



REDA Maximus Eon extended-life, install-ready ESP motor

Increase ESP reliability and lifetime with a cooler, more robust, and more efficient motor

 **Motor OD:**
4.56 in [115.8 mm]

 **Efficiency:**
85.2%

 **Motor length:**
28% shorter than previous motor

Where it is used

Onshore and offshore ESP systems across all applications and conditions, including extreme weather

How it improves wells

- Reduces opex with high-efficiency, electromagnetic-optimized motor design delivering at least 3% better efficiency as compared with prior generations
- Extends reliability with robust rotor assembly and bearings, better electrical resistance, and cooler running temperatures
- Increases flexibility in string position and eliminates tandem configurations because motor length is 28% shorter as compared with prior models
- Delivers higher horsepower per rotor as compared with conventional designs
- Streamlines installation with factory preparation and filling, thereby reducing costly NPT and enabling early ESP startup
- Enables real-time downhole monitoring and control to further improve performance and extend lifetime

What it replaces

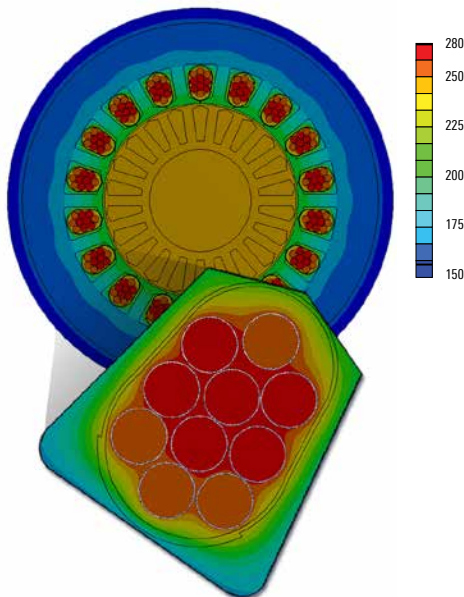
Conventional single and tandem induction motors

How it works

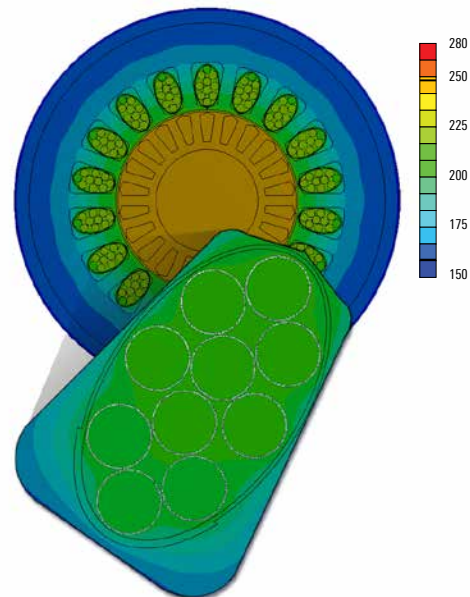
REDA Maximus Eon* extended-life, install-ready ESP motor delivers industry-leading efficiency and power factor with optimized motor geometry for electromagnetic and thermal performance through the operating range. The two-pole, three-phase, squirrel-cage induction motors transfer generated heat to the well fluid flowing past the motor housing, and the motor thrust bearing carries the load of the rotors.

The motors are factory vacuum filled in a controlled environment with high-temperature synthetic oil to provide dielectric strength, lubrication for bearings, and thermal conductivity. MaxJoint* ESP flange connection facilitates reliable motor and protector connections while ensuring a leak-tight seal. The MaxLok* ESP quick-plug motor lead extension (MLE) simplifies making up the pothead to the motor with a plug-in connection that eliminates taping of pothead terminals at the wellsite.

REDA Maximus ESP Motor



REDA Maximus Eon ESP Motor



Maximus Eon motor improves ESP performance with cooler running temperatures (right) as compared with the conventional REDA Maximus install-ready motor (left). It also delivers higher available horsepower per rotor and increased application flexibility.*

Maximus Eon

Motors include a gauge-ready base compatible with any Phoenix* artificial lift downhole monitoring systems sensor for real-time monitoring of ESP and reservoir properties. A temperature-sensing device directly connected to the motor winding enables real-time monitoring of the motor-winding temperature throughout all stages of operation.

Higher efficiency, reliability, and flexibility

The new electromagnetic-optimized design features a superior design that enables boosting horsepower by 33% and reduces motor length by 28% as compared with prior-generation motors.

The motor can be delivered with standard thermally optimized windings or encapsulated windings for extra cooling that lower operating temperature by an additional 30 degF. Encapsulation prevent fluids ingress into the windings, increases windings mechanical support, and improves motor reusability.

Thermal modeling also enabled design changes that increased flexibility in horsepower rating, enabling delivery of higher horsepower in low-temperature wells.

Maximus Eon Motor Specifications	
Motor series	456 series
OD, in	4.56
Motor type	Optimized extended variable rating
Configurations available	S, S-GRB, UT, LT, LT-GRB [†]
Metallurgy	Carbon steel, Redalloy* premium alloy
Horsepower range	S and S-GRB configurations: 40 to 360 hp without horsepower boost in 20-hp/rotor increments or 50 to 450 hp with maximum 25% horsepower boost in 25-hp/rotor increments [‡] UT, LT, and LT-GRB configurations: 540 hp [‡]
Nameplate frequency	50 Hz or 60 Hz
Max. winding operating temperature	400 degF [204 degC]
Storage temperature	-40 to 176 degF [-40 to 80 degC]
Stator	All-through interlocked lamination stack; standard nonencapsulated stators with epoxied-end turn Encapsulated stators [§]
Rotor bearings	Spring load key (SLK) stainless steel ion nitriding surface-hardened rotor bearings with polymer-lined radial bearing and wearing sleeves
Radial bearings	Polymer-lined radial bearings in motor head and base
Pothead design	400-plug-in type MaxLok MLE extension
Oil-filling process	Factory filled with no oil service required at the wellsite
Motor temperature measurement	Direct measurement of motor winding temperature with a built-in thermocouple connected to motor winding in S, S-GRB, LT, and LT-GRB configurations
Downhole gauge compatibility	S-GRB and LT-GRB configurations are fully compatible with all Phoenix system gauges
Protector compatibility	Fully compatible with all Maximus motor protectors
Shaft	High-torque shaft design with involute splines

[†] S = single, S-GRB = single with gauge-ready base, UT = upper tandem, LT = lower tandem, LT-GRB = lower tandem with gauge-ready base.

[‡] Data shown are for 60 Hz; contact your Schlumberger representative for 50 Hz.

[§] Optional feature.

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