Firing Devices



Top-Fired Dual Firing Device

The Top-Fired Dual Firing Device (TFDFD) provides a dual firing method for all Expro gun systems sizes $3^{1/8}$ " through 7". The TFDFD is only available in size $3^{1/8}$.

The Top-Fired Dual uses a standard Expro firing system, such as the Safety Impact or Pyrotechnic Delay Firing Assembly as the primary means of detonation and incorporates a pyrotechnic delay backup firing system as an integral component. This firing system can be configured to meet a variety of well conditions and parameters.

Operation:

The primary firing system is selected, shear-pinned if applicable, and installed on the Top-Fired Dual Firing Device. The back-up firing system is shear-pinned and configured for the specified bottom-hole pressure and well conditions. After the bottom-hole assembly is positioned at depth, a detonating bar is dropped or the well is pressurized to overcome the shear pins and detonate the guns.

Features and Benefits:

Flexible completion design. Firing options may be pressure or drop bar combination

Extremely safe and reliable

Ideal for overbalanced or underbalanced perforating

Well-suited for highly-deviated completions

Back-up firing method can be selected for instantaneous detonation or delay interval easily increased in 10-minute increments

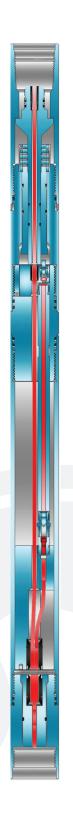
Easily reconfigured and repinned in the field

Available without delay

Readily adapts to Annular Pressure Firing System

Specifications:	
Tubing Thread	23/8" EU 8RD API standard box up
Length	
10-min	28.3" (0.72 m)
20-min	43.0" (1.09 m)
30-min	57.7" (1.47 m)
Diameter	3.125" (79.375 mm)
Working Pressure	15,000 psi (103.42 Mpa) at 350°F/175°C
& Temperature	10,000 psi (68.95 Mpa) at 375°F/190
Pressure Rating	
Collapse	18,000 PSI*
Burst	N/A
Seal Rating	10,000 PSI standard; 20,000 PSI high-temp.
Tensile Strength	170,000 lbs.

^{*}A high-pressure and high-tensile-strength design is available for guns 33/8" and larger



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