



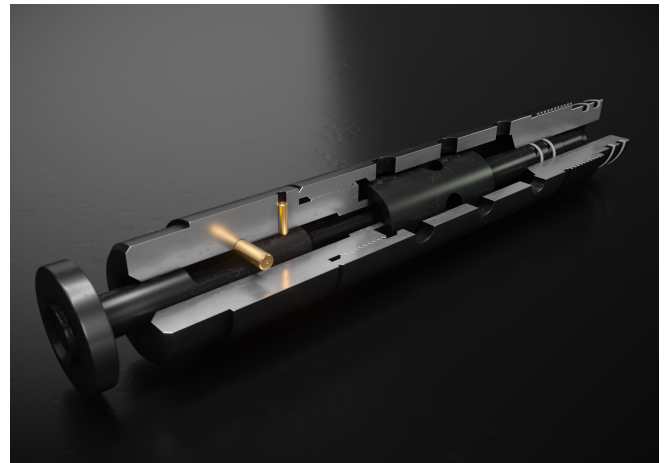
## Safety Mechanical Firing Heads

GEODynamics' Safety Mechanical Firing Heads (SMFH) provide safe and reliable drop bar firing systems for TCP applications. These firing heads are designed and tested according to API RP-67 guidelines.

To initiate firing, the SMFH requires a minimum hydrostatic pressure on the firing piston when the drop bar impacts the firing head. This operating requirement provides maximum safety to personnel and equipment at surface during make-up and retrieval. When the drop bar impacts the release rod on the firing head, it shears the retaining pin, moves the rod down, and releases the firing piston. Hydrostatic pressure on the firing piston drives the firing pin into the percussion detonator to initiate detonation of the gun system.

### FEATURES/BENEFITS

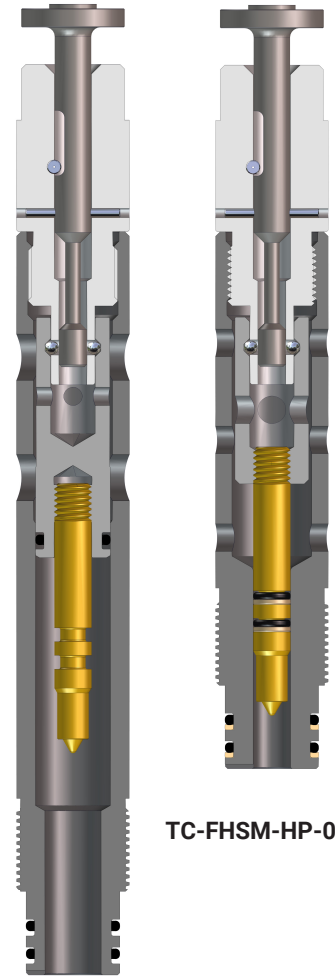
- Surface Safe
  - Cannot be detonated accidentally at surface
  - Requires a minimum hydrostatic pressure at firing head to operate
  - Cannot be detonated accidentally by electrical sources
- Can be used in deviated wells
- Can be run with low hydrostatic pressure conditions, providing a high underbalanced environment when guns are fired
- Available in extended model to allow for tubing fill



# Safety Mechanical Firing Heads

## SPECIFICATIONS

Assembly Part Number	<b>TC-FHSM-LP-0000</b>	<b>TC-FHSM-HP-0000</b>
	Low-Pressure Applications	High-Pressure Applications
Firing Head Type	Mechanical (Drop Bar)	
Diameter	1.68 in (42.7 mm)	
Make-up Length	Varies with handling sub	
Temperature Rating	Determined by explosive package used	
Tensile	Determined by size and grade of API Tubing Sub (Handling Sub)	
Tubing Thread Connections	1.900 EU 10 RD or 2-3/8", 2-7/8", and 3-1/2" EU 8 RD (Handling Sub)	
Seal Ratings	10,000 psi @ 290 °F without Back-up Rings 20,000 psi @ 375 °F with PEEK Back-up Rings	
Minimum Operating Pressure	500 psi (3.45 MPa)	2,000 psi (13.79 MPa)
Maximum Operating Pressure	7,500 psi (51.71 MPa)	20,000 psi (137.90 MPa)



TC-FHSM-HP-0000

TC-FHSM-LP-0000