

## ABEL SH

From the reciprocating positive  
displacement pump specialist



**Solids Handling Pumps for  
difficult media at high pressure**

## ABEL SH - Performance range: up to 200 m<sup>3</sup>/h (880 GPM); up to 16.0 MPa (2,300 psi)



ABEL SH with double screw feeder for transfer of dewatered sewage sludges

**ABEL SH SOLIDS HANDLING PUMPS** span a wide performance range and are suited for a large number of pumping media and applications. These high pressure pumps really prove their worth when extremely abrasive, paste-like and compact media (e.g. dewatered sewage sludge) or mine tailings with high solids content have to be conveyed safely at high pressure.

At ABEL, this high-capacity pump has extra wall thickness and large suction valves, which, when combined with the very good filling efficiency, produce a service life that is longer than the norm.

Along with the actual pump unit (consisting of sludge, hydraulic main and valve cylinders) an ABEL SH solids handling pump comprises a total of four components: the actual pump, the hydraulic drive unit, a screw feeder for sticky media to fill the product cylinder, and a control cabinet with PLC.

The programmable logic controller is the “brain” of the system and allows for integration with complex processes and control room systems.



Original ABEL spare parts ensure availability of your installation

### Applications of the ABEL SH

- For the transfer of dewatered sludge or filter cakes from
  - Industry and municipalities
  - Centrifuges, chamber filter presses, vacuum presses, and belt presses
- Feeding incinerators with dewatered and pre-dried sludge, hazardous waste, chemical residues, and solvents
- In mining, for backfilling and transporting paste-like mine slurry

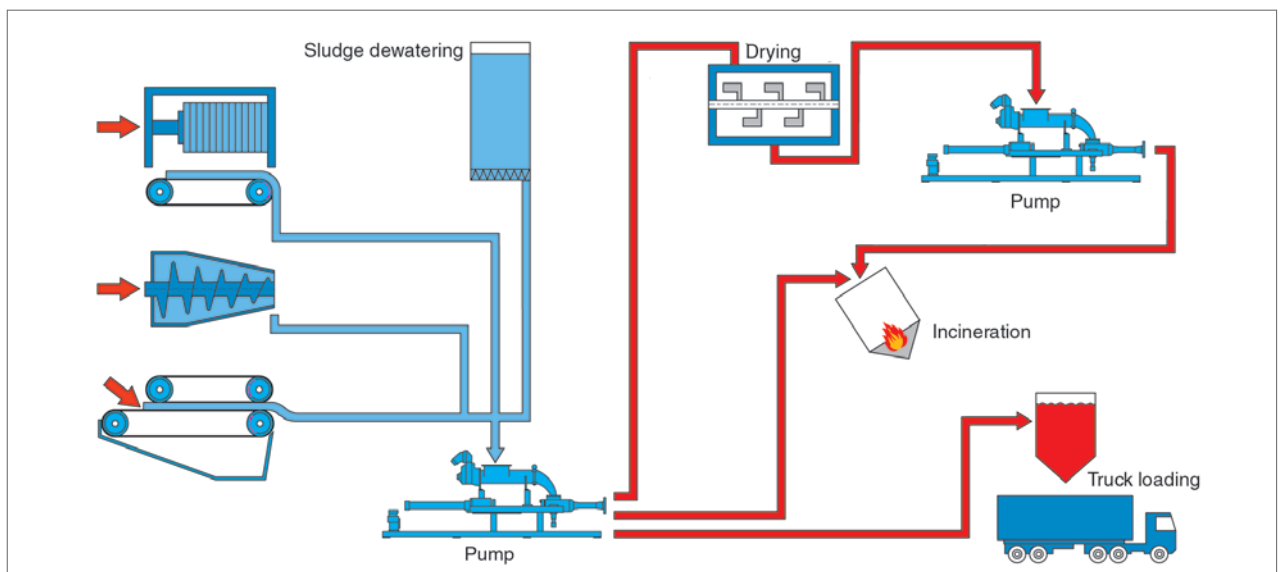
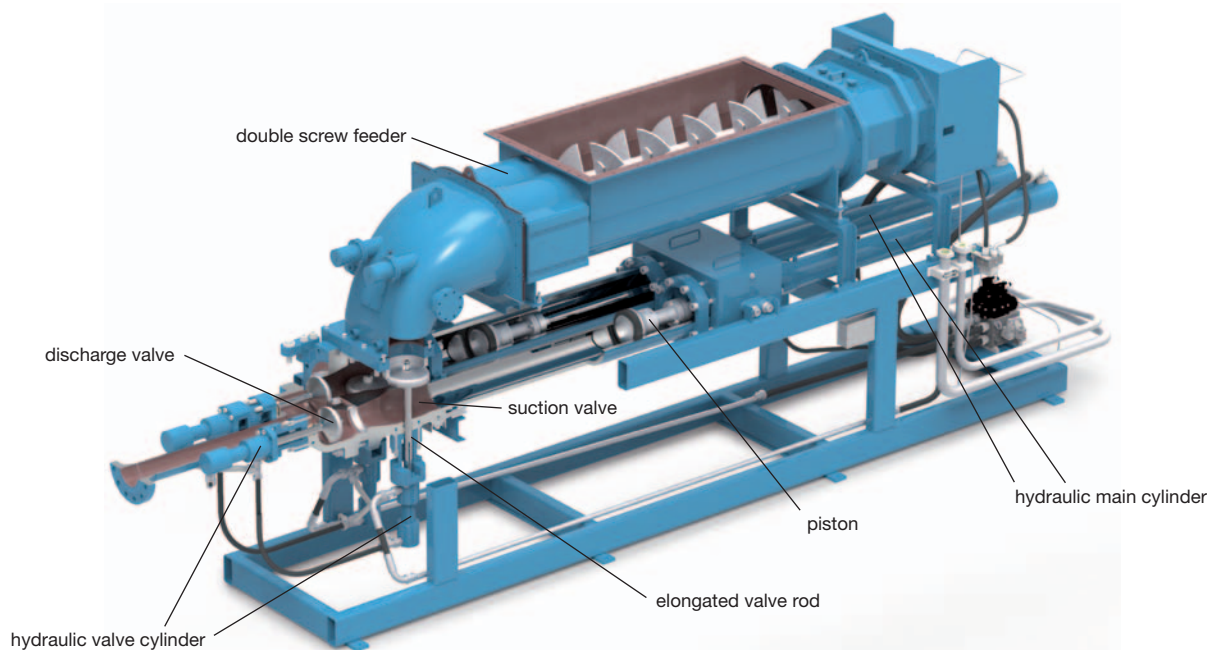


Available with ATEX certification.

### The Design Advantages

- Duplex piston pump with hydraulically-actuated cone valves – short-circuit free, even at high pressures
- Cone valves with elongated valve rods – safe protection against cross-contamination of the hydraulic circuit with the pumped media
- Electrical pump control as standard with modern PLC for local or external parameters, e.g. incinerator temperature control
- Capable of running dry
- Enclosed pipeline transfer
- Fully automatic, efficient disposal and feed operations

### The SH pump: For highly abrasive, paste like and sticky media - at high pressure





### Complete Automation with PLC for Central Control Systems

The “brain” of the unit (control cabinet with PLC) controls the integration into complex processes and central control rooms. 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 to ensure a maximum operational efficiency. ABEL has supplied numerous custom made systems to fulfill the critical needs of customers.



Dewatered sewage sludge with 35 % solids content- no problem for an ABEL solids handling pump

### The pump for extreme tasks in mining

#### Low-pulsation transfer of viscous slurries

While pulsations are no object when pumping sticky sludges high pulsations can be expected when transferring viscous slurries without appropriate measurements.

For backfilling in mines tailings are mixed with binders (e.g. cement) and are then pumped underground using heavy duty pumps.

To avoid the pulsations when pumping such media the two pump cylinders work with different speeds. Furthermore a special, independent valve cylinder control ensures smooth change-over at the end of each piston stroke.



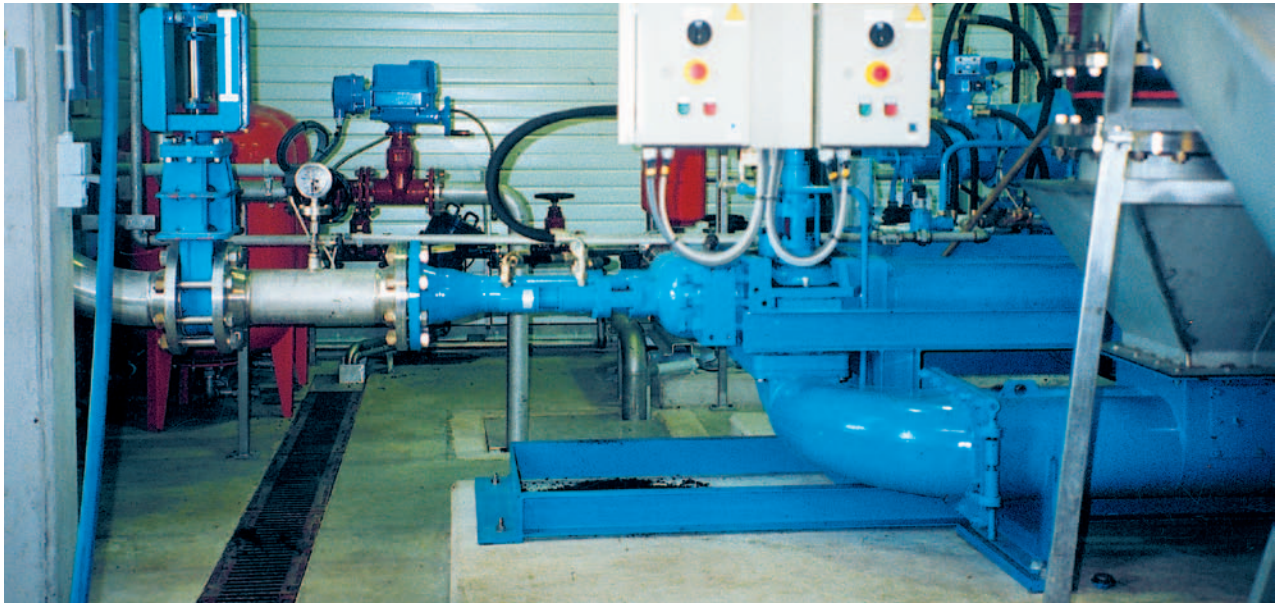
Even paste-like sludges can be pumped with ABEL solids handling pumps



2 ABEL Solids Handling Pumps for backfilling of mine tailings mixed with cement

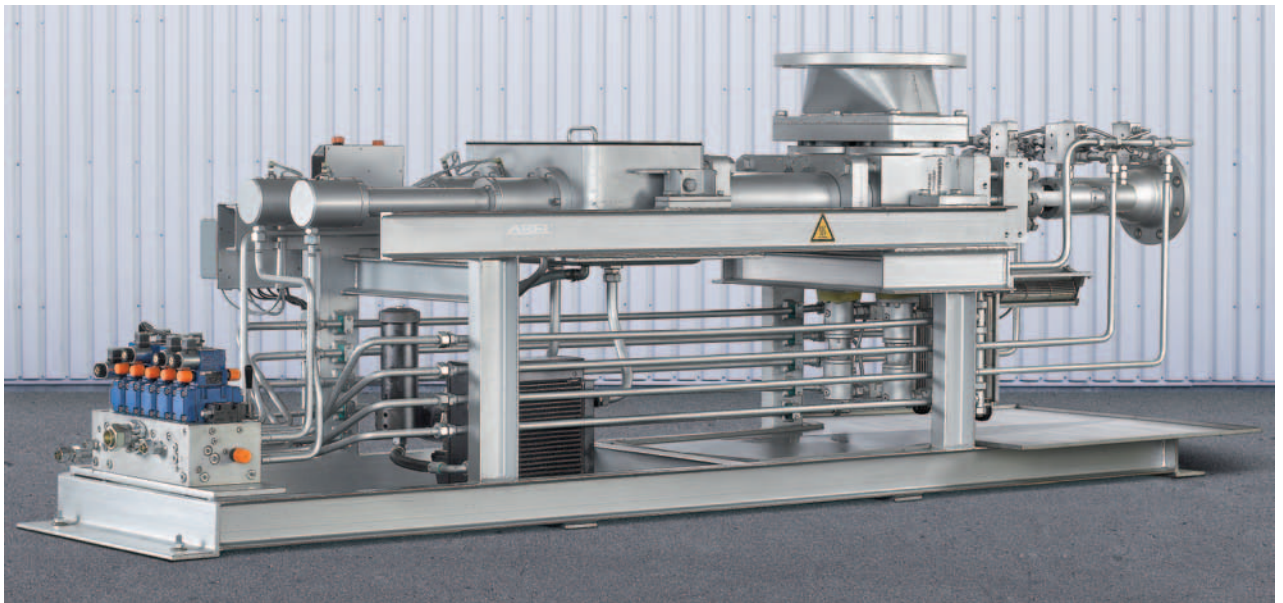


For solids concentration up to 35 %

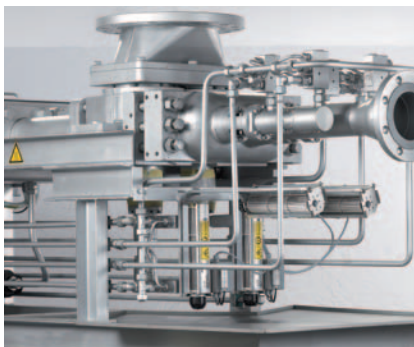


Typical application of an ABEL SH pump: Transfer of dewatered sewage sludge, here on a waste water treatment plant in Belgium

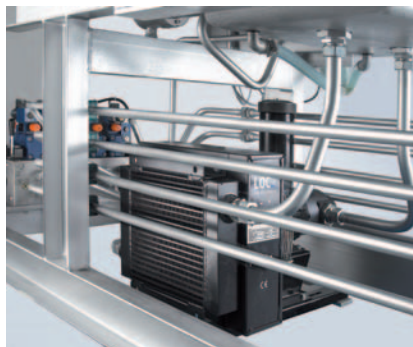
## ABEL SH for Temperatures up to 200 °C (400 °F)



High temperature design of an ABEL SH as reactor feed pump for highly heated biomass



Individually actuated, separately cooled cone valves



Additional air cooler for the hydraulic buffer fluid



Tangential blowers to cool valve cylinders



Diaphragm Pumps  
Solids Handling Pumps  
High Pressure Pumps  
Marine Pumps

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