

Orion™ V for pumping

Data Acquisition System for pumping services



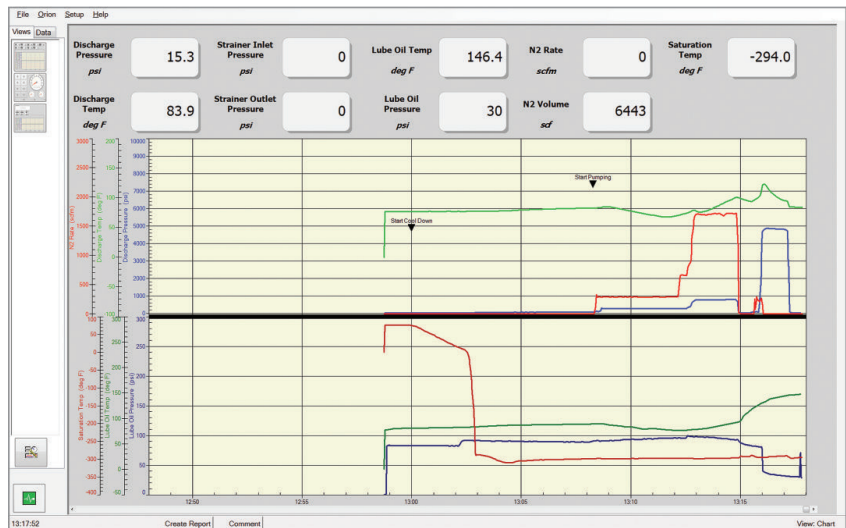
Orion V Data Acquisition System



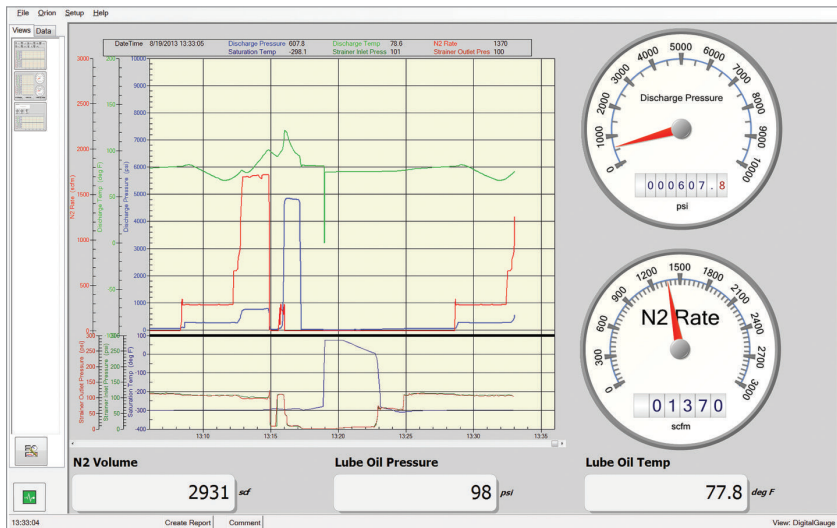
Features and benefits

- Automated Job Report emails for systems with optional cellular Internet add-on
- Configurable over/under pressure/temperature kick out relays with audible alarm
- NEMA 4X stainless steel control box, PC and sensors
- Barrier box is available for sensors to be installed at wellhead
- Expanded Electronic Memory Unit (EMU) for data backup or primary storage (>2,400 hours typical)
- Optional temperature monitoring and recording

Orion for Pumping is a cost effective data acquisition system for pumping services such as cementing, stimulation and gravel packing. It is typically used to record, monitor, display and report fluid densities, flow rates, pressures, and cumulative volumes. Additional channels may be added as required.



Orion™ V for pumping



Hardware configuration

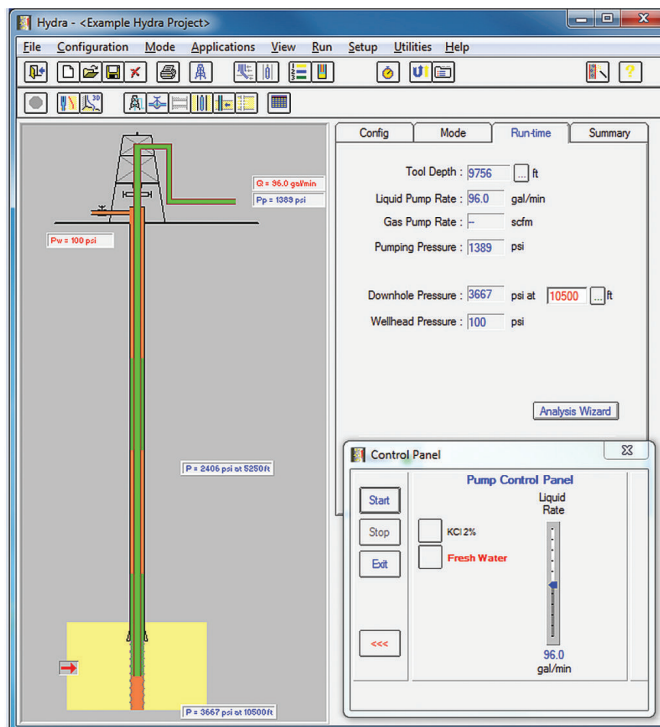
The basic hardware system is capable of acquiring 4 digital channels and 8 analog channels. Additional channel inputs can be added to this basic system if needed. The system is very flexible, allowing the user to change the channel names and units (English and Metric). The following channels may be configured on a typical system:

Channels from Sensors

- Pump Pressure 1
- Pump Pressure 2
- Treating Pressure
- Saturation Pressure
- Discharge Temperature
- Lube Oil Temperature
- Lube Oil Pressure
- Pump Volume 1
- Pump Volume 2
- Treating Volume

Calculated Channels

- Pump Rate 1
- Pump Rate 2
- Treating Rate Specifications



Data manipulation

The Cerberus™ well hydraulics model (Hydra™) can be used to model the pumping operation and answer the following types of questions:

- What is the hole volume and bottoms up time?
- Will the bottomhole pressure exceed the frac pressure?
- What fluid density is needed to kill the well?
- How much flow will the well produce from the reservoir?
- Will sand or cuttings be transported back to surface?
- What is the fluid velocity in the annulus?
- Can the well support a full column of fluid?
- What is the ECD (equivalent circulating density)?

936.777.6200 | 24 Hour Support