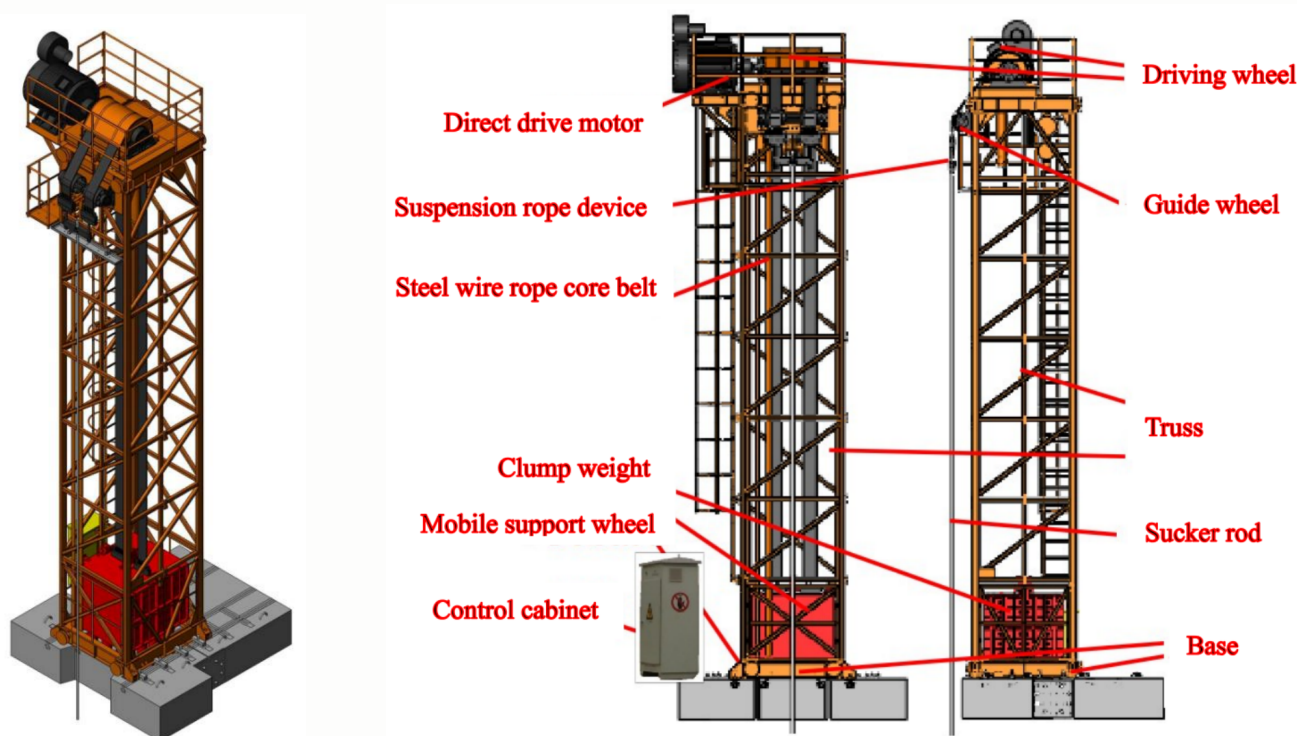


◆ WORKING PRINCIPLE

The tower type direct drive motor pumping unit is a type of pumping unit directly driven by a low-speed rotating motor, which eliminates the reduction gearbox and four link mechanism. Adopting the principle of balance balance, it has the characteristics of large load, long stroke, low impulse, etc. It can achieve stepless speed regulation, intelligent control, and significant energy-saving effect. Simple structure, few fault points, and convenient maintenance.

◆ MAIN STRUCTURE

- ★ Bearing system: guide wheel, truss;
- ★ Drive system: direct drive motor, drive wheel;
- ★ Balance and other auxiliary systems: counterweight box, steel wire rope core belt for dragging the sucker rod, suspension rope device, anti-collision device, contactless limit device, etc;
- ★ Pumping unit drive and control system: including dedicated frequency converter, control panel, and control protection device.

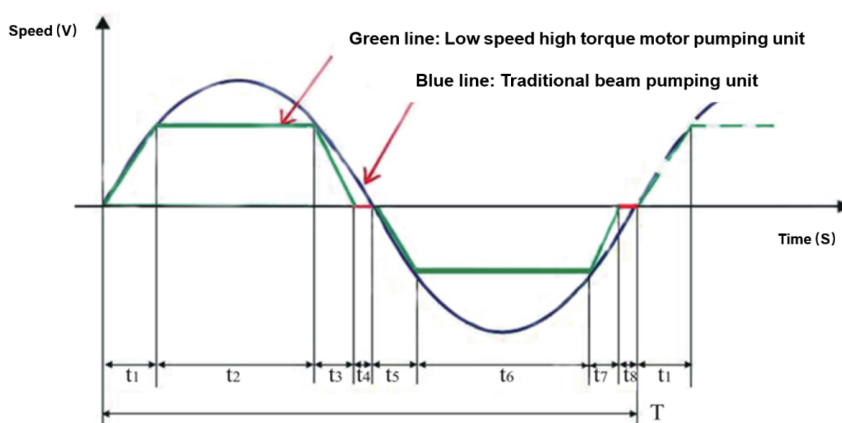


Upstroke thrust = weight of half a liquid column
Downstroke thrust = weight of half a liquid column

◆ SPORTS MODE

- ★ Fast up and slow down: suitable for oil and gas reservoirs with high gas oil ratio.
- ★ Slow up and fast down: suitable for heavy oil and gas reservoirs.
- ★ Same speed up and down: suitable for ordinary oil and gas reservoir wells.
- ★ Reversing stagnation interval pumping: suitable for oil and gas reservoirs with poor liquid supply capacity, which can maintain a balance between liquid supply and pumping.

Comparison diagram of suspension point motion trajectory



t1: Uniform acceleration time for the upward movement of the pumping unit

t2: Uniform speed time for the upward movement of the pumping unit

t3: Uniform deceleration time for upward movement of the pumping unit

t4: Top dead center dead time of the pumping unit

t5: Uniform acceleration time for the downward movement of the pumping

t6: Uniform speed time for the downward movement of the pumping unit

t7: Uniform deceleration time for downward movement of the pumping unit

t8: Down dead center dead time of the pumping unit

T: The time for the pumping unit to run for one stroke

Notes: t1= t5, t3= t7, t4= t8

◆ TECHNICAL PARAMETER

Model: ZQCY	08-07-030	10-07-040	12-07-045	14-08-053	16-08-073	20-08-106	22-08-126	28-09-174
Motor output torque kN.m	4.5	6	6.8	8	11	8.5	10	14
Max polished rod load 10kN	8	10	12	14	16	20	22	28
Max load difference kN	30	40	45	53	73	106	126	174
Max stroke m	7	7	7	8	8	8	8	9
Rated power kW	18.5	22	30	45	55	75	90	132
Ambient temperature ℃	-50~60	-50~60	-50~60	-50~60	-50~60	-50~60	-50~60	-50~60
Brake device for counterweight	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Whole machine backward movement function	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

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