




PCP SCHOOL

3RD TO 5TH MARCH 2020
CHAMPTOCÉ-SUR-LOIRE, FRANCE

keep it moving 

Acquire the key knowledge's on Progressive Cavity Pumps in 3 (or 4) days, through theory, case studies and practices.

- **Content:** PCP manufacturing, theory, selection, operation
- **Who should attend?** Oil operator professionals from production, artificial lift, workover, engineering, well performance, maintenance, or completion departments.
- **Duration:** 3 days (+ 1 day option)
- **Dates:** 3rd to 5th (or 6th option) March 2020
- **Location:** PCM, 1 rue René Moineau
49123 Champtocé-Sur- Loire (France)
- **Language:** English
- **Facilities:** Auditorium with WIFI; Showroom with Products & Practice Areas; Factory with all PCP manufacturing process; Test Bench for pumps and drive-heads
- **Take away:** PCM welcome kit, Training Certificate, Supporting document in electronic format (flash disk), 1 year free login & password for PCM Design software
- **Included:** Lunch
- **Not included:** Accommodation and Transportation, but support can be provided
- **Price:** 2 500 USD / PAX for 3 days
+500 USD / PAX for (+1 day option)

Last registration date: 7th February 2020

Contact your local PCM representative
or Benjamin Robert (brobert@pcmals.com)

PCM

Artificial Lift Solutions

Day #1 - Tuesday 3rd March 2020

PCP PRINCIPLE & MANUFACTURING

Time	Module	Highlights
9:30 10:30	Welcome	HSE brief
10:00 12:00	Manufacturing process	Factory tour (Elastomer mixing & injection, rotor machining & polishing)
12:00 - 13:30 // Lunch break		
13:30 14:00	PCP principle	Basics of Moineau™ principle
14:00 15:00	PCP geometry	Benefits of the various PCP geometries (pitch, eccentricity, swept angle) Case study: select the right geometry for your application*
15:00 - 15:30 // Break		
15:30 16:00	Elastomer theory	Elastomer key properties and selection by application
16:00 17:00	Elastomer compatibility test	Case study: conduct your own elastomer compatibility test in laboratory with your own well fluid**

Day #2 - Thursday 4th March 2020

PCP SELECTION

Time	Module	Highlights
8:30 9:00	Rotor sizing theory	Different rotor sizes and their uses
9:00 10:00	Rotor sizing practice	Case study: select the right rotor size for your application*
10:00 - 10:30 // Break		
10:30 11:00	PCP technologies	Elastomer PCP, HRPCP, AMPCP
11:00 11:30	Surface drive equipment	Drive head, motors, VSD
11:30 12:00	Downhole accessories	Rod string, torque anchor, paddles...
12:00 - 13:30 // Lunch break		

Day #2 - Thursday 4th March 2020

PCP SELECTION

Time	Module	Highlights
12:00 - 13:30 // Lunch break		
13:30 14:15	Selection guidelines	PCP range of applications Data & criteria's to select
14:15 15:00	PCM Design	Selection software presentation and exercises
15:00 - 15:30 // Break		
15:30 17:00	Selection practice	Case study: complete PCP system selection*

Day #3 - Thursday 5th March 2020

PCP OPERATIONS - PART 1

Time	Module	Highlights
8:30 9:15	Installation & start up	PCP specifications & guidelines to install and start
9:15 10:00	Bench test theory	Procedure and report Acceptance criteria's according to applications
10:00 - 10:30 // Break		
10:30 - 12:00	Bench test practice	Attend, report and analyze a real hydraulic PCP bench test
12:00 - 13:30 // Lunch break		
13:30 14:30	Failure analysis	Benefits, required data & methodology
14:30 15:00	Failure mode	Case study: recognize failure mode of rotor & stator
15:00 - 15:30 // Break		
15:30 17:00	Failure analysis practice	Case study: complete PCP failure analysis*
17:00 17:15	Closing (if no +1 day option)	Conclusion, take away, certificate

Day #4 - Friday 6th March 2020
PCP OPERATIONS - PART 2

OPTIONAL

Time	Module	Highlights
8:30 10:00	Drive head maintenance	Replace oil, oil filter, sealing, braking system Conduct belt and pulleys alignments
10:00 - 10:30 // Break		
10:30 12:00	Drive head test	Using a unique drive head test bench simulating real well operations (axial load & torque), test braking system and drive head limits
12:00 - 13:30 // Lunch break		
13:30 15:00	VSD	Functions, specifications, components Practice VSD parametering, well start up and monitoring
15:00 - 15:30 // Break		
15:30 17:00	Optimization	Based on real case study and using a test bench simulating well dynamics and downhole gauge, analyze operating data and optimize well with VSD
17:00 17:15	Closing	Conclusion, take away, certificate

* Provide us your well data sheet 2 weeks prior to training in order to prepare your case study modules

** Provide us your 500 ml well fluid sample 4 weeks prior to training in order to prepare compatibility test practice module

TRAINERS

Our France learning center is close to manufacturing facilities and innovation department. Trainings are given by PCPs engineers with great experience on design, manufacturing and field operations.



Benjamin ROBERT **Service Product Champion**

Benjamin is our global service offer champion at PCM ALS. With a master degree in Mechanics, he started his career in PCM in 2008 as PCP field Engineer, installing PCPs in multiple international locations. Then, Benjamin moved to Oman, as PCP application engineer, where he managed PCP performances for a major PCP service contract during 3 years. He is today in charge of support and development of our worldwide service offer, including ALS PCP dedicated software development (Design, Tracking, Failure Analysis, Bench Test).



Gregoire CROTTE **Performance Manager**

Graduated in Master of engineering with fluid mechanic's specialty. Previously Rotating Equipment specialist in O&G engineering company. Moved to PCM 15 years ago as Project Manager: responsible for design, manufacturing, subcontracting, documentation and delivery schedule of special surface transfer pump, compliant to API standards. In 2011, he became our ALS product champion. Today, he is the PCM ALS Performance Manager in charge of product design, deployment, performance tracking, analysis and optimization.



Franck OLLIVIER
Service Manager

With a diploma of Higher Education in Automation and after several experiences in maintenance department of various markets, Franck joined PCM in 2006 as ALS field Engineer, where is installed PCPs all over the world for 3 years. In 2009, he was transferred to Oman as operations manager to supervise field service activity and equipment's performances, till 2012. He is today our global service manager.



Paul SKOCZYLAS
Product Champion

20 years' experience consulting with oil and gas companies worldwide in diverse applications and conducting applied research in areas related to production engineering; in particular, working with PCPs and ESPs. Recognized as industry expert in PCP systems. 15 years' experience studying reliability of artificial lift systems. Solid understanding of multiphase flow in wellbores and its effects on artificial lift systems. Senior company resource in thermodynamics, heat transfer, fluid flow, and phase behavior.