

Tune your intermittent gas lift injection based on well inflow instead of non-adjustable Pilot Valve injection



IMPROVE GAS QUALITY
Hydrocarbon and water condensation in pipeline system caught in separator and dumped into flowline

OPTION FOR HEATING GAS
Combining surface vessel with a firetube heated bath will raise gas temperatures, reducing downhole paraffin formation

STOP OXYGEN CORROSION
Oxygen-rich methanol used to combat hydrates caught in surface vessel

For more information on, please visit us on the Web at: www.enclinelift.com

Reduce Injection Volumes

Intermittent Gas Injection is known for reducing the overall amount of injection gas required to produce a well. When combined with plunger lift, even greater reductions are possible.

More efficient use of injection gas reduces compression requirements, compression expenses, and reduces greenhouse gas emissions.

HMI / Smartphone monitoring

- Webpage duplicates local HMI
- Monitor realtime information such as tubing, casing, and vessel pressures
- View pressure and temp KPI's
- Change setpoints or algorithms
- Review historic information on injected gas volumes and well pressures

Instead of upsetting a gas lift distribution system by intermittently blowing it down into the casing of a gas lifted well, the practice of installing pilot valves has been widely adopted. This practice was reasonable for the steady state production of a vertical well, as the volume of gas stored in the casing annulus is fixed based on the opening and closing pressure settings. Changing the volume of gas discharged from the casing into the tubing through the pilot valve is only accomplished by pulling the valve and changing the open / close setpoints.

Experience taught that flow from horizontal wells is dependent upon well geometry, and that slug flow from the lateral into the vertical section is the norm. Since liquid rates are not regular, the amount of gas required to lift the liquid must be adjusted proportionally.

Our solution utilizes a surface vessel to accumulate gas during "Off" cycles while monitoring tubing and casing differential pressures to gauge liquid entry. The control system will set the opening and closing pressures of the surface valve and the rate that the surface vessel is filled, allowing an optimized injection volume each cycle.

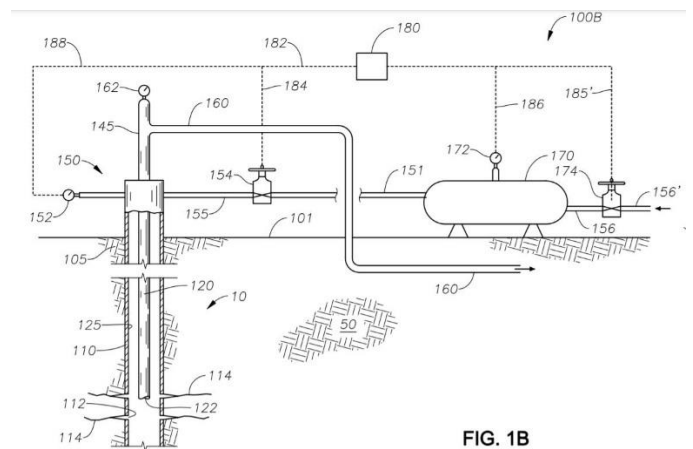


FIG. 1B

Surface Operated Intermittent Gas Lift Requires:

- The same gas meter presently serving the well
- The same valve used to control conventional gas lift rates
- An additional control valve to control the "blowdown" rate
- A 1200 psi pressure vessel without internals to store gas
- A dump valve and level controller to remove liquids
- Pressure sensors on tubing, casing, and pressure vessel
- An Encline Edge Computing Device tied to your Scada