

New Generation Long Stroke Pumping Units

FORLAND SERVICES LLC brings a new generation of long stroke pumping units with adjustable stroke length and individual upward/downward speed features to market. With proven technology and innovative design, the unit offers higher performance efficiency, greater output and investment return. This unit is designed to handle all types of well conditions especially deep wells, high fluid-volume wells, deviated, horizontal, gaseous wells, heavy and tight oil wells where other form of lift become inefficient or conventional rod lift is not feasible without excessive down time. In many applications, the unit can eliminate use of initial mid-size ESPs as well as assist in transitioning from ESPs or gas lift to rod lift sooner. For vertical wells where initial production is in the 700 to 900 bpd range, this unit is also efficient and can be installed during the first stage, enabling all downhole equipment kept consistent through whole production stage.

Features and Advantages

- Adjustable stroke length (\geq half max stroke length recommended); flexible start point of each stroke.
- Stepless SPM adjustment; independent up stroke and down stroke speed control, improving pump volumetric efficiency and helping eliminate gas-lock problems.
- Varies unit models and broad range of load capacity from 3 tons to 30 tons and fluid volume up to 7000 bpd meets a variety of production goals.
- Soft reversing mechanism thru combination of motor communication and VSD control, reducing impact on rods and downhole pump and improving system life span.
- Intelligent control system includes an integrated power supply, VSD/PLC unit, HMI module, physical indicators/buttons, and remote access module.





- Smart dual-traveling sprocket structure avoids the use of carriage as traversing mechanism and markedly reduces vibration of the rod as well as reduces required torque to allow the use of smaller motor and gear reducer.
- Linear counter balance and low system disturbance make dynamometer card very close to a theoretically perfect card.
- Easy counterweights change and ECB adjustment.
- 90% pre-assembled for easier onsite installation; easy counterweight adjustment and easy well service, no heavy equipment needed; easy repair of almost all major components on site.
- Multiple safety features including most moving parts enclosed within the structural tower away from personnel.

Specifications

Model Parameter	270-240	360-288	360-306	500-306	500-366
Max. Polished Rod Load (lbf/kN)	27,000 120	36,000 160	36,000 160	50,000 220	50,000 220
Rated Reducer Torque (in·lbf/kN·m)	166,600 18.8	249,400 28.2	249,400 28.2	404,000 45.7	404,000 45.7
Rated Motor Power (kW)	55	90	90	110	110
Max. Stroke (in/m)	240 6	288 7.3	306 7.8	306 7.8	366 9.3
Min. Stroke Length (in/m)	≥1/2 Max. Stroke				
Max. Stroke Speed (spm)	4.5	4.5	4.5	4.3	3.75
Racetrack Max. Stroke Speed (spm)	5.6	5.5	5.5	5.4	4.6
Min. Stroke Speed (spm)	≥0.5				
Counterbalance Box Weight (lbs/kg)	6,600 3,000	7,700 3,500	8,380 3,800	9,920 4,500	9,920 4,500
Max. Auxiliary counterweight (lbs/kg)	15,000 6,800	17,640 8,000	22,040 10,000	30,860 14,000	30,860 14,000
Unit Weight (lbs/kg)	31,970 14,500	46,300 21,000	50,260 22,800	55,110 25,000	59,520 27,000
Unit Dimensions, L x W x H (ft/m)	11.5*7.2*39.4 3.5*2.2*12.0	13.5*7.5*43.3 4.1*2.3*13.2	13.5*7.5*44.6 4.1*2.3*13.6	13.5*7.5*44.6 4.1*2.3*13.6	14.8*8.2*50.9 4.5*2.5*15.5
Shipping Dimensions, L x W x H (ft/m)	8.2*6.6*37.7 2.5*2.0*11.5	8.9*7.2*41.7 2.7*2.2*12.7	8.9*7.2*43.3 2.7*2.2*13.2	8.9*7.2*43.3 2.7*2.2*13.2	10.2*7.9*49.2 3.1*2.4*15.0
Working Temperature (°F/°C)	-40°F ~ 160°F -40°C ~ 70°C				
Automatic braking system	Yes				



Maximum Production by Depth

Depth, ft	360-288/306			500-306			500-366		
	Pump Size, in	Max SPM	Production at 100%, bpd	Pump Size, in	Max SPM	Production at 100%, bpd	Pump Size, in	Max SPM	Production at 100%, bpd
2000	5.75	5.5	6105/6486	5.75	5.35	6310	5.75	4.6	6489
3000	4.75	5.48	4166/4427	4.75	5.35	4306	4.75	4.6	4428
4000	3.75	5.49	2597/2759	4.25	5.35	3447	4.45	4.6	3545
5000	3.25	5.5	1950/2072	3.75	5.35	2684	3.75	4.6	2760
6000	2.75	5.5	1396/1484	3.25	5.35	2016	3.25	4.6	2073
7000	2.25	5.5	935/993	2.75	5.35	1443	2.75	4.6	1484
8000	2	5.5	739/785	2.5	5.35	1193	2.5	4.6	1227
9000	1.75	5.5	565/601	2.25	5.35	966	2.25	4.6	994
10000	1.5	5.5	415/441	2	5.35	763	2	4.6	785
11000	1.25	5.5	289/307	1.75	5.35	584	1.75	4.6	601
12000	1.25	5.5	289/307	1.5	5.35	429	1.75	4.6	601

Applications

- High fluid-volume wells
- Heavy oil wells
- Directional drilled, horizontal wells
- Wells with complex conditions
- Alternative to initial mid-size ESPs
- Energy saving

