

# Artificial Lift Systems

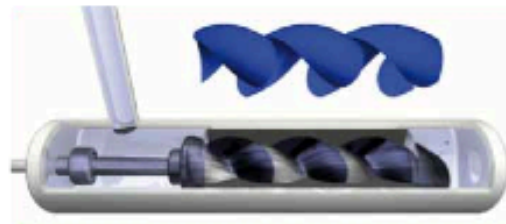
Artificial Lift Division



## Progressive Cavity Pumps (PCP)



The Progressive Cavity Pumps are designed for pumping of high or low viscosity, making them excellent to manage great quantities of solids or sand.



## Advantages

- It does not require a retention valve at the entrance or exit
- Fast and easy installation, special tools are not needed
- The fluid is not agitated or altered during pumping
- High resistance to abrasion and corrosion
- Minimum noise levels
- Low energy consumption



TYPES	DISPLACEMENT			PUMPING CAPACITY		
	ml/r	m3/d	bb/d	Stages	Height (m)	Height (ft)
7-40	7	0.01	0.06	0-40	0-1800	0-5900
28-40	28	0.04	0.25	0-40	0-1800	0-5900
40-42	40	0.058	0.36	0-42	0-1900	0-6200
75-40	75	0.108	0.68	0-40	0-1800	0-5900
120-40	120	0.173	1.09	0-40	0-1800	0-5900
190-40	190	0.274	1.72	0-40	0-1800	0-5900
300-27	300	0.432	2.72	0-27	0-1200	0-3900
400-30	400	0.576	3.62	0-30	0-1300	0-4200
500-21	500	0.720	4.53	0-21	0-960	0-3100
600-21	600	0.864	5.43	0-21	0-960	0-3100
800-16	800	1.152	7.25	0-16	0-730	0-2400
1100-16	1100	1.584	9.96	0-16	0-730	0-2400
1400-14	1400	2.106	12.7	0-14	0-640	0-2100
1600-12	1600	2.304	14.5	0-12	0-550	0-1800
230-40	230	0.331	2.08	0-40	0-1800	0-5900
375-40	375	0.540	3.40	0-40	0-1800	0-5900
460-33	460	0.660	4.17	0-33	0-1500	0-4900
580-33	580	0.835	5.25	0-33	0-1500	0-4900
800-24	800	1.152	7.25	0-24	0-910	0-2900
1200-21	1200	1.728	10.9	0-21	0-960	0-3100
1600-21	1600	2.304	14.5	0-21	0-960	0-3100
2000-21	2000	2.880	18.1	0-21	0-730	0-2400
2600-12	2600	3.744	23.5	0-21	0-550	0-1800

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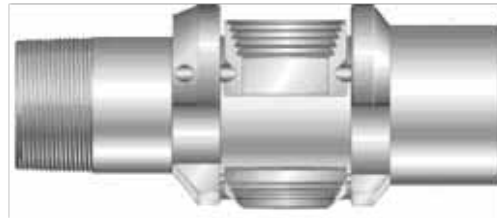
## Equipments and accessories for (PCP)

### Torque anchor

The torque anchor is designed to anchor the pipe string. The advantages of anchoring the pipe string is to assure that they do not unscrew themselves as a result of the torsion forces of the pump that will cause them to fall into the well. Anchoring the pipe string also prevents the rotor from oscillating during the rotation which can reduce efficiency.

### Operation

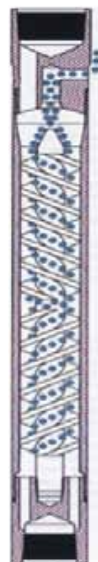
The torque anchor is placed in the downhole assembly underneath the pump. The anchor is lowered and is activated by applying 120 degree rotation counterclockwise. The anchor is released by rotating clockwise 120 degrees or by lifting it. Once the anchor is released, is free to move in different directions and it can even be removed from the well.



Casing Size (mm)	Pipe Weight lbs/Ft (Kg/m)	Thread Connections I.D en (mm)	I.D. en (mm)
5 1/2" (139.7)	13 - 20 (19.3 - 29.8)	2 7/8" EU (73.0 mm EU)	2.44 (62.0)
7" (177.8)	17 - 26 (25.3 - 38.7)	3 1/2" EU (88.9 mm EU)	2.99 (75.9)
8-5/8" (219.1)	20 - 32 (29.8 - 47.6)	4 1/2" EU (114.3 mm EU)	3.96 (100.6)
9- 5/8" (244.5)	29.3 - 47.0 (43.6 - 69.94)	4 1/2" EU (114.3 mm EU)	3.96 (100.6)

## Gas Separator for a Progressive Cavity Pump (Pc Pump)

The gas separator for a Progressive Cavity Pump (PCP) can be operated in every well where it is suspected that the gas content affects the production performance. These are the reasons why it is desired to install a gas separator in the well.



### Advantages:

- Increments pump efficiency and production
- Eliminates CO<sub>2</sub> and H<sub>2</sub>S at the pump entrance
- Increases the pump usefull life