

KRAKEN

SYSTEM

ENERGY SAVINGS

TURN WASTED BRAKING ENERGY INTO PROFIT



EFFICIENT, ROBUST & SUPERIOR LONGEVITY

Kraken System technology reduces energy consumption by over 12% compared to traditional dynamic braking resistors, while improving overall system efficiency and returning excess power to the grid.

Phase Technologies Regenerative VFD's Offer:

- ▶ Returns regenerated energy to the grid, improving efficiency and reducing operating costs.
- ▶ Reduces harmonics to $\leq 5\%$, meeting IEEE 519-2022 standards. Utilizes Active Front End (AFE) technology.
- ▶ Maximizes pumping unit efficiency with Active Power Factor Correction (PFC).
- ▶ Power Conditioning corrects up to 50% of voltage unbalance.
- ▶ Eliminates the need for costly harmonic filters.

\$4,323

PER ROD PUMP, PER YEAR



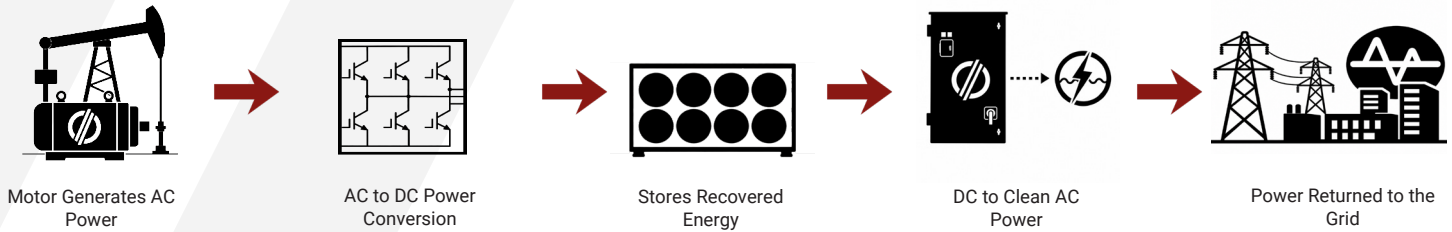
Visit our website to calculate your annual savings per year using a Phase Low Harmonic (LH) regenerative drive vs using a VFD with a dynamic braking resistor

Based on an approximate annual consumption of 450,000 kWh/yr and 12% regenerative savings with a rate of \$0.08 per kw/hr

	LH Series Regenerative VFD	Rod Pump w/ DBR For energy release
Annual Energy Consumption	450,000 KW	
Price/kWh Based on Region	\$.08/kWh	
Number of Pumps	8	
Regenerative Cost Savings	12%	0%
Annual Savings	\$34,580	No Cost Savings

REGENERATIVE ENERGY FLOW IN AN ACTIVE FRONT END

In oilfield applications where high inertia loads and frequent deceleration are common this regenerative capability significantly reduces energy consumption, eliminates the need for braking resistors, lowers cooling requirements, and improves overall system efficiency and reliability.

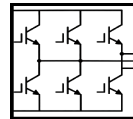


STEP 1: When the motor is slowing down or being driven by the load, it acts like a generator instead of a motor. This converts the machine's mechanical energy into AC electrical power.



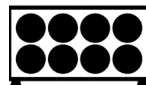
Mechanical energy is converted to electrical energy

STEP 2: The generated AC power re-enters the output inverter.



Generated AC flows back to line side

STEP 3: The DC bus acts as an energy buffer. Temporarily holding the recovered energy and stabilizing it.



The DC bus stores the recovered energy

STEP 4: The Active Front End (AFE) takes the stored DC energy and converts it into clean AC power with low harmonics.



The active front end converts DC to clean AC

STEP 5: Returns regenerated energy to the utility grid, reducing energy waste and improving system efficiency.



Power is sent back to the utility/grid

Protect Your Equipment

The Kraken System controls motor speed to keep the rod operating in its optimal range, helping maximize production while reducing strain, protecting the rod and extending the life of the entire pumping system.

Eliminate Harmonic Filters

Unlike traditional drives that require bulky, expensive harmonic filters to meet compliance standards, the Kraken Systems advanced AFE design inherently minimizes harmonics. Eliminating external filtering equipment, reducing capital costs, simplifying installation, and lowering long-term maintenance.

PUMP-OFF CONTROLLER

DOWNHOLE INTELLIGENCE.

REAL-TIME DYNAGRAPH ANALYSIS. FULL DOWNHOLE DIAGNOSIS.



Sunlight Readable Touch Screen

Sunlight-readable touch screen for full on-site well management no squinting, no guessing.



15 Minute Rapid Start

Enter a few parameters and the controller is live. Rapid Start gets your well running in under 15 minutes. No specialist required on-site.



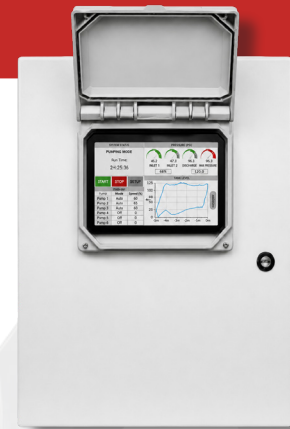
Remote Access

Secure wireless access from a phone, tablet, or browser. Pair with Remote Link cellular for field-wide visibility.



Dynagraph Card Display

Diagnose fillage, rod load, and mechanical issues from the touch screen or remotely without ever pulling the well.



When Paired With The LH Regen Drive

Variable Speed Up To 120 Hz

Adjust stroke speed electronically, no sheave changes required.

Regenerative Energy Recovery

Returns down-stroke energy to the grid, reducing power costs.

Soft Pump-Off Control

Slows pumping to match inflow, preventing fluid pound and downtime.

IEEE 519 Native Compliance

Meets IEEE 519 standards without harmonic filters.

No Sheave Inventory Needed

One drive replaces multiple sheave sizes.

Remote Parameter Adjustment

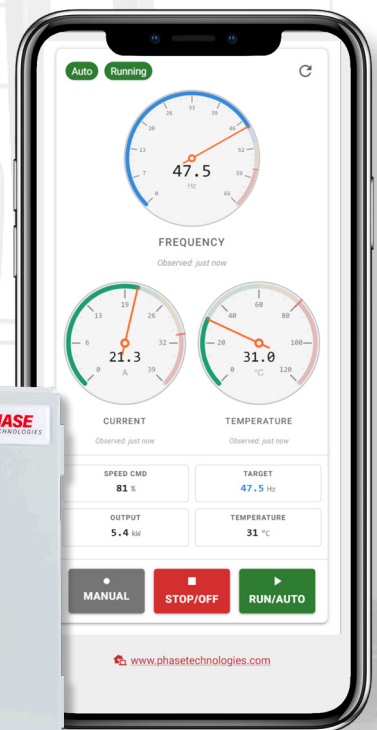
Adjust speed and settings remotely.

PHASE CONNECT REMOTE LINK

Cellular field monitoring purpose-built for rod pumps and oil & gas operations. Monitor, adjust, and troubleshoot every well in your field from a single dashboard no service truck required.

- ▶ View live dynagraph cards surface & downhole
- ▶ Adjust speed & setpoints from anywhere
- ▶ Instant fault alerts- know before you go
- ▶ Remote emergency shutdown
- ▶ Multi-well fleet management from one view

ONLY
\$179 /MO
* PER UNIT



Inner Panel Design

1. **Drive** - The Kraken is powered by a Phase Technologies LHX VFD.
2. **Enclosure** - Configured panels come standard with NEMA 3R all steel enclosures made in house.
3. **Circuit Breaker** - Protect your drive with a Circuit Breaker which is available in our 508A panel shop options.



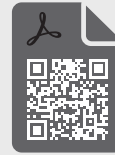
Panel Shop Options

- ▶ MCCB
- ▶ HOA Switch + Speed Pot
- ▶ Run & Fault Light
- ▶ Motor Protection
 - Input/Line Reactor
 - Output/Load Reactor
- ▶ Power Supply
- ▶ Surge Protection
 - Protec
 - Strikesorb
- ▶ Leg Kit
- ▶ System Bypass



PRODUCT BUILDER

[PHASETECHNOLOGIES.COM/PRODUCTS](https://phasetechnologies.com/products)



UP-TO-DATE

- ✓ LEAD TIMES
- ✓ PRICING
- ✓ DIMENSIONS

EXPLORE ALL OUR PRODUCT OFFERINGS AT [PHASETECHNOLOGIES.COM](https://phasetechnologies.com).

DIGITAL PHASE
CONVERTERS

VARIABLE
FREQUENCY
DRIVES

MOTOR
PROTECTION

SOFT
STARTER

508A
PANEL
SHOP

OUR MISSION

Relentlessly seek to provide Uncommon Value, solutions, innovation, and support for the industries that we serve.



INDUSTRY
BEST LEAD TIMES



MADE IN THE
USA

