



PCM MOINEAU™ AV

▶ VERTICAL PROGRESSING
CAVITY PUMPS FOR THE
OIL&GAS INDUSTRY

www.pcm.eu

“THE MOST ROBUST VERTICAL PUMPS ON THE MARKET”

We are committed to providing the best fluid handling solutions, and the **PCM Moineau™ AV range of vertical pumps** is the ideal solution for upstream and downstream oil & gas applications. It combines **API standards** with our **unrivalled industry expertise**.



PCM Moineau™ pump technology has proven to be the best choice for performing the most demanding applications, due to its limited maintenance needs; unhindered performance against varying fluid compositions; and its operational simplicity.

MAXIMISE UPTIME AND REDUCE OPERATING COSTS

Difficult fluids occur in abundance in upstream and downstream oil & gas operations, in both onshore and offshore facilities. Whether its emptying a closed drain vessel of the variety of fluids gathered there, transferring slop oil back to the process or reclaiming oil from a sump; these fluids are usually an unpredictable mixture of oil, water, chemicals and solid particles. Factor in that these fluids can be corrosive, erosive, volatile, hazardous to human health and our environment, and its easy to see why choosing the right pump is so important.

SIMPLIFY YOUR SYSTEM AND REDUCE CAPITAL COSTS

PCM Moineau™ AV vertical API pumps are designed for installation directly into a tank, pit, vessel or drum and offer exceptional opportunities to save space; to simplify your system, and minimise associated capital equipment costs. Installing PCM Moineau™ AV vertical pump directly into the fluid source eliminates upstream pressure losses, maximising the Net Positive Suction Head (NPSH) available in the system, and this is the optimum solution for light hydrocarbons and condensate.

PCM MOINEAU™ AV PUMPS COMPLY WITH API 676 STANDARD

The American Petroleum Institute leads the development of standards for materials & equipment for use in the Oil & Gas industry. Its standards have been adopted worldwide for decades with the aims of enhancing the safety of industry operations, assuring quality, helping to keep costs down, reducing waste, and minimising confusion. They help speed acceptance, bring products to market quicker, and avoid having to reinvent the wheel every time a product is manufactured.

API standard 676 provides the minimum standards for rotary positive displacement pumps for use in Oil & Gas applications, and whose function is **key to successful operations**.



OPERATING PRINCIPLE

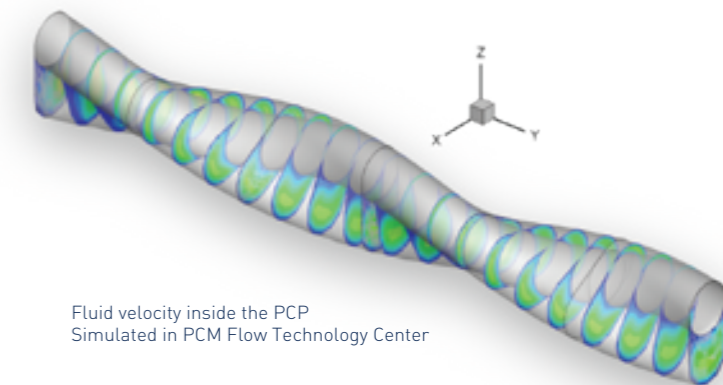
A Moineau™ pump consists of a helical rotor turning inside a helical stator. The metallic rotor is machined to a high degree of precision, and the stator is moulded in a resilient elastomer.

The geometry and the dimensions of these parts are such that when the rotor is inserted into the stator, a double chain of watertight cavities is created. When the rotor turns inside the stator, the cavity progresses spirally along the axis of the pump without changing either shape or volume.

PCM MOINEAU™ TECHNOLOGY

The PCM Moineau™ progressing cavity pump technology brings multiple benefits:

- Gently conveys fluids, with low shearing effect
- Transfers viscous fluids
- Lowest NPSH of all positive displacement pumps
- Performs well across a range of fluid viscosities
- Handles fluids with suspended solids such as sand
- Handles fluids with free gas
- Easy to maintain
- Flow rate proportional to running speed



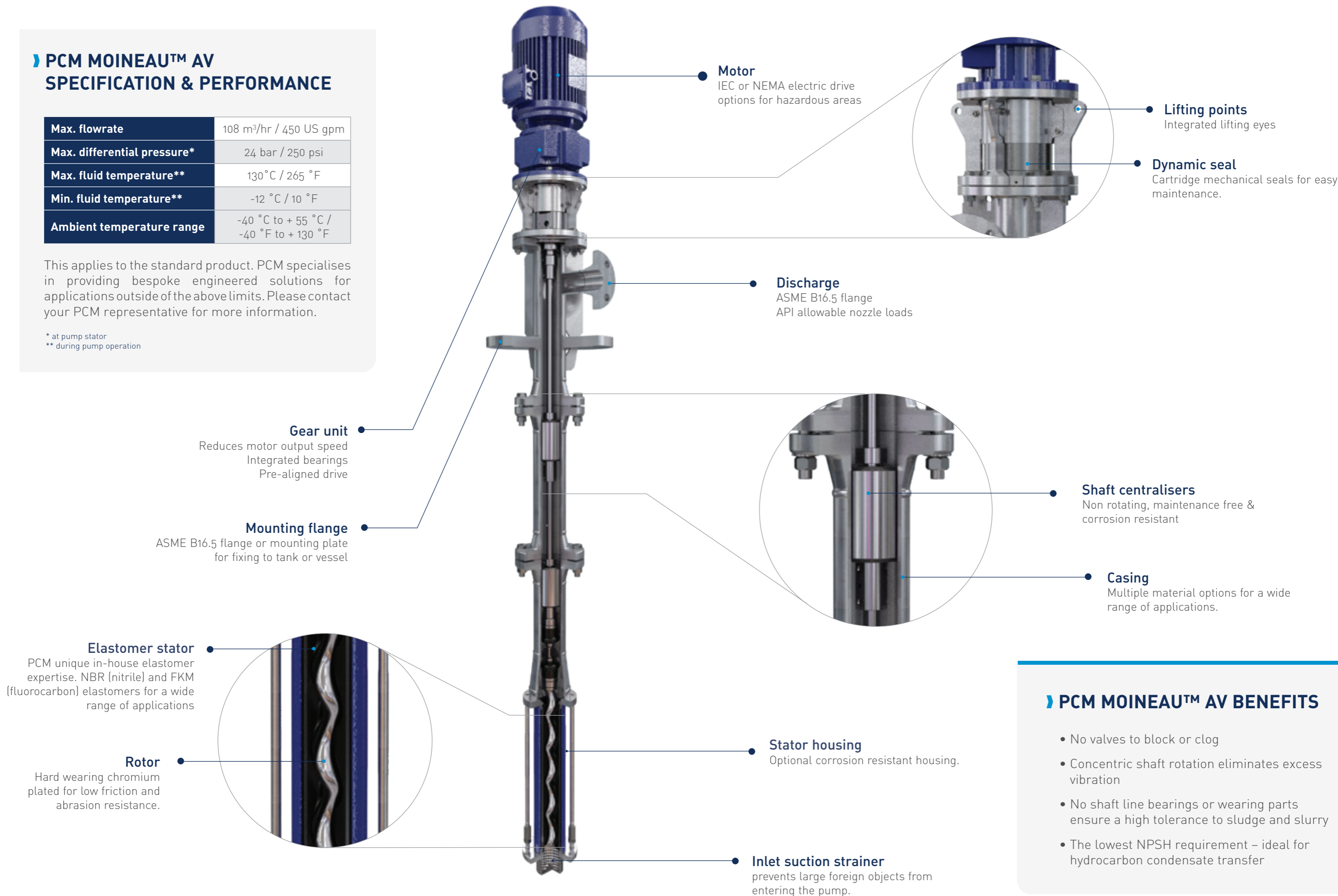
Fluid velocity inside the PCP
Simulated in PCM Flow Technology Center

PCM MOINEAU™ AV SPECIFICATION & PERFORMANCE

Max. flowrate	108 m ³ /hr / 450 US gpm
Max. differential pressure*	24 bar / 250 psi
Max. fluid temperature**	130 °C / 265 °F
Min. fluid temperature**	-12 °C / 10 °F
Ambient temperature range	-40 °C to + 55 °C / -40 °F to + 130 °F

This applies to the standard product. PCM specialises in providing bespoke engineered solutions for applications outside of the above limits. Please contact your PCM representative for more information.

* at pump stator
** during pump operation



Motor
IEC or NEMA electric drive options for hazardous areas

Lifting points
Integrated lifting eyes

Dynamic seal
Cartridge mechanical seals for easy maintenance.

Discharge
ASME B16.5 flange
API allowable nozzle loads

Gear unit
Reduces motor output speed
Integrated bearings
Pre-aligned drive

Mounting flange
ASME B16.5 flange or mounting plate for fixing to tank or vessel

Shaft centralisers
Non rotating, maintenance free & corrosion resistant

Casing
Multiple material options for a wide range of applications.

Elastomer stator
PCM unique in-house elastomer expertise. NBR (nitrile) and FKM (fluorocarbon) elastomers for a wide range of applications

Rotor
Hard wearing chromium plated for low friction and abrasion resistance.

Stator housing
Optional corrosion resistant housing.

Inlet suction strainer
prevents large foreign objects from entering the pump.

PCM MOINEAU™ AV BENEFITS

- No valves to block or clog
- Concentric shaft rotation eliminates excess vibration
- No shaft line bearings or wearing parts ensure a high tolerance to sludge and slurry
- The lowest NPSH requirement – ideal for hydrocarbon condensate transfer

PCM MOINEAU™ AV SPECIFICATIONS



QUALITY RECORDS

- Material certification to EN10204 3.1 for pressure wetted metallic parts.
- NACE MR0175/ MR0103 for sour service.
- API inspection & testing options; performance, hydrostatic, NPSH, noise and vibration.
- Non-destructive examination.
- API documentation

MATERIALS

- Multiple options for a wide variety of applications, including carbon steel, AISI 316 stainless steel, 22Cr duplex and 25Cr duplex stainless steels.
- Hard wearing chromium plated rotors for low friction and abrasion resistance.
- Fluorocarbon (FKM) or Nitrile (NBR) elastomer stators, formulated by PCM elastomer experts in our state of the art laboratory, and manufactured in house.

OPTIONS & ACCESSORIES

PCM Moineau™ AV pumps are available with a range of options and accessories to fulfil your specific needs:

- Pump length customised to suit the installation – up to 10m as standard (bespoke solutions for greater lengths)
- Flange (for pressure tight sealing) or plate mounting
- Stator housing for exceptionally corrosive applications
- Coarse inlet filter
- Multi-coat Epoxy paint system for harsh environments (ISO12944, C3 or C5M environnements)
- Cartridge mechanical seals for high performance, reliability and reduced maintenance costs (API682 options)
- API seal plans for optimum seal performance and operator safety

A range of accessories include over pressure protection devices, instrumentation and variable speed drives



PCM SERVICES

We provide a range of services designed to support our clients throughout every phase of their projects and operations; from front end engineering and design, through project related services, product verification, on-site and workshop services and spare parts.



PROJECT

PCM's dedicated project management organisation provides first class project related services to support capital projects throughout the front end and project execution phases.



WORKSHOP

Our workshops are equipped with the latest tools for failure analysis, repair and upgrading of equipment. Practical training in our training centres ensures that your operations and maintenance teams are ready to get the best out of our equipment and to minimise your operational costs.



ON SITE

Our professional and qualified site teams are available for mobilisation anywhere in the world – onshore and offshore - to provide a wide range of on-site services, including: installation & commissioning of new equipment, maintenance, audits, optimisation and upgrades & training.



SPARE PARTS

Thanks to our worldwide network, you can obtain genuine PCM spare parts quickly. Using PCM spare parts ensures that PCM products last as long as possible, benefit from warranty protection and maintain their CE conformity until their end of life.



TESTING

Our purpose built in-house testing facilities enable us to test pumps in the vertical position and at rated speeds, ensuring simulation of the actual operating conditions and in-line with API standards. Our in-house testing includes: pump performance, NPSH, and vibration levels. Our specialist in-house laboratories are equipped to provide elastomer testing and characterisation, including compatibility with your specific fluids.

› APPLICATIONS

Upstream



› Produced water management

- Produced water transfer
- Skimmed oil transfer
- Open drain caisson oil removal



› Enhanced oil recovery

- EOR polymer transfer
- Surfactant transfer



› Oil & Gas processing

- Flare KO drum emptying
- Open & closed drains transfer
- Hydrocarbon sludge transfer
- Oily water treatment
- Rich MEG/Glycol
- Sump emptying
- Slurry transfer

Downstream



› Refinery & petrochemical

- Open & closed drains transfer
- Slop Oil
- Oily Water treatment
- Hydrocarbon Sludge
- Sump emptying



› Storage & Distribution

- Crude oil transfer
- Oily sludge

