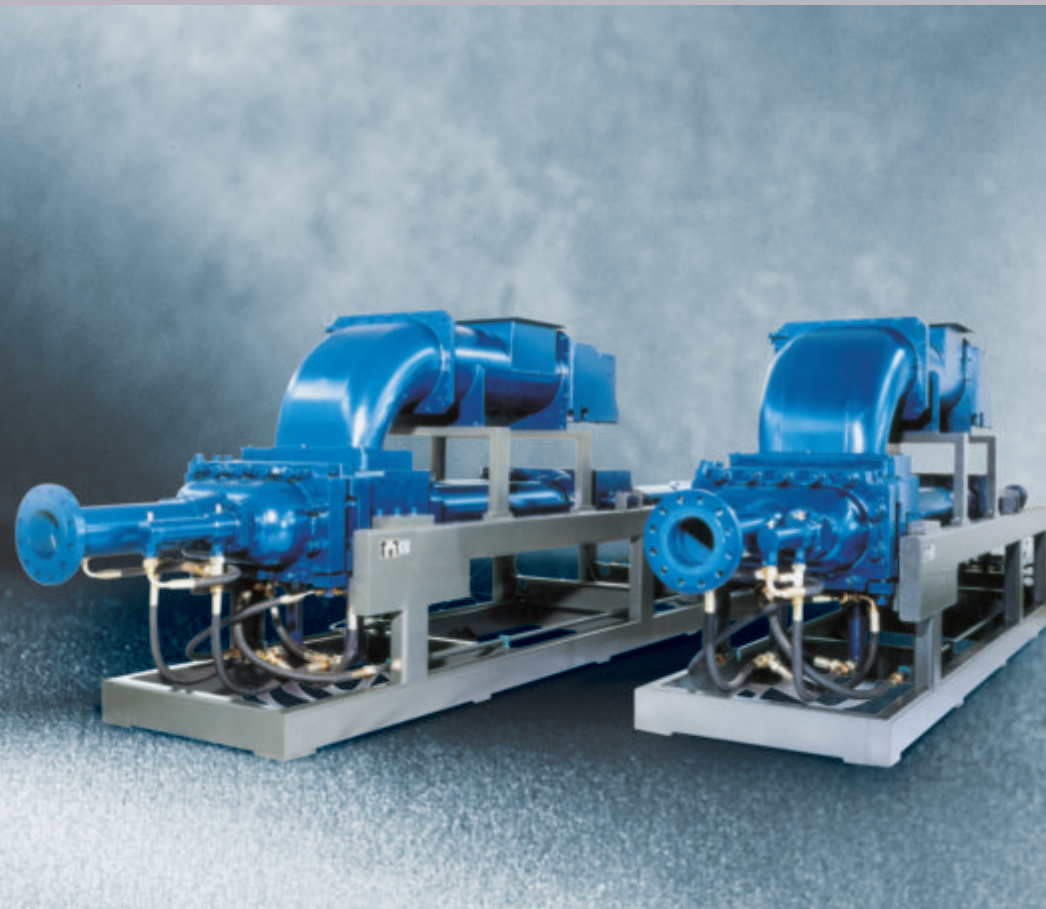


Membrane Pumps  
Solids Handling Pumps  
High Pressure Pumps  
Marine Pumps

# ABEL SH

Solids Handling Pumps for fully automatic transfer, disposal and feed processes



**For dry and highly dewatered media**

# ABEL SH Solids Handling Pump

## Capacity range up to 113 m<sup>3</sup>/h, up to 16,0 MPa

### Module based, flexible design

Always designed for customised applications, even at changing operating conditions.



Even non-newtonian media are included in the wide spectrum of materials transferred by Positive Displacement Pumps.

In this case, the ABEL Solids Handling Pumps SH (see diagram below) are especially suitable for transferring practically any medium by enclosed pipeline.

#### Modular Design

The ABEL Solids Handling Pump is a hydraulically-driven positive displacement pump consisting of 4 components:

The pump itself, with pump drive and valve cylinders, the hydraulic power pack, screw feeder to fill the pump cylinders, the control panel with PLC – the 'brain' of the system, which also allows integration into complex processes and control systems.

#### Variations

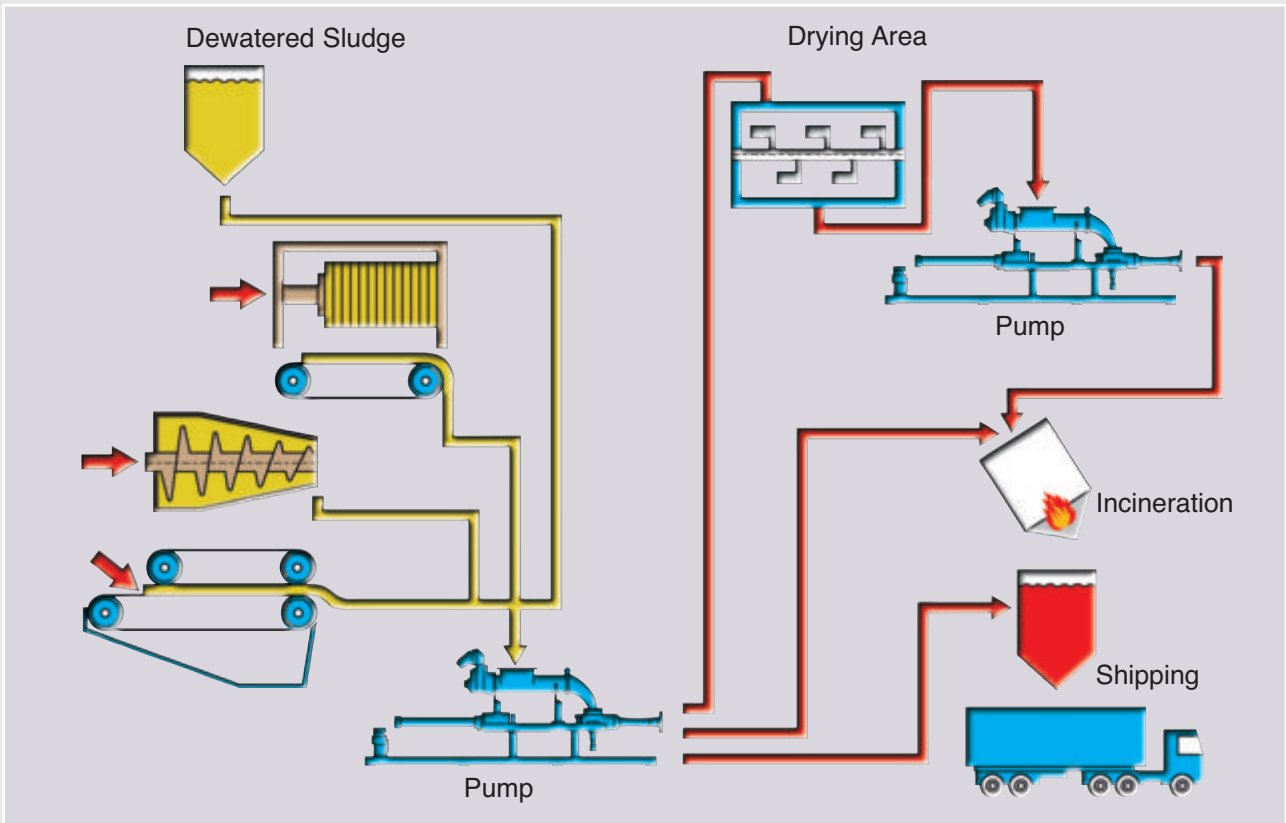
ABEL Solids Handling Pumps not only offer excellent capacity coverage, they are also used for the widest range of media and operating areas:

All components are purpose-designed and available in special materials as required. For these reasons, ABEL Solids Handling Pumps:

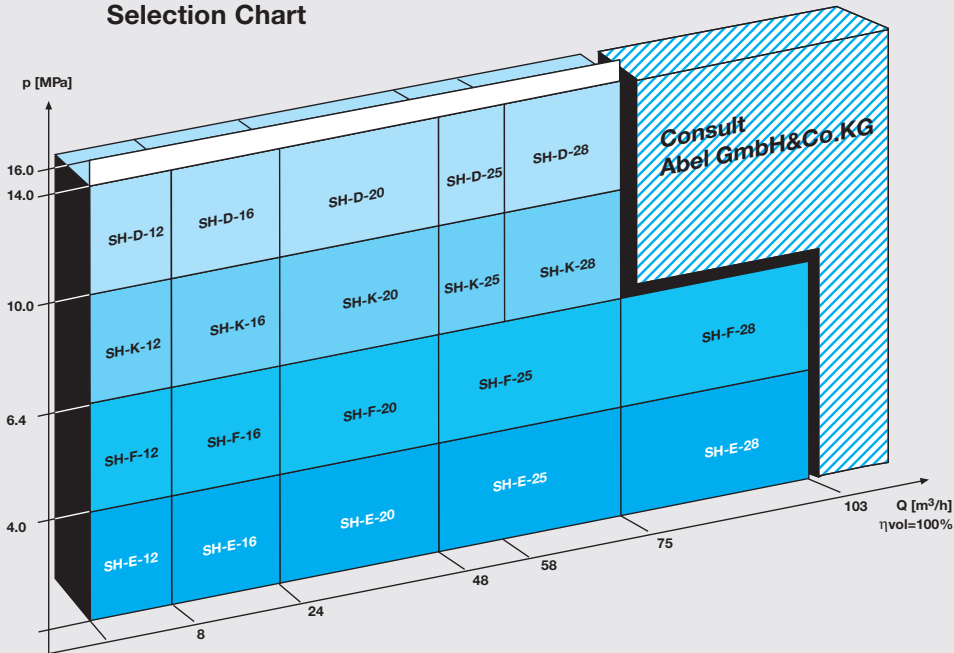
- Provide fully automatic and efficient transfer
- Can run dry and are protected against excess pressure
- Ensure enclosed, controlled pumping

#### The Design Advantages

- Duplex Piston Pump with hydraulically-actuated cone valves
- Electrical pump control as standard with modern PLC for local or external parameters, e.g. incinerator temperature control
- Pumping capacity adjustment by proportional valve technology
- Capable of running dry, protected against excess/back pressure
- Enclosed pipeline transfer
- Fully automatic, efficient disposal and feed operations



**Selection Chart**

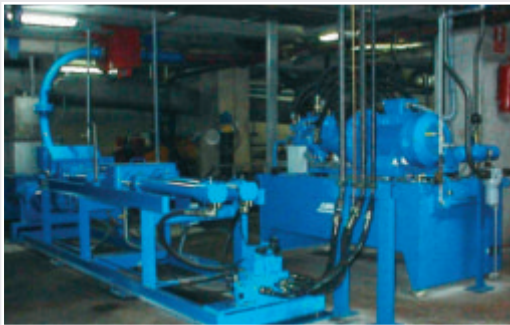
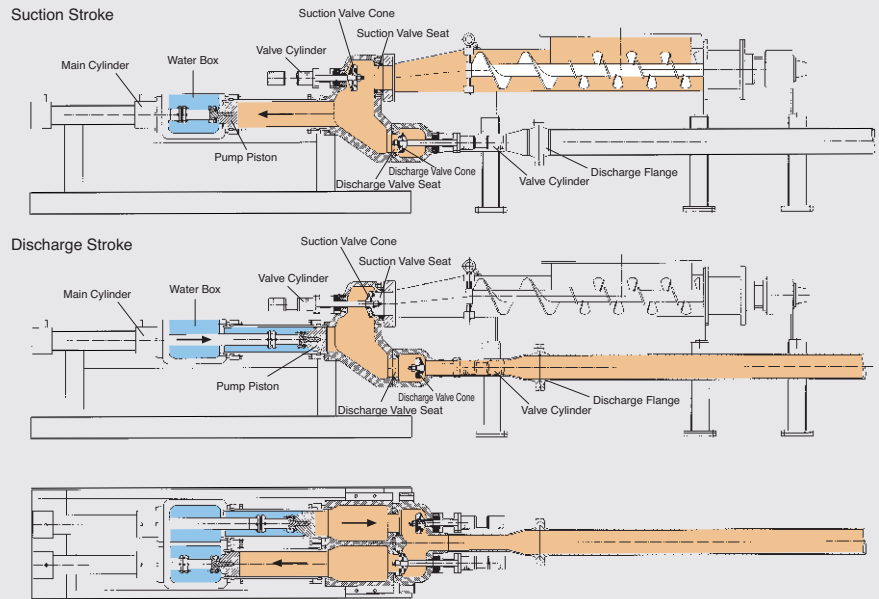


**Typical Application Areas**

- Transfer of dewatered industrial and municipal sludges/filter cake from centrifuges, chamber filter, vacuum- and belt presses
- Incinerator feed of dewatered and pre-dried sludges, hazardous waste, chemical residues and solvents
- Mining backfilling and grout curtains.

## Optimized filling efficiency

Odourless,  
environmentally  
beneficial and  
cost-saving:  
Frontloader  
for enclosed  
pipeline transfer.



### Advantages of front-loading


With this solution, the pump cylinders are filled directly, which means:

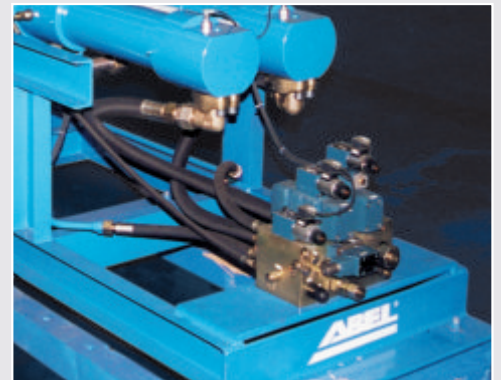
- No unnecessary directional change
- No clogging of the pump cylinders
- Maximum filling and pumping efficiency

Since the performance of a Solids Handling Pump depends considerably on how efficiently the pump is filled, ABEL has designed a new 'front-loading feed' system. This is especially useful for sludges/cakes with high dry solids content.

Pumping medium is fed by a double screw feeder into the ABEL Solids Handling Pump. With minimal directional change (< 32 degrees), it enters the pump through an open, hydraulically actuated suction valve.

The suction side valve rods are not located in the line of the flow, so a maximum through-flow of medium is assured during a discharge stroke.

 The pump piston draws the medium into the pump cylinder. When the piston reaches its end position, the suction valve closes and the discharge valve opens. Then the pump piston begins its discharge stroke and pushes the medium into the discharge line.



## Complete Automation with PLC for Central Control Systems

Various external control parameters like incinerator temperature or silo filling levels can be used as input signals for the PLC. The capacities of pump and feed device are automatically adjusted.

ABEL has supplied numerous custom made systems to fulfill the critical needs of customers.

