Gavo
Cake pumps for sludge treatment and high viscosity products
Advantages

A full range of cake pumps for the recovery of dewatered sludge and high viscosity products

- Transports sludge with minimum odour
- Allows for mixing in lime treatment applications
- Suitable for all sludge dewatering equipment
- Economical compared to other means of transfer such as:
  - belt conveyor
  - screw conveyor
- Evolutionary depending on the installation service conditions
- An economical alternative to piston pumps for high discharge pressure

Moineau technology

- Respects the product
- Constant, non-pulsating flow (important for feeding drying units, for example)
- Easy maintenance

Characteristics

- Maximum flow rate: up to 32 m³/h (50 m³/h for GCA)
- Maximum pressure: 12 bar – 18 bar – 24 bar
- Maximum temperature in continuous operation: 80 °C
- Standard hopper width: 275 mm
- Standard hopper length for dewatering equipment: 500, 1000 and 1500 mm for basic models
- Adaptation of a transfer system increasing lengths to 2000, 2500 and 3000 mm

Sludge treatment in environmental applications

Other applications for pasty, hard-to-pump products in all industrial sectors.

GTA

- specifically for thickened sludge
- belt thickener or drum recovery
- low dryness content and variable viscosity

GCA

- centrifuge thickening
- non-sticky, pasty products
- low dryness content and low viscosity
**Product range and applications**

**GVA**
- non-sticky, pasty products
- high dryness content
- high viscosity

**GBB**
- sticky, pasty products
- products with high dryness content and high viscosity
- lime treatment possible using a built-in, high-performance bridge-breaker mixer
Applications

- specifically for thickened sludge
- belt thickener or drum recovery
- low dryness content
- variable viscosity

Design – Small Hopper

The small hopper is specifically designed for compact installations

The drain plug on the hopper allows the pump to be drained completely

The special feed screw of the ‘paddle’ type makes filling easier by allowing the product to homogenize, and facilitates discharge

The simplified barrel helps a more or less viscous liquid to flow

25GTA12 fitted with a built-in frequency variation device

Recovery of thickened sludge using a belt thickener
Advantages
- compact solution for easier integration
- low investment costs
- lower operating and maintenance costs
- simpler feed screw to prevent deposit forming in the pump
- optimal motorisation for better yield depending on the application

Design – Large Hopper

The large hopper features a high-volume plug for more flexible operation.

The drain plug on the barrel allows the pump to be drained completely.

The barrel helps a more or less viscous liquid to flow.

The special feed screw of the ‘paddle’ type makes filling easier by allowing the product to homogenize, and facilitates discharge.

Maximum characteristics
- flow rate up to 30 m³ per hour
- pressure up to 12 bar
- hopper up to 1500 mm

Recommended accessories and options
- grease-sealing
- dry running protection
- safety-pressure switch
Applications

- centrifuge thickening
- dewatering using belt filter, centrifuge and other equipment
- transfer of non-sticky, pasty products with no danger of bridging
- pumping of dewatered sludge with low or high dryness content and variable viscosity

Design - Small Hopper

The shape of the hopper allows better feeding of the feed screw by limiting bridging risks.

The conical, high-yield hydraulic barrel guarantees better feeding by promoting the flow of pasty products towards the cavity.

The reversible feed screw guarantees perfect filling of the barrel.

The base built into the pump structure is designed to facilitate the attachment of the pump onto its foundations.

Reduced articulation congestion facilitates product discharge. All models are protected by a metal casing, specifically designed to work with abrasive products.

The standard drain plug makes maintenance easier and provides greater operating flexibility for pump drainage.

The discharge pipe includes a tube lubrication device for better management of discharge pressure during pumping of difficult products.

1 detail of transfer zone on a 2000 mm GVA
2 GCA with centrifuge outlet
Advantages

- improved fluid circulation owing to the shape of the hopper
- optimal discharge for the application and the site’s service conditions
- evolutionary depending on the site’s service conditions

- large hopper pump
  - up to 25% shorter than a conventional solution
  - simpler maintenance, faster and easier operation
  - lower-cost spare parts

Design - Large Hopper

The conveyor screw in the transfer zone allows sludge to be moved towards the pumping zone.

The linking hopper guarantees the continuity of the transfer zone in a uniform assembly that can adapt to all dewatering machinery for lengths of 2000 to 3000 mm.

The feed zone ensures the filling of the barrel.

The base allows the entire pump to be attached and form a single piece of equipment.

Maximum characteristics

- flow rate up to 50 or 30 m³ per hour
- pressure up to 24 bar
- hopper up to 3000 mm

Recommended accessories and options

- grease-sealing
- dry running protection
- safety-pressure switch
- flow rate managed by level control
- polymer lubrication

- recovery of sludge with silo outlet
- recovery of sludge for furnace feeding
Applications
- transfer of sticky, pasty products that tend to bridge
- pumping of products with high dryness content and high viscosity
- specifically designed for lime treatment applications

Design - Small Hopper

- The **hopper** containing the bridge-breaker provides better feeding of the feed screw by removing the risk of plugging.
- The standard **drain plug** makes maintenance easier and provides greater operating flexibility for pump drainage.
- The reinforced **sealing** of the bridge-breaker allows batch operating.
- The hinge-mounted half-frames make the bridge-breaker more effective for mixing.
- The **reversable feed screw** guarantees perfect filling of the barrel.
- Reduced **articulation** congestion facilitates product discharge. All models are protected by a metal casing, specifically designed to work with abrasive products.
- The conical high-yield hydraulic **barrel** provides better feeding by promoting the flow of pasty products towards the cavity.
- The **base** built into the pump structure is designed to facilitate the attachment of the pump onto its foundations.
- The **discharge pipe** includes a tube lubrication device. This system offers better management of discharge pressure with return pumping, and guarantees optimal working with sticky and plugging sludge.

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1. Feeding of a GBB with silo outlet
2. Transfer of sludge with 2 centrifuges for lime treatment applications
**Advantages**

- Half-frame bridge-breaker specifically for mixing
- High-yield barrel
- Control of sludge level under the bridge-breaker
- Optimal discharge for different applications and the site's service conditions
- Evolutionary depending on the site's service conditions
- Large hopper pump
  - Up to 25% shorter than a conventional solution
  - Simpler maintenance, faster and easier operation
  - Far less strain on mechanical parts
  - Lower-cost spare parts

**Design - Large Hopper**

- The conveyor screw in the transfer zone allows sludge to be moved to the pumping zone.
- The linking hopper guarantees the continuity of the transfer zone in a uniform assembly that can adjust to all dewatering machinery for lengths of 2000 to 3000 mm.
- The feed zone ensures the filling of the barrel.
- The base allows the entire assembly to be attached and form a single piece of equipment.

**Maximum characteristics**

- Flow rate up to 32 m³ per hour
- Pressure up to 24 bar
- Hopper up to 1500 mm

**Recommended accessories and options**

- Grease-sealing
- Dry running protection
- Safety-pressure switch
- Flow rate managed by level control
- Polymer lubrication

**Design - Large Hopper**

- Recovery of sticky sludge with belt filter and lubrication
- Centrifuge recovery of sludge
Polymer lubrication

Advantages
- injection in the form of a lubricating film guaranteeing better yield
- less strain on wearing parts
- reduced operating costs
- evolutionary equipment which can be built into all Gavo pumps

Applications
- transfer over long distances
- reduction of discharge pressure

PCM Offer
- all equipment for operation is provided
- installation safety gear included
- choice of injection pumps adapted to the configuration of the client’s process

Polymer lubrication

OPTIMISATION DEPENDING ON CLIENT’S PROCESS

- reduction of discharge pressure
- lubrication incorporated in Gavo pumps
- optimises operation of Gavo pumps
- compatible with level control

All ranges have been developed by optimizing all the LCC (Life Cycle Costs) components.
**Level management**

- **Advantages**
  - control of sludge level under the bridge-breaker
  - optimal functioning of Gavo
  - secured installation
  - more homogenous mix of sludge and lime
  - no overflow problems

- **Applications**
  - variable flow rate functioning
  - flow rate controlled by a process function
  - built in high and low safety devices
  - automatic control of lime injection

- **PCM Offer**
  - equipment built into client’s control panel
  - control box installed locally
  - turnkey control panel and installation
  - measuring device adapted to equipment’s configuration
  - adaptation of receptor for difficult environments
  - mounted receptor allows better integration
  - compatible with lime treatment applications
  - locally installed or distant control box

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4 level control built into a control box
5 level control in lime treatment applications