ECOMOINEAU™ MSH - MVA - MVA FF

MAKING SOLIDS FLOW

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PCM | keep it moving

Moineau™ technology

Based upon the progressive cavity pump technology, the EcoMoineau™ MVA series features an enlarged rectangular inlet coupled with a feeding screw enabling the manual or gravity feeding of the most viscous or non-flowing fluids into the pumping element.
The EcoMoineau™ MVA series offers therefore all the advantages of the Moineau™ principle:

- Product integrity
- Constant and pulsation-free flow rate
- Flow directly proportional to the speed
- Easy maintenance
- Valve-less operations

Advantages of PCM Hopper Pumps range

- Stators available for corrosive or abrasive fluids
- Spare parts inventory common to all EcoMoineau™ range
- Easy and quick maintenance: the rotor/drive train has a connecting rod with only 3 screws
- Z dimension reduced to the feeding barrel dimensions which slides to enable maintenance (MVA/MVA-FF only)
- Standardized flushing/Injection port on the feeding barrel (MVA/MVA-FF only)

Performances

- Flow-rate: from 0.003 to 300 m3/h
- Pressure: 24 bars
- Viscosities: up to 1,000,000
- Max. solids content: 40%

MAKING SOLIDS FLOW

PCM Hopper Pumps Range is designed to bring simplicity for transferring and/or dosing the many complex fluids found in a wide range of industrial applications. **High viscosity, pasty, sticky, high dry matter content, non-flowing fluids with big chunks or that have a tendency to bridge** are found across many industries and often entail challenging conditions.

With a simple yet rugged design, PCM Hopper Pumps series allow you to combine constant productivity and cost-effectiveness even with the most complex fluids.

Expertise in elastomers

Elastomer is a very unique material that plays a critical role in the operational efficiency of positive displacement pumps.

To ensure that our pumps always feature the highest quality, most compatible elastomers, we manufacture our own. Over 80 years of experience developing, mixing and producing our own elastomers have given us an unparalleled expertise in this domain. We have a unique database of elastomer formulas and fluid compatibilities.

PCM HOPPER PUMPS RANGE

3 Series to address the diversity of applications requiring hopper pumps :

EcoMoineau™ MSH

For non-sticky fluids with high viscosity or low capacity to flow and requiring manual feeding or gravity fed pumps

EcoMoineau™ MVA

For sticky fluids with high viscosity or low capacity to flow and requiring manual feeding or gravity fed pumps

EcoMoineau™ MVA FF

For fluids with high viscosity, high dry-matter, sticky with a low capacity to flow or that tend to bridge and requiring manual feeding or gravity fed pumps.

Industrial markets

- Pulp & Paper: Starches, glues, kaolin slurry, soapstock
- Minerals and construction: Cement milk, clay sludge, gypsum slurries, shotcrete, mortars, bentonite slurries, magnesium uranate, explosive preparations
- Mechanics: Grease, lubricant wastes, putties
- Chemicals: Viscose, pigments, precipitated silica production, styrene resin, paints
- New energies: Bio-mass application, bagasse, crop residues, liquid manure, cassava pulps
- Food wastes

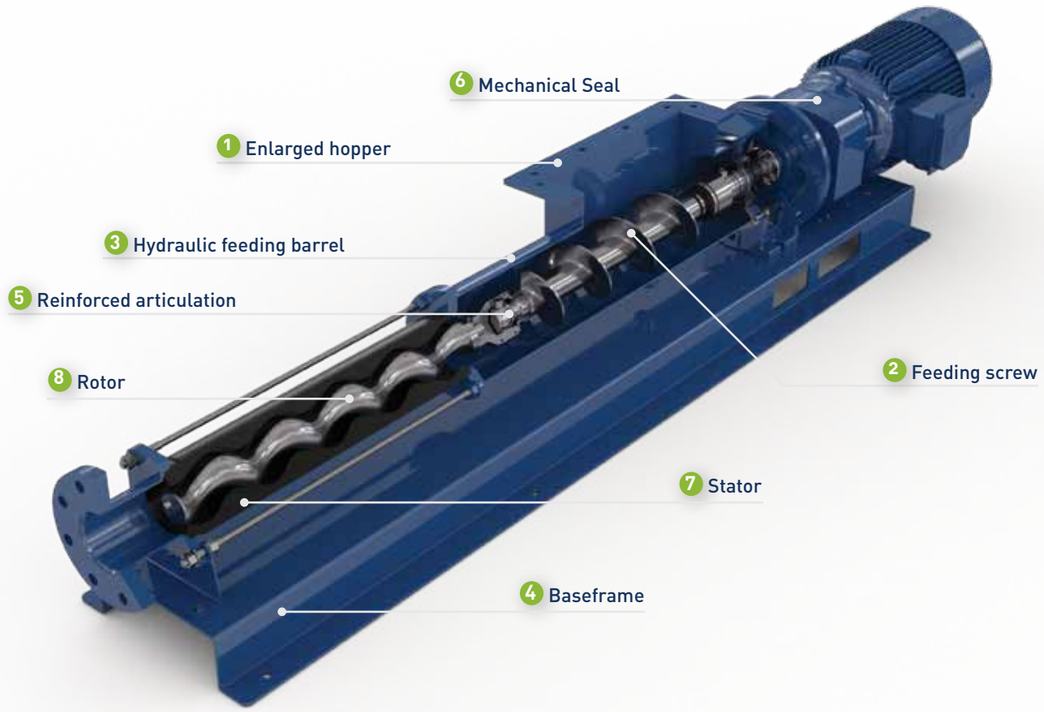
Waste Water Treatment market

- Centrifuged & dehydrated sludge from urban and industrial origin
- Dewatered sludge recovery further to mechanical dehydration (belt-press, screw-press, centrifuge, filter-press)

ECOMOINEAU™ MSH SERIES

Non-sticky fluids with high viscosity or low capacity to flow and requiring manual feeding or gravity fed pumps

Pump construction



Close auger

Specially designed for non-sticky viscous products, it offers a very high conveying performance thanks to the optimised surface of its coils. The auger with closed coils guarantees optimal feeding of sludge and other products that have no risk of compacting.

1 Enlarged hopper :
• Manual loading, gravity fed pump

2 Feeding screw
• With screw profile for non-sticky and high viscosity or high dry matter content fluids

3 Conical high yield hydraulic feeding barrel

4 Baseframe

5 Reinforced articulation
• Metal casing adapted to abrasive fluids

6 Sealing by Simple Mechanical Seal

7 Stator
• Available in Nitrile, Neoprene, Polyisoprene, Viton, EPDM

8 Rotor
• Available in chrome plated AISI 420

9 Body
• Cast iron or stainless steel upon models

10 Screws
• Stainless steel screws in contact with the fluids

Renforced articulation systems

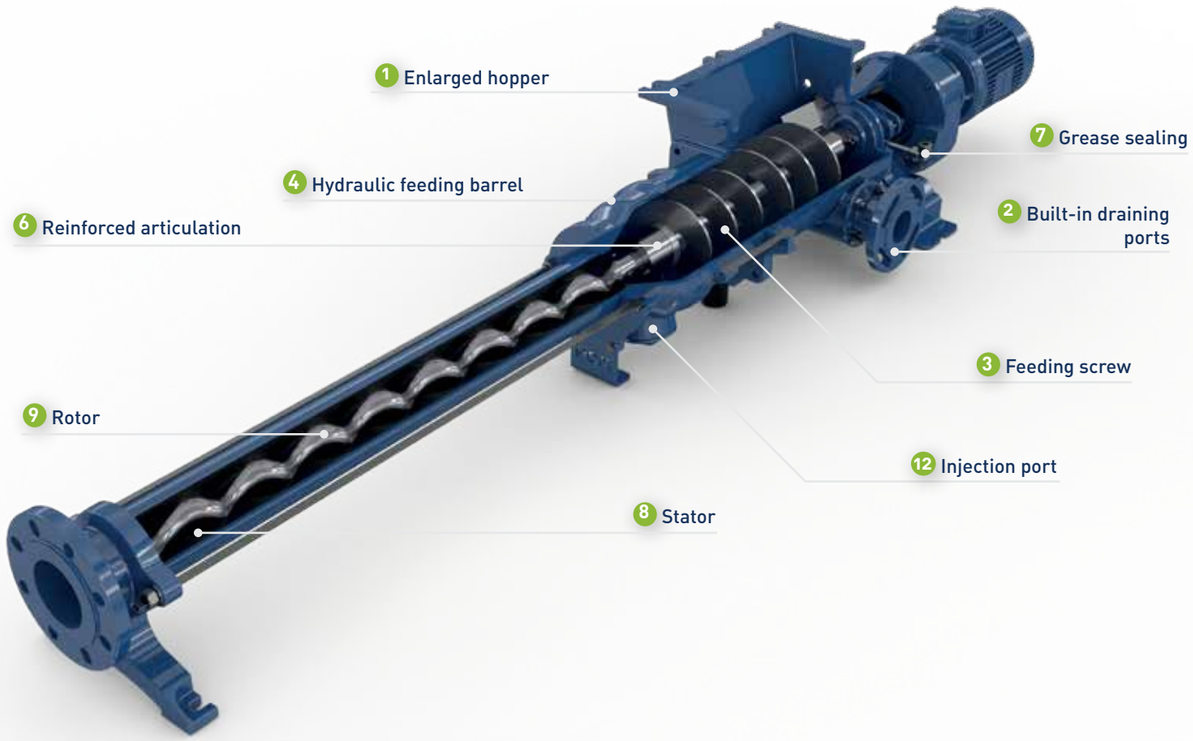
Compact and robust articulation of smaller capacity models

Joint with rotor grip system with the patented EcoMoineauTM type 3-screws for large capacity models

ECOMOINEAU™ MVA SERIES

Fluids with high viscosity or low capacity to flow and requiring manual feeding or gravity fed

Pump construction



1 Enlarged hopper : 275 mm x 400 mm
- Manual loading, gravity fed pump

2 Built-in draining ports
- On both sides allowing complete draining, preventing corrosion from residual fluid

3 Feeding screw
- With open screw profile for high viscosity or high dry matter content fluids

4 Conical high yield hydraulic feeding barrel

5 No heavy baseframe
- Foot included in discharge pipe
- Facilitating pump anchoring

6 Reinforced articulation
- Metal casing adapted to abrasive fluids

7 Grease sealing
- Cost-effective and user-friendly automatic lubrication dispensing self-contained lubricant at the desired rate regardless of the residual level

8 Stator
- Available in Nitrile, Neoprene, Polyisoprene, Viton, EPDM

9 Rotor
- Available in AISI 420, chrome plated AISI 420, Tempered steel, Duplex 329LN

10 Body
- Cast iron

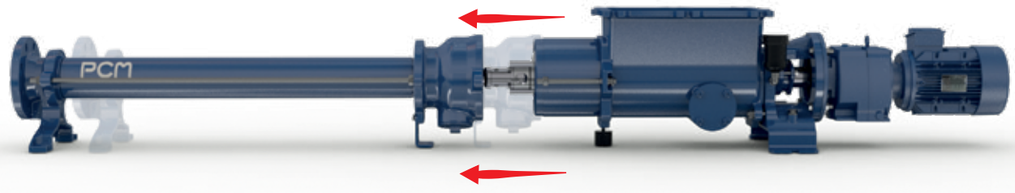
11 Screws
- Stainless steel screws in contact with the fluids

12 Injection port

Open auger

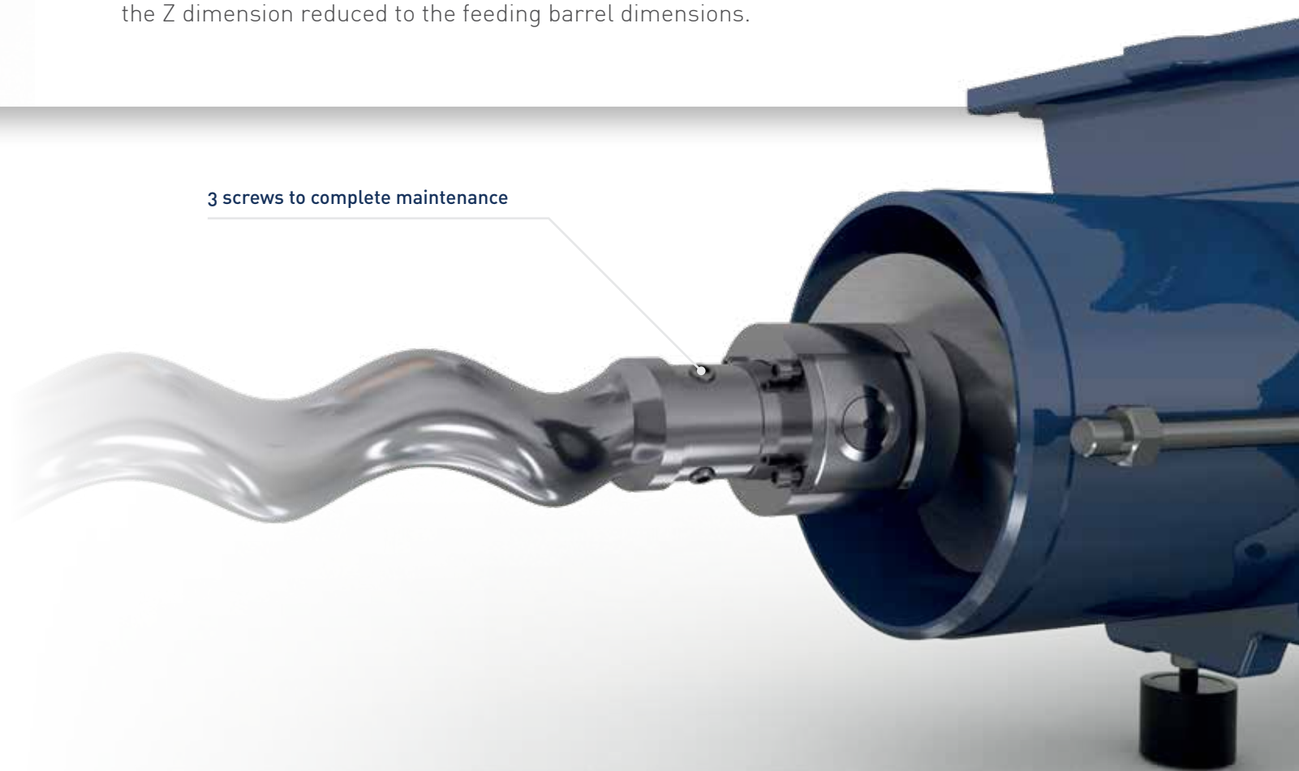
Perfectly responding to the constraints of the transfer of sticky products, it allows the flow of fluid between its core and its openable coils, thus avoiding any risk of compaction. The open-coil auger is the best solution to the potential overflow of hoppers.

Reduced maintenance time



Z dimension

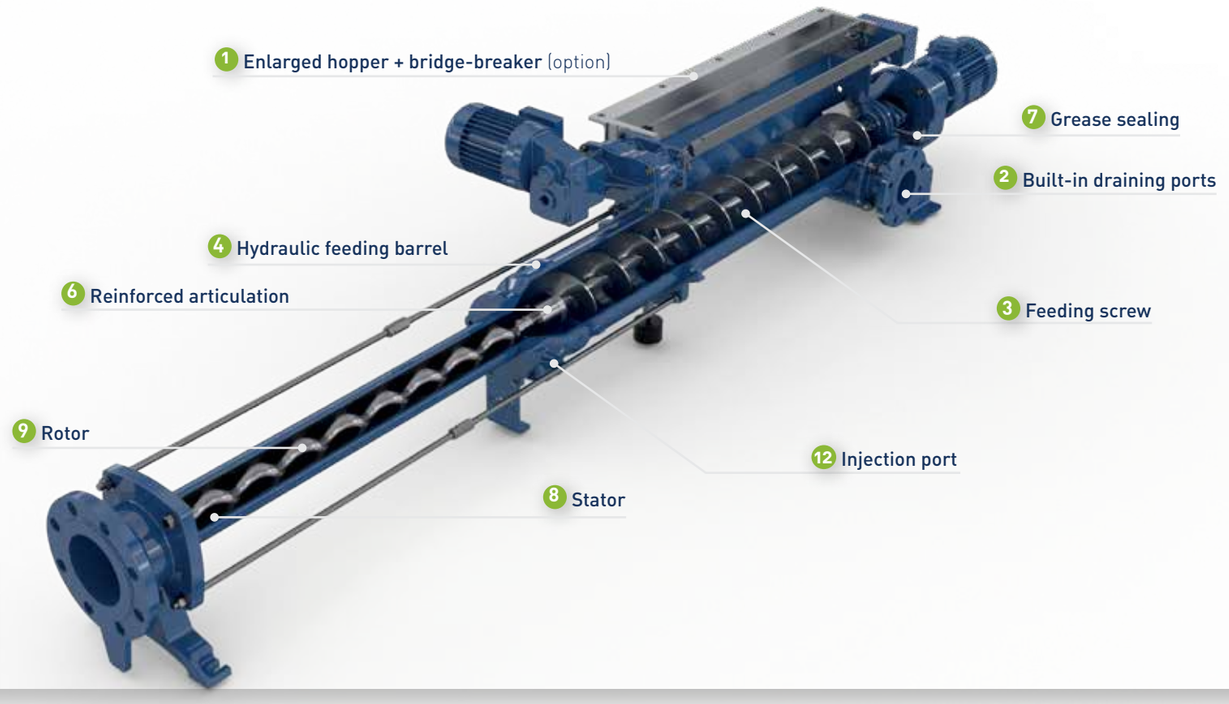
The EcoMoineau™ MVA Series features a sliding feeding barrel to facilitate maintenance. With only 15 cms of clearance, the easy access to the 3 screws provide fast and easy maintenance times with the Z dimension reduced to the feeding barrel dimensions.



ECOMOINEAU™ MVA FF SERIES

Fluids with high viscosity, high dry-matter, sticky with a low capacity to flow or that tend to bridge and requiring manual feeding or gravity fed pumps.

Pump construction



1 Enlarged hopper: 275 mm x 1000 mm
- Manual loading, gravity fed pump

2 Built-in draining ports
- DN150 allowing complete draining, preventing corrosion from residual fluid

3 Feeding screw
- With open screw profile for sticky, pasty and fluids that tend to bridge

4 Conical high yield hydraulic feeding barrel

5 No heavy baseframe
- Foot included in discharge pipe
- Facilitating pump anchoring

6 Reinforced articulation
- Metal casing adapted to abrasive fluids

7 Grease sealing
- Cost-effective and user-friendly automatic lubrication dispensing self-contained lubricant at the desired rate regardless of the residual level

8 Stators
- Available in Nitrile, Neoprene, Polyisoprene, Viton, EPDM

9 Rotors
- Available in AISI 420, chrome plated AISI 420, Tempered steel, Duplex 329LN

10 Body
- Cast iron

11 Screws
- Stainless steel screws in contact with the fluids

12 Injection port

13 Add-on options
- Bridge breaker
- Polymer lubrication
- Flow management: level control module controlling the pump speed and preventing overflow

Polymer lubrication & level management

Polymer lubrication as an add-on option is highly recommended when transferring over long distances. The injection of a lubricating layer on the discharge pipe internal diameter guarantees better yield and reduced operating costs.
- Reduction of discharge pressure
- Reduces strain on wearing parts

Flow Management: level control module controlling the pump speed and preventing overflow
- adaptable to equipment configurations
- variable flow-rates functioning
- suitable for difficult environments
- compatible with lime treatment configuration

Level control module

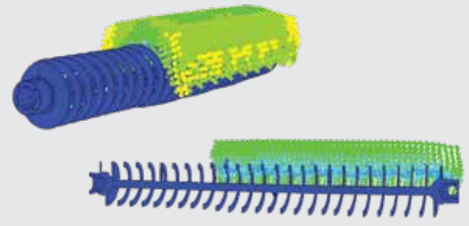
Control hopper for optimized process

The control hopper adapts to up-stream process, from manual feeding batch or gravity-fed when placed underneath dehydrating equipment.

Made to measure, the control hopper:
- includes the sludge loading zone,
- has one or several visit holes to ease inspection,
- facilitates the incorporation of accessories such as level sensors,
- accomodates lime injection and relevant air-vent port.

Finite element analysis brings reliability

High pressure and abrasion from high dry content fluids coupled with gravity feeding may entail difficult conditions. The observations of the constraints through FEA are keys to identify the most reliable designs and materials of construction required for complex fluids and conditions. Operating conditions are simulated and underline the constraints on the pump elements, enabling sound technical choices.



FEA stressing the effect of dewatered sludge falling on the pump feeding screw after being centrifuged in waste water treatment applications.

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