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New SRP features

A host of improvements are available with new sucker-rod software.

In future issues

Watch for these topics in upcoming issues.

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Since 1967

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Trade Show

Unico Exhibiting at PBIOS, October 19-21



Unico will be showcasing its revolutionary line of artificial lift controls at the [Permian Basin](#)

[International Oil Show](#) in Odessa, Texas, on October 19-21. Come see sophistication-made-simple solutions for sucker-rod (SRP), progressing cavity (PCP), and electric submersible (ESP) pumping systems. Among the products to be featured will be our new natural gas-powered artificial lift system ([see below](#)), a sucker-rod pump drive with a graphical interface that simultaneously displays both surface and downhole DynaCards, the Unico Drive Simulator, the Unico Well Monitor, remote communication options, and more. Stop by booths C41 and C42 to find out what others said couldn't be done. If you're not attending the show but would like further details or to discuss an application, please [contact us](#).

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Product Watch

New Natural Gas-Powered Artificial Lift System

Unico has introduced a natural gas-powered artificial lift system designed specifically for stripper wells and coal-bed methane pumping applications. This compact unit combines a power source and an advanced well automation controller into a single unit. The system is the ideal solution for pumping applications located remotely from electrical service or for those customers wanting to minimize gas flaring and eliminate electrical utility costs.

The technology is particularly suited for areas with high utility costs, frequent power outages, or damaging voltage transients. Electrical



utility costs, which can be as much as half or more of the operating cost of a well, can be completely eliminated to improve the economics of marginal wells.

Protective features and automatic restart control allow the system to run unattended. The unit automatically switches between wellhead natural gas and propane tank fuel sources. Its engine/generator offers the longest service interval and run life available today. The unit is easy to install and maintain.

The integrated universal well controller has evolved over thousands of installations into the most advanced artificial lift system available. It can be configured to operate an electric submersible (ESP), progressing cavity (PCP), or sucker-rod (SRP) pump. Remote communication capabilities allow pumping operations to be monitored and controlled via radio, cell phone, or satellite link.

The Unico Natural Gas-Powered Artificial Lift System is just another innovative tool for operators who want to improve their oil and gas operations. For more information, please [contact us](#).

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Remote Communication with Wellhead Automation Using Cellular Phones

Unico now offers remote communications with the wellhead automation using a cellular phone link. This allows users to remotely view production,

monitor operating conditions, change setup values, reset faults, and even start and stop the drive using a personal computer.



The Dataremote CDMA/Analog Tri-Mode Modem used on Unico systems provides RS-232 and analog data capability at 800 and 1,900 MHz. Communication with a remote drive is as simple as dialing the cell modem using Unico's Uedit interface software or any terminal emulator program. Once connected, users can view and navigate any of the textual setup and monitoring screens as if they were standing at the drive.

Setting up the modem is just a matter of arranging an account with an appropriate cell phone vendor and installing the phone number into the modem using built-in setup software and a terminal program.


To determine if an area has cellular coverage, go to the coverage map on either the [Verizon Wireless](#) or [Sprint PCS](#) website and enter the zip code or nearest city. The coverage for that region will be shown. Most remote western states are adequately covered by Verizon Wireless.

The CDS-9022A cell modem is Division 1, Class 2 UL approved and comes with the following standard features:

- Authentication (CDMA)
- Authentication analog AMPS cellular
- Preferred roaming list (PRL)
- IS-707A service SMS commands
- SMS via AT-commands
- TCP/PPP
- Update PRL while unit is in the field
- DRI configuration menu remotely or locally programmable
- Inputs for cry-out alarms
- Analog modem MNP-10EC and X-Cel error correction, V.22 to V.32Bis

- Switches from CDMA mode to analog automatically
- Tri-mode call processing: AMPS 800MHz, CDMA digital 800MHz, and CDMA PCS 1,900 MHz
- Voice communications

For more information on the cell phone option, please [contact us](#).

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Feature Focus

Numerous Feature Improvements in Recent Releases of Unico's Sucker-Rod Pump (SRP) Control Software

The following are among the improvements made in the latest revisions of Unico's 805-541 Sucker-Rod Pump (SRP) control software. Version .102 has just been released.

Version .100 Improvements

- Enhanced simulation mode to include a full suite of models, including drive, motor, pumping unit, rod, pump, tubing stretch, and reservoir
- Enhanced the reservoir model to simulate incomplete pump fillage, gas interference, and a combination of the two
- Fully implemented the multipage Well Production Report
- Added phase-loss detection and fault
- Implemented an interface with csBeam from Case Services and XSPOC from Theta Enterprises
- Added an automated valve check feature
- Added a plot of "as-balanced torque"
- Added a feed-forward advance to compensate for latency with non-Unico inclinometers
- Added remote capability for performing well identification and valve check tests
- Made compatible with the 1140 Variable-Voltage Drive and Unico Well Monitor

Version .102 Improvements

- Added charting support for the optional graphic display to show actual and predicted DynaCards, crank torque, rod and pump velocities, and IPR vs. pumping point
- Added Vogel IPR curve for the reservoir simulation
- Added user-customizable display capabilities for up to four parameters
- Added user-definable English-to-Metric unit selection
- Added user-definable fluid flow, volume, and pressure display units
- Added full support for the Analog Input Module for expanded inputs
- Implemented user-definable analog inputs
- Implemented user-definable analog warnings and faults
- Added analog values to the network map so they are serially available


- Added an analog input calibration routine
- Added a flashing warning to alert users to run a well identification test due to parameter changes
- Added a flashing restart countdown display to indicate an impending restart
- Added a user-definable high-speed fault
- Added motor frequency to the bar graph display
- Harmonized the SRP and ESP/PCP application menus, parameter names, and features, where applicable
- Added gas and fluid fill monitors to further quantify the pump fill monitor
- Added a tubing stretch display and a display of lost production due to tubing stretch
- Added leak rate displays to show the results of the last valve check test
- Added a limit to the differential between optimizer selected upstroke and downstroke speeds
- Added a filter for noisy inclinometer signals

What's Coming Up

In Future Issues...

Look for the following articles in upcoming issues of *Oil & Gas Automation Solutions*:

- Field tests of methods to eliminate rod pump gas locking and interference
- Reducing power consumption and improving power factor of beam pumps
- Using a torque economizer mode to improve efficiency and reduce gearbox stress
- Detecting stick/slip oscillations that fatigue rod-string couplings and reduce energy efficiency of PCPs

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