

Hydraulic Fracturing: the TF50F Gas turbine Direct Drive system, the next generation of Frac Solutions

30,000 hours of a 40,000 HHP fleet operation proves the TF50F as the best gas turbine for hydraulic fracturing application

CHALLENGE

Develop a safe, reliable, efficient and cost-effective hydraulic fracturing multi-fuel solution that improves trailer power output, and reliability, while reducing equipment footprint, emissions, operating and maintenance cost.

SOLUTION

A next-generation hydraulic fracturing fleet, applying the compact and powerful multi-fuel (natural gas or liquid fuel) TF50F gas turbine to a direct-drive 5,000 Horsepower (HHP) quintuplex hydraulic fracturing pump.

RESULTS

The TF50F powered BJ TITAN Fleet is creating a new norm for well completions providing the best emissions profile through a high-power density and modularity, removing the need of several additional stand-by units.

Titan delivers one of the most efficient 'power to pump' combinations with the smallest total footprint at location at a reduced operating and maintenance cost. The fuel flexibility ensures power reliability under different circumstances and making it the best solution in the fracturing market.

Texas & Louisiana, USA



OVERVIEW

In January 2021, the First 40,000 HHP BJ TITAN fleet powered by TF50F turbines began a phased deployment in Haynesville, LA. Since the deployment until December 2021, the fleet has pumped over 1,000 stages, with over 30,000 hours of total pump time across the fleet of only eight pumps.

In line with Kanaci focus that has integrated technologies to accelerate the reduction in carbon footprint across a variety of industrial applications, the TF50F powered BJ TITAN Fleet supports the reduction of Greenhouse Gas (GHG) Emissions, across the Haynesville, Permian, Duvernay/Montney, and Eagle Ford basins. The TITAN direct-drive technology has demonstrated in the above different scenarios the lowest GHG.

Most importantly, the BJ TITAN Fleet emits virtually zero methane when under normal operating conditions and has lower EPA regulated carbon monoxide, nitrogen oxide, and particulate matter emissions.



#PoweredbyVericor



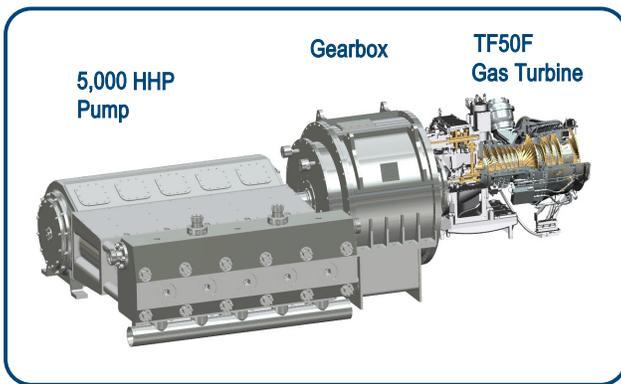
BJ fleet 'Powered by Vericor' ©

CASE STUDY DETAILS

The direct drive 5,000 HP natural gas-fired Vericor turbine driven pump is at the core of BJ TITAN next-generation fracturing fleet, capable of delivering one of the most efficient 'power to pump' combinations available. Fueled by natural gas, the TITAN supports the reduction of greenhouse gas emissions, reduced costs, improved mobility, and reliable operations while meeting the most stringent noise reduction requirements across North America. Compared to a Tier IV bi-fuel fleet in the Montney, the TITAN will reduce GHG emissions by over 20%, according to BJ study.

The TF50F powered BJ TITAN Fleet is creating a new norm for well completions, providing a modular high-power density and high reliability fleet, removing the need of many additional stand-by units and having the smallest total footprint at location at a reduced operating and maintenance cost. The fuel flexibility ensures power reliability under different circumstances and making it the best solution in the fracturing market.

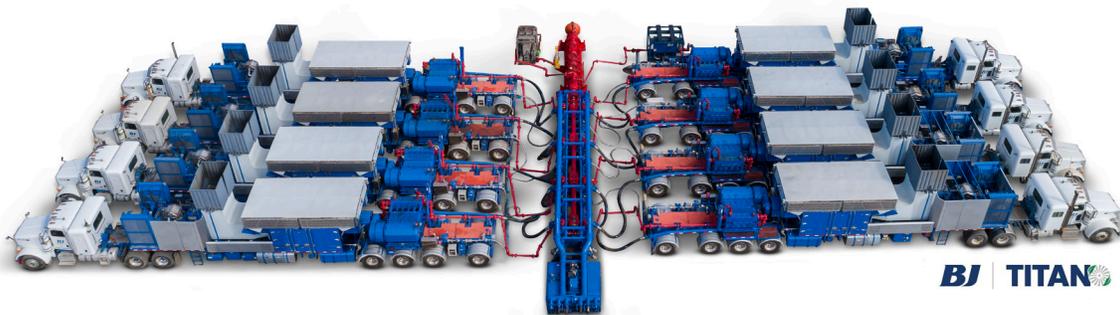
The Vericor TF50F has also an attractive Capital Cost (CAPEX) which is competitive in all market cycles, and it can also be used to power the auxiliary equipment on the well location with a 4 MW mobile generator.



5,000 HHP
Pump

Gearbox

TF50F
Gas Turbine



40,000 HHP fleet in 8 trailers

BJ | TITAN

ADVANTAGES

- Improves trailer power output, and reliability, while reducing emissions, operating and maintenance cost.
- Reduced operating footprint by 50% with reduced on-site personnel and operating costs
- Cost savings in fuel and maintenance
- Enhanced mobility and fleet reliability
- Exceeds most stringent noise reduction requirement



Vericor's TF50F Gas Turbine