Prepared for anything

A flexible ESP system like no other

Developed in response to the challenges faced by high-value wells, the MaxFORTE® high-reliability ESP system is a tailor-made lift assurance platform built, tested, and installed by the most highly skilled and experienced people in the industry.

Representing the best of Schlumberger engineering, manufacturing, and operations, the MaxFORTE ESP system is the most advanced ESP technology to date.
Pumps

Manufactured from the toughest materials
Made from a proprietary 5530 alloy that we pour in our own foundry, the pump stages are suited for production from 2,000 bbl/d to 25,000 bbl/d. For maximum radial stability, the pump also features silicon carbide keyless bearings, which are second only to diamond in abrasion resistance. High-grade INCONEL® 718 shafts are perfected to within two-thousandths of an inch using the industry’s only automated straightening system.

The MaxFORTE ESP system outperforms conventional pumps in even the most hostile environments, meets the variability of downhole environments, and ensures that reliability is never compromised.
Protector

Protected in the harshest environments
The head of the MaxFORTE ESP system protector is designed to tolerate sand; resist abrasion, gas, chemical attacks, and temperature degradation; and optimize protection with seven discrete barriers.

In addition, the integration of laser-welded metal bellows in the ultrahigh-load-bearing system further ensures protection even when the well is operating suboptimally.
Developed to set new standards in motor performance

The MaxFORTE ESP system motor is the most advanced submersible induction motor developed for the oilfield. It features extreme-temperature materials, the high-reliability components of Schlumberger subsea ESP systems, and the installation robustness of our industry-leading REDA® Maximus® electric submersible pump system’s plug-and-play technology.

During manufacturing, proprietary techniques eliminate the possibility of contamination, and the motor is thermally matched to ensure maximum mechanical stability across a wide operating range. The power connection to the MaxFORTE ESP system motor uses Trident® extreme-conditions motor lead extension technology, which incorporates three individually armored leads for improved phase separation, insulation, mechanical protection, and heat dissipation.
Sensor System

Updated to monitor data four times faster

Assembled in a clean room with electrostatic discharge control, the MaxFORTE ESP system gauge uses the most reliable electronics technology for continuous monitoring of the system. Changes in well performance are now captured faster than previous telemetry allowed, enabling constant updates to be made.

To ensure unparalleled reliability, the gauge has been subjected to more than 23,000 hours of rigorous qualification testing, including extreme shock, vibration, pressure, and temperature cycling.
System Design

**Designed for each well’s unique conditions**

Every MadFORTE ESP system is precisely tailored to the well it will service. A dedicated team evaluates the data provided and designs a custom system through an extensive peer review. The result is an ESP system that is optimum for the well performance, increases run life, and maximizes ROI.

Our highly trained engineered solutions group has an impeccable track record for providing solutions to the most challenging and complex operations, as well as designing and managing production systems for the world’s highest value wells.
Manufacturing

Assembled in a specialized facility
The MaxFORTE ESP system manufacturing center is an access- and environment-controlled area designated exclusively for the offshore market. Staffed by experienced engineers, manufacturing specialists, and inspectors, the facility offers 100% screening on every component as the team strives for a totally defect-free system. Following final assembly, every MaxFORTE ESP system undergoes a 72-hour system integration test prior to shipping.
Transportation

Shipped with no risk of damage
MaxFORTE ESP system shipping boxes are designed to eliminate the risk of damage during transit. Flex-resistant boxes cocoon the system and protect it from shock and vibration, while built-in vibration data loggers record any vibration the system may have been exposed to in transit. This gives the operator the assurance that the MaxFORTE ESP system is in perfect condition prior to being run in the well.
Operations

**Installed by dedicated specialists**

Vigilant testing, inspection, and preparation of MaxFORTE ESP systems at local ESP service centers ensures nonproductive rig time is eliminated during installation. The Schlumberger Zero Fault Commissioning* approach involves detailed work instructions and rigorous checklists to ensure every MaxFORTE ESP system installation is executed to the highest standard.

The MaxFORTE ESP system installation team is selected from Schlumberger’s most experienced and highest performing engineers and specialists. The team is used on every installation to ensure consistency of field personnel and that the reliability of the MaxFORTE ESP system is never compromised.
Surveillance

Monitored continuously for extended run life

Continuously changing well environments can be detrimental to the health of an ESP system. All MaxFORTE ESP systems are monitored 24/7 by a team of dedicated engineers in the Schlumberger Artificial Lift Surveillance Centre in the United Kingdom. Next-generation workflows and customized surveillance protocols, developed specifically for MaxFORTE ESP systems, significantly increase uptime and extend run life.

The patented Schlumberger Lift IQ* real-time production flow rate analysis service enables the monitoring of downhole flow rate and water-cut trends. This helps both production and reservoir engineers make key decisions on well and reservoir management, maximizing recoverable reserves and ROI.
Production without Compromise

The best in oilfield technology

Designed and manufactured for each well and installed by expert personnel, the MaxFORTE ESP system is set to become the most reliable and quality-assured artificial lift system on the market.

The MaxFORTE ESP system offers operators

- Increased ESP run life
- Improvement in well-by-well net present value
- Savings in annual total cost of ownership
- A defect-free system integrating engineering enhancements and manufacturing process improvements
- Built to the most rigorous quality and inspection processes in the industry

Development of the MaxFORTE ESP system has taken a systematic, technology-based approach to tackle the most hostile oilfield environments. Increased reliability, improved production, and higher levels of manufacturing and installation quality yield unrivaled performance for unprecedented run times.