

Submersible PCP Oil Production System

I . System Main Parts

The submersible PCP mainly includes: submersible motor and protector, reducer and protector, shaft, PCP, control cabinet and cable.

II . Working Principle

The power is delivered by control system to submersible motor via oil-submersible cable and the motor is driven to rotate. After the motor is decelerated by the reducer at a certain reduction ratio, the power is delivered to screw pump and the screw pump is driven to rotate. Then liquids are realized the liquid lifting.

III. Movement Features

- No movement parts on the wellhead, sealing type is static seal, ground safety, environmental protection.
- No movement parts in tubing, no abrasion between rod and tubing, to improve the service life of the tubing.
- The submersible motor is connected to the screw pump after being decelerated and increased by the reducer.
- Under the environment of water or crude oil, has good adaptability to the fluid, no gas corrosion and no gas lock, and can work efficiently in high viscosity crude oil.
- Adapt to various well condition to lift the oil.

IV. System reliability

- According to the well condition to design system scheme, the equipment customization mode is implemented.
- The temperature resistance of the system can reach up to 200 °C.
- The torsion strength of the reducer can reach up to 1200Nm, which meets the requirements of the screw pump operation.
- The protector adopts a double capsule single sedimentation cavity structure to

effectively isolate the well fluid and balance the internal and external pressure difference.

- The cable uses downhole special armored cable and can be optimally configured for internal materials according to the well conditions.
- The screw pump adopts oilfield special rubber and special processing technology to ensure the running torque and volumetric efficiency.

V. Technical Parameters

Specification	Head(m)	Rotation Speed (r/min)	Theoretical displacement (m ³ /d)	Motor Type (Kw)	Voltage level (V)	OD (mm)
QYLB28-27	1000	70-150	2.8-6	15	140-3600	114
QYLB28-40	1800	70-150	2.8-6	15	140-3600	114
QYLB40-27	1000	70-150	4-8.64	15	140-3600	114
QYLB40-40	1800	70-150	4-8.64	15	140-3600	114
QYLB40-50	2000	70-150	4-8.64	15	140-3600	114
QYLB75-27	1000	70-150	7.56-16.2	30	140-3600	114
QYLB75-40	1800	70-150	7.56-16.2	30	140-3600	114
QYLB75-50	2000	70-150	7.56-16.2	30	140-3600	114
QYLB120-27	1000	70-150	12-25.9	30	140-3600	114
QYLB120-40	1800	70-150	12-25.9	30	140-3600	114
QYLB160-30	1400	70-150	16-34.5	30	140-3600	114
QYLB200-27	1000	70-150	20-43	30	140-3600	114

Notes: The above is a list of some specifications, customized processing according to customer requirements



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