

MINING AND MINERALS

› ROCK SOLID RELIABILITY

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BRINGING FLAWLESS SOLUTIONS TO TOUGH ENVIRONMENTS

The harsh working environments and tough pumping conditions typical **of quarrying, mining, ceramic, or construction** can quickly generate unscheduled downtimes and costly repairs.

PCM range of positive displacement pumps offers the best-suited technologies to meet your demand for **constant productivity while keeping costs under control**.

PCM commitment to customers' business success lies in **high quality innovative products** as well as **worldwide support and spare parts availability**.

► PUMPS: A TRADITION OF RELIABILITY

For the past 80 years, PCM has been providing advanced pump technologies to a wide range of demanding industries. Our unmatched expertise is rooted in our DNA: PCM was founded by René Moineau, the inventor of the progressing cavity pump. Today, we are one of the world's leading manufacturers of positive displacement pumps and fluid-handling equipment.



► PROGRESSING CAVITY PUMPS: UNBEATABLE COMPETITIVENESS

Ideal for transferring or dosing fragile, abrasive and viscous fluids, PCM new Eco-designed progressing cavity pumps EcoMoineau™ offer unmatched Life Cycle Costs: lower energy consumption, enhanced maintenance features and reduced footprint now add up to the long-proven reliability of PCM Moineau pumps.



► PERISTALTIC PUMPS: EASIEST MAINTENANCE

With no seals and with only one wearing and wetted part -the hose- PCM peristaltic range is ideal for medium flow, medium pressure pumping of high solid content, corrosive and/or fragile fluids. The simple yet robust constructions coupled with dry-running ability keep your maintenance downtimes and costs to a minimum.



► TURNKEY SYSTEMS: SIMPLIFYING PROCESS ENGINEERING

PCM turnkey solutions are an economical alternative to time-consuming on-site system installation. Plug and Play deployment eliminates the need to manage multiple suppliers and there are no hidden engineering costs. By installing standardised systems across your operations, you capitalize on constant productivity, reduce maintenance time and spare parts costs while maximising operators' safety.



FROTHY SLURRIES, ABRASIVE TAILINGS AND SHEAR SENSITIVE POLYMERS ARE BEST HANDLED WITH PCM PUMPS

Centrifugal pumps with inevitable high speeds are detrimental to fragile polymers, demand enormous horsepower as well as costly external flush plans and fail rapidly when moving the abrasive fluids traditionally found in mining processes.

PCM pumps guarantee a **constant flow regardless of back pressure, viscosity or solids content variations**. Operate the pump on any point of its performance curve by simply adjusting the speed **without ever compromising on volumetric efficiency!**



PAX and flocculants - DL45 pumps (Gold mining)

FROTH FLOTATION AND LEACHING: Chemical Compatibility and Metering Accuracy

Optimum metal recovery relies on the accurate metering of handpicked collectors, frothers, depressants and modifiers. With a flow rate directly proportional to speed and a wide range of compatible elastomers PCM pumps are corrosion resistant and provide a cost-effective metering solution to maintain the flotation rates.



Mineral Pulp - 24015 pumps delivering 130m³/h each (Nickel mining)

THICKENER UNDERFLOW AND TAILINGS: Pulse free and High Performance pumps

Abrasive mining slurries require heavy duty pumps capable of handling high flow rates and discharge pressures. PCM pumps non-pulsating flow rate and high pressure transfer abilities enable the transfer of the high solids content slurries without installing ancillary equipment or several pumps in parallel.



Ammonium Nitrate Explosive Mixture, 100,000cP 60IVA10 pump

ROCK BLASTING: Just in time Explosive preparations

PCM progressing cavity pumps fit easily onto trucks or mobile units enabling just in time preparation of explosive mixtures. The auger feed design can handle high viscosity fluids (up to 1,000,000cP) and the rugged construction enables on site off-load of the viscous paste into the drilled holes.



Diluted Flocculants 2515 pumps for 2 to 6m³/h (Nickel mining)

DEWATERING AND FLOCCULATION: Low shear and unbeatable Life Cycle Costs

Shear sensitive flocculants demand pumping systems with a low shear action. The clear flow path and low-operating speeds of PCM pumps preserve the flocculants properties for the utmost dewatering efficiency. With limited wetted parts and no valves to clog, PCM pumps provide high flow rates with a reduced footprint and low energy costs.



ONLY 3 SCREWS to complete maintenance

PCM PROGRESSING CAVITY PUMPS BENEFITS

- Flow rates up to 500 m³/h
- Pressure up to 45 bar up to 260 bar on request
- Non-pulsating flow
- Reversible for back-flushing
- Self-priming
- High suction lift
- Low operating speed
- Small footprint
- High viscosity (<1,000,000cP)



Guar solutions Verticalised I series (Copper mining)



Kerosene - I series (Copper mining)



Sodium Cyanide solution - I series (Gold mining)

PCM PUMPS ARE THE LOGICAL CHOICE TO COMBINE PROCESS RELIABILITY WITH COST-EFFICIENCY IN ABRASIVE AND HIGH SOLIDS CONTENT APPLICATIONS



Quarries sludge 100I10

QUARRIES: Robustness and low Life Cycle Costs

The treatment of minerals and sands require pumps with long service life and minimum maintenance. PCM pumps have a rugged design well suited for the abrasive and high solids content fluids and provide low Life Cycle Costs: with outstanding volumetric efficiency, unique maintenance features and reduced power consumption PCM pumps with Variable Speed Drives guarantee reliability and significant energy savings.



PCM has been supplying hundreds of pumps every year to major OEM in the building industry.

SPRAYED CONCRETE PREPARATION AND GROUT INJECTION: High-pressure and accuracy

PCM pumps heavy duty designs bring reliability and simplicity to the tunneling and building industries. They deliver great metering accuracy enabling the constant dosage of critical hardeners in sprayed concrete systems and offer fast maintenance operations. Progressing cavity pumps with high pressure outputs and a constant flow have also become an integral part of grout injection units.



PIPELINE MORTAR LINING: Applying a consistent thickness

PCM pumps inherent flow stability and abrasion resistance are ideal to spray a seamless layer on the pipe walls. The pumps can be trolley-mounted and the mortar mixing unit can be fixed at the pump intake. The lining thickness is monitored either by modifying the flow-rate or by adjusting the unit speed on its rails.




CERAMIC SLIP PREPARATION AND TRANSFER: Reduce downtimes and product wastes

The low operating speeds and high suction power of PCM pumps are ideal to feed the valuable and abrasive slip preparations into the molds. Carefully chosen wetted parts guarantee repeatable metering, long service life and contamination free operations. The non-pulsating flow of PCM progressive cavity pumps coupled with enhanced maintenance features offer low Life Cycle Costs and maximise uptimes.



GYPHUM SLURRIES AND PLASTERBOARD PRODUCTION: Corrosion and abrasion resistance

Gypsum slurries from plasterboard manufacturing or occurring in Flue Gas Desulphurization plants are corrosive and abrasive. PCM pumps high quality materials of construction have compatible and abrasion resistant fluid passages. Modifiers are similarly metered and added to the slurries to control the gypsum properties throughout the manufacturing process.



PCM DELASCO HOSE PUMPS BENEFITS

- No Seals
- No flush plans
- High solids content up to 70%
- Can run dry
- Only one wearing part: the hose
- Self-priming
- High suction lift
- Reversible for back-flushing
- Low operating speed



Oil and sand sludges – 100I10 series



Silicate based hardener – PCM DL18 on shotcrete unit



Clay sludges – 240ID5 pumps

MAXIMISE PRODUCTION, PROFITABILITY AND SAFETY WITH PCM PLUG AND PLAY STANDARDISED OR CUSTOM-MADE SKIDS AND SYSTEMS

› FILTER PRESS FEEDING: Improved performances and simplicity

PCM fully automated solution features:

- high pressure filling with minimal shear
- constant sludge pressure for optimum cake consolidation
- shorter press cycles
- improved filtration quality
- polymer injection proportional to sludge flow rate
- flow rates up to 175 m³/h

All operating parameters are pre-set and easily modified via Touch Screen control panel.



Filter press feeding: one high flow rate pump and one high pressure pump

› CHEMSKID: Chemical dosing skid

PCM ChemSkid is designed for the accurate dosing of aggressive fluids while providing operators' safety. The standardised compact unit enables fast integration, operating simplicity and avoid the complication of having multiple suppliers. PCM ChemSkid eradicates product and piping errors, projections as well as dripping of corrosive fluids. The pump access is secured in a shock and corrosion resistant cabinet that can be either fixed to a wall or skid-mounted.



Typical Applications: dosing soda and sulfuric acid for pH control, dosing additives in roof tiles manufacturing, dosing of glazes in the ceramic industry, dosing hydrochloric acid, ...

› LIMESKID: A complete solution for lime treatment applications

Synchronised to an external signal, the metering and injection of lime is fully monitored for the utmost process efficiency. Flushing valves are available in order to prevent deposits or clogging formations typical of lime milk applications. Available with the lime milk preparation unit including tank, mixer and accessories, PCM Lime Skid is easy to integrate and to maintain and offer a cost savings alternative to tedious on-site installations.



› CLEANSKID: High pressure cleaning and reduced water costs

PCM CleanSkid is a fully automated cleaning system for trucks and haulers. It enables high pressure cleaning while using slightly charged water from decantation ponds or rainwater. PCM CleanSkid consists of a high pressure pump, a hose reel for easy storage, a spray lance and relevant safety accessories.



PCM SERVICES

To maximise the longevity of PCM solutions and control costs over the operational life of the system, we provide a wide range of lifecycle services, including energy efficiency optimisation, installation, training, maintenance contracts, inventory management, refurbishment and system optimisation.

Testing] MAKING THE RIGHT CHOICE

To ensure the performance and lifespan of a pump or system, we provide viscosity, elastomer and abrasion testing.

Life Cycle services] EXTENDING LIFESPAN

We provide rotor and mechanical seal refurbishment to extend a pump's lifespan. We can also upgrade or recycle pumps in compliance with today's strict environmental regulations.

Installation] ENSURING TROUBLE-FREE OPERATION

Our installation services take the guesswork out of pump integration. We provide start-up assistance, system integration engineering and training for operators.

Optimisation] DELIVERING LOWEST OPERATING COSTS

Our system optimisation services, such as Life Cycle Cost (LCC) audits, seal and motor upgrades and ATEX conformity ensure your pumps provide a lifetime of efficiency.

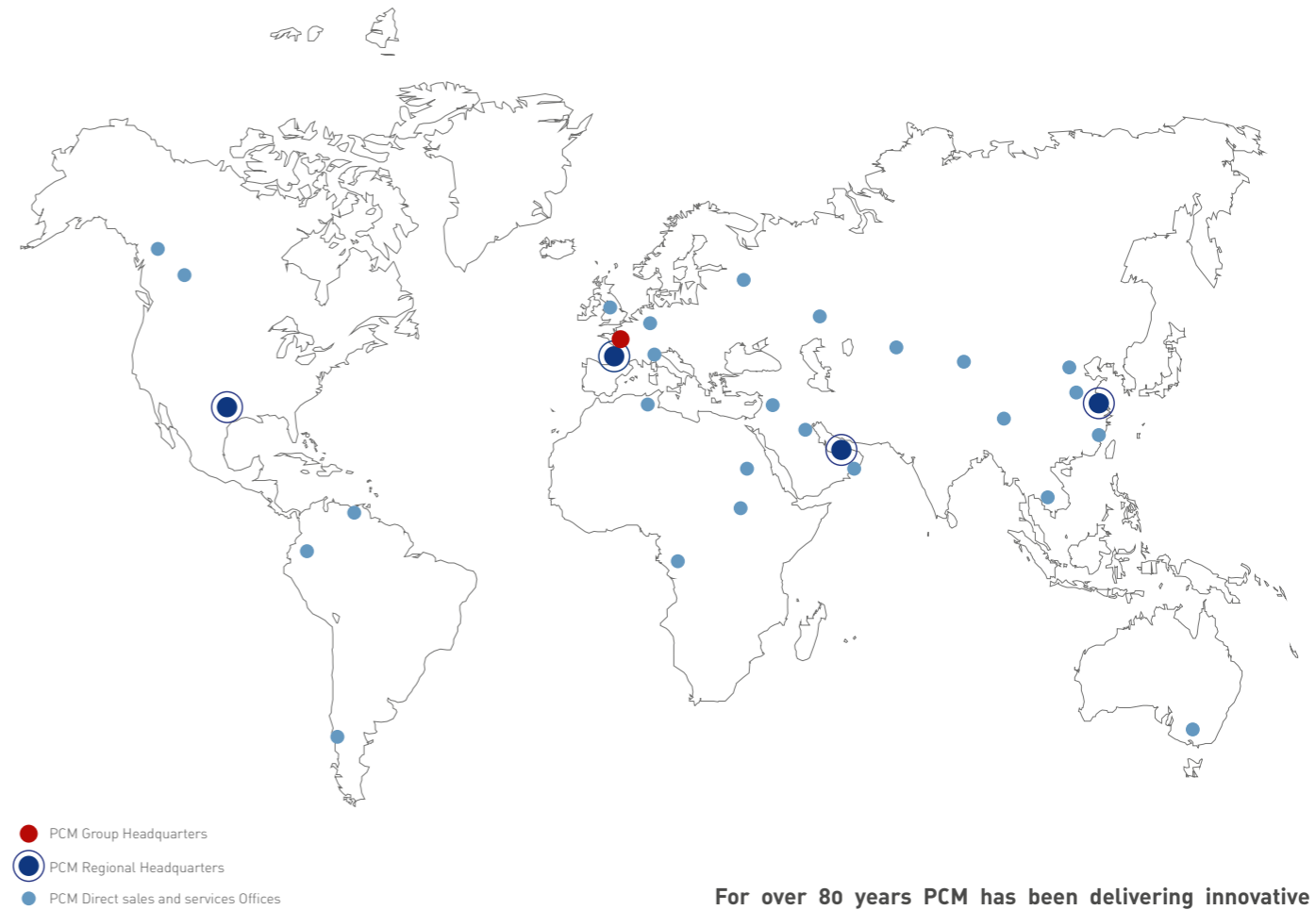
Servicing] GUARANTEEING EFFICIENCY

To ensure your pump investment meets your expectations, we provide extended warranties, field maintenance for PCM and non-PCM pumps, repair services and wear and tear analysis.

Spare parts] RAPID WORLDWIDE DISTRIBUTION

Available from our worldwide network of sales offices and distributors, PCM spare parts ensure that PCM products last as long as possible and benefit from warranty protection and EC marking.

PCM AT A GLANCE



For over 80 years PCM has been delivering innovative pump solutions to customers around the globe. Today we are one of the world's leading manufacturers of positive displacement pumps and fluid-handling equipment.

PCM serves six highly demanding industrial markets: Environment, Mechanical Engineering, Chemicals, New energies, Minerals and Paper. While all of them share similar requirements in terms of reliability, cost effectiveness and productivity, each has special needs that PCM meets with perfectly adapted pumping systems.

