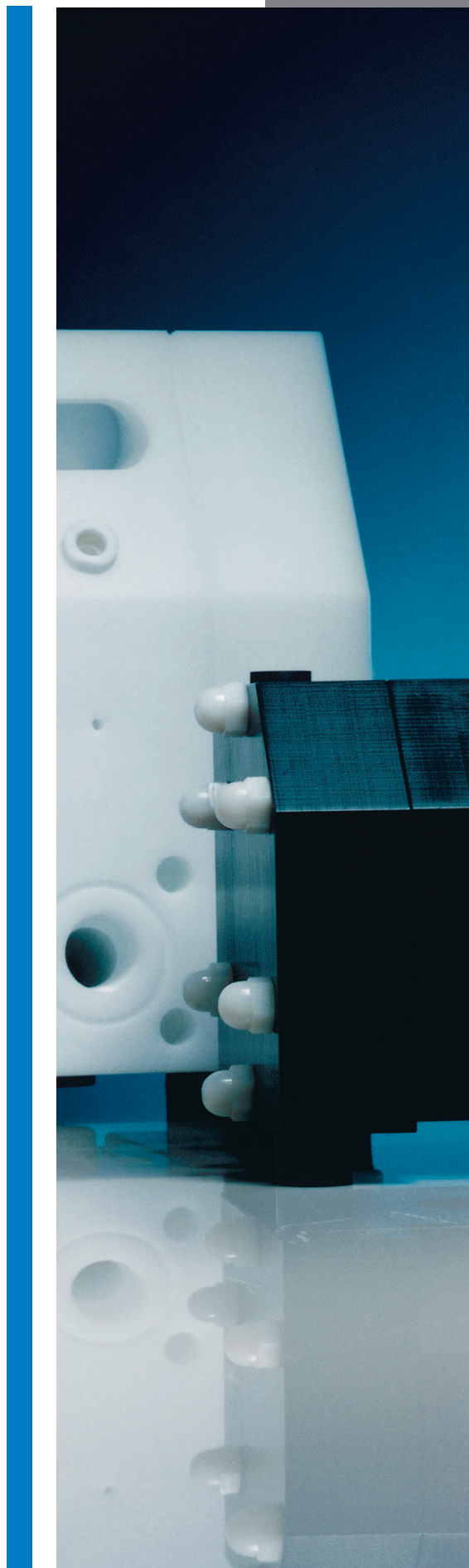


VERDERAIR

Almatec & Cont-Ex Series



Solutions in Pumping Technology



VERDERAIR diaphragm pumps

The VERDERAIR product group consists of a well-balanced high quality range of diaphragm pumps. This brochure deals specifically with the Almatec and Cont-Ex series. The VA, Futur-Plus and AD 6 series are described in separate brochures.

The working principle

Two diaphragms are inter-connected by a piston rod. Controlled by an air control system, they are alternately subjected to compressed air so that they move back and forth. The compressed air forces the right hand diaphragm towards the product chamber and displaces the medium from that chamber through the open valve at the top of the discharge port. The medium is simultaneously drawn in by the left hand diaphragm, 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. The product is displaced -and thus conveyed -pneumatically with the patented, fully metal free Perswing P® air valve system. The Perswing P® pilot operated control system avoids the risk of a stalled centred position, which could cause problems when working with an air pressure less than 1 Bar.

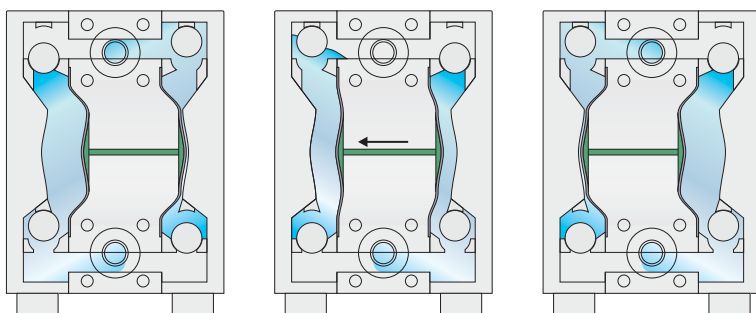
Since the medium is displaced and delivered by compressed air, the diaphragms serve merely as barriers and are not pressurised. This is a fact of fundamental importance to the service life of the diaphragms.

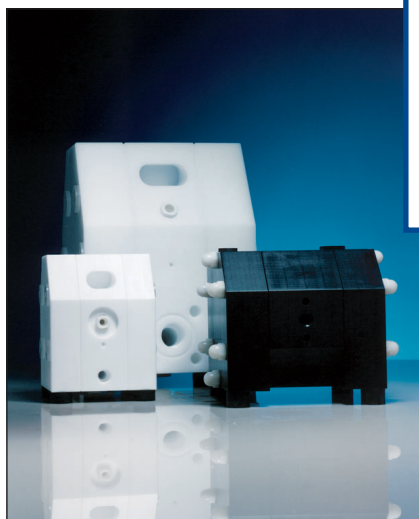
The pumps are equipped with either ball or cylinder valves.

VERDERAIR



VERDERAIR



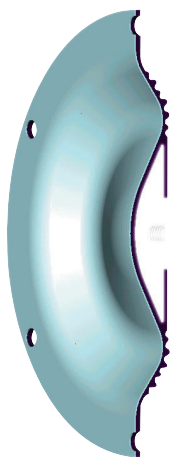


Almatec & Cont-Ex

Diaphragm pumps for all applications.

The Almatec and Cont-Ex series of air operated diaphragm pumps are constructed with a chemical-resistant PE UHMW or PTFE housing, providing chemical resistance in all fields of industry.

- Almatec A-models: full-teflon and PE diaphragm pumps for heavy duty applications and low noise levels; conductive versions also available
- Almatec AD-models; stainless steel and polished stainless steel diaphragm pumps
- Almatec AH-models: PE high pressure diaphragm pumps (e.g. for filter press feeding)
- Almatec Futur-plus-series: advanced technology diaphragm pumps (e.g. for high purity applications and temperatures up to 180° C)
- Cont-Ex CX-series; the universal diaphragm pump for industrial applications
- Almatec AD 6 sump pump: for sample handling applications



Diaphragms

The Almatec diaphragms are smooth and joint-free. Due to the integrated metal core, they do not require diaphragm discs, which frequently give rise to leaks and attract dirt in a traditional design. The diaphragms are profile formed, which almost completely eliminates dead space on the air side, thus optimising efficiency and reducing air consumption.

Conductive versions

Most Almatec diaphragm pumps can be supplied in conductive versions, which enables applications within Ex-areas and the transport of flammable fluids to be safely addressed. The pump is constructed of PE or PTFE filled with conductive pigments. The surface resistance is thus reduced to below $< 10^5$ Ohm.

The pumps can be grounded via a connection on the central housing.



Perswing P®

Perswing P® air control valve

This metal-free, pneumatically pilot-operated control system ensures accurate reversal of the main piston and is characterised by low noise levels. Having only two moving parts excludes the risk of a stalled centred position. This control system requires clean, oil-free compressed air.

Cont-Ex CX series

The Cont-Ex CX diaphragm pump allows maximum possible flexibility as a general purpose transport pump and/or barrel emptying pump. Cont-Ex CX pumps are designed compactly. The conductive housing material prevents electrostatic charging (PE-UHMW). This ensures a high chemical resistance and means they can be used in food applications. Since these pumps can be grounded they are also suitable for use in Ex-areas.

The positions of the suction and discharge ports can be changed by rotating the centre block. This means that the ports can be adjusted to fit existing systems. The pumps can be changed from ball to cylinder valves and vice versa.

Wetted parts of the CX pumps are EPDM or PTFE for diaphragms and seals and EPDM, PTFE, RVS or PE for bailor cylinder valves. The flow range is between 0.01 and 8 m³/h.

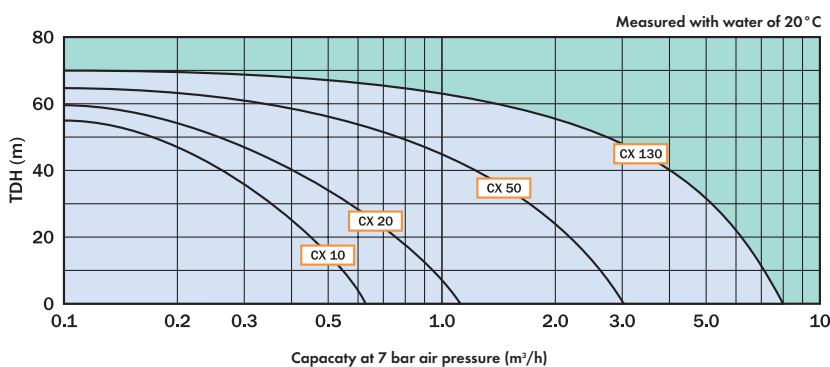
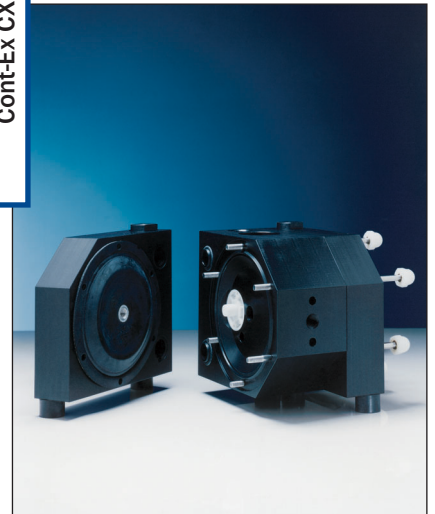
Application areas:

- barrel pump
- dosing pump
- sampling pump
- transfer pump
- alkali dosing

Cont-Ex CX



Cont-Ex CX



Almatec A



Almatec series, model A

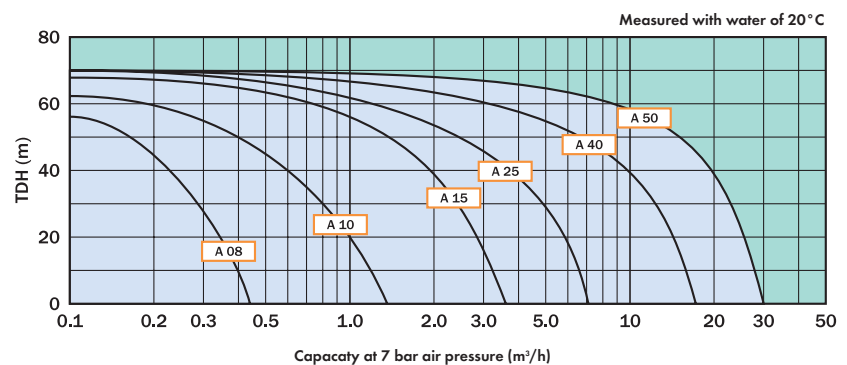
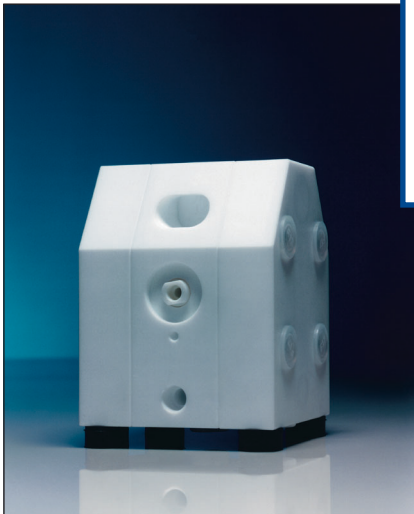
The model A diaphragm pump is an excellent pump for heavy duty applications in all areas of industry. The smaller sizes are used as circulation or sampling pumps, the larger sizes in chemical research, mechanical and plant engineering, as well as the process industry. The pump housing is robust and heavily constructed and consists of only 3 body components for optimal maintenance-free operation. A 2-stage sound damper is mounted in the centre block.

The body is available in PE, conductive PE, PTFE or conductive PTFE. Material options for wetted parts are: EPDM or PTFE/EPDM for diaphragms, EPDM, PTFE or SS for ball valves and PE or PTFE for cylinder valves. The flow range is between 0,01 and 32 m³/h.

Application areas:

- pharmaceuticals
- ceramics
- surface treatment
- machine equipment
- textile industry
- water treatment
- refineries
- electronic industry

Almatec A15



Almatec, model AD

These stainless steel diaphragm pumps are an excellent choice for the pumping of slurries, powders, pastes and glue. The polished model is not only often used for the transfer of high purity media in the electronic and semiconductor industries, but is also applied in the food and pharmaceutical industries.

Material options are stainless steel or polished stainless (1.4408 and 1.4571). Wetted parts for these models are EPDM and PTFE-TFM/EPDM for the diaphragms and EPDM or PTFE for the ball valves. The flow range is between 0,01 and 24 m³/h.

Application areas:

- thixotropic media
- dangerous and toxic media
- fluid-powder mixtures
- solvents
- drinking water purification: dosing of polymers
- ultra-pure fluids

Almatec, model AH

With a maximum pressure of 16 bar, this compact, high quality high-pressure pump is an excellent pump for filter-press feeding. This pump can also be used in applications with a low pneumatic pressure: with an operating pressure of only 3 bar this pump can build up a discharge pressure of 6.5 bar.

The housing material is abrasion-resistant PE UHMW. For diaphragm materials there is a choice of EPDM, PTFE-TFM/EPDM and NBR. Ball valve materials are constructed from EPDM, PTFE or NBR.

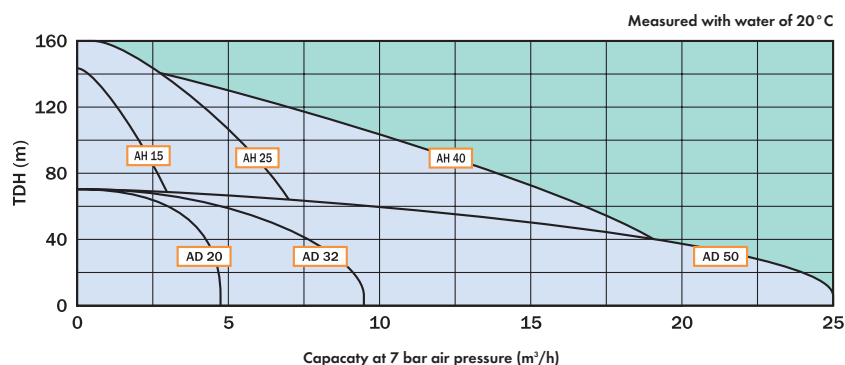
Applications:

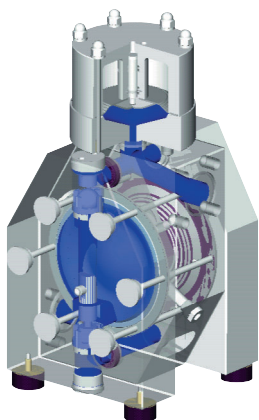
- filter press feed pumps
- high pressure dosing

Almatec AD



Almatec AH





Accessories and Options

Back flushing system (CIP)

This allows simple and quick cleaning when changing between liquid products without the need to dismantle the pump. A by-pass system is mounted, (manual or pneumatically operated), on the end cover, allowing the option of cleaning the pump remotely.

Flange connections

For the pump types A15 up to A50 flange connections are available (optional, DIN / PN 10). Sealing is through an O-ring.

Diaphragm monitoring

Although our diaphragms are designed for a long service life, they remain a wearing part. If a diaphragm ruptures when pumping precious or dangerous liquids, fluid can be expelled through the sound damper. As an option the sound damper can contain a built-in capacitive sensor, so as soon as any fluid reaches the sound damper, a signal is given. Through a control system (optional) the pump is switched off via a solenoid valve.

Barrier chamber system

A barrier chamber system is available for the pumping of precious or dangerous liquids. The single diaphragm is replaced by a dual diaphragm with a PE conductive barrier chamber in the centre. This area is filled with a neutral fluid. If a diaphragm rupture occurs, pumped fluid will flow into the barrier chamber. Consequently the conductivity value in the barrier chamber will change. The sensor registers this change, an alarm signal occurs, and the pump can be switched off.

Stroke counter

The strokes are counted by a sensor. The diaphragm movements are scanned without direct contact between the diaphragm and sensor. The pulses generated by the sensor can be used to shut down the pump, via a solenoid valve, after a given number of strokes. This allows the possibility of dosing/batching with a diaphragm pump.

Pulsation damper

For a low pulse flow a discharge pulse damper is necessary.

The Almatec dampers are self-regulating. They have their own compressed air connection, which must be supplied from the air supply so that pump and pulse damper always function with the same air pressure. By selecting the correct size damper, pulsation can be virtually eliminated at discharge pressures as low as 1 bar. (PE/PTFE/conductive versions available).

The VERDER Group

VERDER Group embraces several manufacturing and marketing companies specialising in liquids handling, solids handling and plastics materials technologies. In the UK the Group is represented by VERDER Ltd (liquids handling), RETSCH UK Ltd (solids handling), and there is also a self-contained unit for manufacture and testing of several VERDER product ranges.

Liquids handling

Since its formation in the 1950s, a substantial proportion of the Group's effort has been concentrated on hermetically enclosed and sealless pumps.

By the 1990s, what had begun as an equipment distributor had developed into a major manufacturer and supplier of systems to industrial process markets.

Expansion has been fed by acquisitions, joint ventures and private label agreements, reinforced by a continuous programme of R&D.

Product development is driven by customer need and R&D, resulting in continuous design improvements embodying the latest technology. This is coupled with extensive application knowledge.

The Group's popular brand names, VERDERFLEX, VERDERLAB, VERDERMAG, VERDERAIR, VERDERMIX and VERDERGEAR are marketed through a world wide network of distributors. In the UK, customers can deal direct with VERDER as the manufacturer, or they are covered by VERDER's two-year guarantee and warranty on other pump brands.

Looking to the future, VERDER has recently instituted a full series of service deals, covering maintenance and stock option contracts and on-site inventory control; the product itself forms only part of a co-ordinated total supply contract.

VERDER can provide a scheme, tailored to suit the detailed requirements of any customer, called the Optimum Delivery Programme.

