

ARTIFICIAL LIFT

# ROTAFLEX<sup>®</sup> LONG-STROKE PUMPING UNITS

Delivering high-performance  
rod lift in deep, high-volume  
and problematic wells



Weatherford<sup>®</sup>

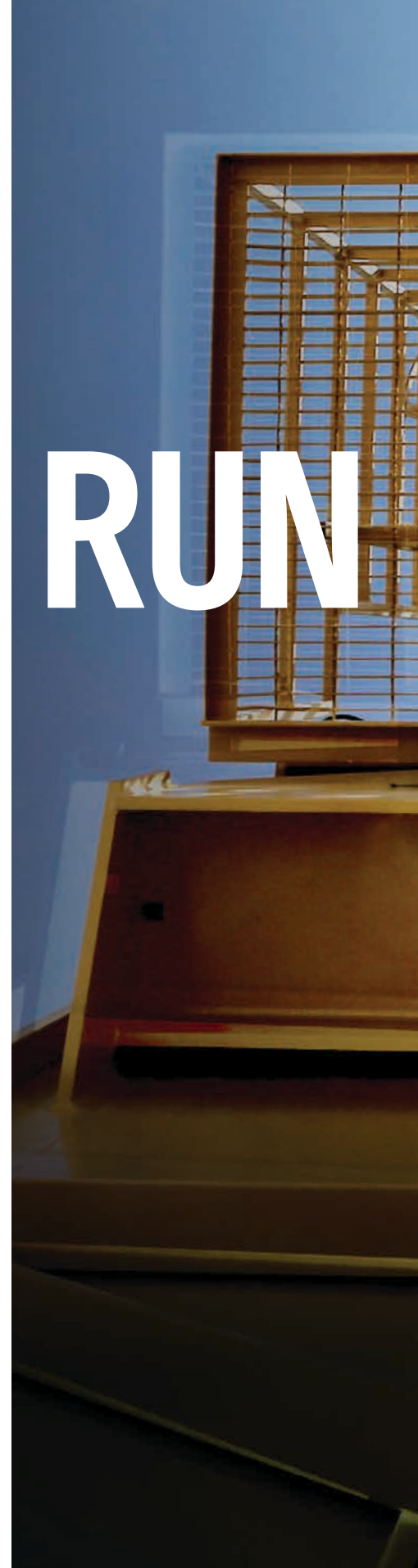
# BUILT FOR THE LONG RUN

The Rotaflex<sup>®</sup> long-stroke pumping unit is your shortest path to more profitable production.

The long and short of it is there is a better way to boost production. Rod lift is the undisputed king of efficiency, and we can get you there faster than ever before.

The latest Rotaflex long-stroke pumping unit helps you to transition to high-performance rod lift and eliminate the need for intermediate-lift methods. Field proven as a more prolific producer than conventional rod-lift systems, the Rotaflex unit boosts productivity with a longer stroke, more complete barrel fillage, and less wear on your surface and downhole equipment.

As the global leader in production optimization, Weatherford brings you the latest Rotaflex unit to further increase uptime, reduce the total cost of ownership, and streamline maintenance. Even in deep, high-angle, or high gas-to-liquids wells, these robust and simple-to-maintain units reduce downhole-failure frequency and their associated operating expenses (OPEX).







# ROTAFLEX UNITS TRIPLE AVERAGE RUN TIMES

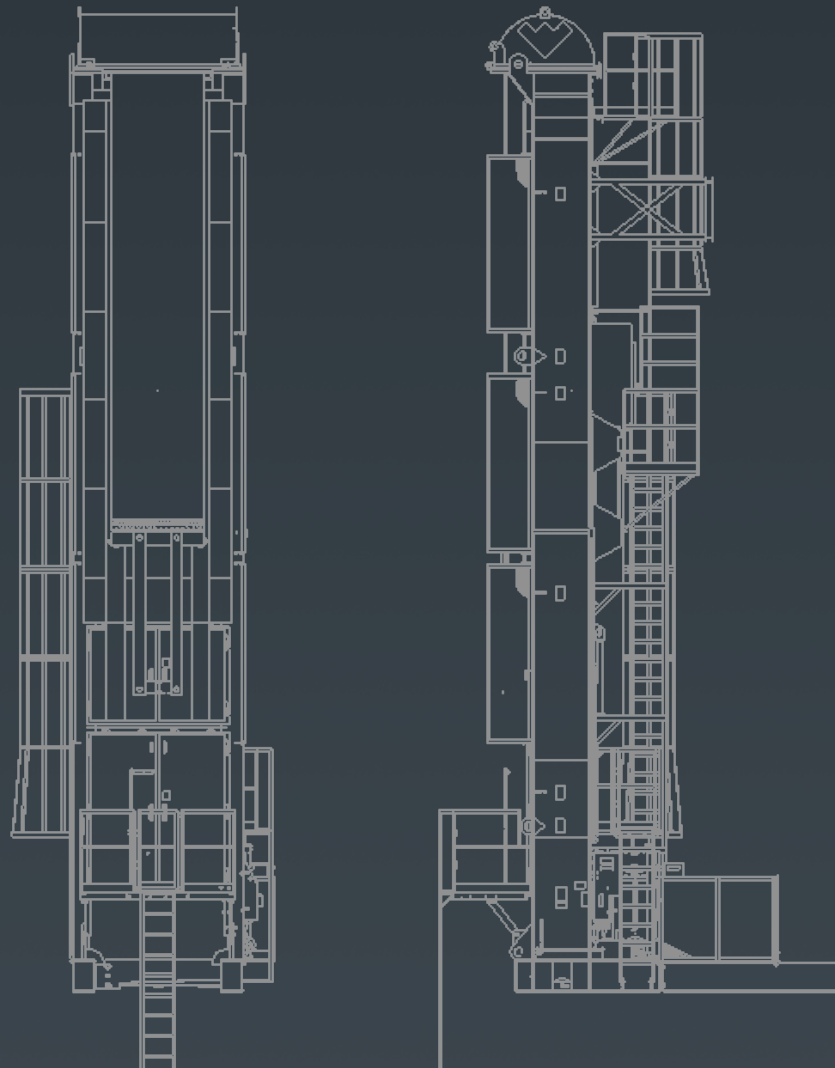
Tasked to extend the run life of deviated, rod-lift wells in Argentina, Weatherford installed a series of Rotaflex pumping units. With a run time of 519 days, the Rotaflex unit increased run time by 341 days more than the average run life while maintaining steady production levels.

# BUILT UPON DECADES OF LEADERSHIP

The Rotaflex<sup>®</sup> long-stroke pumping unit is designed for your asset and your crew.

The Rotaflex design set the standard for long-stroke pumping units in 1989. With more than 10,000 Rotaflex units installed worldwide, we offer proven technology for deep, challenging, and high-volume wells. Our latest Rotaflex unit leverages nearly three decades in the field to deliver the ultimate rod-lift system.

Field proven with  
**10,000+**  
installations worldwide





**PLATFORM KICK PLATES AND GRATING**  
Prevent dropped objects and slips



**REVISED LADDER SYSTEM**  
Enables easy access to work platforms for servicing critical components



**NEW PLATFORM AND REAR ACCESS DOORS ABOVE THE GEAR REDUCER**  
Provides efficient maintenance access away from the load belt



**OPTIMIZED 350-SERIES GEAR REDUCER**  
Increases torque capacity by 8.5 percent

**INTEGRATED HYDRAULIC ROLLBACK SYSTEM**  
Moves the unit at least 12 ft (3.6 m) away from the wellhead for easy access to the well



**ENHANCED TOP DRUM**  
Accommodates axial loading and stable operation



**LARGER MAINTENANCE DOORS**  
Eliminate confined space issues and enables easier maintenance on the upper unit platform



**ENHANCED LUBRICATION SYSTEM**  
Increases longevity through uninterrupted lubrication for moving parts



**OIL LEVEL GAUGE AND 18-IN. (46-CM) MAGNET**  
Provides a clear visual indication of oil levels and quality





BOOSTING SYSTEM PERFORMANCE  
**INCREASE PRODUCTION  
WITH FEWER STROKES  
PER BARREL**

**WellPilot**<sup>®</sup>  
Variable Speed Drive

**Weatherford**

**ROTAFLEX UNITS  
INCREASED OIL  
PRODUCTION  
BY 126%**

An operator in North Dakota required the optimal form of lift for a series of wells with water-cuts of 27 to 68%. Weatherford installed 27 Rotaflex units, and the wells produced 126% more oil and 68% more fluid over 2 years. Based on the success, the customer expanded the program by 271 additional wells.



With stroke lengths up to 366 in. (9.3 m), the latest Rotaflex long-stroke pumping unit boosts your liquid-to-gas production ratio and mitigates gas breakout in the pump. Paired with our WellPilot® rod pump controller, you can optimize each and every stroke to maximize productivity and to lift more efficiently than any beam-unit rod-lift system.

#### **Increase production with longer strokes**

Rotaflex units make long, slow pump strokes that allow more time for fluids to enter the pump intake. As a result, the units boost pump fillage, improve lifting efficiency, and increase production rates.

#### **Control every stroke to produce 20 percent more**

The Rotaflex unit can be optionally equipped with our WellPilot® variable-speed rod pump controller, which controls speed throughout the stroke cycle. This combination lets you increase average strokes per minute by 20 percent above synchronous speed maximum, which optimizes downhole plunger travel and increases production rates by 20 percent.

#### **Enhance operational safety with our next-generation speed sentry**

Included as standard equipment for all Rotaflex units, our speed sentry monitors and records all pumping events while also serving as an intelligent link to your connected optimization systems. Using intuitive icons with a simple-to-configure touch screen, the sentry connects with a single cable to safely monitor for over speed, load violations, and more.

#### **Decrease stroke speed and increase uptime**

With a maximum stroke length of 366 in. (9.3 m), our Rotaflex unit delivers fewer strokes per barrel. The unit's long, slow stroke reduces cycles and reversals by 40 to 60 percent to deliver longer run times, fewer downhole failures, and less deferred production.

#### **Achieve near-perfect performance**

As the most efficient artificial-lift system on the market, the new Rotaflex helps you to work smarter—not harder. Well analyses prove that the unit produces dynamometer cards that are similar to a theoretically perfect card.

#### **Monitor system performance**

Using a full suite of sensors to monitor speed, load, and vibration, all Rotaflex units track key parameters to prevent damage to the unit and downhole equipment. When operating conditions cause a parameter to exceed preset values, the unit automatically shuts down the prime mover and actuates the brake.

#### **Improve gas handling**

The Rotaflex unit uses longer strokes to increase pump-compression ratios and improve liquids production. By allowing more time for gas to separate out of the produced liquids, the unit minimizes gaseous fluid intake—and therefore gas interference.

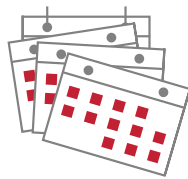
REDUCING LIFTING COSTS  
**MINIMIZE OPEX AND  
CAPEX WITH FIELD-PROVEN  
RELIABILITY**

**DECREASE**



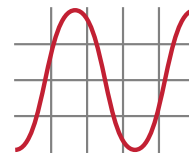
**ENERGY COST**

**EXTEND**



**EQUIPMENT LIFE**

**REDUCE**



**CYCLES AND REVERSALS**





With the latest Rotaflex long-stroke pumping unit, you can spend less OPEX and produce more for longer. The unique design and extended stroke increase system efficiency and energy savings, substantially lengthen sucker-rod and downhole-pump longevity, and reduce cycles, reversals, and the risk of downhole failure.

### Transition to rod lift 15 to 20 percent faster

Field-proven Rotaflex technology offers safer, simpler, and more efficient production in a wide range of applications. Rather than installing conventional beam units or costly ESP systems, you can often progress straight to Rotaflex long-stroke rod lift while efficiently handling turn down as the inflow declines.

### Reduce OPEX with fewer maintenance expenses

Working at a constant polished-rod velocity, the Rotaflex unit reduces the dynamic stress and the range of loads placed on your downhole equipment. With a long stroke and fewer reversals, you can decrease sucker-rod-string failures along with their associated intervention costs.

### Drive down energy consumption

The Rotaflex unit features a smaller gear reducer and requires less torque, which reduces electric power consumption per barrel of oil. Compared to ESPs and larger beam systems, the Rotaflex unit reduces power consumption by 15 to 40 percent.

### Decrease CAPEX with long-lasting equipment

Long-lived and reliable, Rotaflex units help you to transition to rod lift earlier in the life of your well, which can eliminate the need for multiple forms of lift and their associated CAPEX.

### Reduce cycles by 40 to 60 percent

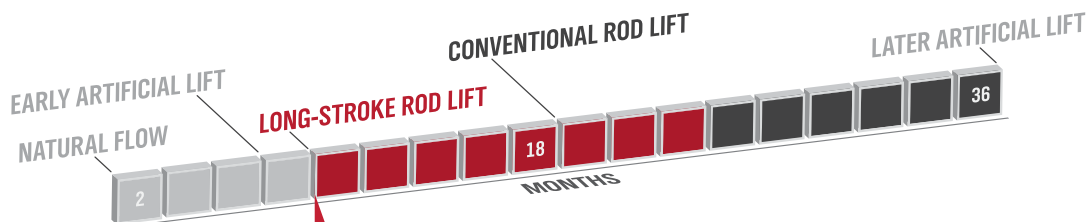
In addition to the constant rod-string-velocity, the Rotaflex unit reduces sucker-rod-string dynamic loading to extend the life of your rod string, rod pump, and pumping unit.

### Lighten your load to produce more

Like all Weatherford pumping units, the Rotaflex long-stroke pumping unit can be paired with both our COROD® and semi-elliptical COROD continuous rods. These exclusive technologies eliminate couplings and rod-tubing friction, which reduces rod-string weight and enables the Rotaflex unit to lift even more fluid from deeper depths.

### Reduce workover costs

Unlike ESP installations—in which most of your investment is downhole and accessible only by workover rig—the Rotaflex unit is easily maintained rig free and critical components are shielded from the elements by the tower structure.



**ACCELERATE YOUR TIMELINE**  
**THE PATH TO PEAK EFFICIENCY IS SHORTER THAN EVER**



# STREAMLINING YOUR MAINTENANCE PROGRAM SIMPLIFY ACCESSIBILITY AND MAINTENANCE

The latest Rotaflex pumping unit is built with your people in mind. The design simplifies inspections and repairs, encloses moving parts, and offers easy access to major components. Additionally, **the tower structure protects personnel from mechanical components while they work.**

#### **Expand access for your maintenance crew**

Rotaflex ladders and cages provide safe access to work platforms for servicing critical components. Front and back access doors eliminate confined space issues, and swing doors enable easier maintenance on the upper unit platform. Furthermore, a platform above the gear reducer separates your crew from the wellhead and the load belt and enables efficient preventative maintenance on the unit.

#### **Cut down on wear and tear**

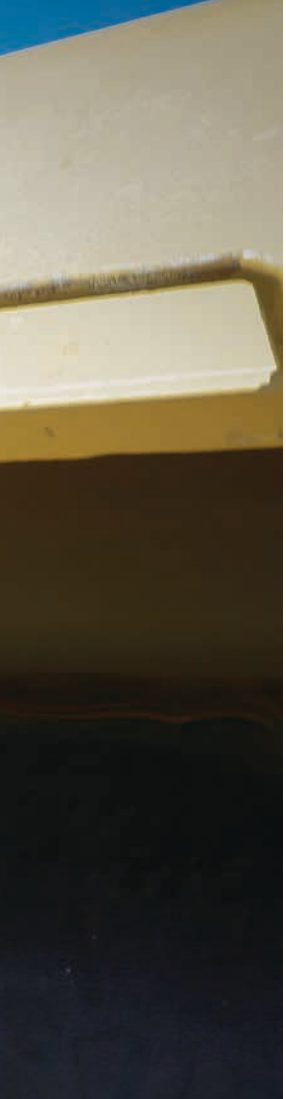
Rotaflex units feature a long-life, heavy-duty load belt that links the power train to the rod string. The belt acts as a shock absorber to reduce equipment stress, minimize the need for repairs, and extend run life.

#### **Reach new heights in maintenance and serviceability**

Rotaflex towers, work platforms, and tie-off points enhance crew protection while working at height. All platforms feature high kick plates to prevent dropped objects, and all ladders and cages exceed industry safety standards.







**Keep key parts moving with a continuous oil bath**

The new Rotaflex unit features a robust lubrication system that repels the solids accumulations inherent to oil-pump systems. Grease zerks on the traversing mechanism and carriage wheel bearings provide uninterrupted lubrication for moving parts, which enhances pumping reliability and maintenance efficiency..

**Roll your Rotaflex unit back for workovers**

Actuated by remote control, our self-contained hydraulic rollback system enables the Rotaflex pumping unit to safely move at least 10 ft (3 m) away from the wellhead. This rollaway capability not only provides easy access to the well but also eliminates the need for additional equipment, people, and time when compared to manual methods.

**Maintain a cleaner wellsite**

Our optimized gear-reducer design eliminates the need for a high-speed shaft extension and eliminates potential leaks caused by side loading on the high-speed shaft. Door-hardware enhancements prevent oil leaks on the tower.

**Extend the life of your gear box**

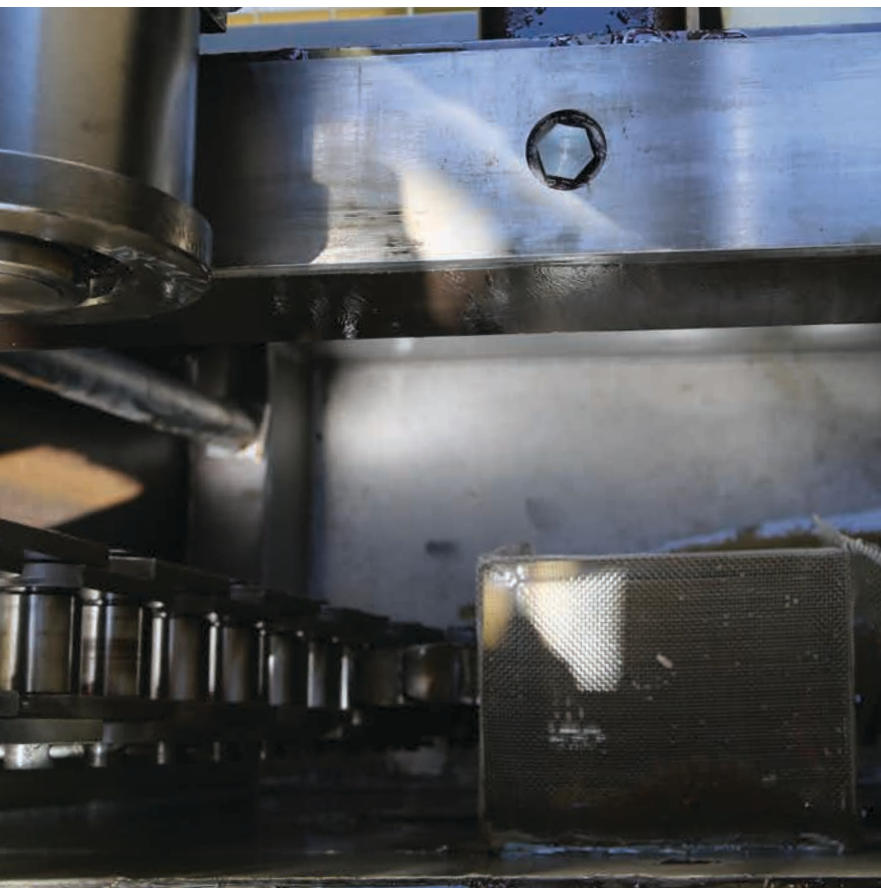
Because quality is just as important as quantity, the gear-reducer oil-level gauge lets you quickly assess the oil level, and a gear-reducer magnet protects oil quality by removing metal contaminants.

**Simplify your installation**

Each new unit arrives 90 percent preassembled and is factory tested for a quick, simple setup. All Rotaflex units feature a single-piece fold-over capability for transport to the wellsite, while our pile installations prevent settling and maintain unit alignment during production.

**Minimize rod-string failure with COROD continuous rod**

Using COROD continuous rod with the Rotaflex reduces the potential for intervention and increases lifting capacity. With couplings located only at the top and bottom of the rod string, COROD continuous rod cuts rod and tubing side-load by 40 to 60 percent.



**MANUFACTURING  
EXCELLENCE**  
maintained for

**29**

**CONSECUTIVE  
YEARS**

in our  
**CURRENT FACILITY**



## TAKE THE SHORTEST PATH TO MORE PROFITABLE PRODUCTION.

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Rotaflex® long-stroke pumping units eliminate intermediate lift methods to produce more barrels for less CAPEX. To learn how our suite of production optimization technologies can work for you, please visit [weatherford.com](http://weatherford.com).

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