PCM Moineau™ HR TECHNOLOGY

PCM Moineau™ HR technology consists of modifying the traditional PCP design by adding hydraulic regulators. PCM patented hydraulic regulators are embedded in the rotor design. They are self-regulating and require zero maintenance. They provide better pressure distribution inside the pump and enable internal recirculation between cavities. Pressure and temperature are balanced along the rotor, allowing optimum performance and a significantly longer run life.

The problem
Operations in multiphase conditions with high gas content, is challenging and conventional PCPs reach their limits quickly.
Gas compression located at the pump outlet generates heat, elastomer deformation and possible premature failure.

The solution
PCM Moineau™ HR technology improves conventional PCP performance by providing:
- Uniform pressure distribution
- Lower temperature
- Less stator strain
- Lower friction torque

PATENTED DESIGN
Dimensions of the patented PCM Moineau™ HR technology is contained in the PCM expertise in dimensioning and positioning the regulators along the pump.
Operators need new technologies that enable them to extend the lifespan of fields and extract hard-to-recover oil. PCM Moineau™ HR is the first progressing cavity pump (PCP) for multiphase pumping. It features a revolutionary rotor design with patented PCM HR (Hydraulic Regulator technology).

This technology brings the inherent benefits of PCP – simple operations, non-pulsating flow and non-emulsifying design – to multiphase applications. PCM Moineau™ HR pumps can increase your oil and gas production.

Extend Oilfield Capacities

PCM Moineau™ HR pumps can increase your oil and gas production by operating in lower submergence. They can enable increased production up to 99% Gas Void Fraction (GVF) and still prevent gas lock. Features include a stator swelling balance to maintain equal pressure rise, thereby simplifying replacement with a PCM Moineau™ HR rotor.

Reduce Life Cycle Cost

For any progressing cavity pumps, PCM Moineau™ HR pumps have a lower Overall Equipment Efficiency (OEE) than conventional PCPs. They also offer a higher life span, which means fewer shutdowns, less production losses and fewer space parts.

State of the art

The PCM Moineau™ HR pump is built using patented PCM technology. It has been developed from theory to field test, using lab tests and multiphase simulation tools developed by PCM that take full advantage of the latest advances in computational fluid dynamics.

Compatible with existing PCP completions

PCM Moineau™ HR pumps are flexible and simple to adapt to existing PCP completions. PCM Moineau™ HR rotors are fully compatible with conventional PCP stators. As a result, with PCM Field Services, you can easily replace an existing PCP rotor with a PCM Moineau™ HR rotor.

Model designation

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<tr>
<th>Model designation</th>
<th>Range</th>
<th>Features</th>
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<tbody>
<tr>
<td>MDX/DSX/DSR</td>
<td>Range of oil rate &amp;ID</td>
<td>Full compatibility with conventional PCP stators. As a result, with PCM Field Services, you can upgrade an existing PCP rotor with a PCM Moineau™ HR rotor.</td>
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<tr>
<td>HR</td>
<td>Maximum pump head</td>
<td>Fully compatible with conventional PCP stators. As a result, with PCM Field Services, you can upgrade an existing PCP rotor with a PCM Moineau™ HR rotor.</td>
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Range

Models are available. Choice of dedicated elastomers and two metal end rings are likely to change over the life of the field. Fluid characteristics are likely to change over the life of the field. Fluid velocity, temperature and well architecture. Fluid composition at the pump intake may be predominantly liquid, gas/liquid mixture, or mainly gas. Furthermore, fluid characteristics are likely to change over the life of the field.

PCM Moineau™ HR pumps handle up to 99% GVF (Gas Void Fraction) and offer the same reliability at low or zero gas levels. This makes PCM Moineau™ HR technology a highly versatile choice for variable and changing pumping conditions.

Mature field revitalization

PCM Moineau™ HR pumps enable you to develop the full potential of your mature assets. In older fields, where the reservoir pressure declines, Gas Void Fraction (GVF) increases. This GVF causes ESP and SRP to gas lock and either slow or stop gas production. Although PCP technology is highly efficient, artificial lift systems require the addition of a gas separator, which can be costly and problematic. PCM Moineau™ HR pumps are the most cost-effective solution for gas production at low or zero gas levels, with minimal gas accumulation in the bottom of the well if gas velocity is not high enough. PCM Moineau™ HR pumps provide longer PCP lifespan. In gas wells, water can accumulate in the bottom of the well if gas velocity is not high enough. This can either slow or stop gas production. Although PEP technology is recognized as a highly efficient artificial lift system for gas wells, decreasing reservoir pressure can lead to gas accumulation. PCM Moineau™ HR pumps are being used in fields with gas production and can prevent gas accumulation in the bottom of the well. PCM Moineau™ HR technology is available in a full artificial lift package, including surface equipment for well production control and monitoring.

Gas well deliquification

PCM Moineau™ HR pumps provide longer ESP life. In gas wells, water can accumulate in the bottom of the well. As gas velocity is not high enough. This can either slow or stop gas production. Although PEP technology is recognized as a highly efficient artificial lift system for gas wells, decreasing reservoir pressure can lead to gas accumulation. PCM Moineau™ HR pumps are being used in fields with gas production and can prevent gas accumulation in the bottom of the well. PCM Moineau™ HR technology is available in a full artificial lift package, including surface equipment for well production control and monitoring.