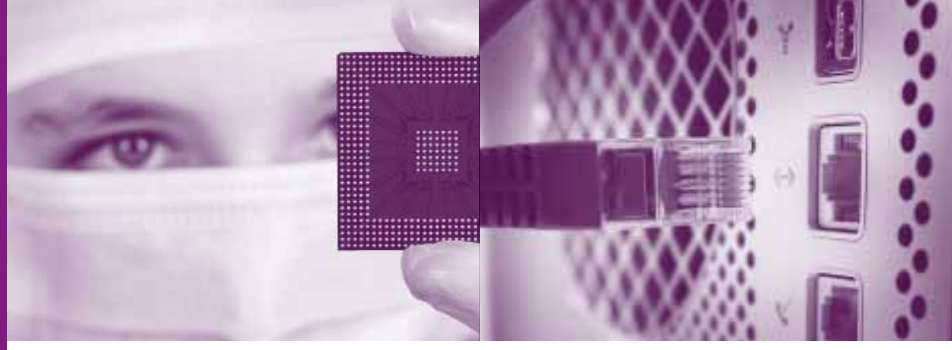
ARBO
Pompen en Filters b.v.

# ARBO Immersible pumps

## Sealless

Product group 3.0

**ARBO**
**Pompen en Filters b.v.**



# ARBO 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

## 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

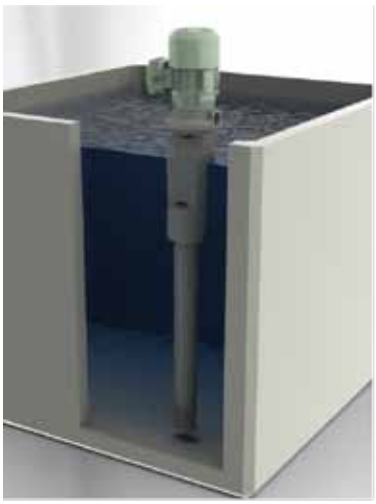
Centrifugal pumps are “normal priming”. This means that the installation needs to ensure that during starting, the impeller is fully submersed. The pump can be made suitable for emptying deeper tanks by means of a suction pipe extension. Once the level of the liquid reaches the strainer or end of suction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





## Compact series till 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 till 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 de process tank of 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.

## 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.

| Materials of construction | min. | max. |
|---|---|---|
| Polypropylene (PP) | 0ºC | + 80ºC |
| High Modulus Polyethylene (HMPE) | - 50ºC | + 80ºC |
| Polyvinylidenfluoride (PVDF) | - 30ºC | +120ºC |
| Polytetrafluorethene (PTFE) | - 40ºC | +140ºC |
| PP/PVDF/PE-EL = conductive plastics for ATEX-applications. | | |

## 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.

## 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

## 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

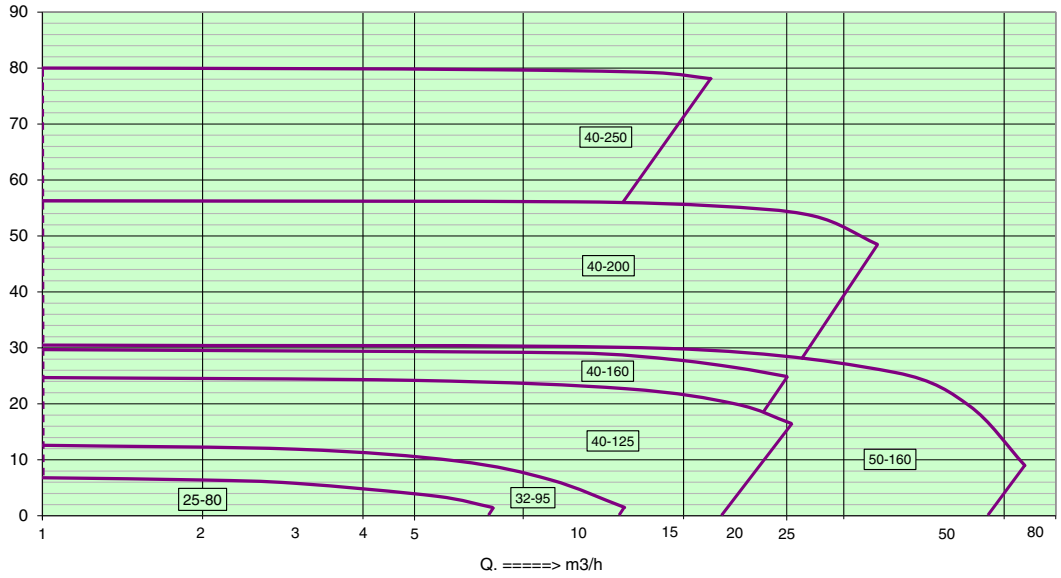
Thanks to the lack of mechanical wear parts in the liquid zone, the maintenance is limited to cleaning regularly and the replacement of bearings. At normal use, the life time of 30000 operating hours is no exception. Thanks to this, the pump is practically maintenance free !

**All around, a multipurpose pump that, together with the variety of options, offers a solution for many applications up to 140 °C.**



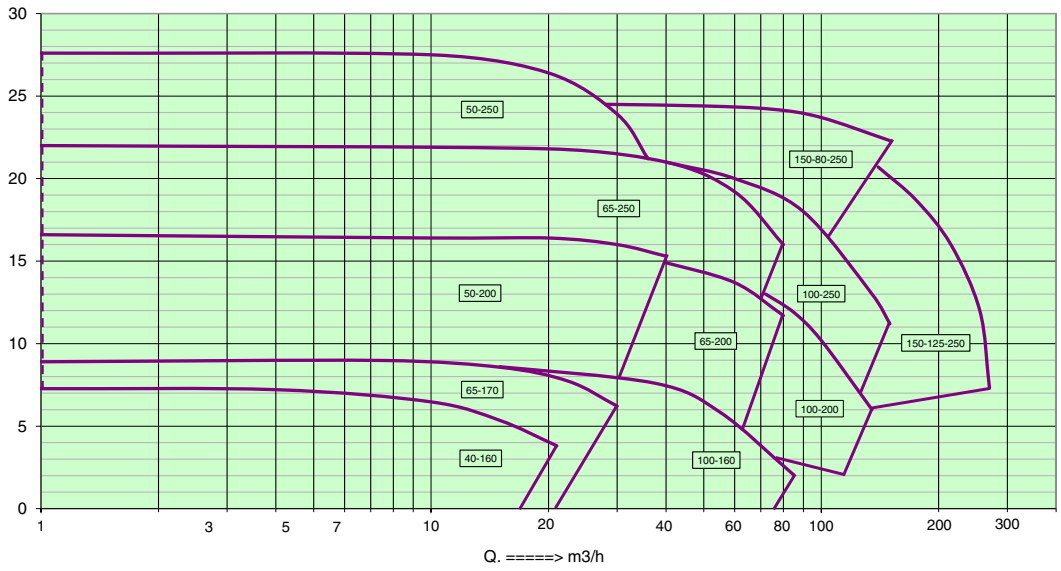
## Performance curves
## 2 pole motors 50-60Hz

ρ = 1000kg/m³
T = 20°C
n = 3000/3600 min-1



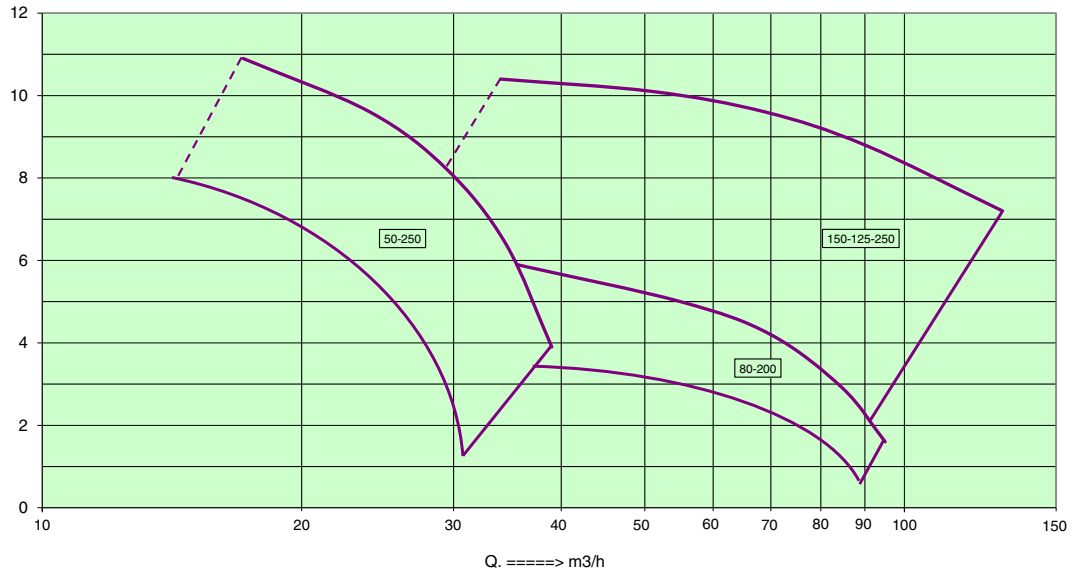

## Performance curves
## 4-pole motors 50-60Hz

ρ = 1000kg/m3
T = 20°C
n = 1500-3000 min-1




## Performance curves
## 6-pole motors 50-60Hz

ρ = 1000kg/m3
T = 20°C
n = 1000-1200 min-1



**ARBO POMPEN EN FILTERS B.V.**

P.O. Box 4
9422 ZG  SMILDE
Leemdijk 2b
9422 CL SMILDE
THE NETHERLANDS

T: +31 (0) 592 430 310
F: +31 (0) 592 430 324

E: info@arbo-pumps.com
I: www.arbo-pumps.com

BORN TO RESIST CORROSION
ARBO
BORN TO RESIST CORROSION

michael smith engineers ltd

The UK's leading pump specialist

# OFFICIAL DISTRIBUTORS FOR:

VIKING PUMP
A Unit of IDEX Corporation

Viking Gear Pumps

Liquiflo®

Liquiflo Gear Pumps

fti
FINISH THOMPSON INC.

Finish Thompson Drum & Centrifugal Pumps

CODIP

Codip Air Operated PTFE Diaphragm Pumps

MICROPUMP®

Micropump Gear Pumps

HNPM
HNP Mikrosysteme

HNP Gear Pumps

WANNER
Hydra-Cell®
Seal-less Pump Technology

Hydra-Cell High Pressure Diaphragm Pumps

M PUMPS

M Pumps, Centrifugal,
Turbine and Vane Pumps

ISMATEC®

Ismatec Peristaltic Pumps

FMI FLUID METERING, INC.

Fluid Metering Piston Pumps

Michael Smith Engineers Tel: 0800 316 7891
www.michael-smith-engineers.co.uk Info@michael-smith-engineers.co.uk