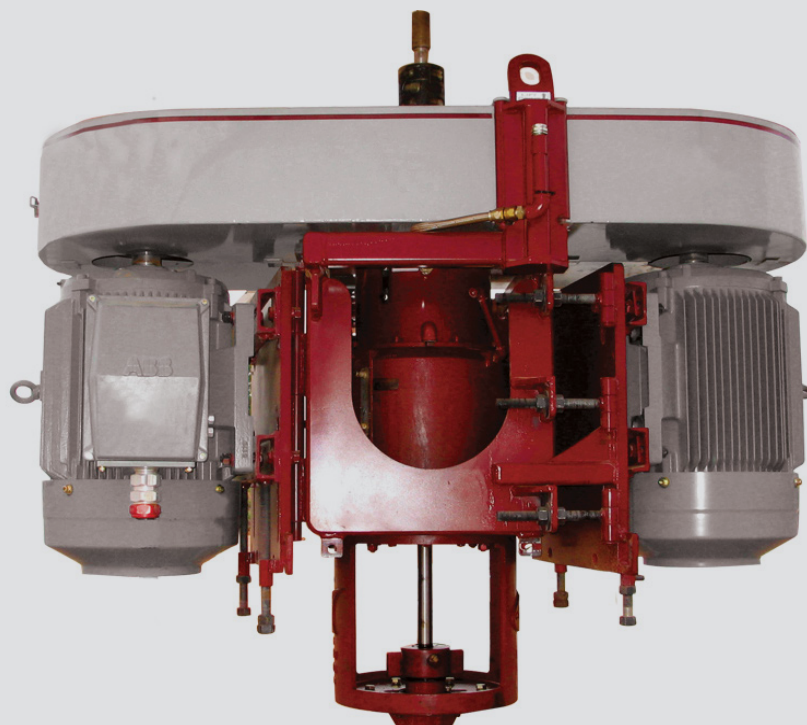


M-300 Electric Drivehead



M-300 Electric Drivehead

We provide a complete line of artificial lift technologies and oilfield equipment around the globe. Our entire line of direct driveheads are specifically designed for use with progressing cavity pumping systems.

Our M-300 Electric drivehead is part of the M-Series of direct drives, which employs the efficient hydrodynamic braking system. Our dual motor system design is used in high horsepower applications in conjunction with our high volume/high lift PC pumps. As part of our commitment to safety, all of our direct drives have a fully enclosed and hinged belt guard. Each drive is tested and inspected to meet our quality requirements.

Features and Benefits

- Robust frame
- Bearing box is designed with a three bearing system
- Detachable leakfree stuffing box
- Large brake reservoir for heat dissipation
- Repeatable and reliable brake curve
- Induction hardened seal surfaces eliminate shaft grooving and increases seal life
- Operator-friendly guards and motor adjustments
- Easy-to-adjust hinged door for simple belt tightening
- Easy-to-adjust motor height
- Accessible fill/drain spouts for easy oil changes
- Minimal maintenance
- Service and technical support

Options

- Rope style stuffing box
- JamPak stuffing box
- Leak free integral stuffing box
- Retrofit stuffing box

Accessories

- Anti-ejection clamp
- Lock-out device
- Polished rod guard
- Booth guard
- Support arms
- Shipping/support stands
- Tachometer

M-300 Electric Drivehead

Specifications

Drive Type	Direct
Shaft Type	Hollow
Drive Style	Bearing Box
Input Style	Vertical
Drive Ratio	1:1
Backspin Control	Hydrodynamic
Ratings	
Max. Output Torque	3500 ft-lbs (4745 Nm)
Thrust Bearing	350,700 ISO lbf
Thrust Bearing*	90,920 Ca90 lbf
Thrust Bearing**	48,130 750 million cycles lbf
Maximum Speed	600 rpm
Horsepower Rating**	120 to 300
Frame Type	Dual Motor
Compatible Frame Size NEMA	364T, 365T, 404T, 405T, 444T, 445T
Compatible Frame Size IEC	225S, 225M, 250S, 250M, 280S, 280M
Polish Rod Size	1 1/2" or 2" (38mm or 51 mm)
Max. Operating Temp.	140° C/284° F

* Ca90 load rating is for 90 million revolutions. Reducing load one half increases life 10 times. Reducing rpm by one half doubles hours of life.

** Approximately 3 years at 500 rpm

*** Maximum HP rating based on frame size only. Care must be taken in selecting motor and sheave combinations to ensure input rod torque is not exceeded.

Dimensions (excluding motor)	
Height w/Retro Stuffing Box	74 3/4" (1900 mm)
Height w/Integral Stuffing Box	58 3/8" (1483 mm)
Width	42" (1067 mm)
Input Shaft Size	4 1/4" (108 mm)
Weight	2100 lbs (953 kg)
Other Data	
API Wellhead Connection	3 1/8" – 3000 psi R31 Flange
	4 1/16" – 3000 psi R37 Flange
	5 1/8" – 2000 psi R41 Flange
	5 1/8" – 3000 psi R41 Flange
Prime Mover	Electric
DriveN Sheave Max. Dia. ¹	31.5" (800 mm)
DriveR Sheave Max. Dia. ^{1,2}	14" (356 mm)
DriveR Sheave Min. Dia. ³	Depends on Motor Size
Drive Center to Center Min ³	25 3/4" - 28"
Drive Center to Center Max ³	27 3/4" - 29 5/8"

¹ Sheave dia. is based on C-groove belts. Values may change when other styles of belts are used

² Consult motor manufacturer.

³ Center to center distances are based on using the smallest and largest compatible frame sizes.

Hydrodynamic Brake

We have incorporated the well-proven principle of the hydrodynamic brake into the M-Series direct drives to provide safe, reliable and smooth backspin control.

The hydrodynamic brake consists of a stationary half (stator) and a rotary half (rotor). The stator is bolted into the housing and the rotor is coupled to the shaft. During normal operation the rotor spins freely. When the unit goes into backspin, the rotor begins to rotate in the counter clockwise direction. The working fluid is then forced to the outside of the rotor and creates a circular flow path inside the brake cavity. As the energized fluid from the rotor comes into contact with the stationary fins of the stator, the energy is transferred to the stator and then back to the working fluid as heat. A small amount of working fluid is continually removed from the system and replaced with new fluid. The working fluid contained in the drivehead reservoir is used as the braking medium, which allows the energy stored in the fluid column and rod string to safely dissipate without the drivehead reaching excessive backspin speeds.

Advantages of the Hydrodynamic Braking System

- Non-friction brake eliminates wear on brake components
- Brake capable of 1,575 ft-lbs (minimum) resisting torque at 500 rpm
- Reliable and repeatable braking
- Backspin energy is absorbed by the working fluid reservoir
- Consistent braking with minimal maintenance throughout the drivehead's life

Hydrodynamic Brake Performance

