

INDUSTRY



**PCM MINING
SOLUTIONS**

www.pcm.eu

PCM

keep it moving



ROCK-SOLID RELIABILITY AT THE HIGHEST EFFICIENCY

PCM is a leading manufacturer of positive displacement pumping technologies. With our unmatched focus in problem solving the most complex fluid handling challenges in the mining industry, we have become the dependable, everyday partner to mine site operators across the globe. Our comprehensive product lines and services provide the necessary tools to address the day-to-day needs for a seamless operation.

PCM has nearly a century of fluid handling expertise across all industries. This wealth of knowledge enables us to leverage best practices in industries where downtime is not an option. In mining our technical prowess ensures you have a fit for purpose solution for the most demanding applications and a cost-effective answer for your typical fluid transfer needs. **PCM's constant desire to push the pumping envelope and technical know-how stems from our early days.** The company was founded in 1932 by Rene Moineau, **the inventor of the progressive cavity pumping technology** and his relentless push for innovation continues to be our north star.

MINING OVERVIEW



- 1 : Open pit and underground dewatering
- 2 : Paste blackfill production
- 3 : Polymer preparation
- 4 : Filter press feed
- 5 : Grout and Concrete
- 6 : Explosive preparation
- 7 : Explosive delivery
- 8 : Sludge removal
- 9 : Gas drainage

1 Open pit and underground dewatering

One of the primary challenges faced by all mine sites, whether open pit or underground, is water infiltration from rainwater, underground aquifers, and process water used in mining operations such as drilling. This nuisance water accumulates in sumps located throughout the mine and is directed to the main dewatering pump station for removal from the site.

While dewatering operations do not contribute to the final mine product, they are crucial for sustaining overall mining operations. Any interruptions in dewatering can lead to costly disruptions and potentially shut down the entire operation.

Key challenges in mine dewatering applications:

- Fluctuating water infiltration levels influenced by weather and seasonal changes.
- Presence of abrasive solids in the water.
- Increasing vertical discharge head requirements as mining progresses.

PCM Moineau™ pumps are ideal for mine dewatering due to their **ability to adjust its capacity via operating speed** that offers flexibility to manage varying water infiltration rates at the mine site. They maintain consistent discharge pressure regardless of flow rate and are design to handle abrasive solids up to 40mm / 1.5 inches which minimize downtime and operational disruptions. Their high discharge head capability simplifies dewatering operations by reducing the need for multiple pump stages, thus lowering power consumption.



2 Paste backfill production

Paste backfill production is essential for mine operators, serving not only to fill voids or cavities created by underground mining but also as a sustainable method to manage hazardous tailings. Tailings, typically dewatered to 40% moisture content, are combined with hydraulic binders such as cement. This mixture forms paste backfill, which is pumped underground to fill voids and enhance the structural integrity of mining operations. Recovering water during tailings dehydration is crucial for maximizing water usage efficiency, especially in arid climates.

PCM Moineau™ pumps play a critical role in **handling challenging slurries**, particularly in the thickening and dewatering stages of paste backfill production. These pumps are specifically designed to manage tough-to-handle materials efficiently.

3 Polymer preparation

Polymers such as flocculants or coagulants are crucial in separating tailings during the dewatering stage. These polymers may be used in neat form or diluted, and their viscosity can vary. They are typically shear-sensitive and must be dosed in precise amounts.

PCM Moineau™ pumps improve polymer dosing applications due to:

- Operating at low speeds with a clear path flow preserves the integrity of the polymers.
- Constant, non-pulsating flow regardless of pressure variations, eliminates the need for back pressure valves or pulsation dampeners.
- Flow rate is directly proportional to pump speed, enabling precise control over the dosing rate.



4 Filter press feed

The filter press stands as the **preferred technology for dehydrating or dewatering tailings** due to its unmatched single machine capacity. It produces tailings cakes with the lowest moisture content compared to centrifuges, belt presses, and disc filters. This superiority stems from its ability to exert higher pressure, crucial for forming compacted cakes by pumping feed slurry under pressure.

During a typical filter press feeding cycle, the process begins with **high-flow, low-pressure filling followed by low-flow**, increasing pressure stages facilitated by cake formation in the chambers. A filter press typically passes a sludge containing 10% dry matter to a cake (pressed wet powder) containing approximately 50% dry matter.

PCM Moineau™ pumps excel in feeding filter presses for several reasons:

- Gentle conveying and low shear action ensure superior filtrate quality.
- Capable of maintaining constant pressure, optimizing cake consolidation.
- Adjusts pump speed to regulate flow rate based on feeding pressure variations.
- Requires no seal water and is designed to handle abrasive solids effectively.



5 Grout and Concrete

- **Efficient paste backfill handling:** PCM Delasco™ pumps are used to transfer highly abrasive paste backfill into underground stopes. This paste can also be applied as shotcrete to stabilize mine walls.
- **Heavy-duty design:** known for their robust construction, PCM pumps provide reliability and simplicity in operation.
- **Precise metering accuracy:** these pumps ensure consistent dosing of hardeners or admixtures, which is crucial for the effective application of sprayed concrete systems.
- **High-pressure capability:** PCM pumps can efficiently convey paste over long distances, thanks to their ability to operate at high pressures while maintaining low speeds to minimize wear.
- **Versatility in power sources:** the pumps' ability to be powered by either electric or hydraulic motors makes them adaptable to various power requirements at different mine sites.

In essence, PCM pumps offer a reliable, accurate, and versatile solution for handling and applying paste backfill in mining operations, ensuring the stability and safety of mine structures. They are particularly valued for their heavy-duty design and precision in challenging mining environments.



6 Explosive preparation

In hard rock mining, the process begins with drilling and blasting a series of blastholes with explosives to fragment the ore body for hauling and processing. **Modern day explosives are ammonium nitrate** based and due to its stability, it can be safely mixed with precursors just prior to being delivered into blastholes to become sensitized explosive product.



Ammonium Nitrate Emulsion (ANE) production:

- **PCM Moineau™** pumps are chosen for their gentle handling of the shear-sensitive and viscous ANE fluid, ensuring minimal damage to the product.
- They efficiently transfer the ANE to storage tanks, which are then used in mobile mixing units.

7 Explosive delivery

Mobile mixing units:

- These are specialized trucks that safely store and transport ANE, fuel, and dry Ammonium Nitrate prills in separate compartments.
- They allow for on-site mixing and delivery of the explosive directly into blastholes, which is crucial for mining operations.

Underground bulk delivery system:

- A similar system is used in underground mines, where a delivery system on a handloader places the explosive into the mine face blastholes.
- **PCM Moineau™ pumps** are essential here as well, capable of moving solid particles up to 1.5 inches (40mm) through long hoses without breaking them down.
- They also provide high discharge pressure to move the mixture through the hoses, overcoming any pressure loss due to the hose length.

During the production and delivery of ANE, **PCM Moineau™ pumps** offer efficient, safe and reliable handling of explosive materials which is vital for both surface and underground mining operations.

8 Sludge removal

- **Handling tough sludge:** the sludge produced from drilling and mining can be difficult to transport due to its abrasive nature, containing materials like sand and stones.
- **Designed for the challenge: PCM Moineau™ pumps** are specifically designed to handle these challenging fluids. They come equipped with:
 - An enlarged rectangular inlet and feeding screw, making it possible to handle highly viscous, abrasive, and non-flowing fluids.
 - A non-pulsating flow, which ensures a smooth and continuous transfer of sludge.
 - High-pressure capabilities, allowing the pumps to efficiently move sludge with high solids content over long distances without the need for additional equipment or multiple pumps working together.



9 Gas drainage

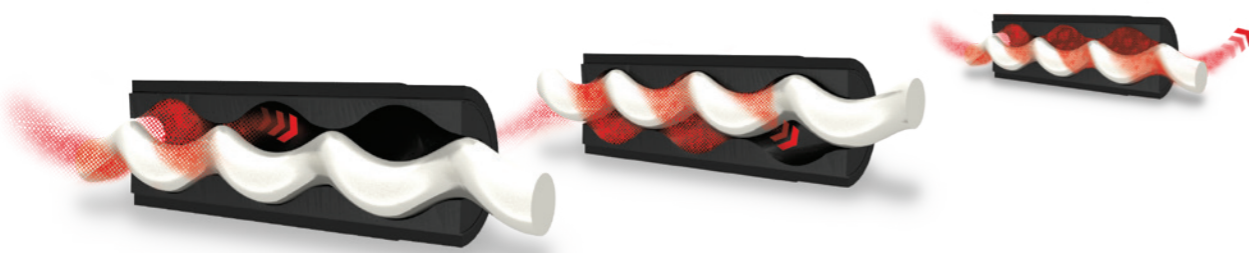
- **Safe mining operations:** gas drainage ensures the safe extraction of coal by removing hazardous gases from the mines, allowing coal activities to resume without risk.
- **Efficient gas extraction:** by drilling wells into the coal seam and using a downhole pump to remove water, the gas is released and can be brought to the surface. This gas is then utilized for energy or safely disposed of through flaring.
- **Handling of fine particles:** the presence of fine coal particles in water can challenge artificial lift systems. Progressive cavity pumps (PCPs) are effective for this task, especially when equipped with the right elastomer to withstand corrosive conditions and low lubrication.
- **High flow rate management:** during the early stages of production, high flow rates are common. PCM's multiphase technology allows PCPs to handle these conditions efficiently, enhancing the overall dewatering process.



PCM TECHNOLOGIES FOR YOUR BUSINESS

› PRINCIPLE OF MOINEAU™ TECHNOLOGY

A Moineau™ pump consists of a helical rotor turning into a helical stator. When the rotor turns inside the stator, the honeycomb progresses spirally along the axis of the pump without changing either shape or volume. This action transfers the product from the pump suction to the pump discharge without degrading the product. This basic principle of Moineau™ pumps allows a high accuracy of flow and pressure, making these pumps extremely efficient for transferring and dosing the most complex fluids.



PCM Moineau™ pumps are configurable to perfectly fit to the multiple applications proposed by their users. From the choice of the elastomers of their stator, to the coating of their rotor, through the choice of the types of dynamic seals of their drive, but also many other options, each PCM Moineau™ pump is modular and thus meets all constraints.

BENEFITS

- Preserves the texture of fragile fluids (no shearing compared with lobe or centrifugal technologies)
- Handles fluids with solids
- High suction capability
- Self-priming
- Constant non-pulsating flow
- Reversible flow
- One of the highest pumping efficiencies

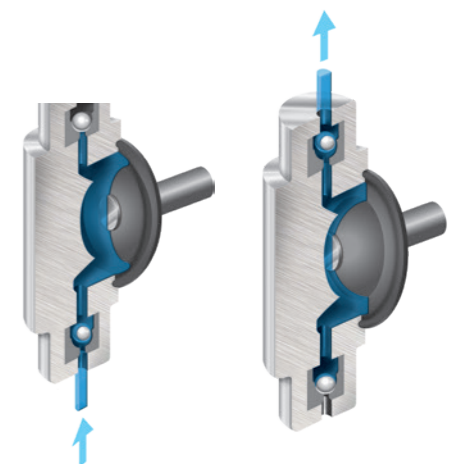
› PRINCIPLE OF THE PERISTALTIC PCM DELASCO™ TECHNOLOGY

The peristaltic pumping principle is based on the capacity of a soft elastomer hose to accept a deformation and subsequently recover its initial shape. Peristaltic pumps are provided with either high- or low-pressure hoses, covering a wide range of applications which need versatility and flexibility. Thanks to its all-elastomers construction, this technology is perfect for the dosing of reagent and chemicals that are not compatible with metallic parts. Moreover, the peristaltic pumps are seal-less constructed, are able to dry run and are quiet (very low shear of the pumping action).



› PRINCIPLE OF THE METERING PUMP LAGOA

The PCM Lagoa pump is composed of a diaphragm connected to a piston of which the alternating movement successively fills and empties the pump head. This pump is most used in the dosing of chemically aggressive reagent, thanks to its stainless steel or plastic mono-material construction, with a PTFE membrane. Dosing accuracy and repeatability are guaranteed.



PCM MINING SOLUTIONS



PCM ECOMOINEAU™ MX : HIGH PRESSURE PUMP FOR MEDIUM VISCOUS FLUIDS WITH AN UTMOST FOCUS ON UPTIME

The easy-to-use pump specially designed to adapt to your mining process processes:

- Withstands pressures of up to 696 psi.
- High-performance, with flow rates of up to 2200 US GPM.
- Transfers products with low viscosity and low dry matter content.
- Robust, highly resistant to abrasion.
- Easy transfer of particle-laden fluids.
- Maintenance-in-place system enables stator and rotor to be replaced without moving the pump from its installation.
- Patented 3-screw connection system facilitates rapid seal replacement.

Compared to other pump technologies the **PCM EcoMoineau™ MX** is better suited to transferring abrasive or particle-laden products. They therefore require very little maintenance on mining applications, which greatly reduces their cost of ownership.

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 500 m³/h / 2200 US GPM • Pressure : up to 48 bars / 696 PSI • Viscosity : up to 20 000 cPo • Size of admissible particles : 40mm / 1.57 inch 	<ul style="list-style-type: none"> • Monobloc mounting • PCM chloropren elastomer stator • AISI 420 chromium-plated stainless-steel rotor 100μ or 400μ • Lubricated gland or lubricated mechanical seal (depending on concentration ratio) • Cast iron body

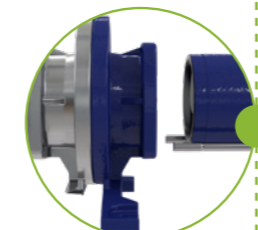
MAINTENANCE IN PLACE SYSTEM

The new maintenance system in place as standard on the entire **PCM EcoMoineau™ MX** range allows the stator and/or rotor to be replaced in just 5 steps and without having to remove the pump from its installation. Maintenance time is considerably reduced, which in turn reduces downtime and life-cycle costs.



STEP 1 :

Unscrew the two screws on the MIP ring to remove it. Then unscrew the tie rods on the suction pipe and remove the top two.



STEP 2 :

Unscrew the suction flange. Shift it towards the pipe to hold and support it.



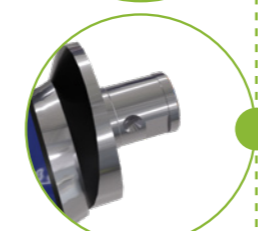
STEP 3 :

Remove the inspection hatches from the body. Then unscrew the 3 screws on the shaft line to release the rotor head.



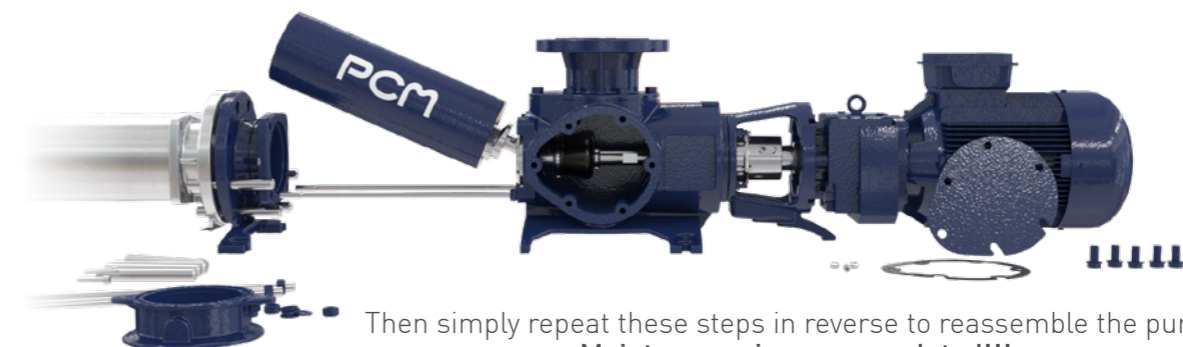
STEP 4 :

The rotor/stator assembly is now free. The space left by the MIP ring makes it easy to remove them.



STEP 5 :

The rotor head has two flats. These allow the rotor to be removed from the stator using a simple spanner.

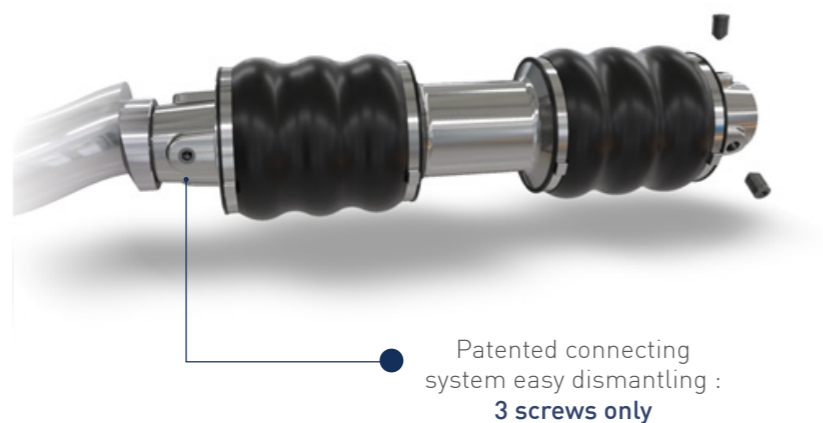


Then simply repeat these steps in reverse to reassemble the pump.
Maintenance is now completed!!!

PCM MOINEAU™ A: THE VERTICAL HIGH PRESSURE PROGRESSIVE CAVITY PUMP

The **A Series pump** is the culmination of PCM's expertise of nearly a century's worth of solutions into the harshest environments combined with the most demanding applications into one single package.

Its modular design allows for horizontal or vertical installation which provides flexibility for projects with limited footprint, such as sumps, mine shafts or narrow platforms.



PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate: up to 446m³/hr / 1,964 USGPM • Pressure: up to 132 bar / 1,900 PSI • Viscosity: up to 10 000 cPs • Size of admissible solids: 48mm / 1.88 inch 	<ul style="list-style-type: none"> • Material: Carbon, Stainless, Duplex or Super Duplex Steel • Constant Thickness (CT) stators for compact footprint • EN10204 3.1 & NACE MR0175 / MR0103 Material • Certification & Traceability



PCM MOINEAU™ LX: DESIGN TO TRANSFER FLUIDS WITH HIGH SOLIDS CONTENT

The **EcoMoineau™ LX pump** is designed for the most sensitive fluids without compromising on versatility.

On the upstream side of the mining industry it excels in handling explosive emulsions. Downstream it finds its niche in lithium transfer and dosing in the battery manufacturing process.

Its revolutionary design combines the performances and exceptional reliability of progressive cavity pump technology. In addition, it requires less space for installation, reducing costs and making it easier to integrate into your system.

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 500 m³/h / 2200 US GPM • Pressure : up to 48 bars / 696 PSI • Viscosity : up to 20 000 cPo • Size of admissible particles : 40mm / 1.57 inch 	<ul style="list-style-type: none"> • 316L stainless steel body • EPDM, NBR, NBR EU-FDA, FKM, NR, IR stator • Clamp, SMS, DIN 11851, MACON, Bride ISO PN40 CLASS 150 connections • Flexible shaftline



PCM ECOMOINEAU™ C : THE VERSATILE, CORROSION-RESISTANT TRANSFER PUMP

With its robust design, the **PCM EcoMoineau™ C** pump uses materials capable of withstanding all the challenges imposed by corrosive transfer applications. In addition, it uses the variety of hydraulics developed by PCM allowing the pump's service life to be optimised according to the pumped product.

The **PCM EcoMoineau™ C** progressive cavity pump offers a lighter design, requiring fewer raw materials, while consuming less energy than other pump technologies.

- Stainless steel pump casing and flanges to resist corrosion.
- Durable and robust E-CTFE-coated shaft line design: increased service life for corrosive and abrasive applications.
- Patented 3 screw connection system for quick and easy maintenance of wear parts.
- Wide choice of stator and rotor materials and a large range of flanges to suit all environments.
- Reduced energy consumption compared with other pump technologies.
- Suitable for abrasive fluids with particles thanks to **Moineau™ technology**.



PCM DELASCO™ DX : HIGH PRESSURE AND ROBUST PERISTALTIC PUMP FOR VARIOUS MINING APPLICATIONS

Thanks to their different constructions and the variety of their elastomer hoses, **Delasco™ PCM peristaltic pumps** can cover multiple applications requiring versatility and flexibility.

Simple to use and maintain, they offer an efficient solution for transferring fragile, abrasive and corrosive products.

PCM Delasco™ DX pumps construction enable a low life-cycle cost:

- Only the hose is in contact with the product.
- Low operating speed reduces hose wear- Low power requirements, reducing energy costs.
- Seal-less design, no costly sealing to replace and eliminate the need for seal-water flushing.

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 500 m³/h / 2200 US GPM • Pressure : up to 48 bars / 696 PSI • Viscosity : up to 20 000 cPo • Size of admissible particles : 40mm / 1.57 inch 	<ul style="list-style-type: none"> • 316L stainless steel body • EPDM, NBR, NBR EU-FDA, FKM, NR, IR stator • Clamp, SMS, DIN 11851, MACON, Bride ISO • PN40 CLASS 150 connections • E-CTFE coated shaftline

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 100 m³/h / 440 US GPM • Pressure : up to 15 bars / 72 PSI • Maximum temperature : 80°C / 176°F • Particle : up to 40mm / 1.29 inch 	<ul style="list-style-type: none"> • Cast iron body • NR, EPDM or NBR hose • Stainless steel or polypropylene connections • Hose compression thanks to skates



PCM ECOMOINEAU™ MF : DOSING FLOATING STATOR PUMP

PCM EcoMoineau™ progressive cavity pumps with floating stator are ideally suited to space-constrained environments.

When operated with a variable frequency drive they can often be used as a metering pump, outperforming conventional metering pumps for viscous, charged or abrasive liquids. Their compact, robust design makes them an ideal choice for integration into machines or systems.

With its simple design, this range combines several advantages:

- Small footprint, with the rotor directly connected to the drive unit.
- Simple, robust construction in stainless steel or cast iron to suit all types of application.
- Ideal for dosing fragile and viscous fluids.
- Very low maintenance costs (few wearing parts).
- Easy to fit into small spaces or existing installations.
- Can be mounted on a trolley for versatile use.

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 15 - 6500 l/h / 3.9 – 1717 GPH • Pressure : up to 5 bar / 72 Psi (10 bar / 145 Psi – 4M12F) • Maximal temperature : 80°C / 176°F • Particles size : up to 8 mm / 0.31 inch 	<ul style="list-style-type: none"> • Cast iron body • 316 L stainless steel or chromed 100µ rotor • NBR, CR or FKM PCM stator



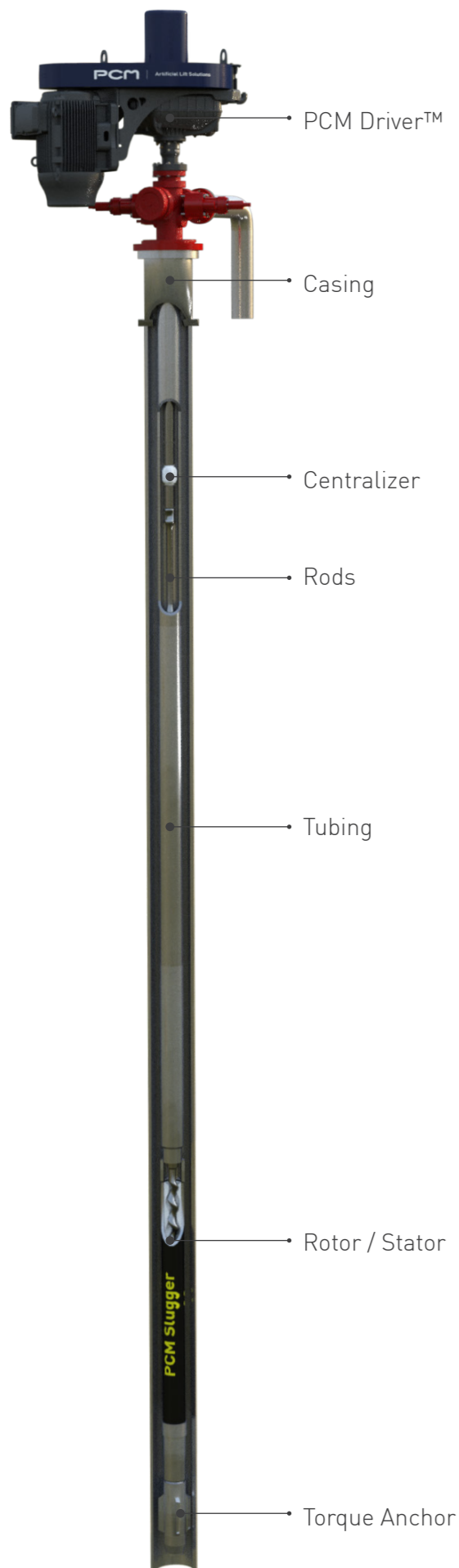
PCM MSH : HOPPER PUMP FOR VISCOUS AND DRYNESS ABRASIVE FLUID

The **PCM MSH hopper pump range** is typically reserved for the most challenging applications with the trickiest of fluids. The fluid characteristics often are highly viscous, pasty, sticky, containing solids and rich in dry matter challenging pumping conditions. These applications require **PCM MSH** pumps uniquely designed to cope with these difficult conditions.

Its stainless steel or carbon steel design also enables it to resist chemical attack by certain products.

- Closed Archimedes screw for non-sticky viscous products.
- Open Archimedes screw to transfer products with a risk of compaction.
- Its robust design combine with PCM elastomer meets the challenges of the mining industry regarding abrasives fluids.

PERFORMANCE	CONSTRUCTION
<ul style="list-style-type: none"> • Flowrate : up to 70 m3/h / 308 US GPM • Pressure : up to 24 bar / 348 Psi • Maximal temperature : 110°C/230°F • Particle size : up to 40 mm / 1.57 inch • Maximum dryness : 18% • Viscosity : up to 40 000 cPo 	<ul style="list-style-type: none"> • Stainless steel or carbon steel body • Open or closed Archimedes screw • EPDM, NBR, FKM, NR, IR product



MINE DEWATERING WITH DOWNHOLE PROGRESSING CAVITY PUMPS

ROD DRIVEN PCP

Any system starts with the pump design. **PCM technical specialists** will size the right PCP hydraulics to optimize overall completion cost and run life performance.

PCM can deliver the complete package, including engineering analyse, procurement (including the pumps with accessories, rods, tubing and surface equipment) commissioning and local technical support.

PCM has a wide range of downhole pumps capable of high flow rates (up to 50 m³/h) that can be used to rapidly dewater mining operations.

PCM has a wide range of surface drive system. Indeed **PCM Driver™** driveheads can match all of your electric or hydraulic surface gear.

The **PCM Slugger** pump is a patented and proven technology and an easy PCP upgrade providing extra-assurance and increased pump run life when gas needs to be removed while dewatering.

PERFORMANCE

- **Flowrate** : up to 50 m³/h / 220 US GPM
- **Pressure** : up to 300 bars / 4350 PSI
- **Viscosity** : up to 500 000 cPo
- **Size of admissible particles** : up to 30 mm / 1.18 inch

COMPLETION

- PCM CD Series Drivehead with PCM EcoSeal environmental seal
- Robust Rod driven PCP design
- PCM 159 NBR or PCM 205 Soft NBR elastomer stator
- Chrome-plated stainless-steel rotor 250μ
- PCM Slugger technology available for gas drainage

ELECTRICAL SUMBERSIBLE PCP (ESPCP)

PCM ESPCP is a rod free system that utilize leading-edge Permanent Magnet Motor (PMM) technology to provide high torque at low speed without the use of gear reducer. PCM can offer complete package including tubing and all necessary ESPCP accessories.

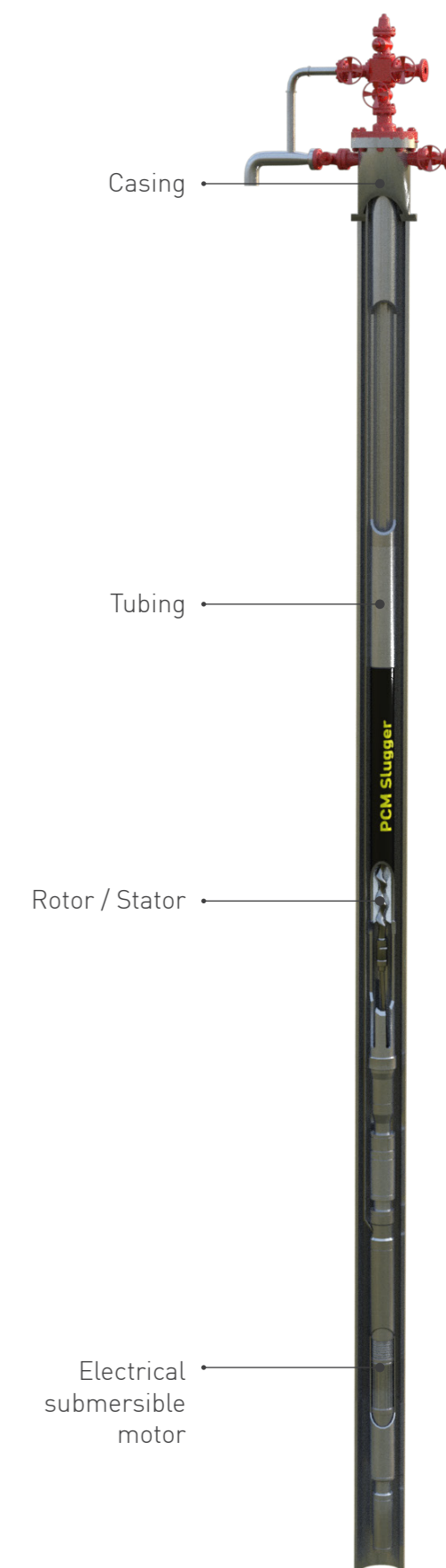
Ideal for challenging applications requiring highly corrosion resistant materials, **PCM ESPCP** can be configured for such applications without rod and dynamic sealing at the surface.

PERFORMANCE

- **Flowrate** : up to 50 m³/h / 220 US GPM
- **Pressure** : up to 200 bars / 2900 PSI
- **Viscosity** : up to 500 000 cPo
- **Size of admissible particles** : up to 30 mm / 1.18 inch

COMPLETION

- Surface equipment includes step-up transformer and VSD
- Electrical submersible cable
- Electrical Submersible Permanent Magnet Motor
- PCM 159 NBR or PCM 205 soft NBR elastomer stator (depending on fluid composition)
- Chrome-plated stainless-steel rotor 250μ
- PCM Slugger technology available for gas drainage application
- High alloy steel wetted parts design available for in-situ mineralization applications to withstand acids



PCM ELASTOMERS EXPERTISE

René Moineau™ invented the progressing cavity pumps in 1932. **For over 90 years**, PCM has been dedicated to continuous research, development, and testing of new elastomer blends tailored to meet the diverse requirements of various industries. Throughout this time, **PCM has accumulated extensive knowledge and expertise**, investing in essential equipment and resources to enhance our ability to select, develop, and produce optimal elastomers for our customers' specific applications.

Elastomer selection demands specialized knowledge and experience, qualities that few companies possess worldwide. PCM stands out as the only progressing cavity pump **manufacturer managing its own elastomer production**. Leveraging our expertise, laboratory facilities, and dedicated production unit, we can meticulously develop and customize each elastomer blend to align with the unique characteristics of every type of fluid.

PCM's customers encounter a wide array of fluids requiring careful consideration and solutions to ensure that the elastomers used in **PCM equipment deliver optimal functional characteristics**. These include:

- Mechanical resistance to abrasion,
- Chemical resistance to the pumped fluid,
- Desired color,
- Regulations compliance and rules,
- Optimized lifetime,
- Product integrity (structure, turbidity...),
- Resistance to cleaning procedures.



ELASTOMERS TESTING

From laboratory testing equipment to large mixers, injection presses and vulcanization ovens, PCM has all the necessary equipment and knowledge within its premises to assure **perfect control of its elastomer selection and manufacturing**.

- Mechanical tests (static, dynamic, compression, bonding),
- Tribology (abrasion, friction),
- Chemical tests (swelling tests, volume and hardness variation, thermal analysis, infra-red spectroscopy).



MAIN ELASTOMERS USED IN INDUSTRY APPLICATIONS

NBR	PCM 164	NITRILE Good general resistance in many applications especially with oil, grease products and resists abrasion. PCM NBR 164 has a good mechanical property.
	PCM 209	Certified EU, FDA US & 3A, PCM NBR 209 is a versatile elastomer, that can be used in a lot of different food applications.
	PCM 246	White elastomer, which has good mechanical properties. Mainly use in food application to transfer oil and fat product, due to his EU certification.
	PCM 159	NITRILE - "4-WHEEL DRIVE" Most versatile with its high ACN content, providing top performance across many applications.
	PCM 194 PCM 205	SOFT NITRILE High resistance to abrasion and top performer for handling solids with varying water cuts.
HNBR	PCM 198	HYDROGENATED NITRILE For higher temperature (150°C/300°F) applications and H2S&CO2 resistance.
	PCM 206	Extends the limits of 159.
EPDM	PCM 185	TERPOLYMER ETHYLENE PROPYLENE DIENE Used mainly for his resistance to acids and alcohols. Meet with chemical challenge.
FKM	PCM 186	FLUOROCARBON Excellent chemical resistance. Top-of-the-range elastomer capable of withstanding extreme conditions.
	PCM 189	Use to transfer chemical product in food application. PCM FKM 189 is certified FDA US & 3A.
	PCM 204	Best performer for higher aromatics, and a good choice when nitriles are no longer effective.
CR	PCM 174	POLYCHLOROPREN Mainly used for pumped fluids with particles. Has a good property to fight against abrasion and has good general properties to withstand chemical products.
IR, NR	PCM 156 PCM 201	NATURAL RUBBER Very good mechanical properties and resists abrasion.

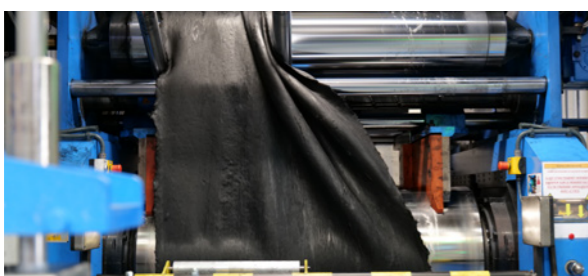
PCM ELASTOMER MANUFACTURING PROCESS



Numerical simulation: fine-tune our injection parameters to ensure the efficiency of production and guarantee the good properties of our parts



Chemical formulation: define each ingredient and its quantity to achieve the desired characteristics



Elastomer mixing: thanks to our mixer, we mix all our blends in our plant. This ensures the quality and performance of our elastomers.



Injection, moulding : Elastomer is then injected and moulded in metal frame to produce the stator.



Control : Then all stators are controlled to guarantee their performance. The tightening is very important and must be precise to have the right flowrate. Other parameters controlled are the dimensions, gluing, thickening ...



Failure analysis : Thanks to our expertise and knowledge we are able to analyze the different stators failures to bring personalized solutions to fix it.

PCM SERVICES

At PCM, we offer a comprehensive range of services to analyze, start up, perform maintenance, and upgrade your pumps and equipment, ensuring optimal performance and reliability.

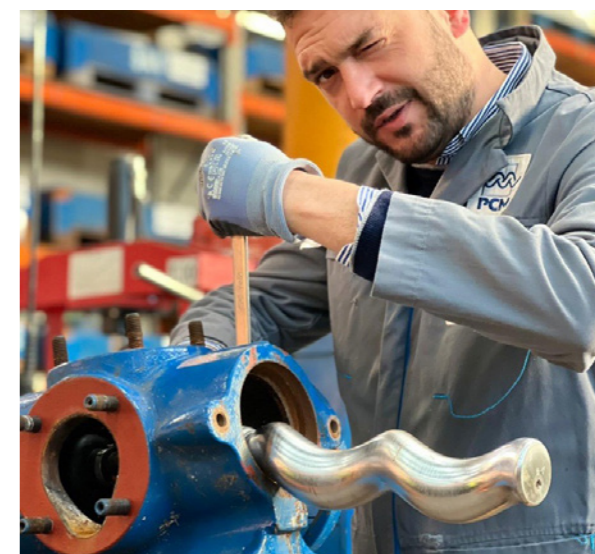
Our team of experts is dedicated to ensuring that your pumps operate at peak efficiency, delivering the best possible outcomes for your applications. By leveraging our deep industry knowledge and cutting-edge technologies, we are able to provide tailored solutions that address the unique challenges and requirements of your pumping solutions.

Our expertise spans from initial installation and auditing to ongoing maintenance and technical support, catering to all your needs to keep your systems running efficiently and effectively.

› AFTER SALES

Maintaining your equipment is paramount for safety. Our Field Service engineers are here to support you with frequent inspections, create a service plan and carry out regular servicing of your pumps such as replacing stators/hoses, rotor within the pumps and all seals and rings.

PCM has a dedicated after sales support team for all maintenance steps. This can include yearly service agreements to maintain and extend the life of the pumps. We can also renew third party equipment where we can offer on-site refurbishments to ensure safe operation of existing pumps and minimizing downtime at site.



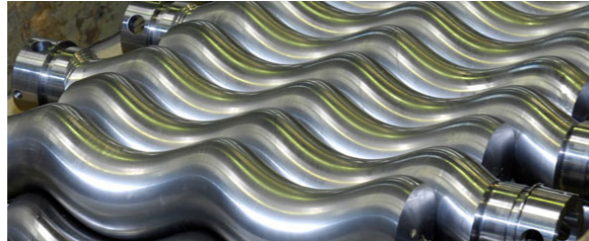
› MAINTENANCE

Maintenance is key to extending the life of your pumps and equipment. At PCM, we offer tailored maintenance solutions, including training, corrective maintenance, and preventive maintenance, to meet your specific requirements. Our goal is to help you maximize uptime and minimize the risk of unexpected failures.



› ROTOR AND MECHANICAL SEAL RENEWAL

Committed to reducing material waste, we also offer the possibility to renew rotors and mechanical seal. PCM can rechrome rotors to give them a second life. Similarly, we can reshape the faces of the mechanical seals so they can be reused on pumps.



› RENTAL

For those in need of temporary solutions, we provide pumps and equipment rental. We understand the importance of keeping a plant operating whilst conducting regular service or refurbishment of existing critical equipment. We can rent pumps to keep your plant operating, which also allows engineers to conduct their work in a safe way, if the pump can be taken completely offline.



› INSTALLATION AUDIT

Our installation audit service is designed to enhance the performance of your PCM pumps and equipment. Through detailed evaluations, we identify areas for improvement and provide actionable recommendations to optimize equipment operation and reduce maintenance costs. Our audits help you achieve higher efficiency and reliability in your installations, ensuring that your systems are always performing at their best.



› TRAINING & DIGITAL SUPPORT

Our experienced staff can provide on-site training for new or existing pumps to maintenance engineers or operators. This can help increase site safety, hazard awareness, and improve asset management. We can provide tailored training on operation, servicing, or hazard identification.

For easy access to information on installation and maintenance, our HELLO PCM digital application provides a fast and convenient way to access data and resources related to your pumps and equipment. This application ensures that you have all the information you need at your fingertips, helping you manage your systems more efficiently.



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