

Membrane Pumps
Solids Handling Pumps
High Pressure Pumps
Marine Pumps

ABEL for Mining

Positive displacement pumps
for sludge, slurry and solids handling



Heavy Duty Mining Pumps

ABEL[®]
Pump Technology

ABEL Reciprocating Positive Displacement Pumps Development + Design + Manufacturing + Service

Specialization Creates Know How

ABEL was founded in 1947 and is based in the northern village of Büchen near Hamburg. ABEL specializes in the design, manufacturing and installation of heavy duty positive displacement pumps.

Since 1991, the company has been ISO 9001 certified by German Lloyd.

ABEL was acquired by Roper Inc. in 2000, a company which is based in Bogart GA, USA. Roper Inc. is a billion Dollar corporation with more than 4000 employees. It has interests in many fluid handling, industrial controls and analytical instrumentation companies.

With the diversity of pump technologies, and the number of quality manufacturers from which to choose, it is a challenge to select the brand and technology that best match your critical needs for every industry.

Reasons to select the ABEL brand and its product offering include:

Specialization

ABEL has developed a decisive market lead in know-how with its unique reciprocating positive displacement pump technologies.

Customized and modular unit packages supported by all functional areas of ABEL have attained high customer retention rates, through satisfaction in performance, reliability and economy over the life cycle of the products.



Field Proven Experience

In handling sludges, slurries, solids and a variety of aggressive fluids, ABEL has developed an extensive record of application knowledge. The know-how of What & What Not to do positions ABEL uniquely to fulfill customer needs.

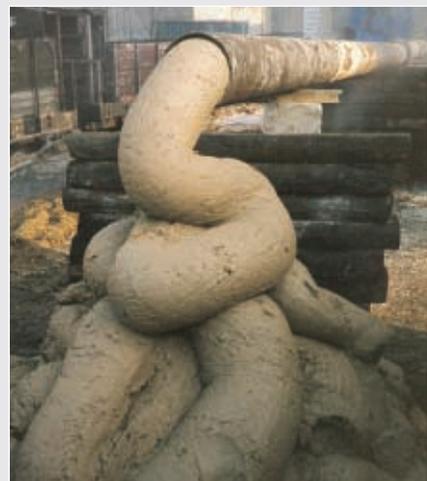
The American Hydraulic Institute has confirmed that worldwide ABEL is the market leader in the field of filter press feed pumps. More than 200 ABEL pumps feed filter presses on mine sites and power plants around the world.



Applications

Other applications for ABEL pumps in the mining and mineral process industry include:

- Long distance pipeline, transfer of ore, tailings and fly ash etc.
- Mine dewatering and sludge removal
- Backfilling of underground mines
- Feeding of autoclaves, digesters and other pressure vessels
- Ceramic industry



ABEL HMT Hydraulic Triplex Diaphragm Pump

The next Generation

Abel HMT for solids transfer and process technology

The ABEL hydraulic diaphragm Pump HMT represents a new generation of process and transfer for pressures up to 3625 PSI (25 MPa) and capacities up to 1760 GPM (400 m³/h).

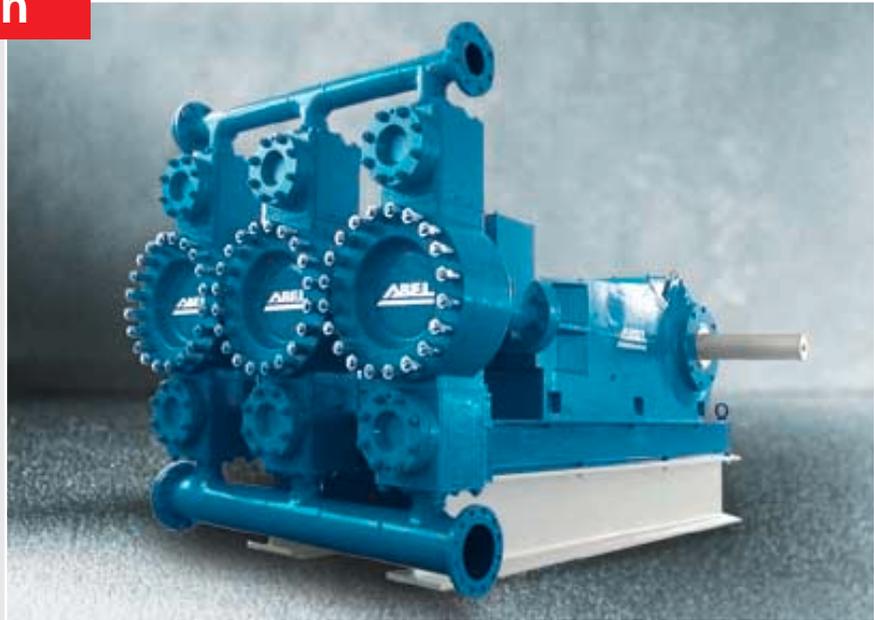
Triplex Diaphragm Pumps

The ABEL HMT triplex diaphragm Pump is single acting, runs at low speed and is able to run dry.

The HMT is excellently suited for slurry transfer on mine and mineral processing sites and other heavy duty industrial applications.

The piston diaphragm principle ensures unsurpassed reliability, availability and minimal operating costs.

ABEL pumps are equipped with pre-molded diaphragms and protected by a number of different protection and control measures,



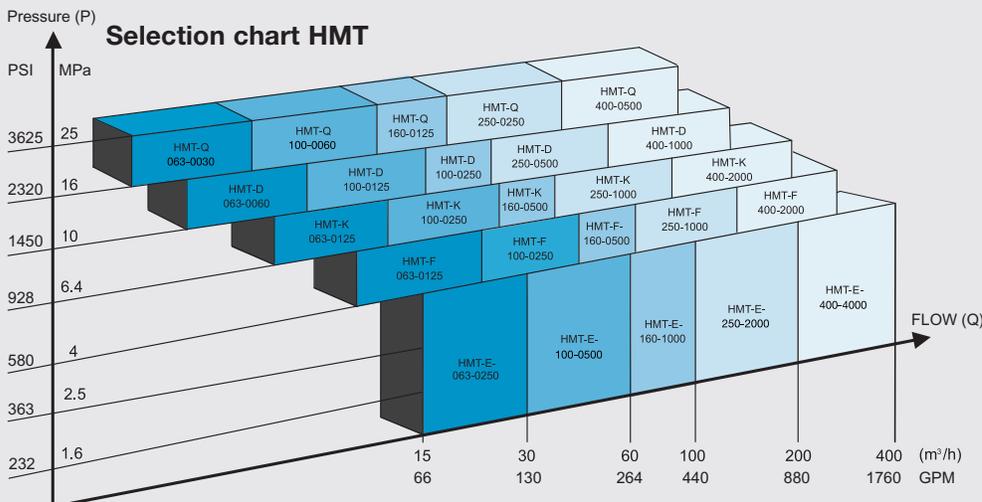
such as diaphragm positioning and full stroke safety valves in order to guarantee maximum availability. Another important advantage of the HMT is its very high efficiency, which ensures a low power consumption. The combination of high reliability, low parts requirement and low power consumption makes the ABEL HMT excellently suited for the mining industry.



Applications

ABEL HMT triplex diaphragm pumps can be used for a large number of applications, such as:

- ▲ **Slurry transfer:**
transfer of ore slurries and tailings through long distance pipelines
- ▲ **Mine dewatering:**
dewatering, desludging and backfilling of underground mines
- ▲ **Autoclave feeding:**
feeding of pressure vessels such as autoclaves and digesters for ore treatment



ABEL Positive Displacement Pumps

ABEL HMQ



Performance up to 3315 GPM (500 m³/h) and 1450 PSI (10 MPa)

The **Abel HMQ pump** is of a proven design that has found many applications in heavy duty types of industries, such as mining.

The HMQ is a duplex double acting pump which is equipped with premolded diaphragms.

Applications HMQ, HM and CM

Mining industry

- **Mine dewatering**

Abel piston diaphragm pumps enable the transfer of unsettled minewater from underground mines to surface in one stage, without any intermediate pumping stations, at a very high efficiency.

- **Mine desludging**

Abrasive, settled, mine sludge can be pumped to the surface in one stage, without excessive wear to pump parts, at a very high efficiency.

- **Mine backfilling**

Abel pumps can transfer high density slimes or classified tailings from the processing plant to underground mining stopes.

ABEL HM



Performance up to 500 GPM (115 m³/h) and 1450 PSI (10 MPa)

The **Abel range of HM pumps** is a newly developed pump for pressures up to 10 mPa.

The HM is available as single piston single acting or in double acting execution. Main features of the pump are its premolded diaphragms and the gearbox which is located on the side of the pump. For filter press feeding applications the drive of the pump is frequency controlled.

- **Hydraulic ore hoisting**

Underground, crushed ore can be mixed with minewater and transferred to the surface as a slurry. Hydraulic ore hoisting can be a feasible alternative to skip hoisting.

- **Mineral processing industry**

- **Autoclave feeding**

Abel piston diaphragm pumps are often used to feed autoclaves with, f.i., gold or nickel ore. The slurry is usually very abrasive and corrosive and can be handled by Abel pumps without excessive wear to pumps parts.

ABEL CM



Performance up to 945 GPM (215 m³/h) and 928 PSI (6.4 MPa)

The **Abel Compact Diaphragm pump** is a single piston, single or double acting pump for the transfer of sludges and slurries in various types of industry. Many hundreds of CM pumps have been supplied over the years and the pump has proven itself on numerous applications.

- **Digester feeding**

In the alumina industry Abel pumps are used to feed digesters with high concentration bauxite slurry. Efficiency and availability are high, wearparts costs and labor costs are low.

- **Filterpress feeding**

Hundreds of Abel pumps are used to feed filter presses for the dewatering of abrasive slurries in various types of mining applications.

- **Tailings transfer**

Abel has supplied many pumps for the transfer of thickened tailings slurries. The transfer of thickened tailings with Abel pumps saves energy, water, wearparts and labor.

Maximum availability worldwide

ABEL SH



**Performance up to 455 GPM
(103 m³/h) and 2350 PSI (16 MPa)**

The **ABEL Solid Handling pump** is a double piston, single acting hydraulically driven piston pump for the transfer of pastes and other types of "dry" slurries.

The slow piston speed ensures low wear on pistons and liners and facilitates the efficient filling of the pumping cylinders.

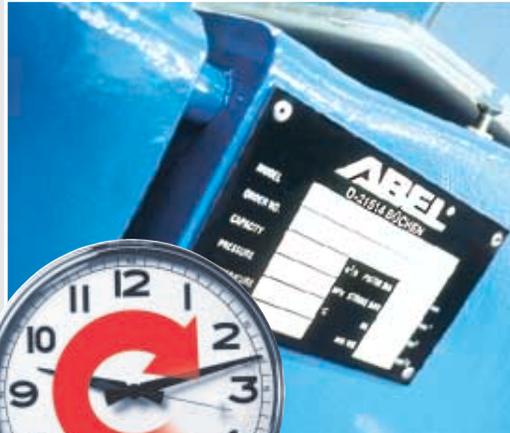
Applications

- solids transfer
- mine desludging
- reactor feeding

Types of industries

- Mining and power
- galvanic industry
- sewage treatment
- ceramic industry

ABEL Service



Performance 24 hour service all over the world

The ABEL service division is a smoothly running operation that is capable of servicing ABEL pumps worldwide. A team of well trained service engineers are ready around the clock to provide technical advice and recommendations.

In our factory warehouse we maintain a full stock of spare parts which can be shipped around the world within a matter of hours.

In addition, our service division is capable of rendering the following services :



- ▲ Original spare parts with over-night delivery
- ▲ Complete tailor made spare part sets
- ▲ Clear and easy to understand manuals
- ▲ Training of operators
- ▲ Installation contracts
- ▲ Maintenance and service contracts
- ▲ Recommendations regarding stocking of spare parts
- ▲ Local maintenance and repair if required
- ▲ Commissioning
- ▲ Telephone diagnostics

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Assistance:

The qualified staff of ABEL Pumps, L.P. is ready to assist you with your critical needs.

Please contact us with your specific requirements.

Services include:

- ▲ Start-up
- ▲ Training
- ▲ Installation
- ▲ Repair
- ▲ Warranty Contracts
- ▲ Upgrades
- ▲ Telephone Diagnostics
- ▲ On Site Repairs
- ▲ Part Kits
- ▲ Qualified Representatives for Local Assistance

Certifications:

- ▲ ISO 9001
- ▲ MIL-I-45208A

Helpful Information:

Company:	e-mail:
Address:	Tel./Fax:
	Contact:
Application:	Why needed?
	Temperature:
Fluid:	Sp. Gr.:
Flow Rate:	Pressure:
Solids? % & size:	Viscosity:
Operating Cycle:	Special Materials:

Combined Slurry:

% Solids 1) By Weight 2) By volume

Abrasivity (Miller Number) PH Value

Viscosity Describe consistency

Remarks:

Thank you for the opportunity to be of service! – ABEL Pumps, L.P.