


# ESPCP

## ELECTRIC SUBMERSIBLE PCP

keep it moving 



**Electric Submersible Progressing Cavity Pump (ESPCP) is a ROD FREE SYSTEM** that combines the advantages of ESP downhole motors and the benefits inherent to PCP technology.

PCM ESPCP system is the combination of the PCM worldwide leading progressing cavity pump technology including the PCM Slugger and the **Permanent Magnet Motor (PMM) technology** to push the lift performance to the highest level.

### » BENEFITS

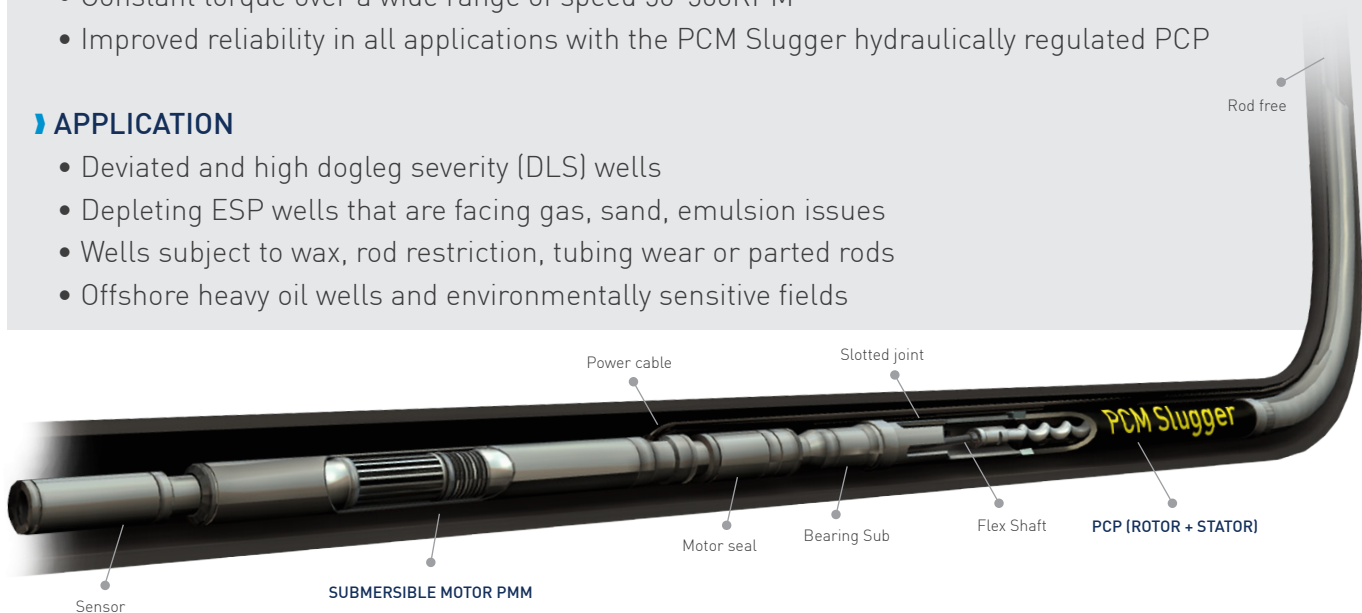
- Reduce PCP failures (rod parted, hole in tubing, wrong space out)
- Improve PCP performance (remove flow area restriction from rod/centralizers)
- Increase wellhead safety and footprint (no mechanical parts at surface, maintenance free system)
- Reduce power consumption (high motor efficiency, no rod string/drivehead losses)

### » FEATURES

- High performance downhole PMM with sensor-less drive control technology
- Constant torque over a wide range of speed 50-500RPM
- Improved reliability in all applications with the PCM Slugger hydraulically regulated PCP

### » APPLICATION

- Deviated and high dogleg severity (DLS) wells
- Depleting ESP wells that are facing gas, sand, emulsion issues
- Wells subject to wax, rod restriction, tubing wear or parted rods
- Offshore heavy oil wells and environmentally sensitive fields



**PCM**

Artificial Lift Solutions

### PRODUCTS

#### Hydraulically Regulated PCP

The PCM Slugger contains hydraulic regulators which create a uniform pressure profile inside the PCP, leading to improved reliability and long run life.

#### Submersible Permanent Magnet Motor

The rare-earth materials used in PMM create permanent powerful poles that have the ability to deliver significant torque at low speed while eliminating the need of a gearbox in the Bottom Hole Assembly (BHA).

- Higher EFFICIENCY, reduce power consumption
- Higher POWER DENSITY, shorten length motor
- Constant TORQUE available from 50-500 RPM

#### Surface drive

A closed-loop control is used to provide precision control of the sensorless downhole motor to ensure a stable operation and a remarkable ability to operate at low speed.

The drive logs data from downhole gauges and has some control applications and alarm options, a user-friendly interface and several communication options to be adapted to your field.

#### Downhole monitoring system

PCM downhole real-time monitoring system helps to optimize well production and track downhole equipment performance.

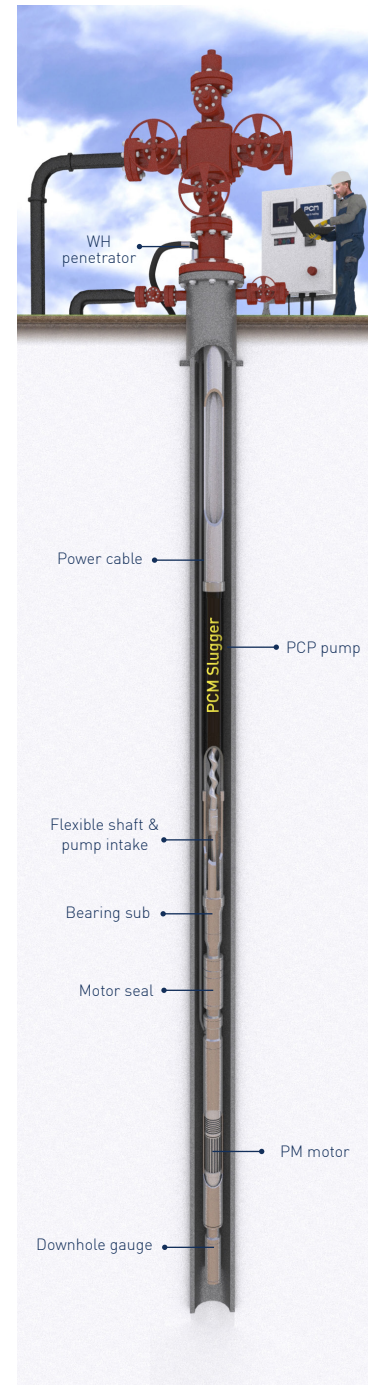
- Pump intake P/T and BHA vibration
- Motor Temperature
- Pump discharge Pressure (optional)

### MAIN SPECIFICATIONS

Well specifications:	
Max. pump setting depth (TVD)	2 000m / 6 500 ft
Max. temperature @ pump depth	150°C / 300°F
Min. casing size	5 ½"
Drive input power supply	3 phases 380-480VAC +5%-10% (48 – 63 Hz)
System specifications:	
Operating speed	100 to 500 RPM
Max. PMM torque capacity	650 Nm
Max. power capacity	45 HP / 34 kW

Maximum flow rate according to pump depth	
450 m (1 475 ft)	300 m³/d (1 900 bpd)
800 m (2600 ft)	235 m³/d (1 500 bpd)
1 200 m (3 900 ft)	150 m³/d (950 bpd)
1 800 m (5 900 ft)	85 m³/d (525 bpd)

These specifications may change as new technology becomes available. Higher capacity may be possible in larger casing sizes.



### FIRST CLASS SERVICE

- PCM Service team available worldwide to support customers
- Dedicated PCP team will support customers regarding any queries or issues faced with our ESPCP solutions.

For further information, please contact your PCM local representative:

[www.pcmals.com](http://www.pcmals.com)