

Schlumberger



# Artificial Lift

Integrated lifting solutions for enhanced well production

# Comprehensive artificial lift solutions

## Pioneering technology, services and optimization

Through strategic acquisitions, Schlumberger has brought together the best and brightest in the artificial lift industry. Located throughout the major basins, our team offers specialized expertise and complete equipment packages for every flow rate, including rod lift, progressing cavity pumps (PCPs), hydraulic stroking units, electric submersible pumps (ESPs), horizontal pumping systems, and gas lift.

Improve total cost of ownership by maximizing production and decreasing downtime using integrated solutions that keep your operation running at peak performance.



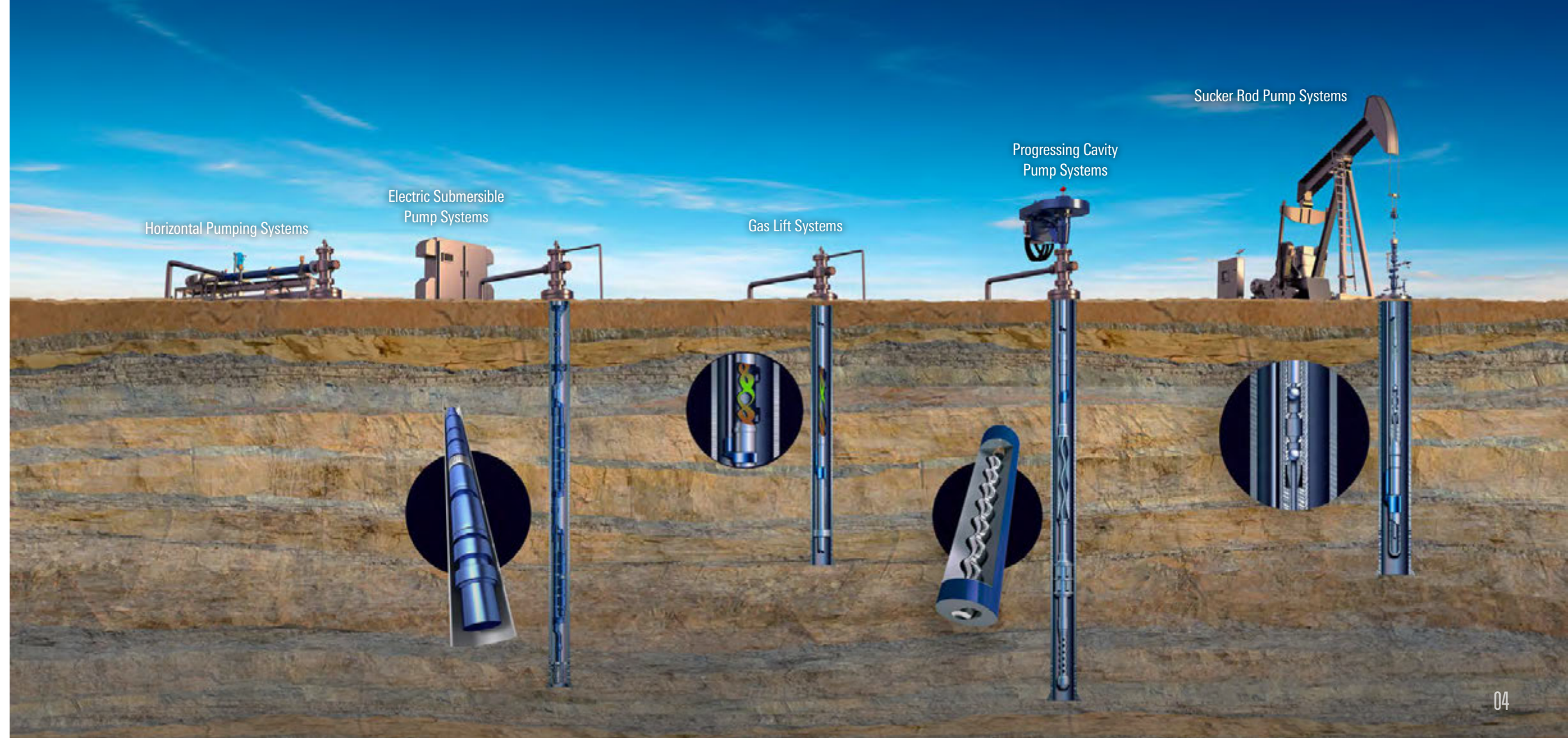


# Integrated lifting system

## Extensive offerings at any flow rate

Responding to changing flow rates requires in-depth knowledge of flow behavior and downhole conditions. Schlumberger offers products capable of handling a variety of flow rates in both mild and extreme environments.

Our real-time surveillance service provide accurate monitoring to indicate when a different form of artificial lift is required, enabling operators to quickly transition to a new system with minimal downtime.





# ESP systems

## Maximum power and production

Maximize production, increase system run life, and ultimately reduce system costs with a powerful, efficient ESP system fit for any well. With a range of options tailored for unconventional reservoirs, harsh environments, high-temperature wells, ultralow-volume wells, and more common well conditions, Schlumberger ESPs deliver high production rates early in the artificial lift cycle.



The ZETECs Shuttle alternative deployment system.

## REDA Maximus ESP system

Increase reliability and safety with an ESP system that features a plug-and-play motor, protector, and gauge.

## REDA Continuum unconventional extended-life ESP stage

Improve recovery and reliability at low rates and in gassy and abrasive environments.

## REDA Hotline high-temperature ESP systems

Increase production in high-temperature applications.

## REDA Coil coiled-tubing-deployed ESP system

Eliminate rig interventions to change out an ESP.

## ZEiTECS Shuttle rigless electric submersible pump replacement system

Retrieve and deploy ESPs without a rig or hoist with downhole electrical wet-connector technology for wireline, coiled tubing, or sucker rods.

## MaxFORTE high-reliability ESP system

Ensure trouble-free operations with continuous monitoring using one integrated system for thermal, deepwater, and hostile environments.



# Surface electrical equipment

## **Pump control for ESPs and surface pumping systems**

Schlumberger offers a complete line of surface electrical equipment specifically tailored to applications involving ESPs and surface pumping systems. Field measurements and computer modeling are used to select and deliver products customized to your well.

## **Variable speed drives**

Enable pump performance across a wide operating range by varying speeds; available in both low and medium voltages.

## **Fixed speed drives**

Provide motor control, protection, and monitoring in low- to medium-voltage switchboards.

## **Power analysis and project management**

Improve the performance of surface power and control systems with project engineering, data delivery, and manufacturing capabilities.

## **Surface equipment controllers**

Eliminate the need for multiple surface components with all wellsite control, surface, and downhole data acquisition functions in a single interface.





# Real-time surveillance and optimization

## In-depth analysis and diagnostics

Artificial lift monitoring systems draw on Schlumberger expertise, technology, and highly-systemized processes, and expertise to help you improve current lift system performance. Real-time data enables operators to gain immediate increases in production and develop plans to optimize underperforming wells.

## DesignRite artificial lift design and optimization software

Simplify the design process of ESP and gas lift systems with intuitive, user-friendly workflows.

## LiftWatcher real-time surveillance service

Achieve round-the-clock surveillance of artificial lift systems, even in locations where access is difficult or a data acquisition system is unavailable.

## SCB3 Site Communication Box

The SCB3 site communication box provides remote commissioning and two-way communication via the Artificial Lift Surveillance Centers. Alarm notifications and exemption reports are provided based on user parameters. Local storage prevents data loss during network outages. The SCB3 site communication box uses satellite and cellular connectivity and supports any Modbus® device. It has two serial ports and a menu-based interface for easy installation.

## Phoenix xt150 high-temperature ESP monitoring system

Monitor downhole pressure, temperature, current leakage, and vibration to provide the comprehensive data needed to protect ESP system integrity and optimize well performance.

## Phoenix CTS cable-to-surface artificial lift downhole monitoring system

Acquire pressure, temperature, and vibration measurements in real time for in-depth identification, diagnostics, and analysis.





# Progressing cavity pump systems

## Engineered for performance

KUDU progressing cavity pumps (PCPs) incorporate unique designs to handle the demands of heavy, medium, or light oil, coalbed methane, and dewatering applications at flow rates up to 1,000 bbl/d [160 m<sup>3</sup>/d]. Engineered to deliver a consistent head capacity with superior handling of solids and high-viscosity fluids, KUDU PCPs ensure maximum production performance even after the initial flow rate has dropped.

## KUDU progressing cavity pumps

Produce with maximum efficiency and less power consumption in lower-flow-rate wells.

## Driveheads

Improve safety and reliability with durable driveheads ranging from 7.5 kW to 149 kW.

## Power units

Prevent environmental spillage and provide noise control with open-skid and walk-in power unit designs.

## Hydraulic stroking unit

Next-generation hydraulically powered rod reciprocating system incorporates a preventative leak-free design and unmatched long stroke.

## KUDU Well Manager™ family of products

Protect your oilfield equipment and ensure your well is always running at optimum levels.





# Horizontal pumping systems

## Designed for years of trouble-free service

The REDA HPS horizontal multistage surface pumping system is a cost-effective alternative to conventional industrial pumps. Designed using ARZ abrasion-resistant zirconium for high-wear-resistant bearings, the pumping system effectively handles harsh conditions. The system's flow capabilities range from 40 galUS/min to 1,850 galUS/min [218 m<sup>3</sup>/d to 10,084 m<sup>3</sup>/d] with as much as 1,864 kW in a single unit.





# Sucker rod pump systems

## Advanced sucker rod pumping performance

Located throughout the major basins of North America, our rod lift team offers expertise and equipment tailored for low-flow wells. Through technology, innovation, a system engineering approach, and leadership in automation, we offer a range of equipment, including downhole and surface equipment, new and reconditioned pumping units, and spare parts.

## Pumping units

Maximize production with beam-balanced, low-profile, improved-geometry, and conventional pumping units.

## Rods and downhole equipment

Improve production reliability downhole with sucker rods, polished rods, coiled tubing, downhole pumps, and gas separators.

## Wellhead and surface equipment

Reduce downtime with comprehensive lift packages that include all the surface equipment used to hang the sucker rod string and downhole pump and to hook the well up to the flowline.

## Concrete bases

Stabilize equipment with portable concrete for various applications.

## Prime movers

Optimize energy consumption through a large selection of electric motor and gas engine prime movers.



# Gas lift systems

## Reliable performance in low-productivity wells

Our gas lift installations effectively manage abrasive materials such as sand, and can be used in low-productivity, high gas/oil ratio wells, or deviated wellbores. New gas lift systems are pressure-barrier qualified and rated to a higher pressure to enhance wellbore integrity and to provide reliable performance in deepwater and subsea wells, and for deeper depths of gas injection.

## Side pocket mandrels

Minimize or eliminate costly workovers with an innovative and industry-original design.

## Retrievable gas lift valves

Enhance well performance with one of the industry's most time-tested products.

## Conventional gas lift systems

Maximize production with conventional tubing-retrievable gas lift equipment.

## Surface flow control valves

Improve revenue with cost-effective, dependable flow control valves.





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[slb.com/AL](http://slb.com/AL)

ARZ, DesignRite, LiftPro, LiftWatcher, Lift IQ, MaxFORTE, Phoenix CTS, Phoenix xt150, REDA Coil, REDA Continuum, REDA Hotline, REDA HPS, REDA Maximus, and ZEITECS Shuttle are marks of Schlumberger.  
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