

# Frac Protection System



Designed to protect against over-pressure events during fracturing operations, the NOV Frac Protection System (FPS) protects personnel and the surrounding area from the pressurized fluid by relieving fracturing fluid into a tank.

The standard FPS skid includes a manifold section, relief tank, hydraulic power unit, and control system. This unique system is available in multiple configurations—with and without a 72-bbl flowbank tank and reduced functionality to decrease on-site footprint.

During fracturing operations, the FPS is connected to the primary treatment line, and a signal from the FPS skid control system or the customer's data van will trigger the relief valve in case of over-pressurization in the line.

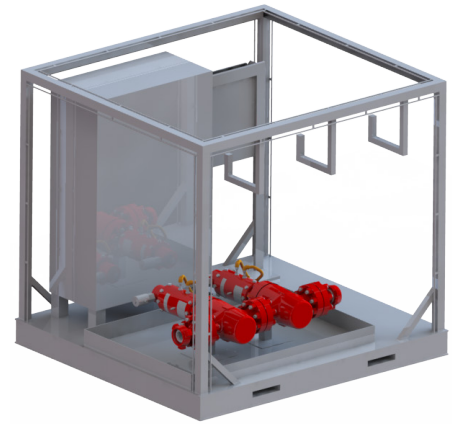
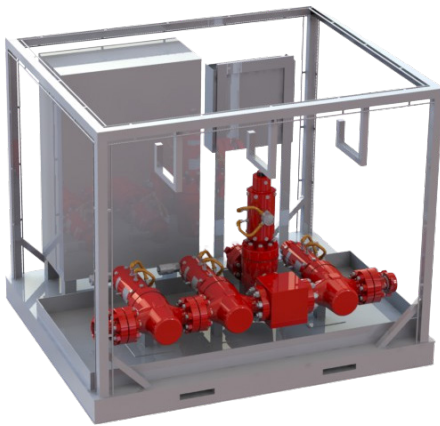
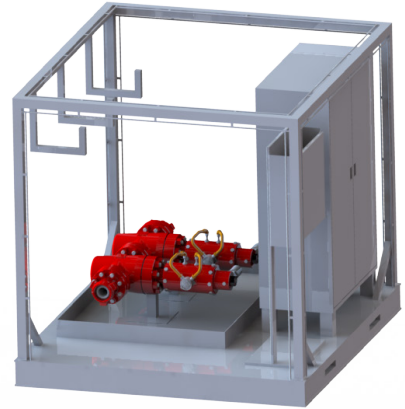
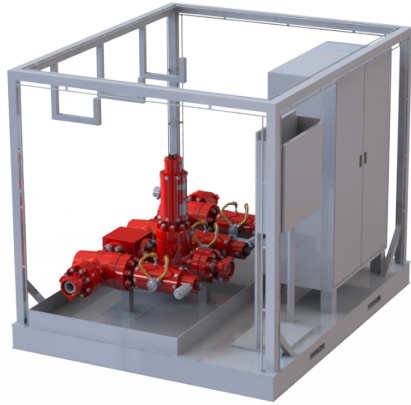
Our relief valve will open the instant an over-pressure event has occurred, and up to three pressure transducers will be monitoring working pressure every 20 milliseconds upstream from the FPS. The controls system will email a report every time an over-pressure event occurs, and over-pressure relief points can be set locally or remotely while the FPS is in service.

Dimensions	Standard FPS	Tankless FPS	Compact FPS
Length	220 in. (559 cm)	115 in. (292 cm)	100 in. (254 cm)
Width	90 in. (229 cm)	95 in. (241 cm)	95 in. (241 cm)
Height	126 in. (320 cm)	95 in. (241 cm)	95 in. (241 cm)
Est. Weight (dry)	17,500 lb (7,938 kg)	13,000 lb (5,897 kg)	10,500 lb (4,763 kg)

## Features and benefits

- Manifold system designed to increase safety in operation, along with reducing downtime and valve wear as they can be easily tested with water instead of frac fluid
- Skid-mounted tank system for safe discharge of the over-pressurized frac fluid for safety and environmental protection
- Remote access to instrumentation and control system with 24-hour access
- Customizable system allows for customer-specific solutions
- Built-in redundancy decreases downtime and increases efficiency; FPS can run for hours on battery power if the frac site loses power
- Automatic reporting minimizes human error
- System designed for offline function test of relief valve to increase the life of the valve body, gate, and seat
- Fully integrated with our GoConnect™ remote monitoring system

# Versatile design, allowing fit-for-purpose utilization



## Tankless FPS

With the 72-bbl storage tank removed, this option reduces the footprint by approximately 45% while still maintaining all the benefits from the full-sized FPS. Discharge from the FPS can be routed to a discharge tank via a 3-in. 1502 connection on the FPS.

## Compact FPS

In this design, the 72-bbl tank and the main treatment and test isolation valves have been removed while still retaining the redundancy of the two relief valves installed in series. This option offers a 55% reduction in footprint compared to the full system while maintaining the FPS's core functionality, ensuring reliable and repeatable operations.