



TRANSFER APPLICATIONS



Pumps to process

PCM, THE ORIGINAL INVENTOR

In 1930, the world's first Progressive Cavity Pump (PCP) was designed by René Moineau, the founder of PCM. Thus PCM has acquired a wide experience in PCP.

In order to widen its offer for abrasive, corrosive and viscous products, PCM acquired DELASCO, manufacturer of Hose Pumps, in 1973.

More than 70 years after its creation, PCM confirms its role as one of the leading specialists of positive displacement pumps worldwide.

As such PCM is involved in the following markets : food, environment, materials and chemicals industries and Oil & Gas. Each market is represented by its own specifications and requirements. Therefore our customers are advised by specialists with solid experience and know-how in the customers process.

PCM Moineau Oilfield

OIL & GAS SPECIALIST

PCM Moineau Oilfield division gathers all the know-how and skill required for any oilfield process.

Today PCM Moineau Oilfield offers the largest range of Progressing Cavity Pumps for downhole and transfer applications as well as the widest range of Hose Pumps for special fluid handling.

PCM KNOW-HOW

PCM develops and produces its own elastomers at its R&D Lab with formulation, mixing, and injection facilities. This enables PCM to provide the right elastomer for any applications. Moreover, PCM is continuously researching and developing products for tomorrow's oilfield requirements.



Elastomer press



PCM QUALITY POLICY

For many years, PCM has operated and maintained a sound quality-control policy. Our ISO 9001 standard remains a guarantee of reliability and quality.

PCM INNOVATION POLICY

In order to respond to the Oil & Gas Industry needs, PCM is constantly involved in projects to improve its technology through a steadily innovative policy in partnership with major companies in the Oil & Gas sector.

PCM SERVICE

Over 1500 m² is dedicated to spare parts stock to reduce the delivery time for pump parts. Our technical-sales staff is ready to assist you from selection process to installation.



Hose pump
Delasco DL series



Moineau I series - Horizontal with mechanical variable speed drive

PRODUCTION LINE RANGE

For applications without particular specifications, PCM designed a standard range of pumps for the Oil & Gas industry. These pumps are available in cast iron, carbon steel or stainless steel 316 L. This means of production ensures short delivery time and availability on inventory for customers.

FLOW/PRESSURE RANGE

The I series offer performances of :
Up to 500 m³/h (2,200 USgpm)
Up to 50 bar (725 psi).

CHOICE OF SUITABLE ELASTOMERS :

The stator plays a key role in the PCP operation. Therefore PCM provides suitable nitrile based rubber for hydrocarbons and Viton for hydrocarbons with aromatics. For other products, PCM offers compounds such as EPDM or chlorosulfonated polyethylene. To ensure the right tightness between rotor and stator during operation, stator selection is performed depending on the operating temperature. If required, PCM is equipped to perform swelling tests in its own lab to help select the right elastomer.

DRIVE CONFIGURATIONS

Polyvalent driving : electrical, hydraulic or gas motor can be set on the pump. The drive can be mounted above or aside the pump to suit the site configuration.

Monobloc arrangement : PCM pumps can be provided with or without bearing and coupling, the monobloc arrangement reducing the total pump length.

Flow control : Mechanical variable speed drives or frequency inverters are proposed allowing a wide range of flow rate (6 : 1) for flexible use.

WIDE CHOICE OF SEAL SYSTEMS :

- gland packing
- mechanical seals (single, double...) with or without lubricating device



Normalised single balanced mechanical seal

SAFETY OPTIONS

Dry running device : avoids stator and mechanical seal damages when a dry running occurs.

Pressure switch : shutdowns the motor in case of overpressure.

Pressure safety valve : by-passes the pump in case of overpressure.

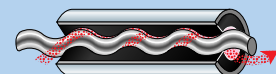
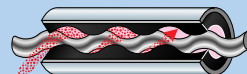
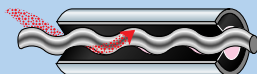


PCM formulates its own elastomers

PROGRESSING CAVITY PUMP PRINCIPLE

■ PCP TECHNICAL BENEFITS

- Low to high viscosities
- Abrasive and solid particles
- Lowest NPSH of the market
- No oil/water emulsion
- Self-priming



■ PCP COSTS BENEFITS

- Easy installation and maintenance.
- Dramatic energy savings : up to 50%
- High efficiency

ENGINEERED PUMPS

PCM MOINEAU OILFIELD EXPERIENCE

For many years PCM has been supplying PCP for OFF-SHORE facilities on various platforms and Floating Production Storage and Offloading (FPSO) boats worldwide.

As the Offshore environment faces harsh conditions, PCM offers a specially designed material, tests and documents as required by Engineering departments of our customers.

Working in partnership with our customers Engineering departments, our project team is fully committed to producing Tailor-made pumps to suit our customers process.

EXPANDING FLOW/PRESSURE POSSIBILITIES :

From its experience and expertise in oilfield and down-hole pumps, PCM has developed a range of high pressure pumps.

In addition to its I series, up to 500 m³/h (2,200 USgpm), the High Pressure Pump range allows to reach differential pressures of up to 200 bars (2,900 psi).



Offshore pumps supplied with relief valve.

HORIZONTAL OR VERTICAL PUMPS

The special design of our PCP, enables PCM to provide pumps which can be in a horizontal or in a vertical arrangement.

In addition to the horizontal arrangement features, the vertical design ensures :

- minimised foot print
- the lowest NPSH
- no accidental lock up by using a strainer

CONSTRUCTION MATERIALS

PCM expertise and know-how allows to machine pumps in stainless steels and alloys.

PCM provides pumps in carbon steel, stainless steel AISI 316 L, duplex steel or 254 SMO.



Testing of a vertical Moineau pump 150 I 20



CAD CAM station

NORMS & STANDARDS

As quality and safety are a serious concern in offshore platforms, PCM is **ISO 9001** and all the pumps engineered by PCM are in compliance with **API 676**.

Moreover, the following standard codes can be applied upon request to meet the customer's requirement :

ASME **NORSOK** **NACE** **GOST**

MAIN APPLICATIONS :

Sump caisson pumps

Drain vessel

HP or LP Flare pumps
for condensates recovery

Treated or Raw diesel
transfer

Hydrocyclone feeding

Fresh water pumps

Drilling mud pumps

Heating medium

Glycol transfer

to name a few of them...



Amenam Kpono Field, Gulf of Guinea.
40 l 10 pump skid equipped with relief valve, mechanical seal leak detector and dry running device.
PCM provides enhanced safety pumping solutions.

Laminaria field, Timor Sea
20 l 20 vertical skids
PCM provides integrated solutions.



Al Khaleej Field, Qatar sea :
DRAIN DRUM PUMP Particular specification :
Pump operates at 50 bar and can withstand a static pressure of 330 barg.
PCM provides customized pumps.

DELASCO HOSE PUMPS

Designed on a very simple and efficient principle, these pumps have been used in Oil & Gas industries for many years. They are dedicated to viscous, corrosive or very abrasive fluids. It is a complementary pump technology to PCP.

The stator, playing a key role in this pump, is also made with rubber.

PCM HOSE PUMPS FEATURES

Low Pressure series : PMA and Z series

- > up to 19.7 m³/h (87 USgpm) and 1.5 bar (22 psi)

High Pressure series : DL and DSC series

- > up to 63 m³/h (280 USGPM) and 15 bar (218 psi) Hoses are reinforced so as to withstand high pressures.

PCM ELASTOMERS KNOW-HOW

Many elastomers, selected in compliance with the pumped product are mixed and manufactured at our plant.

Neoprene, chlorosulfonated polyethylene, nitrile, EPDM or natural rubber can all be selected. PCM is fully committed to the suitable selection.

DRIVE CONFIGURATION

Polyvalent driving : Electrical or thermic motors can be set on the pump. The geared motor can be directly coupled to the pump or mounted with coupling and bearing.

Flow control : Mechanical variable speed drives or frequency inverters are proposed allowing a wide range of flow rate (6 : 1) for uses flexibility.

SAFETY OPTIONS

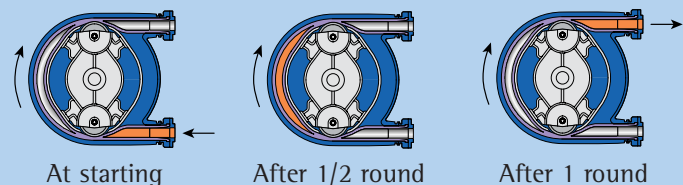
Pulsation damper : As Hose pumps have a pulsatory design, a pulsation damper may be required depending on the discharge line length, in order to protect the installation.

Leak detector : Stops the pump as soon as a leak is detected and can also be connected to a remote shutting valve.



Flexibility of use with Z series

HOSE PUMPS PRINCIPLE



HOSE PUMPS TECHNICAL BENEFITS

- No metal in contact with the fluid
- Handles very abrasive, heterogeneous products
- Dry running allowed
- Sealless design
- Reversibility
- Self-priming
- Large particle handling (1/3 of the hose diameter)

HOSE PUMPS COST BENEFITS

- **Low Operating Costs :**
 - Low motor power & starting torque
 - Low volume of lubricant
 - Extended hose lifetime
- **Low Maintenance Cost :**
 - The hose is the only part to replace
 - > **Fast maintenance (less downtime)**

MAIN APPLICATIONS :



Cuttings Recovery from Drilling muds
for mudlogging purpose
Z series HZ 15
Drilling muds - Particles 1 to 2 mm - Intermittent service
Differential pressure : 1 bar
Flow rate : 30 to 100 l/h - 30 to 100 rpm

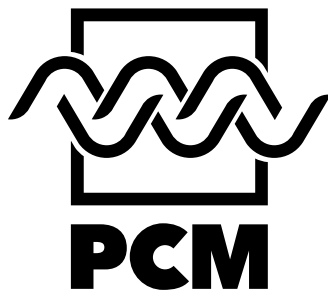
Courtesy Géoservices

Acid jam preparation for work over
Z series LZ 50
Chlorid acid 32 % concentration
Less than 40 °C
Intermittent service
Differential pressure : 1.5 bar
Flow rate : 14 m³/h - 180 rpm



Unloading Oil from storage tank into tanker and vice-versa
DSC 65
Oil with particles
Intermittent service
Differential pressure : 10 bar
Flow rate : 14 m³/h - 36 rpm

For further information or any quotation, do not hesitate to consult our website www.pcmpompes.com.



PCM POMPES
17, rue Ernest Laval BP 35
92173 VANVES CEDEX
FRANCE
Tél. : (33) 1 41 08 15 15
Fax : (33) 1 41 08 15 99
Télex : 634 129 F

Internet : pcmpompes.com
Email : oil@pcmpompes.com