

GENESIS INTELLIGENT ASSET MANAGER

# Optimizing Management of Your Well Assets



## Boilerplate:

### Elevating the potential of artificial lift production.

Dover Artificial Lift, part of Dover Energy, offers a comprehensive line of artificial lift equipment, accessories, and services strategically designed to drive the operational excellence of each of our clients. We provide industry-leading systems and components engineered to enhance the profitability of gas lift, plunger lift, rod lift, progressing cavity pump applications, and surface production, as well as state-of-the-art software and products in the well automation, analysis, and optimization space.

As an organization dedicated to the needs of our clients, we place a consultative service and support approach at the forefront of our operations. Driven by a team of veteran artificial lift experts, our mission is to deeply understand the complex production challenges faced by well operators on a daily basis, and provide them the exact set of tools needed to meet them as efficiently and effectively as possible.

Strengthened by the vast global footprint and tradition of excellence of our parent company, the Dover Corporation, we are able to ensure that the products we provide – and more importantly – the people who make up our organization, are the best in the artificial lift industry.



POSITIONING DEVICE

LOAD CELL

## Enhanced Production Control. Go-To-Well Technology. Plug-and-Play Design.



Reliable, remote management of your well site assets is increasingly important in a business environment where safety concerns are paramount and resources are stretched thin. Ensuring optimal production and maximum performance are just the beginning of your challenges. You also need a management system that provides pump diagnostics and operational histories—all in an intuitive, user-friendly design.

The GENESIS™ Intelligent Asset Manager from SPIRIT is the industry's first automated well site manager to use artificial intelligence to deliver maximum performance and optimized production from your rod pumped wells. GENESIS provides a

versatile, programmable platform, customizable to your unique pumping environment. Featuring an easy-to-use interface, it provides remote, real-time diagnostics and alerts, allowing you to focus your energy where and when it is needed most.



### **GREATER PRODUCTION CONTROL**

Real-time diagnostics and equipment loading, coupled with simultaneous variable speed drive and pump-off control, helps ensure increased production while decreasing environmental impacts and safety risks.



### **INSTANT GO-TO-WELL TECHNOLOGY**

Compatible with any web browser and mobile device, and the industry's first POC to enable real-time well view and access from anywhere in the world.



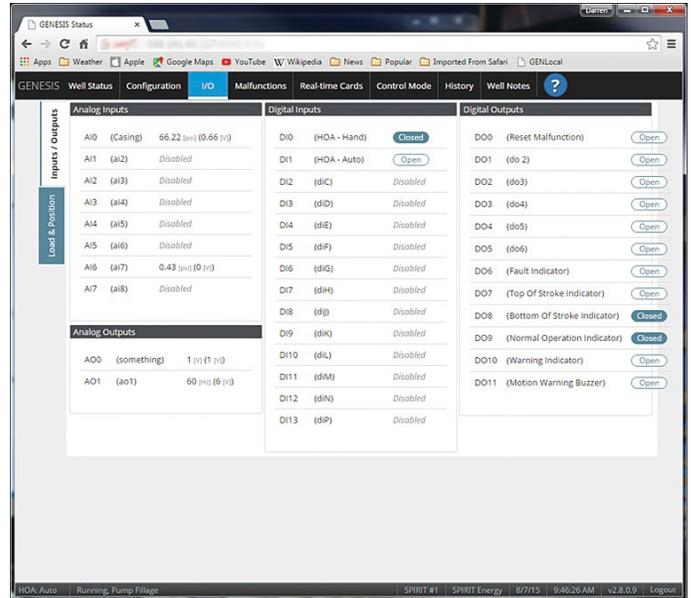
### **PLUG AND PLAY DESIGN**

Ready to go right of the box, with built-in 3D pump simulation and fluid production calculations accessible from intuitive, user-friendly menus.

# Remote set up, control, and disabling of a range of pump monitoring devices.

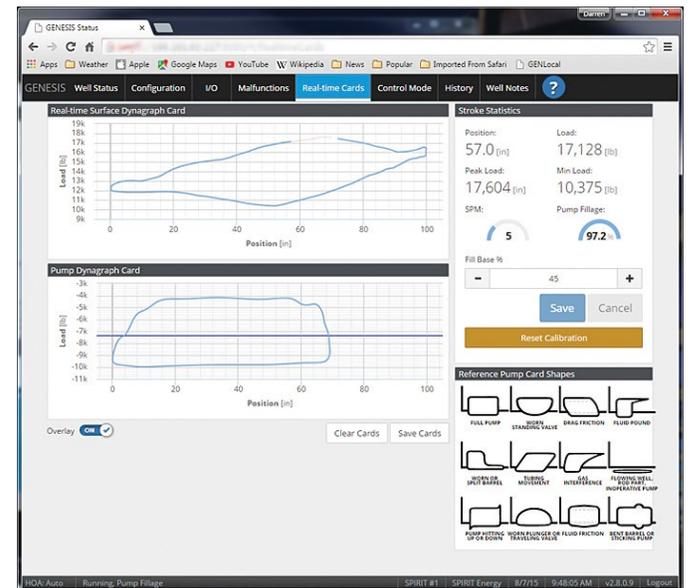
GENESIS™ Intelligent Asset Manager features 12- digital outputs, 14 digital inputs, 10 analog inputs and 2 analog outputs, all monitored and controlled from an I/O screen. This functionality accommodates a multitude of monitoring and control devices in addition to the pump-off controller, including transmitters, flow meters, vibration and leak detectors, and tank level monitors.

The system is built with full RTU functionality from the outset, which eliminates the need to add expensive PLCs or RTUs later.



The Real-Time Card dashboard provides a wealth of operational analysis in graphical form, including real-time surface and pump dynagraphs that track the load on the rod and pump, and stroke statistics including the average strokes per minute and the volume of pump fillage as a function of its total capacity.

A collection of reference pump card shapes is also available that the user can compare with the shape of their actual pump card to get a better idea of the condition of the system.



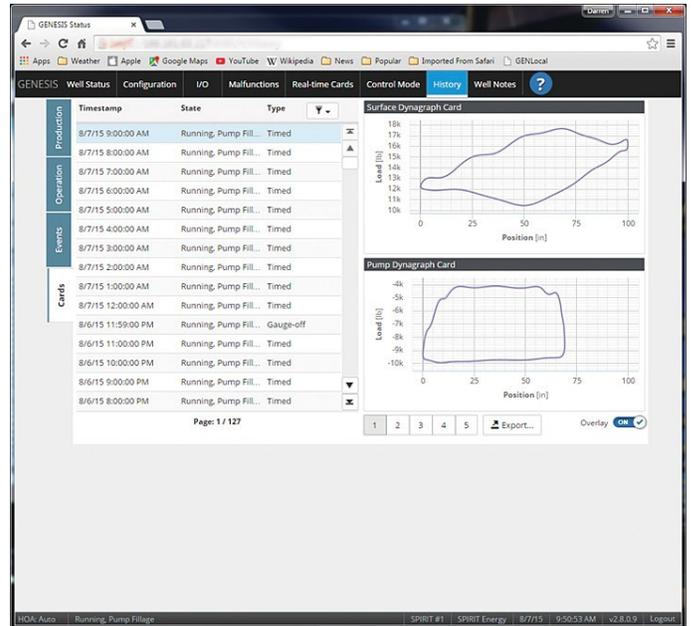
The GENESIS system stores a 180-day operational history, including dynagraph cards every hour for 60 days and every event. Unique to the GENESIS, it provides real time rod string loading and pump animations for every stroke. The system processes and collates this information and automatically generates a detailed report on the well's performance. The system provides a deep understanding of the lift system in a matter of minutes and helps the operator avoid the long delays, high costs, and deferred production associated with having to pull a rod and pump after a catastrophic failure.

## REMOTE AND REAL-TIME WELL MANAGEMENT

The GENESIS system affords real-time analytical capability, allowing you to get a clearer picture of the action of your downhole pumps from thousands of feet away at the surface. This real-time feature also gives you the capability and control to quickly and efficiently optimize your pump's operation.

## WELL MANAGEMENT MADE EASIER

The GENESIS Intelligent Asset Management system incorporates a number of design features that bring clarity to pump operation and put subsequent analysis in sharper focus. Each wellsite control system comes with built-in wifi and internet access, and includes an intuitive, easy-to-use color touch panel to quickly access a range of critical pump operating parameters and up-to-date production information. Pump conditions can be quickly reset in the field with a few swipes/keystrokes, thus optimizing production while minimizing down time.



## OPTIMIZED PRODUCTION UPTIME

The GENESIS Intelligent Asset Management system provides you with a wealth of control options to ensure that the rod pump is operating with the highest efficiency, and as a result, your well is producing at optimal levels. A first-of-its-kind laser sensor obtains precise positioning of the beam as it moves, information that is used to generate highly accurate and detailed dynagraph cards. The system's array of sensors also monitor and record production volumes, tank levels, and pressures. This assures a rod pumping system that regulates itself to optimize production and protect against failures.

## A Full Solution for Optimizing Field Performance

The GENESIS™ Intelligent Asset Manager is an integral component of an operator's production optimization strategy—from each individual well to the field as a whole. At the well level, the system combines the SPIRIT GENESIS pump-off controller (POC) with THETA XSPOC—Expert Supervisory Pump-Off Control—the industry's most advanced software for rod pumping wells. This solution takes the wealth of information provided by the POC in the field—load and position data, pump rate, fillage data—and transmits it wirelessly to the corporate office for review by production engineers and field management.

## A Wealth of Well Data at Your Fingertips

By opening up XSPOC on any desktop, the user can access information from any well in the field. The easily accessible and easy-to-use well management system gives users the tools to make actionable decisions aimed at improving pump performance and maximizing production.

Such functions include:

- Full host-based POC control and data acquisition
- Expert diagnostic analysis for each well
- Data history graphing with trends of pump efficiency, runtime, and production
- Statistical process control limit methods to automatically signal when a critical parameter goes outside statistical limits
- Well performance monitoring, including daily reports that highlight problem wells and make specific recommendations to resolve the problem and get the well running at optimal levels.

## Go-Live Functionality

The GENESIS Intelligent Asset Management system improves on the functionality of XSPOC with its “Go-to-Well” functionality. Now instead of accessing data with a 5- to 10-minute lag time between when it was collected and when it is available at the office, the user gets instant access by pressing a “Go-Live” button in the GENESIS dashboard. This functionality, a first for the industry and only available through GENESIS, allows office personnel to see the exact same data as the field personnel at the same time. Such real-time data access enables more meaningful troubleshooting between the office and the field, and ensures that corrective actions are implemented more quickly.

## Real-time Remote Control

The GENESIS Intelligent Asset Management system also provides rugged and reliable control of a well's lift system through the GENESIS Intelligent Speed Drive (ISD). By converting AC power to a controlled, variable AC waveform output, the ISD delivers the motor speed and torque necessary for optimum system performance while reducing energy consumption per produced barrels of fluid.

The ISD can be controlled to optimize motor speed, torque, and other system operating parameters on-site and on-demand, through either an interactive color touch screen display at the well or through commands sent via XSPOC from any internet-connected computer in the world.

The drive provides more speed control options than are commonly available from other variable frequency drives. The user can slowly ramp up pump speed to a desired level and closely monitor pump fillage. If fillage drops below a predetermined value, the ISD can be directed to slow the pumping rate down in a sequential manner, until the proper pump fillage volume is maintained.

By providing such precise control of the pump, the GENESIS ISD affords a number of operating benefits:

- Improved power factor
- Reduced power consumption per produced barrel
- Lower operational temperature
- Greater drive durability
- Enhanced life expectancy of v-belts, bearings and gears through soft start/stop
- Greater input voltage tolerance.

The ISD also provides “pumper-friendly” operation through an easy-to-use interface, improved torque monitoring, and full field support from the industry’s most qualified local service teams.

## Instant Well Access for Optimized Performance

The GENESIS Intelligent Asset Management service is a true turnkey offering for pump surveillance and control functionality. At both individual wells and the field as whole, the service enables pumpers to make better decisions, deploy field teams in a more targeted and efficient manner, and reduce their maintenance budgets. And by pairing this service with the field support and expertise of SPIRIT’s rod pump optimization team, you can be assured that pump problems will be quickly resolved to keep wells pumping at optimal rates.



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