SEALLESS IMMERSIBLE PUMPS

- For all applications where metal pumps suffer from corrosion
- Machined completely from solid blocks of plastic
- No injection molding or welding involved
  - no chemical cracking!
- No metal parts in the liquid
  - extremely corrosion resistant
- With liquid seal
  - no mechanical parts in the liquid
- Can be run dry without damage
- Several configurations and immersible lengths
- Special executions for abrasive liquids
- For plastic pumps unique new hydraulics:
  - very smooth operation and low noise level
  - increased efficiency - lower energy consumption
  - improved NPSH (suction capabilities)
  - reduced clogging
  - direction independent impeller fixation
  - particles in the liquid up to Ø 4mm without damage
  - flow rates (Q.) up to 300 m³/h
  - delivery heads (H.) up to 80 M
- Maximum security against air capture or leakage
- ATEX zone 2 available

PRODUCT RANGE

COMPACT SERIES
UP TO 300 M³/H
This series is close-coupled; the motor is mounted directly to the pump flange by means of a plastic bracket. The pump shaft is an extended motor shaft for perfect alignment and the highest stability. The maintenance requirement is extremely low, thanks to the reduced number of parts if compared to conventional pumps with cantilever.

LONG COUPLED CANTILEVER
SERIES L
UP TO 40 M³/H
A number of types is available with a bearing housing between pump and motor. Thanks to this construction, it is possible to mount extended pump shafts for lower startup levels without the need of a foot bearing. Since standard motors are suited to fit these pumps, it gives more flexibility to install any motor brand with different protection classes, even explosion proof (ATEX) executions.

OUT OF TANK MODEL BB
This pump offers the same advantages as the previous models but is designed for ‘out of tank’ use. Main advantage is that it can be used if there is insufficient space inside the tank. The suction pipe can be connected to the bottom of the process tank if it can suck over the tank wall. Additional advantage is that can suck from a second circuit by tapping the suction pipe, for example, for pre-coating or flushing operations.
**PRINCIPLE OF OPERATION**

ARBO immersible pumps are single stage centrifugal pumps for open tank installation or in sumps. The pump part is immersed in the liquid and the motor remains above the liquid surface. They are perfect for circulation or transfer purposes with fixed or fluctuating level. The pumps operate by means of a “liquid seal” without any mechanical seal what so ever.

**SELF PRIMING CAPABILITIES**

Centrifugal pumps are “normal priming”. This means that the installation needs to ensure that during starting, the impeller is fully submersed. The pump can be made suitable for emptying deeper tanks by means of a suction pipe extension. Once the level of the liquid reaches the strainer or end of suction pipe, the liquid seal is broken. The level needs to rise until above the impeller again in order to restart.

**DRY RUNNING**

Thanks to the liquid seal, there is no need for a mechanical seal. The pump shaft bearings are outside the liquid zone. The shaft is self centering and therefore no foot bearing is required. Therefore this pump is insensitive to dry running and solids in the liquid can be pumped without any damage.

**IMPELLER**

This series of pumps is equipped with half a open impeller that is secured onto the shaft independently from the direction of rotation. Solid particles may pass through the pump without damage. Even for circulation at a fixed low level in the tank the special impeller shape prevents air capture that can cause foam in the process liquid.

**CONSTRUCTION**

All parts that come in contact with the liquid are machined from solid blocks of plastic. Thanks to a special production method and a minimum of welds, the risk for chemical cracking is limited, a major advantage compared to injection molded pumps. PPH is the standard material and covers a wide range of duties.

For highly abrasive liquids (high percentage of solids), on request impellers or housing parts of HMPE (High Molecular PolyEthylene) can be supplied. For extremely corrosive mixtures at higher temperatures even a fully PVDF pump is possible. The SS pump shaft it is fully protected by a plastic shaft sleeve. The shaft sleeve is one part with the impeller in order to ensure absolute sealing against liquid or air and moreover to achieve the best dielectric value. The gaskets are standard made of EPDM but may be ordered in Viton or Viton/PTFE-covered.

**STANDARD MATERIALS OF CONSTRUCTION**

- Polypropylene (PP)
- High Modulus Polyethylene (HMPE)
- Polyvinylidenfluoride (PVDF)
- Polytetrafluorethene (PTFE)
- PP/PVDF/PE-EL = conductive plastics for ATEX-applications
CHARACTERISTICS

OPTIONS

- Flange or hose adaptor
- Mounting plate according to customer specification
- Extended suction pipes with or without foot valve
- Gas seal for specific types
- With or without filter housing
- Assembled together on mounting plate or separately

MOTORS

All motors are according NEN-EN-IEC 10072-1 DIN 42673 NEN 3321 standard, 2-, 4- or 6-pole for 230/400 V or 400/690 V/ 50 or 60 Hz, IP55, ISO class F. Other protection classes against dust and or humidity on request.

PAINT SYSTEM

These pumps are often used in corrosive environments. Therefore all metallic parts are coated according NEN-EN-ISO 12944-5 category C3 suitable for outdoor installation. Other painting categories and colours on request.

SHORT LEAD TIMES

The ARBO pumps feature a high degree of standardization. Thanks to the modular construction and an extensive stock of parts, your specific pump may be assembled relatively fast.

MAINTENANCE

Thanks to the lack of mechanical wear parts in the liquid zone, the maintenance is limited to cleaning regularly and the replacement of bearings. At normal use, the life time of 30000 operating hours is no exception. Thanks to this, the pump is practically maintenance free!

All around, a multipurpose pump that, together with the variety of options, offers a solution for many applications up to 140 °C.
PERFORMANCE CURVES 2 pole motors 50-60 Hz

\[ p = 1000 \text{ kg/m}^3 \]
\[ T = 20^\circ \text{C} \]
\[ n = \frac{3000}{3600} \text{ min}^{-1} \]

\[ Q \rightarrow \text{m}^3/\text{h} \]

PERFORMANCE CURVES 4 pole motors 50-60 Hz

\[ p = 1000 \text{ kg/m}^3 \]
\[ T = 20^\circ \text{C} \]
\[ n = \frac{1500}{1800} \text{ min}^{-1} \]

\[ Q \rightarrow \text{m}^3/\text{h} \]
IMMERSIBLE CENTRIFUGAL PUMPS  |  SEALLESS

PERFORMANCE CURVES

continued from page 5

PERFORMANCE CURVES 6/8 pole motors 50-60 Hz

\[
\begin{aligned}
\rho &= 1000 \text{ kg/m}^3 \\
T &= 20^\circ \text{C} \\
n &= \frac{1000}{1200} \text{ min}^{-1}
\end{aligned}
\]

\[
\begin{aligned}
H &\rightarrow M \\
Q &\rightarrow m^3/h
\end{aligned}
\]

DO- Immersible pumps in galvanic process
Since the foundation in 1954, ARBO Pumps | Filters specialized on the design and production of sustainable, highly reliable and corrosion resistant thermoplastic pumps and filters.

ARBO Pumps offer a remarkably longer life span and lower maintenance cost thanks to its ridged construction and solid material design.

With a team of experienced engineers, production- and sales staff, ARBO Pumps | Filters services a wide customer base and a wide range of duties through a worldwide distribution network of pump specialists.

We also deliver products corresponding to ATEX regulations.
WHY ARBO PUMPS | FILTERS?

ARBO Pumps | Filters can be characterized by reliability, flexibility, quality and sustainability. Thanks to the smart design, the lower energy consumption and maintenance costs, your investment turn back time is very short time!

MARKETS

- Hot tub galvanising
- Anodising
- Plating
- Production of micro-electronic and semi-conductors
- Waste water treatment
- Fish farms
- Sea water aquaria
- Desalination plants
- Industrial and agricultural scrubbers
- etc.