



**More Oil -
Less Water**

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MK PUMP'S NEW SMARTBOX™ CONTROLLER

Improve Stripper Well Performance
Through Micro-Pumping

Lower your costs and improve your pump productivity with next-generation technology from the field-proven leader - *The best pumping control in the industry*



Conventional pump controllers run fast, then stop – on and off, like a light switch. As a result, pump production is inconsistent, and operating costs are high. Stop-and-go performance is hard on critical machinery, too. As requirements for pump efficiency and effectiveness continue to rise, operators look to technological improvements to meet their higher performance goals. The new generation is here.

Choose standard model (left) or pump mount



New, state-of-the-art SmartBox™ Controller reduces operating costs, boosts productivity and extends pump life

MK Pump's industry-leading control box has taken another step in controller evolution. Programmed to optimize your individual pumping situation, the SmartBox Controller acts as the pump's brain.

It senses downwell conditions and environment changes, then adjusts pump dynamics to match well outputs. Advanced software varies stroke counts and running speeds, which eliminates the need for the pump to shut down. The SmartBox Controller adjusts strokes to reduce rod float, and increases upstrokes to maximize production. The effect of this tightly controlled activity is to boost productivity while reducing the drive's overall speed. Slower speeds mean lower horsepower requirements – resulting in reduced energy costs and less wear on vital pump components.

Tune your pump to your well – keep it running and pumping more

The SmartBox Controller actively varies pump speed throughout the day, even during a single stroke, to run at each well's optimal speed. You get more oil with less silt, sand and sediment, while eliminating downtime. The controller can be programmed to shut down the pump during hours of peak

energy costs, or to run a pump just fast enough to help prevent sand and silt from entering the plunger.

MK Pump puts you in control of the well and well data

You program productivity and power parameters. Monitoring is easy with useful, simply presented data displays available both at the well and to a SCADA system. The built-in communications port allows easy offsite computer monitoring of many wells by a single field operator.

Reliable, Versatile, Inexpensive

The SmartBox Controller is built on a hardware platform from Emerson Electric, globally known for reliability. The controller works with virtually any pump in the field, and is the ideal companion to MK Pump's Rhino MiniJack™ top-head-drive piston pump.

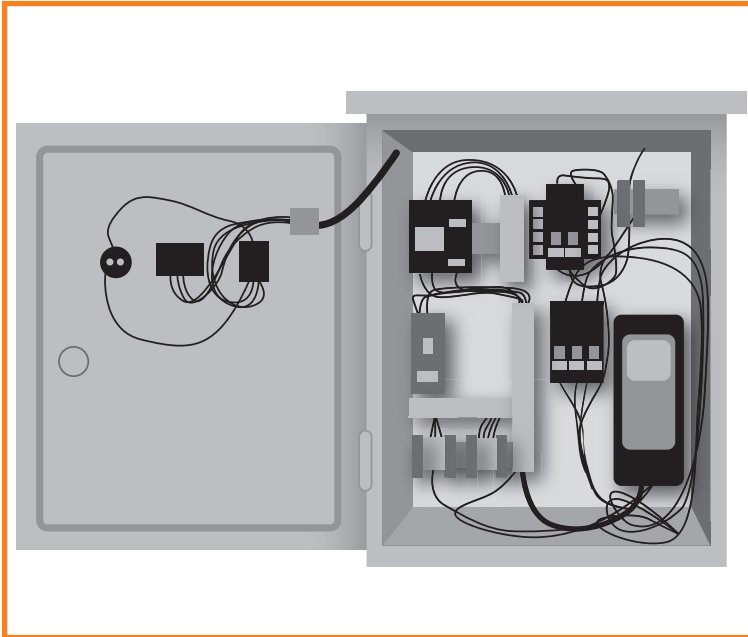
With increased well production, lower energy consumption, fewer mechanical failures and reduced parts replacement – in addition to the low purchase price – MK Pump's SmartBox Controller is an excellent overall value. And it installs in less than half the time of a conventional controller, a bonus savings.

Let us show you the ROI of your individual situation - for free. We can help your pumps work harder at lower cost.

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- Choose easy-to-use pump time and dwell set-up with external communication port – allowing you to decide speed, time between pumps, and time of day, week or month to pump
- Pre-program speed, hour run time, stroke count, dwell delay time for both up and down stroke, auto restart if electric service interrupted, time-of-day on/off
- Match production with actual well inflow by changing pump cycle time in the well or through continuous altering of pump speed
- Accurately control rod pumping system, determining when pump needs to run to reduce utility costs
- Built-in communications port allows operator to monitor, manage and optimize pump from a single, off-site control point
- Pump and controls come ready to plumb and plug in

Next-Generation Smartbox Controller

Technical Specifications

- Nema 3 Enclosure 20x16x8 inches
- Auto restart on power loss
- PLC programmable VFD
- Modbus RTU RS485 via R J45 connector
- Communications upgradeable
- Hour's meter (years, days, hours, and minutes)
- 25 amp disconnect
- Required fusing to meet NEC specification
- Programmable Logic Controller (PLC)
Adjustable PLC functions at the pump.
- Drive "ON/OFF" switch
- Speed "MIN/MAX" potentiometer
- "Pump running" light

Smartbox Control Panel Options

- External display
(can be mounted up to 100' from control box)
- Stroke counter

- Stroke dwell (needs I/O or real-time clock module)
- Programmable I/O modules
- Real-time clock module for time of day run
- Conductivity level control
- Pressure transducer level control
- IS barriers for explosion-proof applications
- SCADA communication modules
 - DeviceNet
 - PROFIBUS-DP
 - CANopen
 - INTERBUS
 - Ethernet

Notes:

- Only one module per drive may be used
- Functions are stored on a removable reprogrammable logic chip
- Functions may not be changed on the chip without a laptop computer

