

StimCommander

Automated stimulation delivery platform

APPLICATIONS

- Unconventional completions
- Continuous, high-intensity fracturing operations

BENEFITS

- Sustains operational efficiency
- Reduces equipment downtime with predictive health processes and redundant equipment
- Reduces operational footprint
- Lowers HSE risks
- Improves traffic flow

FEATURES

- Modular systems
- Automated processes
- Bulk material delivery and storage
- Predictive health monitoring of equipment
- Automatic invoicing for proppant and chemicals
- Numerous built-in redundancies
- Dust control
- Accurate, real-time inventory control

The StimCommander* automated stimulation delivery platform automates and streamlines surface operations, resulting in a smaller footprint, sustained efficiencies, and substantially reduced NPT. A combination of bulk material delivery and storage systems, equipment designed for continuous operations, automated processes, and accurate inventory management, the platform drives more efficient, reliable, and cost-effective fracturing operations with reduced HSE risks.

The platform's main components are a proppant delivery and storage system, a process trailer, and an automated missile, all of which are monitored and managed from a central control cabin.

Proppant delivery and storage system streamlines materials management

To manage frac sand, the platform's StimCommander Proppant* automated proppant delivery system consists of A and B silos, a base frame for the silos, a silo erector trailer, and a proppant loader trailer.

A complete set of silos includes two A silos and two B silos, with a total storage capacity of 10,000 ft³ divided among the four vertical compartments. Level sensors in each compartment prevent overfilling, and load cells under each silo measure proppant weight for accurate blending concentrations and inventory management. A dust-collection system effectively reduces HSE risks associated with proppant transfer.

A base frame supports the system's four silos, and both the base frame and the silos are transported to the site by a silo erector trailer that runs on its own power pack.

During delivery, a door on the underside of the proppant loader truck opens to allow proppant to fall into the receptacle, which transports the proppant up and into the silos. This method streamlines traffic flow on location and minimizes dust and noise. The proppant loader truck can be positioned on either side of the base frame and silos, and can access all four silos from either side. The design allows two sand haulers to unload at the same time.



StimCommander automated stimulation delivery platform.

Process trailer executes fracturing jobs as designed

With eight liquid additive systems, two dry additive systems, and one gel delivery and mixing system, the StimCommander Process Trailer* automated blender and hydration unit creates blends with precise concentrations of powder, liquid, and aqueous gel by scanning a code of the job design information. A hydration unit mixes dry polymer powder with water to form an aqueous gel, and the POD* programmable optimal density blender blends and pumps up to 120 bbl/min [19 m³/min] of fracturing slurry.

A fully integrated A/C electric power-generation unit delivers high reliability and reduced emissions, and modular components allow seamless maintenance to reduce NPT.

Automated high-pressure iron revolutionizes pump performance

The platform uses the StimCommander Manifold* automated high-pressure iron to reduce the number of pumps needed, minimize capex, and extend equipment life. By rerouting abrasive proppants through the hydraulic pumping system and away from high-pressure pumps, the automated iron enables operators to use any pump, reducing costs and increasing pump run life.

StimCommander

High-pressure freshwater and low-pressure fracturing fluid flow into the iron separately. The freshwater then pushes the fracturing fluid out of the iron and downhole. With its energy transferred to the fracturing fluid, the low-pressure freshwater exits the automated iron before being directed back, filtered, and recirculated, creating an energy-efficient loop.

Control cabin simplifies on-location operations

The platform's control cabin features an automated process control system to run all equipment on location with a one-touch approach that does not require manual adjustments and ensures that each job is run as designed.

The system also monitors more than 1,500 predictive health data samples on equipment platform-wide to determine optimal maintenance intervals and address issues before they lead to unnecessary downtime.

Equipment sensors and instruments verify material weight and volume to monitor and capture job data, generate invoices automatically for proppant and chemicals, and facilitate inventory management.

Automated high-pressure pumps maximize pump reliability

StimCommander Pumps* automated and intelligent rate and pressure control ensure more efficient, consistent, and safer rate control by fully automating all high-pressure pumps. This operation is optimized to increase pump efficiency, minimize equipment failures, and reduce downtime on location. In addition to maximizing pump reliability, the automation enables pressure as a direct input and feedback to the system. This pairing reduces dependency on individual operator decisions while delivering desired rates more quickly and consistently.

StimCommander Pumps control uses inputs from reservoir evaluation tools including the Schlumberger Kinetix* stimulation software suite to enable real-time optimization of the treatment.



StimCommander Manifold automated high-pressure iron.

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