

## Annular-Pressure Dual Firing Device

The Annular-Pressure Dual Firing Device is used to perforate at a balanced or underbalanced tubing pressure in highly-deviated wellbores where a drop bar typically cannot be used. It is available as 3<sup>1</sup>/<sub>8</sub>" and 3<sup>7</sup>/<sub>8</sub>" sizes.

This system allows the firing device to be configured in the most reliable form for a particular set of well conditions. The flexible design characteristics and system modularity enable the TCP guns to be detonated with the benefit of two annular-pressure-operated firing mechanisms, or a single annular-pressure system can be used in conjunction with either tubing pressure or drop bar firing methods. In addition, this firing device is compatible with most retrievable packers/annular-pressure crossover tools and underbalancing valves.

### Features:

- Can be run any distance below the packer
- Compatible with most Expro firing systems, including Pressure Actuated, Pressure-Actuated Delay, and Safety Impact
- Safe. No exposed lead azide; uses bi-directional boosters throughout the system
- Flexible design enables system configurations to meet downhole requirements
- Firing systems can be configured for differential or absolute firing pressures

### Specifications:

Diameter	3.88" (98.55 mm)	3.13" (79.5 mm)
Working Pressure & Temperature	15,000 psi (103.42 Mpa) at 350°F/175°C	10,000 psi (68.95 Mpa) at 375°F/190°C
Pressure Rating	15,000 PSI	12,500 PSI
Minimum Operating Pressure	1000 PSI rathole	1,000 PSI
Maximum Differential Pressure	8,000 PSI	8,000 PSI
Connections	2 <sup>3</sup> / <sub>8</sub> " EU 8RD pin up	2 <sup>3</sup> / <sub>8</sub> " EU 8RD pin up
Seal Rating (max)	10,000 PSI standard	15,000 PSI high-temp
Tensile Strength	225,000 lbs.	150,000 lbs.

