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EQUIPMENT FEATURES AND ADVANTAGES:

Frac pump driven with 3,000HP electric motor through a 9 – speed powershift transmission.

Low power warm up system, with use of the pony motor only.

- This feature will allow us to warm up both the transmission oil, and the lube pump oil.
- This is particularly important in cold conditions, since the frac pump oil will be warm before it starts up. This will end power end failures due to cold oil/ poor lubrication at cold start up.

No complicated/ fragile VFD control unit required. The 3,000HP frac pump drive motor always runs at synchronized speed.

- No high inrush current occurs when starting the large motor, since it is driven to synchronize speed before starting and starts at “no load”. Only nominal “no load” amps are used to start in this condition, only 74 amps at 4160 V.

No speed dip when changing gears in the transmission.

- The inertia of the 3000 HP keeps its speed constant during shifting, which allows for very smooth shifting, even while the power end is under high pressure, high HP loading.

Cooling for both the transmission and lube oil controlled by thermostatic by-pass valves, so oil stays at design temperatures.

- Cooling provided by two chambers, one motor/fan air to the oil cooler.

Unit has a SlowFlo feature that allows operation from -0- to 200 RPM, through all 9 gears of the transmission.

- This allows the operator to easily conduct line pressure test.
- It also allows infinitely controllable speed control of the power end, for an output flow between -0- to 1.4 barrels/minute, as required by the operator.



The Transmission has small and evenly spaced gear ratio steps to ensure that well pressure does not drop during gear shifts.

Designed specifically for the pressure pumping market, the transmission does not require throttle dipping for any of the range-to-range shifts.

- The transmission is designed to be power shifted under all loaded or unloaded situations.

Transformer: oil units appear to be the better option overall with higher energy efficiency, recyclability, low noise pollution, lower operational costs and a small environmental footprint.

CONTROL SYSTEM:

The EnviroFrac control system integrates proven and reliable J1939 transmission control with simplified modern electric drivetrain management.

- Simpler and easier to use than VFD-based electrical drive trains with automation to overcome startup issues.
- Results in a system that is easier for operators to use and for technicians to troubleshoot and diagnose field issues.

Real-time algorithm alerts and interventions assist operators to protect equipment.

Critical controls are managed for the operator with ease-of-use in mind.

- Multi-step sequences of operation are reduced to one-touch initiation for the operator.
- Precision real-time start up algorithm automatically synchronizes deck motor and transmission.
- Enables operators to easily run a system that utilizes real-time high-speed algorithm automation to prevent inadvertent damage.

System is designed by experienced engineers and frac hands to operate to meet the needs and wants of real world operations.

- System supports rate control and pressure control. Pressure control enables automated pressure tests.
- Low flow operation and granular flow rate control enabled through the pony motor.
- Supports extremely low flow rates and granular control.







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