

# Velocity String

## and Downhole Gas Separator Technology

LPS Velocity Strings were developed initially as a “custom application” as an integral component to downhole gas separators used in O&G rod pumped wells. The separators by different manufactures are designed to provide incremental production increases, better pump fillage, and less cycling by providing the rod pump with more consistent fluid flow. The tool requires a small ID tail pipe that must hold up to heat and corrosion, and the LPS LF115 provides an effective solution.

### PROBLEM

- High Temperatures to 250+ °F
- Consistent tubing ID requirement of ffi 1.1” inside of 2-3/8” production tubing
- Corrosion resistant properties
- Hydrolysis resistant
- No swelling of Thermal Plastic Tubing
- No cracking or chipping
- Economically viable commercial product



“LPS manufactures downhole products that reduce rod wear and holes in tubing.”

### SOLUTION

Our recommendation was to extrude a custom liner (pipe profile) using LPS proprietary resin (LF115) with the goal of minimizing the ID to 1.1 inches. The challenge was to get a product that could handle the high temperatures, that would not swell when exposed to down hole corrosive fluids (H<sub>2</sub>S, CO<sub>2</sub>, etc.), and that could be inserted and mechanically bonded inside production tubing at an affordable price. These requirements were necessary for the success of certain downhole gas separator technology. LPS designed custom tooling and processes to produce the velocity string using LPS LF115. The initial installation was performed in products June 2018 the Uintah Basin in Northern Utah. Since this time, a similar installation was also performed in the Permian Basin by a separate operator.

### RESULTS

The downhole gas separator installation has been successful in both applications with LF115 velocity string. The initial installation in Utah was completed on June 21, 2018. The well has had no downtime since installation, and the fluid production and bottom hole pressures have been consistent. The continuous fluid production and lack of slugging should provide the well with reduced failures, especially in the downhole pump. The velocity string performance has been deemed a success by both the operator and the gas separator manufacture(s). The custom LF115 velocity string has proven to meet the economics of the project and has provided superior performance and protection for this section of tubing. The velocity string enabled the companies downhole gas separator to operate successfully, stabilizing pressures and production rates.

CONTACT A REP. FOR MORE INFORMATION



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