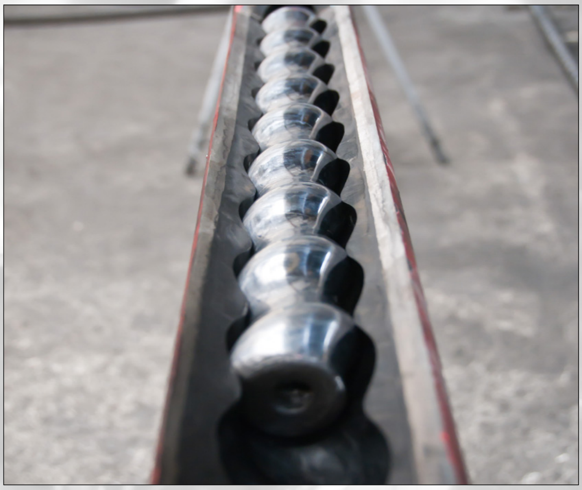
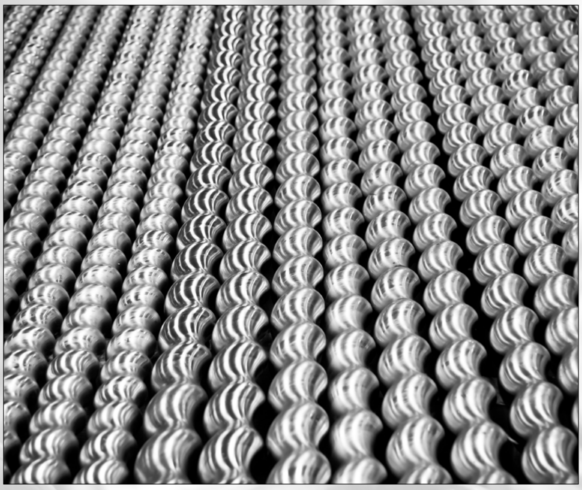
FLEXON-ALL





PROGRESSIVE CAVITY PUMPS

(PCP)

GENERAL PRESENTATION & TECHNICAL CHARACTERISTICS OF PROGRESSIVE CAVITY PUMPS
PRODUCED BY FLEXON-ALL

GENERAL PRESENTATION

FLEXON-ALL was founded in 2004 to be a little production company that produces technical articles made of polyurethane, plastics and metals for oil-well industry, drilling and extraction , and other industrial equipment.

Ever since the beginning of the activity FLEXON-ALL collaborates with UPETROM and AXON, in the designing and producing of pumps with progressive cavities for extraction and pumping oil, salt water, etc.

Based on the experience and knowledge of its specialists in PCP, FLEXON-ALL has specialized also in manufacturing of transfer units equipped with PCP for high and small flows at different pressures.

Currently in our manufacturing portfolio, together with Upetrom, for rotor manufacturer, and AXON, for rubber manufacturer, we have 18 different types of PCP for flows between 1,6 to 135 m3/ day x 100 rpm with lifting depths from 600 to 3600 m.

We have accomplished, until now, manufacturing and selling over 5000 PCP for different markets: Romania, Russian Federation, Kasakhstan, Moldova, Ukraine and Albania.

The advantages of using the rotary extracting system by means of helical pumps are more than obvious, as the following are obtained:

- Low costs of system installation,
- Low costs for exploitation,
- It can circulate crude oils of very high viscosity, with a high content of mechanical impurities, as well as light crude oils, with a content of gases
- Specially long life: operation periods of 1–6 years, which again involves low costs for workover by occurrence of accidental interruptions of operation for various reasons,
- Low costs of purchase and commissioning of the system, compared to other types of equipment.
- We promise a quality product and best quality support for it. Each year we invent to improve our ability to meet your pumping needs and to solve your most difficult fluids handling problems
- We are allways looking for new ways to improve our pumps so they will last longer, perform better and be a greater value to you, our customer.

HOW DOES THE SYSTEM OPERATE?

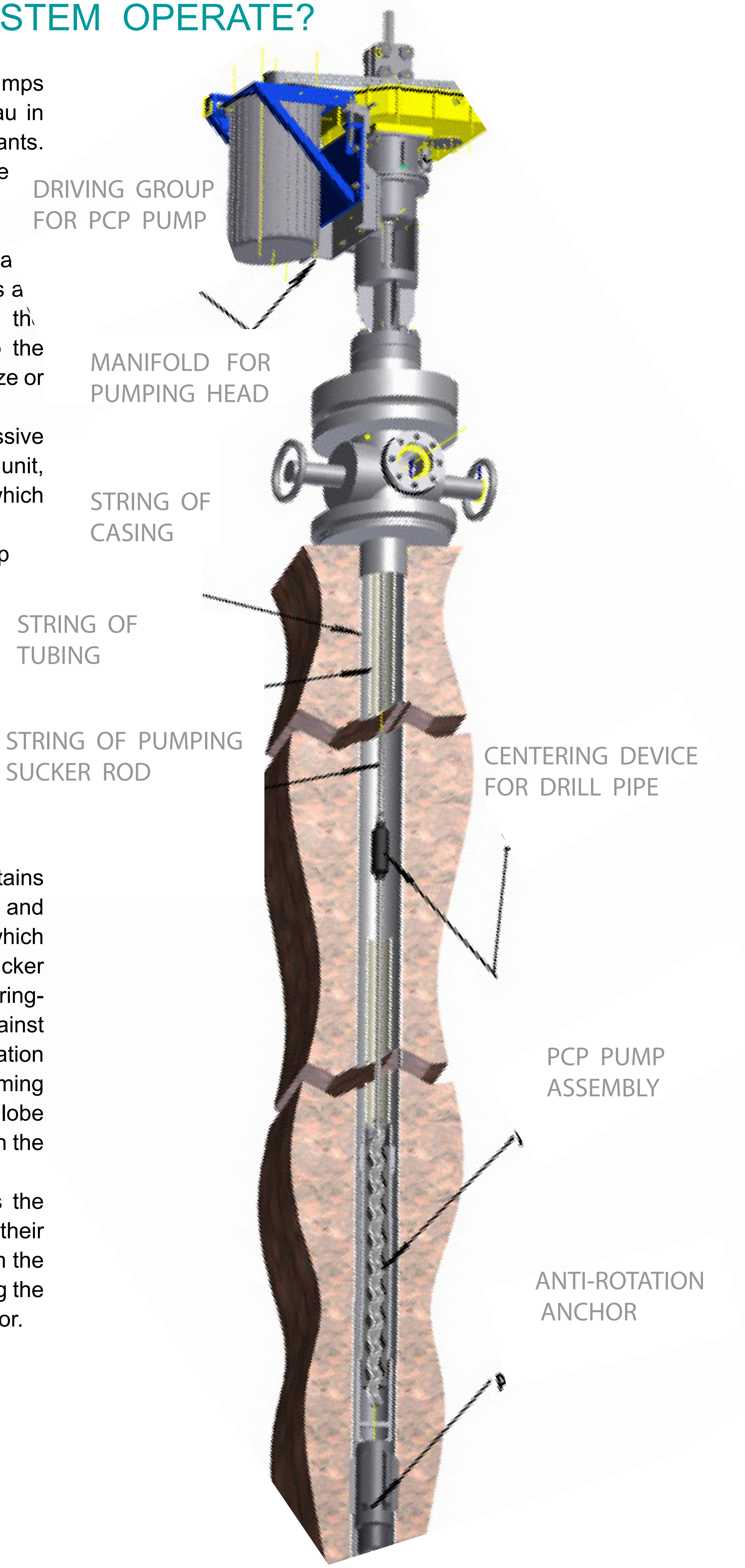
The principle of progressive cavity pumps is those designed by Reyne Moineau in 1935 and used now by all PCP fabricants.

A PCP principle consists of a single helical rotor which rotates inside a double internal helical stator.
When the rotor is inserted in the sta two chains of lenticular spiral cavities a formed. As the rotor turnes whithin th stator, the sealed cavities spiral up the pumping product without changing size or shape of stator.

A system of oil extraction with progressive cavities pump is made up of a driving unit, mounted on the well casing head, which drives, by means of the pumping drill pipes string, a helical extraction pump placed deep in the well, below the oil extraction level.

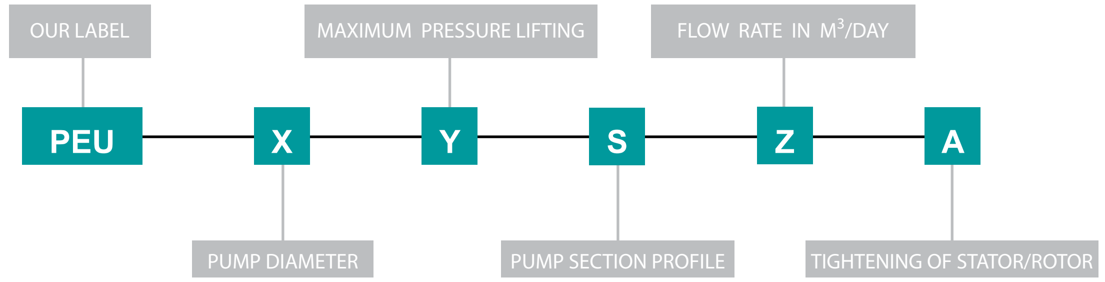
The pump is launched into the well by means of the tubing string and is equipped, at the lower head, with an anti-rotation anchor which is fixed on the casing string and prevents the unscrewing of the tubing foe to the torque formed inside the pump during its operation. The system also contains a limit switch of the rotor-tagbar and centering devices for the drill pipe, which are mounted along the string of sucker rods, in order to prevent the early wearing-out of the tubing due to the friction against the pumping pipes string. The operation principle of a PCP is based on forming lenticular cavities between the single lobe rotor and the double lobe stator, when the rotor turns within the stator.

The lenticular cavities formed as the rotor turns within the stator, in their ascending movement carry with them the pumped product with flows depending the size and the rotation speed of the rotor.



PCP MARKING

FLEXON-ALL , together with AXON and Upetrom, has in its fabrication portfolio a various number of sizes and dimensions for helical pumps.



IDENTIFICATION EXAMPLE

The helical pump manufactured by **FLEXON-ALL**, with a stator diameter **3 $^1/_2$** in, maximum discharge pressure **150** bar (1500 m depth), single lobe profile, with a maximum flow up to **16** m^3/day, normal (**N**) connection rotor-stator (temperatures 40-70°C) is symbolized with:
PEU - 350 - 150 - S16 - N
Additional, in accordance with ISO 15136-1, each of the two parts of the pump, stator and rotor are marked as the following:

Stator:
- profile code;
- fabrication serial number;
- elastomer type;
- month and year of fabrication.

Marking example: **K 653 / NBR2 - 05.2015**
K - profile code for PCP 16 cu.m/day x 100 rpm
017 - fabrication serial number
NBR2 - elastomer type
05.2015 - month and year of fabrication

Rotor:
- helical profile symbol
- fabrication serial number
- rotor size for tightening between rotor-stator: J (clearance), N (normal),T (tight)

Marking example: **16-1500N / 650K**
16 = 16 m3/day at 100rpm;
1500 = placing depth (m);
N = clearence;
650 = fabrication serial number;
K = profile code.

PCP NOMENCLATURE

All the nomenclature pumps manufactured by Flexon-all could be found in the table below, as follows.

OUR LABEL	OUTSIDE DIAMETER **X** (in)	MAXIMUM PRESSURE LIFTING **Y** (bar)	PROFILE TYPE **S** (Single lobe)	MAXIMUM PUMP FLOW **Z**/100 rpm [M^3/day]	TIGHTENING OF ROTOR-STATOR **A**
	238 (2 3/8”)	120; 180; 240		1,6	
	278 (2 7/8”)	065; 100; 120; 150; 180; 240		3	
	278 (2 7/8”)	065; 100; 120; 150; 180; 240; 300		4	
	278 (2 7/8”)	065; 100; 120; 150; 180; 200; 240		7	
	278 (2 7/8”)	065; 120; 150		10	
	350 (3 1/2”)	065; 100; 120; 150; 180; 200; 240		10	
	350 (3 1/2”)	120; 150; 180; 200; 240; 360		10	
	350 (3 1/2”)	065; 100; 130; 150; 180; 200; 240		13	
PEU	350 (3 1/2”)	065; 100; 120; 150; 180; 240	**S**	16	**J** = clearance **N** = normal **T** = tight
	400 (4”)	060; 090; 120; 150; 180; 240		23	
	400 (4”)	060; 090; 120; 150; 180; 240		33	
	400 (4”)	060; 090; 120; 150; 180; 240		42	
	400 (4”)	060; 090; 120; 150; 180		60	
	450 (4 1/2”)	060; 090; 120; 150; 180		60	
	450 (4 1/2”)	060; 090; 120; 150; 180		76	
	450 (4 1/2”)	060; 090; 120; 150		98	
	450 (4 1/2”)	060; 090; 120		122	
	550 (5 1/2”)	045; 090; 120		135	

Tightenng selection between stator and rotor is very important for pump working liftime and performances in exploatation. According to working temperatures and well fluids temperatures, we fabricate rotors with tightenings classed on 3 stages of temperatures:

J for 80 ÷ 120 °C
N for 40 ÷ 70 °C
T for 10 ÷ 30 °C

ELASTOMER SELECTION

The elastomer selection is a most important step in the PCP design. It is influencing the pump lifting and performance. The right selection requires a very good knowledge of well conditions and fluids composition.

FLEXON-ALL can deliver at request, based on the data sheet for designing of the application, PCP with stator made of 7 types of elastomers that can work in various conditions at the well:

ELASTOMER SELECTION GUIDE

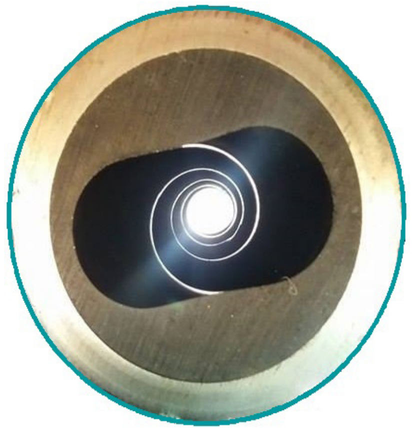
TYPE/CODE OF ELASTOMER	RESISTANCE TO AROMATIC CRUDE OIL	Max API oil gravity	RESISTANCE TO H_2S	RESISTANCE TO CO_2	RESISTANCE TO WATER	WEAR STRENGHT	GENERAL CHARACTERISTICS OR APPLICATION RECOMMENDATIONS
NBR 1 high nitril	Very good	20	Medium	Good	Very good	Very good	• excellent mechanical characteristics • recommended for heavy crude oil (waxy), salt water with sand in suspension max. 3% • maximum temperature 80°C
NBR 2 very high nitril	Excellent	40	Medium	Good	Good	Very good	• excellent mechanical characteristics • recommended for low aromatic and heavy crude oil, salt water with sand in suspension max. 3% • maximum temperature 80°C
NBR 3 high nitril	Very Good	20	Medium	Good	Very good	Very good	• excellent mechanical characteristics • recommended for heavy crude oil, salt water with sand in suspension max 3% • maximum temperature 110°C
NBR 4 medium nitril	Poor	12	Good	Good	Good	Excellent	• excellent mechanical characteristics • recommended for heavy crude oil, salt water with sand in suspension max. 5% • maximum temperature 80°C
H - 1 HNBR	Very good	38	Excellent	Excellent	Excellent	Excellent	• excellent mechanical characteristics • recommended for low aromatic and heavy crude oil, salt water with sand in suspension max. 5% • maximum temperature 120°C
H - 2 HNBR	Very good	38	Excellent	Excellent	Excellent	Excellent	• excellent mechanical characteristics • recommended for low aromatic and heavy crude oil, salt water with sand in suspension max. 5% • maximum temperature 135°C
F FKM	Excellent	42	Excellent	Excellent	Excellent	Poor	• moderate mechanical characteristics and wear strength • recommended for light and very light crude oil, free of sand, salt water • maximum temperature 140°C

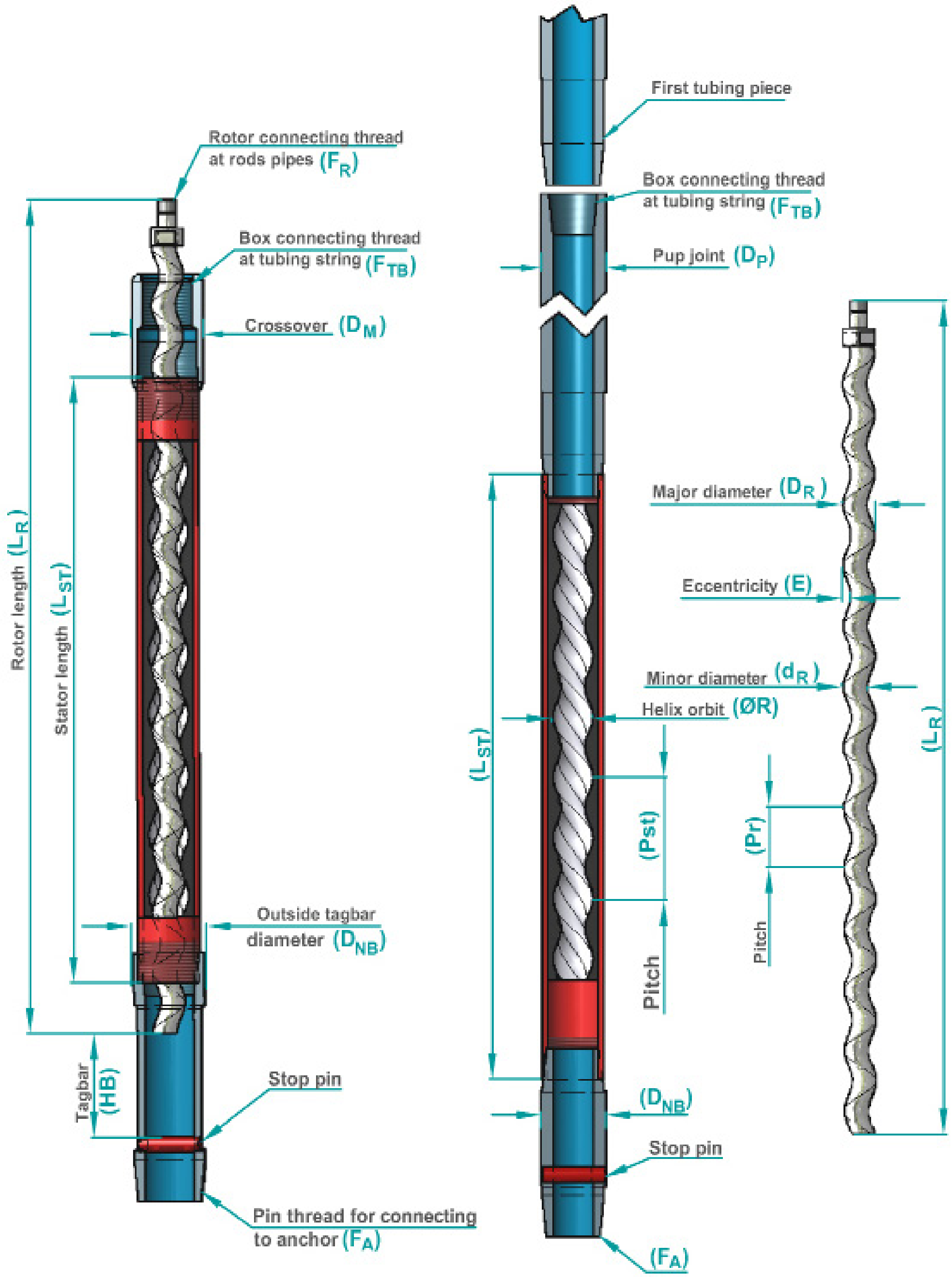
THE STRUCTURAL ELEMENTS AND CHARACTERISTICS OF P.C. PUMPS

Rotor of each pump is designed by us and executed in collaboration with UPETROM 1 MAI which has specific equipment for processing and chrome plating. Depending on the work environment, they are made of annealed alloy carbon steel, plated on the outside with a layer of hard chrome, 0,3 - 0,4 mm, and different thickness with 3 types of stator - rotor tightenings.

For highly corrosive and aggressive environments rotors are made of stainless steel, also plated with hard chrome.

The **Stator** of each pump is designed and executed as a monoblock construction and consists of a steel frame which has a helical profile with 2 beginings in interior made of rubber resistant to working fluid and temperature.





STRUCTURAL ELEMENTS FOR HELICAL PUMPS - FLEXON

PUMP			STATOR				ROTOR							Tagbar		Crossover	*Pup joint	Tubing	
Pump type	Nominal Displacement (m³/day)	Max. lifting depth (m)	Connection threads: Tubing F_{TB} (in)	Connection threads: Anchor F_A (in)	Length L_{ST} (m)	Outside Diameter D_{ST} (mm)	Connection Thread F_R (in)	Length L_R (m)	Minor Diameter d_R (mm)	Head Diameter D_R (mm)	Eccentricity E (mm)	Pitch Pr (mm)	Helix Orbit øR (mm)	Outside Diameter D_{NB} (mm)	Dimension HB (mm)	Outside Diameter D_M (mm)	Outside Diameter D_P (mm)	First piece	Next pieces
PEU-278-120-S1.6	0.016	1200	Box 2 3/8" EUE / NUE	Box 2 3/8" EUE / NUE	1.8	66	Pin 1 1/16" (rod 3/4")	2.3	28	32	2	27,5		78	350	78	–	2 3/8"	2 3/8" or 2 7/8"
PEU-278-180-S1.6		1800			2.7			3.2											
PEU-278-240-S1.6		2400			3.6			4.1											
PEU-278-065-S3	0,03	650	Box 2 7/8" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	1,3	73	Pin 1 3/16" (rod 7/8")	1,8	29	35	3	30	41	89	350	89	–	2 7/8"	2 3/8" or 2 7/8"
PEU-278-100-S3		1000			1,5			2											
PEU-278-120-S3		1200			2,1			2,6											
PEU-278-150-S3		1500			2,6			3,1											
PEU-278-180-S3		1800			3			3,5							500				
PEU-278-240-S3		2400			4			4,5											
PEU-278-065-S4	0,05	650	Box 2 7/8" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2	76	Pin 1	2,5	35,2	41,6	3,2	40	48	89	350	89	–	2 7/8"	2 3/8" or 2 7/8"
PEU-278-100-S4		1000			2,7			3,2											
PEU-278-120-S4		1200			2,9			3,4											
PEU-278-150-S4		1500			3,9			4,4											
PEU-278-180-S4		1800			4,4			5,1							500				
PEU-278-240-S4		2400			4,9			5,6											
PEU-278-300-S4		3000			5,8			6,5											
PEU-278-065-S7	0,08	650	Box 2 7/8" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2,4	76	Pin 1	2,9	35,2	43	3,9	52	51	89	350	89	–	2 7/8"	2 3/8" or 2 7/8"
PEU-278-100-S7		1000			3,1			3,6											
PEU-278-120-S7		1200			3,5			4,1											
PEU-278-150-S7		1500			4,7			5,2											
PEU-278-180-S7		1800			5,4			5,9											
PEU-278-200-S7		2000			5,9			6,6							500				
PEU-278-240-S7		2400			7			7,7											

PUMP			STATOR				ROTOR							Tagbar		Crossover	*Pup joint	Tubing	
Pump type	Nominal Displacement (m³/day)	Max. lifting depth (m)	Connection threads: Tubing F_{TB} (in)	Connection threads: Anchor F_A (in)	Length L_{ST} (m)	Outside Diameter D_{ST} (mm)	Connection Thread F_R (in)	Length L_R (m)	Minor Diameter d_R (mm)	Head Diameter D_R (mm)	Eccentricity E (mm)	Pitch Pr (mm)	Helix Orbit øR (mm)	Outside Diameter D_{NB} (mm)	Dimension HB (mm)	Outside Diameter D_M (mm)	Outside Diameter D_P (mm)	First piece	Next pieces
PEU-278-065-S10	0,1	650	Box 2 7/8" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2,2	76	Pin 1 3/16" (rod 7/8")	2,7	35	44	4,5	60	53	89	350	89	–	2 7/8"	2 3/8" or 2 7/8"
PEU-278-120-S10		1200			3,4			3,9											
PEU-278-150-S10		1500			5,1			5,6											
PEU-350-065-S10	0,1	650	Box 3 1/2" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2,4	89	Pin 1 3/8" (rod 1")	2,9	40,5	48	3,75	60	55,5	102	350	108	–	3 1/2"	2 7/8" or 3 1/2"
PEU-350-100-S10		1000			3			3,5											
PEU-350-120-S10		1200			3.7			4,2											
PEU-350-150-S10		1500			4,5			5											
PEU-350-180-S10		1800			5,5			6,2							500				
PEU-350-200-S10		2000			6			6,7											
PEU-350-240-S10		2400			7,5			8,2											
PEU-350-120-S10Pm	0,1	1200	Box 3 1/2" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2,4	89	Pin 1 3/8" (rod 1")	2,9	40,5	50,5	5	43,5	60,5	102	350	108	–	3 1/2"	2 7/8" or 3 1/2"
PEU-350-150-S10Pm		1500			3			3,5							500				
PEU-350-180-S10Pm		1800			3.7 *			4,4											
PEU-350-240-S10Pm		2400			4,8			5,5											
PEU-350-360-S10Pm		3600			7,2			7,9											
PEU-350-065-S13	0,14	650	Box 3 1/2" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	2,5	89	Pin 1 3/8" (rod 1")	3	38,5	48,5	5	65	58,5	102	350	108	–	3 1/2"	2 7/8" or 3 1/2"
PEU-350-100-S13		1000			3,4			3,9											
PEU-350-130-S13		1300			3,8*			4,3											
PEU-350-150-S13		1500			5			5,5											
PEU-350-180-S13		1800			5,7			6,4							500				
PEU-350-200-S13		2000			6,3			7											
PEU-350-240-S13		2400			7,6			8,3											
PEU-350-065-S16	0,17	650	Box 3 1/2" EUE / NUE	Pin / Box 2 7/8" EUE / NUE	3	89	Pin 1 3/8" (rod 1")	3,5	39,8	49,8	5	75	60	102	350	108	–	3 1/2"	2 7/8" or 3 1/2"
PEU-350-100-S16	0,18	1000			3,5			4	39,3		5,25	78	60,5						
PEU-350-120-S16	0,175	1200			3,8			4,3	37,2	49,7	6,25	67	62,5						
PEU-350-150-S16		1500			5			5,5											
PEU-350-180-S16		1800			5,8			6,5							500				
PEU-350-240-S16		2400			7,8			8,5											

* Pm - small step
** Can be executed at exterior diameter ø108

PUMP			STATOR				ROTOR							Tagbar		Crossover	*Pup joint	Tubing	
Pump type	Nominal Displacement (m³/day)	Max. lifting depth (m)	Connection threads: Tubing F_{TB} (in)	Connection threads: Anchor F_A (in)	Length L_{ST} (m)	Outside Diameter D_{ST} (mm)	Connection Thread F_R (in)	Length L_R (m)	Minor Diameter d_R (mm)	Head Diameter D_R (mm)	Eccentricity E (mm)	Pitch Pr (mm)	Helix Orbit øR (mm)	Outside Diameter D_{NB} (mm)	Dimension HB (mm)	Outside Diameter D_M (mm)	Outside Diameter D_P (mm)	First piece	Next pieces
PEU-400-060-S23	0,23	600	Box 3 1/2″ EUE / NUE	Pin / Box 2 7/8″ EUE / NUE	2	102	Pin 1 3/8″ (rod 1″)	2,5	42,4	55,9	6,85	70	70	89	350	–	–	3 1/2″	2 7/8″ or 3 1/2″
PEU-400--090-S23		900			3			3,5											
PEU-400-120-S23		1200			4			4,5											
PEU-400--150-S23		1500			5,3			5,8											
PEU-400--180-S23		1800			6			6,7							500				
PEU-400--240-S23		2400			8			8,7											
PEU-400-060-S33	0,33	600	Box 3 1/2″ EUE / NUE	Pin / Box 2 7/8″ EUE / NUE	3,2	102	Pin 1 3/8″ (rod 1″)	3,7	41,8	55,8	7	100	70	89	350	–	–	3 1/2″	2 7/8″ or 3 1/2″
PEU-400--090-S33		900			3,8			4,3											
PEU-400-120-S33		1200			5			5,5											
PEU-400--150-S33		1500			6,4			6,9											
PEU-400--180-S33		1800			7,6			8,3											
PEU-400--240-S33		2400			10			10,7							500				
PEU-400-060-S42	0,44	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	2,8	108	Pin 1 3/8″ (rod 1″)	3,3	42,4	58,2	8	115	74,5	95	350	–	–	3 1/2″	2 7/8″ or 3 1/2″
PEU-400--090-S42		900			4,4			4,9											
PEU-400-120-S42		1200			5,8			6,3											
PEU-400--150-S42		1500			7,3			7,8											
PEU-400--180-S42		1800			8,7			9,4							500				
PEU-400--240-S42		2400			10,8			11,5											
PEU-400-060-S60	0,6	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	4,2	108	Pin 1 3/8″ (rod 1″)	4,7	42,3	58,3	8	160	74,2	95	350	–	–	3 1/2″	2 7/8″ or 3 1/2″
PEU-400-090-S60		900			6,3			6,8											
PEU-400-120-S60		1200			8,4			8,9											
PEU-400-150-S60		1500			10,5			11											
PEU-400-180-S60		1800			12,6			13,3							500				
PEU-450-060-S60	0,6	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	3,4	114,3	Pin 1 3/8″ (rod 1″)	3,9	45,6	63,6	9	130	81,6	102	350	–	108	3 1/2″	3 1/2″
PEU-450-090-S60		900			5,1			5,6											
PEU-450-120-S60		1200			6,8			7,3											
PEU-450-150-S60		1500			8,4			8,9											
PEU-450-180-S60		1800			10,2			10,9							500				

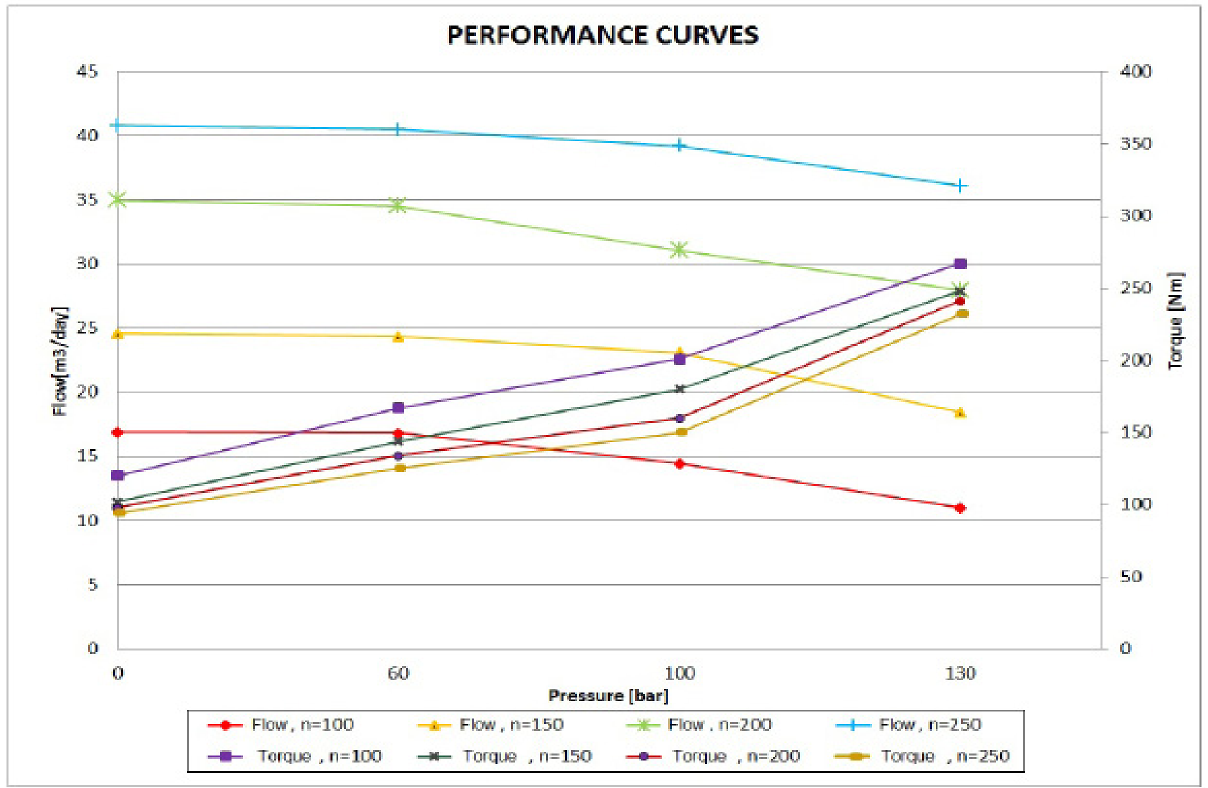
PUMP			STATOR				ROTOR							Tagbar		Crossover	*Pup joint	Tubing	
Pump type	Nominal Displacement (m³/day)	Max. lifting depth (m)	Connection threads: Tubing F_{TB} (in)	Connection threads: Anchor F_A (in)	Length L_{ST} (m)	Outside Diameter D_{ST} (mm)	Connection Thread F_R (in)	Length L_R (m)	Minor Diameter d_R (mm)	Head Diameter D_R (mm)	Eccentricity E (mm)	Pitch Pr (mm)	Helix Orbit øR (mm)	Outside Diameter D_{NB} (mm)	Dimension HB (mm)	Outside Diameter D_M (mm)	Outside Diameter D_P (mm)	First piece	Next pieces
PEU-450-060-S76	0,8	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	4,3	114,3	Pin 1 3/8″ (rod 1″)	4,8	43,8	62,4	9,3	170	81	102	350	-	108	3 1/2″	3 1/2″
PEU-450-090-S76		900			6,4			6,9											
PEU-450-120-S76		1200			8,6			9,1											
PEU-450-150-S76		1500			10,7			11,2											
PEU-450-180-S76		1800			12,9			13,6							500				
PEU-450-060-S98	1	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	5,1	114,3	Pin 1 3/8″ (rod 1″)	5,6	43,8	62,6	9,4	215	81,5	102	350	-	108	3 1/2″	3 1/2″
PEU-450-090-S98		900			7,6			8,1											
PEU-450-120-S98		1200			10,2			10,7											
PEU-450-150-S98		1500			12			12,5											
PEU-450-060-S120	1,2	600	Box 3 1/2″ EUE / NUE	Pin / Box 3 1/2″ EUE / NUE	5,3	114,3	Box 1 9/16″ (rod 1 1/8″)	5,8	42,8	62,8	10	240	82,8	102	350	-	108	3 1/2″	3 1/2″
PEU-450-090-S120		900			7,9			8,4											
PEU-450-120-S120		1200			10,6			11,1											
PEU-550-045-S135	1,35	600	Box 4 1/2″ EUE / NUE	Pin / Box 4 1/2″ EUE / NUE	2,5	146	Pin 1 9/16″ (rod 1 1/8″)	3	61,6	87,1	12,75	150	113	133	350	-	133	4 1/2″	4 1/2″
PEU-550-090-S135		900			5			5,5											
PEU-550-120-S135		1200			7,5			8											

PCP BENCH TEST

Each pump is tested on a bench test according to ISO 15136-1 to ensure the customer receives a pump of propper efficiency for the application. Pump test reports will supply useful information such as pump efficiency and torque. Follow - up testing on used pumps can help determine whether or not they can be reused on another application.

Test Report Example:

No.:
Product: PROGRESSIVE CAVITY PUMP PEU-350-120-S16 N
Rotor series: 13 K 586
Stator series: K 672
Elastomer code: NBR 2
Stator/Rotor tightening: N (J=clearence; N = normal; T = tight)
Testing fluid: Water with lubrication additives
Temperature testing fluid: 40 °C



DATA SHEET FOR PCP SELECTION

Our specialists have ability to analyze and reccomend the most efficient and effective PCPump by typedimension, elastomer type, rotor size and other characteristics for each application. Please ensure that all production and minimum well data information is completed as accurately as possible. The quality of the information is critical to the well modeling from which the equipment and technical recommendations are proposed.

Data sheet ISO-15136

Date		
Company name:		
Contact		
Phone		
E-mail		
Completion data		**Units circle one**
Pump seating depth [PSD] (measured depth [MD])		m - ft
Pump seating depth [PSD] (true vertical depth [TVD])		m - ft
Inclination at PSD		°/ 100 ft - ° / 30 m
Maximum deviation or dogleg severity for PCP		°/ 100 ft - ° / 30 m
Total well depth (TVD)		m - ft
Datum or reference depth		m - ft
Depth of producing interval (MD and / or TVD)		m - ft
Casing OD		mm - in
Min casing drift diameter between wellhead and PSD		mm - in
Casing weight and grade		Kg/m – lbm/ft
Casing connection type		
Tubing OD		mm - in
Tubing weight		Kg/m – lbm/ft
Tubing grade		
Tubing thread type		
Tubing inner coating type and thickness (if applicable)		
Packer? MD:		m - ft
Torque anchor depth MD:		m - ft
Torque anchor type		
Pump intake type: Slotted ☐ Selective ☐ Static gas separator ☐ Tail Joint ☐ Other ☐		
Fluid data		
API oil gravity		degrees
Total fluid viscosity	cP	C - F
Viscosity table	cP	C - F
	cP	C - F
	cP	C - F
H_2S	% - ppm	Water S.G.
CO_2	% - ppm	Water Salinity ppm
Water pH		
Bubble point pressure at reservoir temperature		kPa - psi
Aromatics (benzene, toluene, xylene)		%

Well information		
Well name		
Field		
Well location	Onshore ☐ Offshore ☐	
Operating environment: Coalbed methane☐ Heavy oil ☐ Conventional oil ☐ Other ☐		
Reservoir type: Carbonate ☐ Consolidated sandstone ☐ Unconsolidated sandstone ☐ Coal ☐ Shale ☐		
Reservoir recovery process: Aquifer drive ☐ Solution gas drive ☐ Water flood ☐ Coal dewatering ☐ EOR ☐		
Well type: Vertical ☐ Directional ☐ Slant ☐ Horizontal ☐		
Completion type: Perforating casing ☐ Open hole ☐ Slotted liner ☐ Gravel pack ☐ Sand screen ☐		
Target production		m^3pd - bfpd
Target PCP service life		
Deployment method	Rod ☐ Tubing☐ Wireline ☐	
Production data		**Units circle one**
Current production		m^3pd - bfpd
Water cut		%
Solids		% by volume
Minimum/maximum operational pump speeds (if known)		rpm
Producing gas oil ratio		sM^3/sm^3– scf/stb
Wellhead pressure		kPa - psi
Casing pressure		kPa - psi
Pump intake temperature (static)		C – F
Wellhead temperature		C – F
Fluid level from surface: static		m - ft
Reservoir temperature at datum depth		C – F
Reservoir static pressure		kPa - psi
Producing pressure at pump intake or producing fluid level		kPa – psi m - ft
Productivity index		m^3/kPa – bbl/psi
Casing / tubing gas rate ratio or downhole free gas separation efficiency		sm^3/sm^3 – scf/stb
Slugging tendency of fluid / gas / solids into pump? Yes ☐ No ☐		
History of scale related problems?	Yes ☐	No ☐
History of paraffin deposition?	Yes ☐	No ☐
History of asphaltene deposition?	Yes ☐	No ☐
Foamy oil behaviour?	Yes ☐	No ☐
History of solids related problems such as plugging and erosion of downhole components?	Yes ☐	No ☐
Emulsions?	Yes ☐	No ☐
If yes, please provide inversion point and emulsion viscosity data		
Treating chemicals being injected in the well?	Yes ☐	No ☐
If yes, please describe:		
Can you provide:		
Deviation survey	Yes ☐	No ☐
Compositional fluid analysis	Yes ☐	No ☐

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