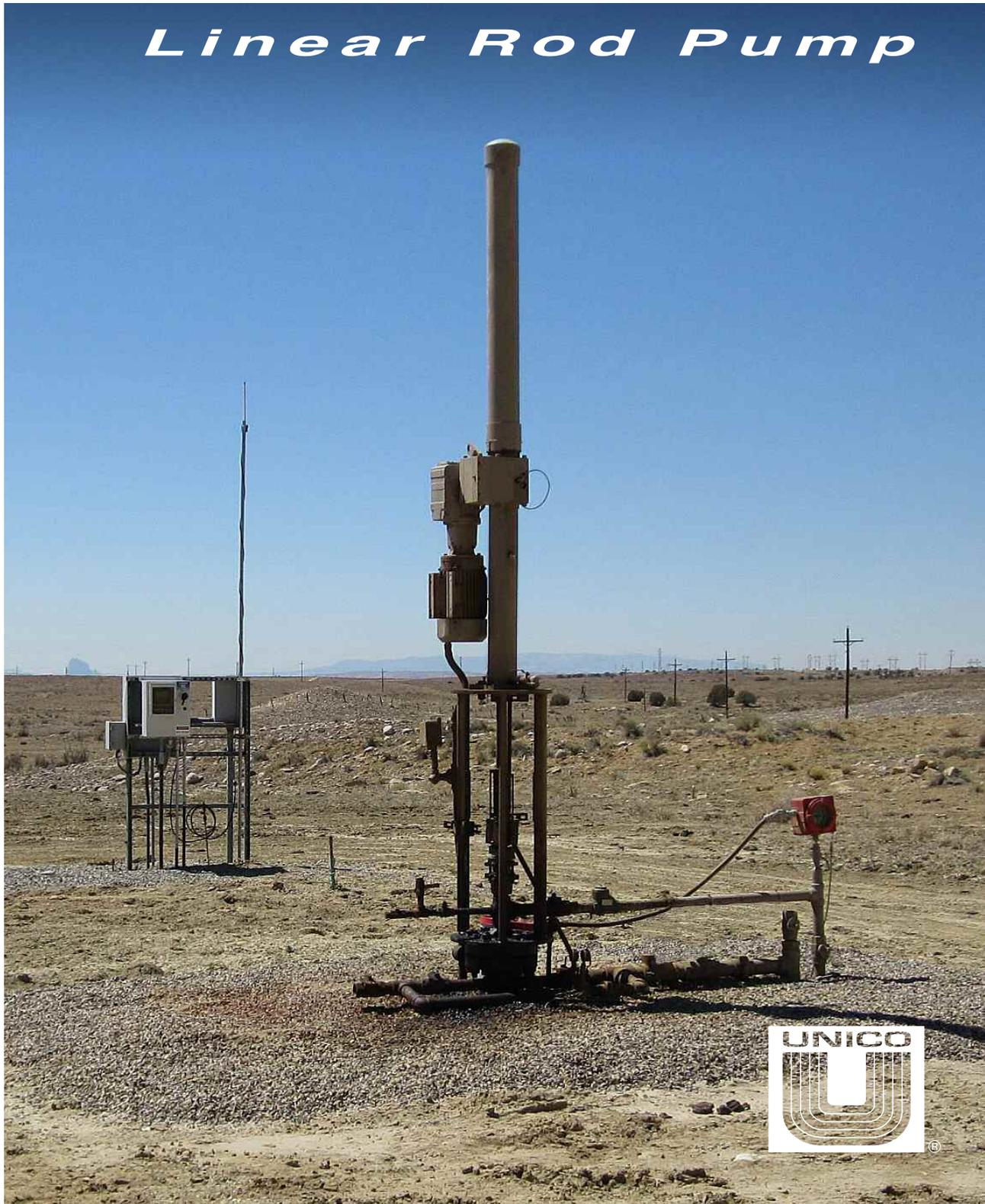


L R P®

Linear Rod Pump



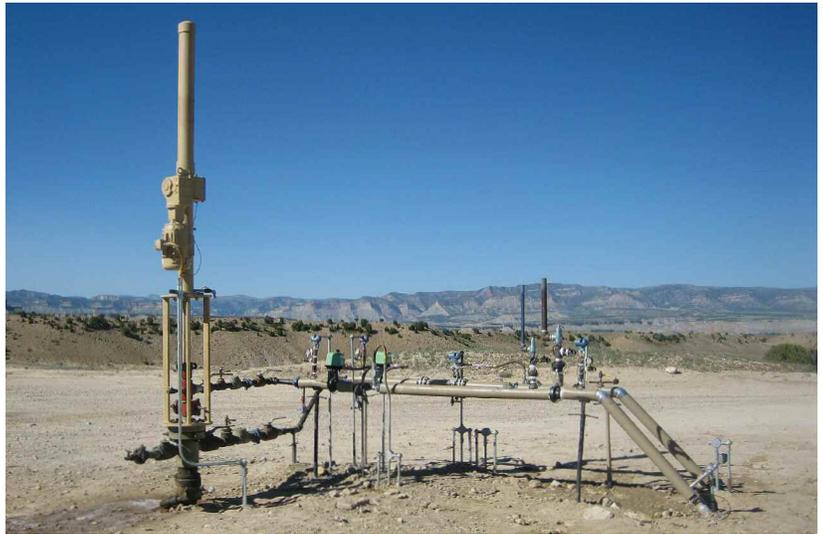
*A revolutionary
sucker-rod
artificial lift
system*



LRP® LINEAR

A revolutionary concept in sucker-rod artificial lift systems

*Variable-speed control, simple mechanics,
and industry-leading control software
in a compact, lightweight, unobtrusive
solution with significant cost and
performance advantages over
traditional approaches.*



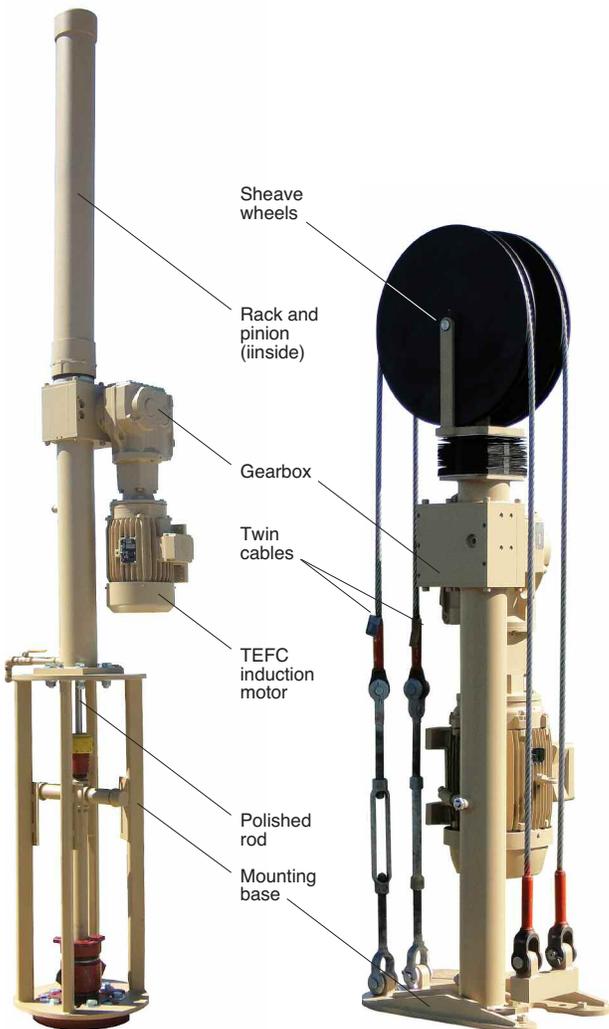
Direct Drive

The LRP® system takes advantage of the motor reversing and servo positioning capabilities of a flux vector variable-speed drive to directly control the sucker rod using a simple rack-and-pinion mechanism. Direct control provides numerous benefits by eliminating the cumbersome, high-inertia mechanics of other systems. Compared to hydraulic reversing systems, the LRP® solution

is much more elegant and capable, thanks to electronic control.

Simple Design

The LRP® pumping unit mounts directly to the wellhead. The polished rod runs through a channel inside the rack and is suspended from the top by a conventional rod clamp. The rod is allowed to float inside the rack should the pump or rod stick. An induction motor, coupled to



SRP to LRP® System Cross Reference

Typical Depth (ft)	SRP Unit Size	Load Capacity (lb)	Stroke Length (in)	LRP® Model Number	Load Capacity (lb)	Stroke Length (in)
1,500-2,500	40	7,600-8,900	36-48	L085g-mmmmm-036	5,000	36
2,000-3,000	57	7,600-10,900	42-54	L137g-mmmmm-032	8,000	44
4,000-5,000	80	10,900-13,300	48-64	L239g-mmmmm-044	14,000	44
5,000-6,500	114	13,300-17,300	54-64	L239g-mmmmm-044	14,000	44
5,000-6,500	114	11,900-14,300	74-86	L239g-mmmmm-064	14,000	64
5,500-7,500	160	14,300-17,300	64-74	L239g-mmmmm-064	14,000	64
5,500-7,500	160	17,300-20,000	74-100	L381g-mmmmm-086	22,000	86
6,500-8,500	228	17,300-24,600	74-86	L381g-mmmmm-064	22,000	64
6,500-8,500	228	17,300-21,300	100-120	L381g-mmmmm-086	22,000	86
8,000-10,000	320	21,300-24,600	74-86	L381g-mmmmm-064	22,000	64
8,000-10,000	320	21,300-30,500	100-120	L381g-mmmmm-086	22,000	86
8,000-10,000	456	21,300-25,600	100-120	L480g-mmmmm-100	28,000	100
9,000-12,000	456	25,600-36,500	144	L480g-mmmmm-120	28,000	120
9,000-12,000	640	25,600-36,500	120-144	L760g-mmmmm-120	44,000	120

R O D P U M P

the rack-and-pinion mechanism through a gear box, cycles the rack up and down to reciprocate the rod. The rack is lubricated with each stroke by submersion into a fully contained oil bath. A high-performance motor and line-regenerative drive can be used to achieve relatively high system efficiency, even on deep wells, without resorting to the massive counterweights used in conventional pumping systems.

Easy to Install

The LRP® unit is small, lightweight, and easy to transport. No specialized or heavy equipment is required, which saves on installation costs. It can be carried in a light-duty truck and installed with a 1-ton rig or small picker. Installation is quick and easy and can be handled by two people. Units can be installed and fully operational within a couple of hours.



Compact LRP® units are easy to transport



The unit installs quickly and mounts directly to the tubing or well casing

Portable

Since it's easy to transport and commission, the LRP® system can easily be moved from well to well for temporary installations or to prove reserves.

Efficient

The low-inertia design of the LRP® system allows it to use a much smaller motor and gear box than a conventional jack pump. Jack pumps are often oversized to provide the necessary capability. Programmable motion profiles give the LRP® system the effective stroke of a much larger unit. Therefore, a much smaller LRP® unit will provide the same or better production at less cost.

Economical

The LRP® system is a smart investment that quickly pays for itself in reduced installation, operation, and maintenance costs. The system can be purchased for a fraction of what a comparable pump jack without any controls would cost. Installation is significantly less expensive because the unit is so easy to transport and set up. Since the unit bolts directly to the wellhead, concrete and gravel pads and other expensive site preparations are no longer needed. Increased production increases revenue and reduced downtime lowers operational costs, making the the LRP® system a truly economical solution.

Environmentally Friendly

The LRP® system is the ideal choice for environmentally sensitive installations. It is quiet, unobtrusive, and does not require site grading, mounting pads, or other well site disruptions. Its low profile and small footprint allow it to blend in where other units would be offensive or prohibited by regulation.



The LRP® system blends into its environment



LRP® units are safe for use in urban settings

Model Number	Rod Stroke (in)	Rod Force (lb)	Rod Speed (fpm)	Pump Speed (spm)
L085g-mmmm-sss	24-36	5,000	250	30.0-24.6
L120g-mmmm-sss	64-86	6,000	250	18.8-14.0
L137g-mmmm-sss	20-44	7,000	250	30.0-27.2
L190g-mmmm-sss	64-100	10,000	250	18.8-12.0
L239g-mmmm-sss	20-86	12,000	250	30.0-14.0
L381g-mmmm-sss	44-86	20,000	250	30.0-14.0
L480g-mmmm-sss	64-144	24,000	375	22.2-12.4
L760g-mmmm-sss	64-144	44,000	375	22.2-12.4

By combining a few different rack lengths, gear boxes (g), motors (mmmm), and drives, the LRP® system provides maximum application flexibility with minimal spare parts.

Advanced Control



The LRP® system incorporates Unico's patented SRP sucker-rod pump control software to optimize production while protecting the pumping system. Sophisticated variable-speed control achieves motion profiles that are impossible through mechanical means.

Well data, including surface and downhole dynamometer plots, is readily available

Pump fill is optimally regulated by independently adjusting upstroke and downstroke speeds. Soft landing speed control minimizes fluid impact. An automated valve check determines standing and traveling valve leakage. The control also provides well data reporting, surface and downhole dynamometer plotting, remote access capability, embedded PLC, automatic fault restarting, and more.



Sophisticated controls are protected inside rugged enclosures designed to withstand the environment

Variable Pump Stroke/Position

Pump stroke length and spacing can easily be adjusted through software. Upper and lower pump positions are set independently, allowing maximum pump compression by minimizing pump clearance volume when in the full downward position.

Superior Pump Speed Control

Downhole pump speed can be more precisely controlled due to the low inertia of the LRP® mechanism and the constant relationship between motor and rod speed. Pump speed, for example, is quickly reduced prior to fluid impact, attenuating the damaging effects of shock loads on the pump and rod during fluid pound. After fluid impact, speed is quickly increased to maximize production potential.

Low-Speed Operation

The LRP® system can operate at speeds as low as 1 spm, as compared to pump jacks without gear box wipers, which are typically limited to 4 to 5 spm.

Remote Power

Unico's GPL® gas-powered generator can operate the LRP® system using wellhead natural gas for remote installations where electrical service is unavailable or cost prohibitive.



Global Monitoring

Unico's GMC® Global Monitoring and Control service provides comprehensive Web-based monitoring and reporting capabilities. It is an efficient, cost-effective way to stay connected to daily operations. The service provides real-time monitoring of production and performance data, historical data for analysis, automated well reports, as well as email notification of alarms and other conditions. Operators can view data for all fields, a single field, or an individual well.



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Unico is a leading global innovator of motion-control solutions for industry. Founded in 1967, the company develops, manufactures, and services variable-speed drives, application-engineered drive products, integrated drive systems, and ancillary products that improve operations by increasing productivity, safety, and equipment life while lowering energy and maintenance costs.

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Protected by United States patent 7,168,924. Other patents are pending.

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Specifications subject to change without notice.