

XR-1

Intelligent Speed Drive

Reduce Energy Costs Protect and Optimize Pumping Unit Assets

The SPIRIT XR-1™ is an intelligent adjustable frequency drive, perfect for efficiently controlling Artificial Lift AC motors. The XR-1 uses innovative technology to convert AC line power to a controlled, variable AC waveform output. Frequency and voltage of the output are regulated to deliver motor speed and torque necessary for optimum system performance. The variable waveform significantly reduces energy consumption of the motor and enhances the efficiency of the pumping system.

When used in conjunction with the SPIRIT GENESIS Intelligent Asset Manager™, the motor speed and torque can be further adjusted by utilization of downhole pump fillage control. Significant asset protection and energy savings can be achieved using real time input from load and position transducers on the pumping unit. Downhole operating conditions can be further monitored and refined using the intelligent asset management algorithms.

The XR-1 is compatible with other pump off controllers or can operate as a stand-alone. The XR-1 comes with an unmatched 2 year full replacement warranty that includes lightning strikes and power surges.



XR-1 Specifications:

- Patented energy saving Regen control algorithms
- Torque & load shedding algorithms
- Continuous input and output current delivery
- Harmonic mitigation
- Four-quadrant control
- 200–240 VAC – 380–500 VAC
- 1–1350 HP capacity
- Operating temperature -40°C to +50°C
- Voltage tolerance +/-10%
- Regulated output frequency and voltage
- 160% Starting torque capability
- Optimally sized NEMA Type 3R enclosure
- Class A2 RFI filter
- Externally mounted surge arrestor (ANSI/IEEE C62.11-1993)
- IEEE519 approved
- UL/CUL & CSA listed



XR-1 Intelligent Speed Drive

- Cut Kilowatt Hours (KWH) used per rod-pumped well
- Save energy and reduce utility company penalties
- Improve system component utilization and efficiency
- Match motor speed to available production
- Reduce motor start up power demand
- Reduce motor and component wear

Actual Test Result Data

(Permian Basin Study by Major Operating Company)

	Without XR-1	With XR-1
Billable KWH/BBL	1.44 KWH/BBL	1.20 KWH/BBL

Power Savings	None	16.7%*
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KVAR Savings	None	smaller transformers, smaller line sizes, better voltage regulation, smaller penalty factors, fewer correction capacitors
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Economics	50 HP effective load with XR-1 @ \$0.03 per KWH yields \$1,665/year savings
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Run Speed	XR-1 modulates motor run speed to match available production using internal control algorithms. Adjusts motor speed to match available production in real time.
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*Over extended evaluation on Permian Basin wells.

Contact

Put SPIRIT™ in your artificial lift wells.
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Advantages and Features:

- Up to 20% reduction in power consumption
- 2 Year full replacement warranty standard with optional extended warranty up to 6 years
- XR-1 can be used on Rod Pumps, PC Pump, ESP pumps or for general pumps such as transfer and injection
- Advanced drive control features
- 180 day on-board operational history
- Compact & versatile – portable
- DC choke integrated – no need for external line reactor
- No dynamic braking resistor (dbr) needed
- Serial interface with GENESIS Intelligent Asset Manager (POC)
- Can be used with other brand POC's
- Enhances downhole pump operational efficiency
- Backed by the industry's most qualified local service team



The XR-1 Intelligent Speed Drive, when used along side the SPIRIT GENESIS Intelligent Asset Manager, gives an operator the perfect combination of intelligent control over pumping wells – from around the location to around the world!

We're changing the artificial lift environment – for the better!