MAGNETA SRP

SRP DIRECT DRIVE PMM & FOS

The MAGNETA SRP PMM SYSTEM integrates a CILA2® with the MAGNETA SRP PMM motor, specifically designed to be directly coupled to the gearbox of mechanical lift units. This direct-drive design eliminates the need for belts and pulleys, reducing maintenance costs by up to 70%. Combined with advanced motor control strategies, the system delivers up to 24% energy savings. With a power factor exceeding 0.95, the system significantly increases overall operational efficiency across the board.

The MAGNETA SRP PMM SYSTEM maximizes these technological advantages through advanced well optimization algorithms powered by AI and machine learning. These capabilities are specifically optimized to enhance the performance of the SRP system, provide accurate estimates of well production parameters, and identify potential system anomalies through continuous autonomous learning.

KEY BENEFITS

AI-based optimization: uses machine learning algorithms to optimize well performance in real time and estimate production parameters with high accuracy.

Predictive maintenance: The system uses continuous learning to identify anomalies in the SRP system before they develop into failures, thereby significantly extending the asset's service life.

Superior energy savings: Thanks to PMM motor technology and intelligent control strategies, the system achieves energy savings of up to 24% compared to conventional systems.

Direct-drive reliability: The direct-drive design eliminates the need for belts and pulleys, reducing preventive and corrective maintenance costs by up to 70%.

Longer mechanical service life: The service life of the mechanical system is extended by up to 30% thanks to lower operating temperatures, reduced vibrations, and the elimination of the additional friction inherent in traditional mechanical configurations.

CILAS 5G SRP Dual IM/PMM

The CILAS 5G SRP Dual IM/PMM is a comprehensive solution for the control, protection, and optimization of mechanical lift pumping (SRP) systems, combining variable frequency drives with regenerative Active Front End (AFE) technology, advanced controllers, and value-added applications (AVAS) based on artificial intelligence.

This system enables the operation of induction motors (IM) and permanent magnet motors (PMM) with the best torque-to-current ratio, without the need for derating when switching technologies, ensuring efficiency, reliability, and a longer well life.

The CILAS 5G SRP Dual IM/PMM includes specialized software for mechanical lift systems that provides control functions to optimize crude oil production while protecting the integrity of the unit and the well completion. The following table lists the applications included with the equipment.

POWER RANGES FROM 50 HP TO 100 HP

ADD-ON APPLICATIONS (OPAS)

1. Dual Speed Control: It provides two speed settings—one for the upward stroke and one for the downward stroke—during each stroke of the pump unit.

2. ON/OFF Timer Control: The ON/OFF timer control starts the pump for a specified period of time and then stops it for a specified period of time in a continuous cycle.

3. PowerSags: The PowerSags app keeps the well operational during external power outages lasting up to 1,000 milliseconds, providing greater autonomy during power outages.

4. Multivariate Trend: Users can overlay up to 15 variables to analyze the behavior of the selected data over a time period that is also user-defined.

5. Process Protection: Overspeed. Triggers immediately if the frequency exceeds 105% of the setpoint or if it exceeds a programmed maximum speed value. (Configurable).

6. Primary Control: The starting torque can be set as a percentage of the rated torque or the maximum torque.

ADD-ON APPLICATIONS (AVAS)

1. DynaLS: An application for generating surface and downhole dynagrams for wells equipped with SRP or BPU systems. It consists of SensorLess Surface Dynagram and SensorLess Downhole Dynagram.

SRP Dynamic Fluid Level SensorLess®

Patent Pending: 97557446

2. Sensorless Surface Dynagram: The application uses artificial intelligence and signal processing techniques to generate the surface dynagram based on field instrumentation, power consumption levels, and the geometry of the rocker arm.

3. SensorLess Downhole Dynagram: Generates a real-time downhole dynagram. This allows the user to monitor the load on the polished rod based on the pump's position and diagnose the well's current condition.

4. DynaMED: An application developed for the interpretation of SRP surface and downhole log charts using multivariate analysis. The Donwhole Multivariable SensorLess application uses the downhole log and mathematical techniques to estimate and present to the user the current status of the following downhole variables.