

CENTrilift SP superior performance series motors

Optimize lifting costs with reliable, efficient motor performance

Applications

- Conventional oil wells
- Unconventional oil wells
- Gas well dewatering

Features and benefits

- Proven bearing system
 - Lowers operating temperature and improves efficiency
 - Stabilizes motor operation with tungsten carbide sleeve and insert at motor base
 - Prevents rotor bearing spinning with an anti-rotation T-ring
- Enhanced stator and rotor design
 - Maximizes efficiency
 - Improves electrical and mechanical performance
 - Stabilizes windings
- Enhanced motor head design
 - Incorporates high torsional strength shaft for greater horsepower capacity
 - Improves reliability in hard start applications
 - Features enhanced insulating block to handle 450°F (232°C) conductor temperature
 - Connects seamlessly to the CentriLink low-profile MLE
- Optional flame-spray coating
 - Improves run life in corrosive environments

The **CENTrilift™ SP superior performance series motor**, which is available in 4.50 in. and 5.62 in. outside diameter sizes, is engineered to meet the industry's increasingly stringent requirements for greater reliability in demanding downhole conditions. Design enhancements—built on the foundation of Baker Hughes industry-proven motor technology—extend motor life and improve motor efficiency, allowing operators to reduce overall lifting costs.

The CENTrilift SP motor bearing system design uses a proprietary non-magnetic, stainless steel bearing carrier in conjunction with all-steel laminations to optimize motor efficiency and lower bearing operating temperature. The patented anti-rotation elastomer T-ring design improves reliability by preventing bearing spin while at the same time allowing axial movement during thermal cycling. A compliantly-mounted tungsten carbide bushing and sleeve at the motor base provides robust support at this critical location in the motor's construction.

The CENTrilift SP motor features an optimized rotor and stator design for the industry's highest efficiency rating, which helps operators reduce power expenses and lower overall lifting costs. High-performance shaped rotor bars and enhanced rotor lamination geometry drive greater efficiency. An open-stator design uses enhanced insulation materials and a special

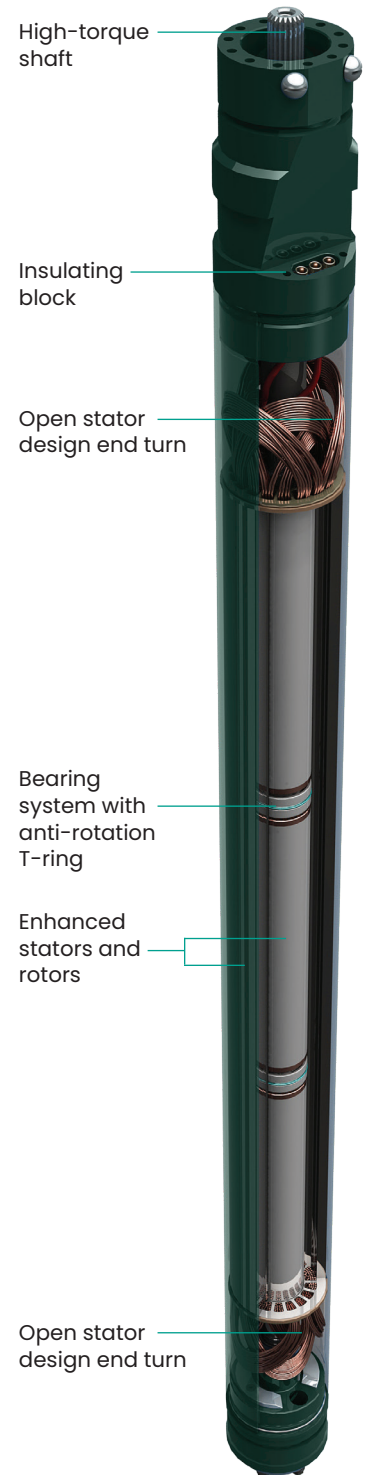
coating to restrain the windings for reliable performance in a wide range of operating conditions. Closed slot stator laminations fix wires in place to increase operating clearances while the optimized stator laminations maximize efficiency and improve thermal life.

A redesigned motor head enhances the motor's longevity and operational capabilities. A high torsional strength shaft allows for greater horsepower ratings and provides greater strength in hard-start applications. An enhanced insulating block withstands operating temperatures up to 450°F (232°C). The motor head connects seamlessly to the **CentriLink™ low-profile motor lead extension (MLE)**, which features the industry's highest temperature and voltage ratings. The MLE employs a lower profile motor lead connection with an in-line connection design to minimize the risk of damage during system installation. A special coating is available to improve the 450SP motor's reliability in corrosive environments. The coating is a metalized flame-spray with an epoxy overcoat.

The motor design improvements underwent extensive in-house reliability testing at the Baker Hughes Artificial Lift Research and Technology Center (ALRTC). Contact your Baker Hughes representative today to find out how the CENTrilift SP submersible motor can improve the performance of your ESP systems.

Specifications

	450SP	450XP	562SP	562XP
Rotor count	2-24 R single	2-26 R single 30-52 R tandem	2-16 R single	2-22 R single 24-32 R tandem
Maximum horsepower rating	264	572	400	800
Available metallurgy	Carbon steel	Carbon steel Corrosion resistant	Carbon steel	Carbon steel Corrosion resistant
MLE type	CentriLink 12	CentriLink 12	CentriLink 12	Singles CentriLink 12 Tandems CentriLink 20
I-Block with debris shield	IB 12 450	IB 12 450	IB 12 562	Singles IB 12 562 Tandems IB 20 562
Stator type	Open winding	Encapsulated winding	Open winding	Encapsulated winding
Voltage rating	4500 V	4500 V	4500 V	4500 V
Splines	6T 2-12R 18T 15-24R	6T 2-12R 18T 15-26R	21 tooth involute	21 tooth involute
Thrust washers	Phenolic	ALR142	Phenolic	ALR142
Thrust bearing	Solid shoe	EHL	Solid shoe	EHL
Base bushing and sleeve	Tungsten carbide 2-12R	Tungsten carbide 2-12R	Tungsten carbide	Tungsten carbide
Magnet wire insulation	Double polyimide wrap	Enhanced polyimide wrap	Double polyimide wrap	Enhanced polyimide wrap



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