

Micro Motion® Meters Provide Reliable, Accurate Measurement for Stimulation Process

RESULTS

- Measurement accuracy unaffected by fluid properties and transient conditions
- Accurate at high turndown
- Handles two-phase flow
- Functions with little or no maintenance



APPLICATION

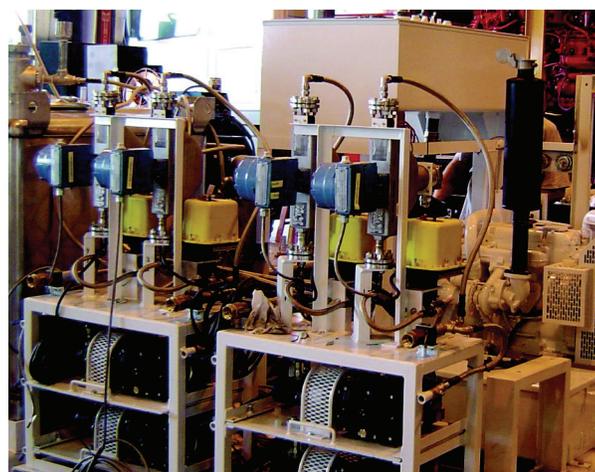
Stimulation is used to increase the production of oil wells. Stimulation involves introducing a wide array of chemicals into the fracturing fluid being pumped down hole. These process fluids can differ greatly in density, viscosity, temperature, conductivity, etc. Each stimulation job calls for a unique combination of chemicals and injection rates. Because downhole pump rates can vary greatly during a job, accurate measurement is required to maintain the proper blend. The two measurement techniques typically used are electronic counting of pump revolutions and gauging tank levels.

CHALLENGE

Using tank level gauges to measure flow requires operator involvement and is prone to measurement error. Using pump revolutions to measure flow assumes that the pump is performing consistently. However, pump wear can degrade measurement accuracy. Additionally, if the electronic pickoff fails, there is no real-time backup measurement. Oil field service companies need a measurement device that provides real-time accurate measurement for a wide variety of process fluids over a wide range of flow rates. Additionally, the device should be capable of integration into automated systems, and be immune to the harsh conditions of oil fields such as temperature variation and sand in the line.

A single meter can accurately measure fluids of different densities and viscosities, at widely varying flow rates.

www.micromotion.com



Micro Motion meters on chemical feedlines



For more information:
www.EmersonProcess.com/solutions/oilgas
www.micromotion.com



SOLUTION

Micro Motion has installed thousands of units into oil well stimulation projects worldwide. Micro Motion® meters can measure all types of liquid additives. A single meter can accurately measure fluids of different densities and viscosities, at widely varying flow rates. Because the Micro Motion meter has no moving parts, it will not wear like a pump, and it will maintain accuracy regardless of pump wear, thus preserving job integrity. An operator can use the display to identify the fluid being pumped as well as monitor the flow rate. Analog and digital outputs are available for integration into a data acquisition system.

Micro Motion meters in well stimulation can also validate fluid quality, indicate air in the system, and verify pump efficiency by monitoring the change in the gear pump's flow factor over time. This enables predictive maintenance and helps prevent pump failure during a job.

