

Membrane Pumps
Solids Handling Pumps
High Pressure Pumps
Marine Pumps

ABEL HM

Hydraulic Membrane Pumps with pressure balanced membrane positioning management



Superior efficiency and high reliability

ABEL[®]
Pump Technology

ABEL HM Hydraulic Membrane Pumps

Capacity range up to 116 m³/h, up to 10.0 MPa

Robust design for sludge and slurry

Membrane pump in top form.

ABEL HM in action for

- Filter press feed
- Sludge transfer
- Spray dryer feed
- Incinerator feed
- Metering

In many sectors:

- Water and wastewater industries
- Ceramic industry
- Mining industry
- Cement industry
- Chemical and petrochemical Industry
- Automotive industry

Membrane housing materials:

- Nodular cast iron
- Nodular cast iron/rubber lined
- Stainless steel
- Polypropylene (PPH)
- other materials on request



Pumps of HM series are available with ATEX allowance.

ABEL Hydraulic Membrane Pump are equipped with a newly designed, membrane and pressure-balanced membrane positioning. During the suction as well as the pressure stroke the membranes are not loaded with pressure peaks; this ensures the membrane positioning system with optimal membrane end positions.

Single or double acting

ABEL HM is available in simplex single or double-acting design. In addition to the attributes of piston membrane pumps such as self-priming and dry running resistance, the pumps are characterized by very low power consumption, quiet running and high reliability.

Design advantages side by side

The hydraulic side is equipped with tested safety valves to safeguard the maximum permissible pressure. The product side is equipped with a preformed membrane adapted to the operating conditions. The drive side consisting of the reduction and eccentric gear ensures an optimum power transmission even at low speed – and all that without external oil lubrication.

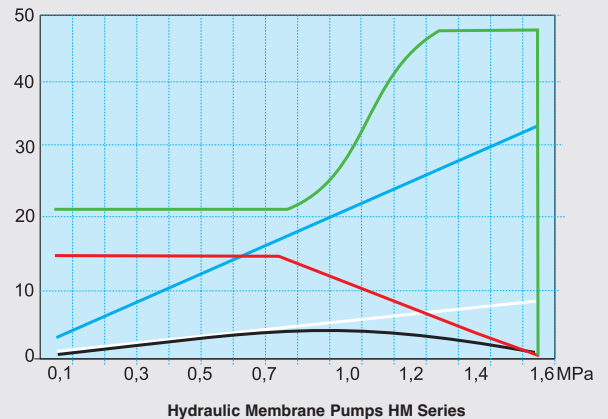
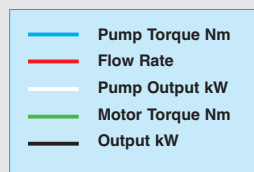
A considerable reduction of the energy costs is achieved by using frequency converters in filter press operation. No heating and thus no energy losses occur on the hydraulic side of the pump.

ABEL HM can be controlled by the latest VFD and PLC technology.

Energy Saving by VFD Control:

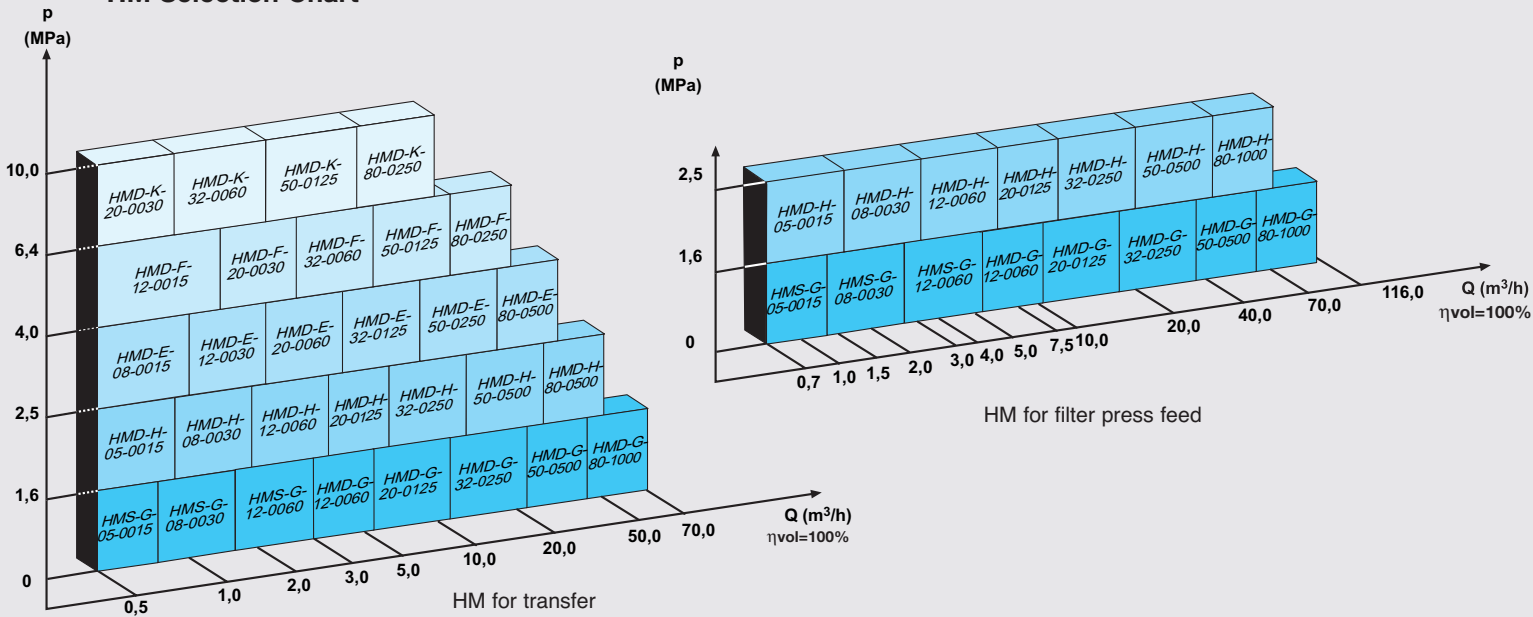
Example Filter Press

- Control:**
- Filtration cycle 1,5 h
 - Energy consumption:
 - conventional 7,08 kWh
 - HM-Pump 4,46 kWh
 - **Energy saving:**
 2,62 kWh or approx. 37%





HM Selection Chart



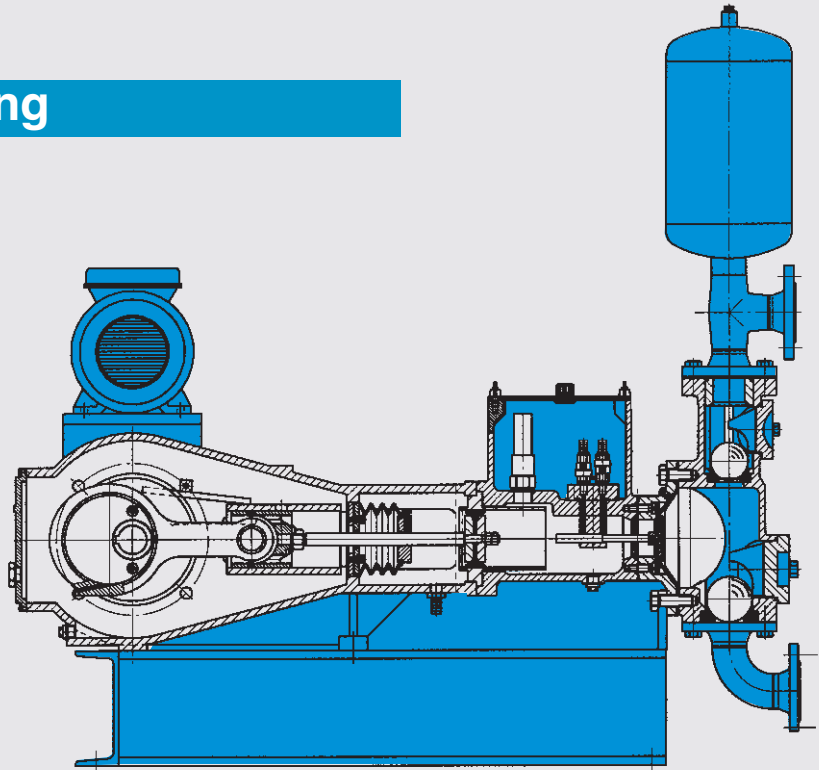
Membrane Positioning

Field-Proven Durability

Through V-belt, external transmission gear and eccentric gear the motor speed is converted into a reciprocating piston movement. The stroke volume displaced by the piston deflects the membranes.

During suction and pressure stroke the membrane positioning system monitors the controlled movement of the membranes.

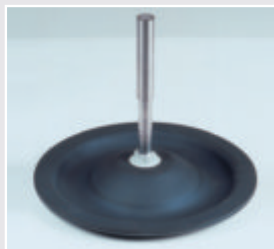
ABEL HM pumps are available in single or double-acting design depending on the pump capacity.



Single-acting design



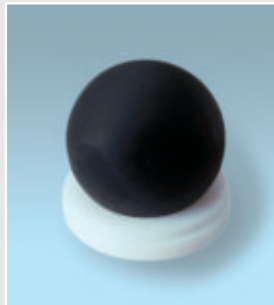
API Valve Cone



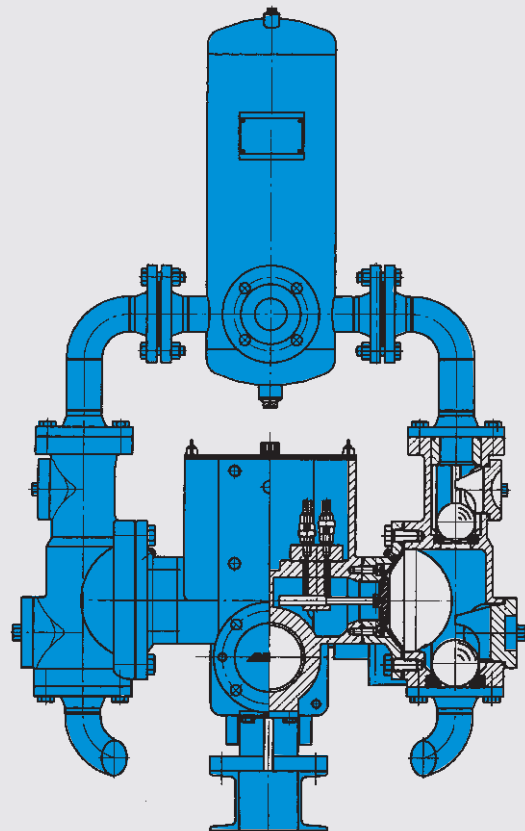
Premolded HM-Membrane



Spherical cone valve



Ball Valve



Double-acting design

The ABEL HM Advantages

- Technology secure for the future
- The newest membrane technology with a pre-moulded membrane: long useful life, low wear costs, processing safety.
- Reliable valve technology with ball, cone or spherical cone valves: free of blockages, problem-free conveyance of sludge containing sand and minerals.
- Patented membrane management and monitoring: Processing safety and operation free of faults.
- Compact structure: low space requirement: low energy costs
- High efficiency: low costs
- Modern drive technology: cylinder or epicyclical gear system, frequency regulated motors: simple integration into processes, optimal adjustment to the filter press characteristic, quiet running.
- Efficient pulsation dampening: almost pulsation-free conveying and an even conveyed flow.
- After-sales service directly from ABEL: advice and fast help on site, 24-hour-service.
- High availability of spare parts.



HMD-G-20-0125-ED



HMD-G-12-0060-PP



HMS-G-08-0030-PP