

DIFFERENTIAL FIRING HEAD

2-3/4", 3-1/8", (69.9MM, 79.4MM)

INNOVATION REVEALED

The **Differential Firing Heads** are used to initiate detonation of the TCP Guns or other devices. Ports, above and below the piston firing pin assembly, allow this firing head to remain balanced when deploying into the well. The upper ports allow for fluid circulation while tripping into the well. After a ball bearing is pumped down and seated into the piston seat, the firing head is activated by creating a differential pressure between the annulus and work string.

FEATURES

- Safe, economical, simple and reliable
- Ideal for highly deviated wells, horizontal wells, heavy fluids wells and wells with open perforations
- Firing head is balanced, no shear stud calculations required
- **WARNING: Do not pressure test this tool or the lubricator while tool is in the lubricator.**
- Easily adapts to perforating guns, jet cutters, chemical cutters, drill collar severing tools and hydraulic setting tools
- Redress Kits Available

OPERATIONS

The firing head body has ports that allow equal pressure above and below the firing head piston/firing pin assembly. The piston assembly is sealed between the ports by o-rings and is secured to the firing head body by brass shear screws. When the ball bearing seats onto the piston, the upper ports are closed off to the annulus, creating the differential. Continued increased pump pressure shears the brass shear screws driving the piston/firing pin assembly into the initiator initiating the explosive train. After the piston assembly shifts the upper ports are once again open to the annulus allowing communication between the work string and annulus.

WARNING: Only qualified personnel should use or assemble Magnum TCP equipment. Use of Magnum TCP equipment in contrary to our specifications may result in property damage, injury or fatality. If you are not trained in the handling and the use of explosive devices, DO NOT attempt to assemble any Magnum Perforating Systems or Magnum Firing Devices.

* Use VITON 90 DURO O-RINGS / **Shear value should be verified prior to going in hole

O.D. inch (mm)	TOP CONNECT* inch (mm)	BOTTOM CONNECT* inch (mm)	LENGTH inch (mm)	MAX TEMP.	PISTON SEAT SIZE	SHEAR SCREW RATING PSI (MPa)	INITIATOR TYPE
2.750 (69.9)	2-3/8 PAC BOX (60.3)	2.375 6 ACME BOX (60.3)	13.0 (330.2)	450°F (232°C)	0.375 (9.5)	1,400 (9.7)	Percussion (CP)
3.125 (79.4)	2-3/8 EUE BOX (60.3)	2.750 - 6 ACME BOX (69.9)	11.5 (292.1)				

