



4.0" Hydraulic (Ball) Actuated Firing Head

GEODynamics' Hydraulic (Ball) Actuated Firing Heads (FHHA) are primarily designed for perforating in wells with existing perforations and are compatible with coiled tubing and workover operations. The firing head provides maximum safety to personnel and equipment at surface during make-up and retrieval. While running in the well, the firing head is pressure-balanced, allowing circulation or displacement of completion fluids prior to perforating.

The device is actuated by circulating the appropriate diameter stainless steel ball onto a polished seat and simultaneously increasing the tubing/coiled tubing pressure to achieve the required differential pressure across the ball seat/actuating piston. When the pins shear, the piston is driven into a GEODynamics Safety Mechanical Firing Head and the ballistics are detonated. After shearing/perforating, the device opens a port in the outer housing and the well can once again be circulated.

FEATURES/BENEFITS

- Minimum pinning recommendation of 1,800 psi
- Requires a minimum hydrostatic pressure at the firing head to operate
- Requires differential pressure after ball is seated in actuating piston
- Ideal for vertical, deviated, and horizontal wells
- Not affected by electrical sources or radio frequencies



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SPECIFICATIONS

Assembly P/N	TC-FHHA-40-LP00	TC-FHHA-40-HP00
Application	Standard Pressure	High Pressure
Firing Head Type	Hydraulic (Ball) Actuated	
Outside Diameter	4.0 in / 101.6 mm	
Tubing Thread Connection	3-1/2" EU 8 RD Pin Up	
Min. Operating Pressure of Aux Firing Device	500 psi / 3.45 MPa	2,000 psi / 13.79 MPa
Max. Operating Pressure of Aux Firing Device	7,500 psi / 51.71 MPa	20,000 psi / 137.90 MPa
Collapse Pressure	20,000 psi / 137.90 MPa	
Tensile Strength	300,000 lbs / 1,334 kN	
Temperature Rating	Determined by explosive package used	
Seal Ratings	10,000 psi STD without Back-up Rings 20,000 psi HI-TEMP with PEEK Back-up Rings	
Shear Pin Value	± 550 psi per pin @ 70°F	

± Differential Pressure – Six (6) shear pins require approximately 3,300 psi differential to shear at 70°F.

