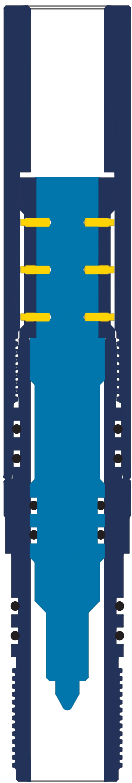


FIRING HEAD – DIRECT PRESSURE ACTUATED

The Titan Direct Pressure Actuated Firing Head provides a safe and reliable pressure firing system for TCP applications requiring the use of pressure to fire the guns. This firing head is designed for well conditions that are unfavorable for dropping a detonating bar or where a backup pressure firing head is desirable.

The firing head is assembled to actuate at a predetermined pressure by using precision shear pins. The firing piston is shear pinned to a retainer sleeve by the number of pins calculated based on well conditions and the desired safety factor. Hydrostatic plus applied pressure is used to hydraulically actuate the firing head within $\pm 5\%$ of the calculated actuating pressure. When the pins shear at the predetermined pressure, the firing pin, on the lower end of the piston, is driven into the percussion detonator to initiate detonation of the gun assembly.



Features/Benefits

- Safe
 - Minimum pinning requirement of 1,800 PSI (124.11 bar)
 - Cannot be detonated at surface without applying pressure
 - Cannot be detonated accidentally by electrical sources
- Ideal for highly deviated and horizontal wells
- Can be run on top or bottom of Titan TCP Guns

Specifications

Outside Diameter (OD)	1.375 in (34.92 mm)
Overall Length	8.19 in (.21 m)
Makeup Length	5.85 in (.15 m)
Min. Operating Press.	1,800 PSI (124.1 bar)
Max. Operating Press.	20,000 PSI (1,380 bar)
Shear Pin Value	900 PSI/pin @ 70°F
API RP-67 30 ft Drop	5 pins required

