

Sleeve Guns™ Energy Source

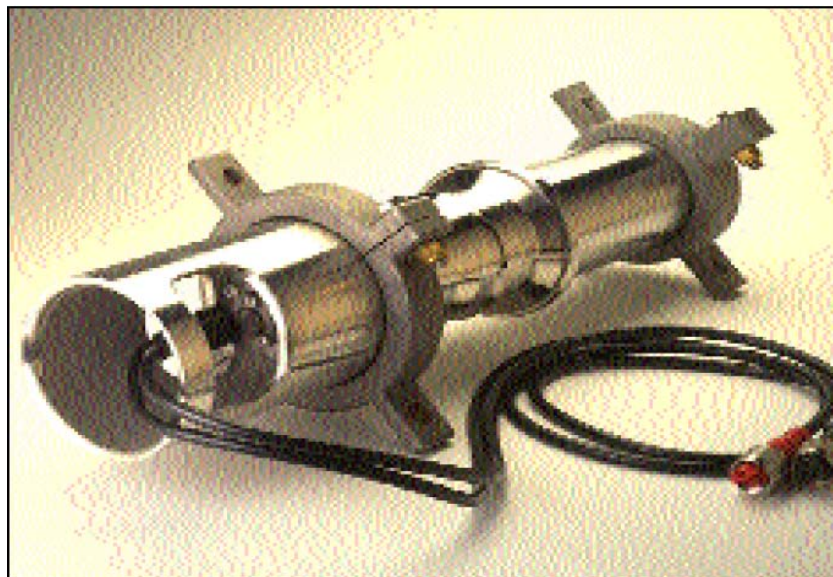


Input/Output Sleeve guns are available in two series:

- Sleeve Gun-IB and Sleeve Gun-IIB
- The Sleeve Gun-IB is provided in three sizes, with volumes of 10 in³, 20 in³ or 40 in³
- The Sleeve Gun-IIB can be obtained in five sizes; 70 in³, 100 in³, 150 in³, 210 in³, and 300 in³
- Chamber inserts are available if further adjustment in gun volume is desired

Field proven in worldwide operations:

- Deep water multiple array 3-D seismic surveys
- Ocean Bottom Cable energy sources
- Shallow water and marsh operations, with optional mud-shuttles
- High-resolution surveys, requiring extended bandwidth
- VSP applications, both offshore and onshore



Reliability, safety, plus ease of repair

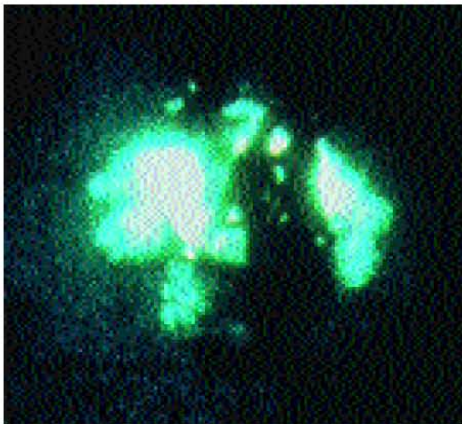
- Routine service intervals in excess of 250,000 shots
- Long-life wear surfaces and wear indicators to prevent unnecessary parts replacement
- Crown seals and wear rings with longer lives
- May be deployed and retrieved without high pressure air applied to the guns
- Fewer parts for quick, easy, low cost maintenance
- Simple, reliable faceseal
- Patented low-impedance timing coil yields maximum tolerance to leakage
- Solenoid valve with inertial poppet and without dynamic o-ring seals

**Features**

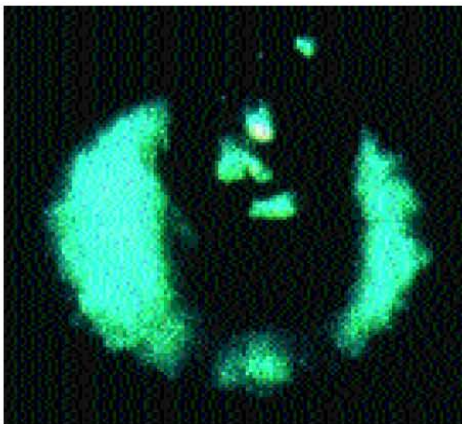
- Polarized timing coil
- Measured standard deviation of 110 μ s with a 351 μ s dispersion
- Tow clamps equipped with a top hat that minimizes electrical cable and air hose problems during handling and operation
- Bolt-in chamber plugs (inserts) available in 5 in³ increments

Precise timing for a superior acoustic signature

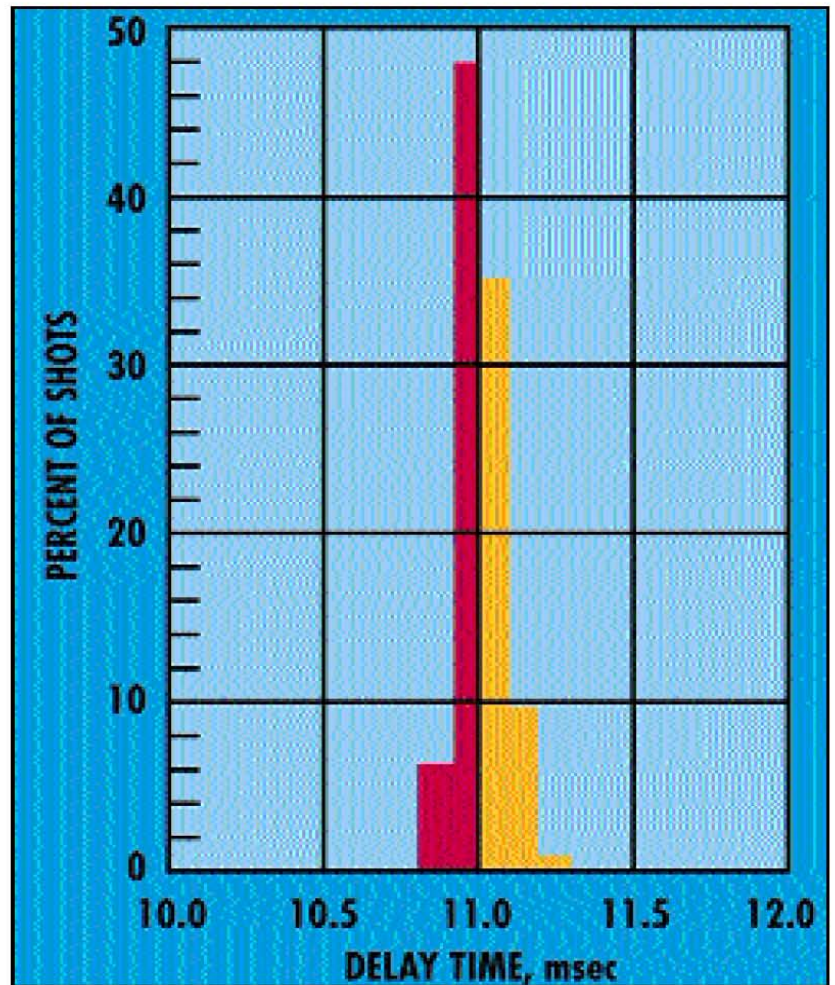
The figure on the right shows a plot of timing data obtained for 500 consecutive shots. The mean firing time is 10.948 msec with a standard deviation of 0.071 msec and a dispersion of 0.374 msec.



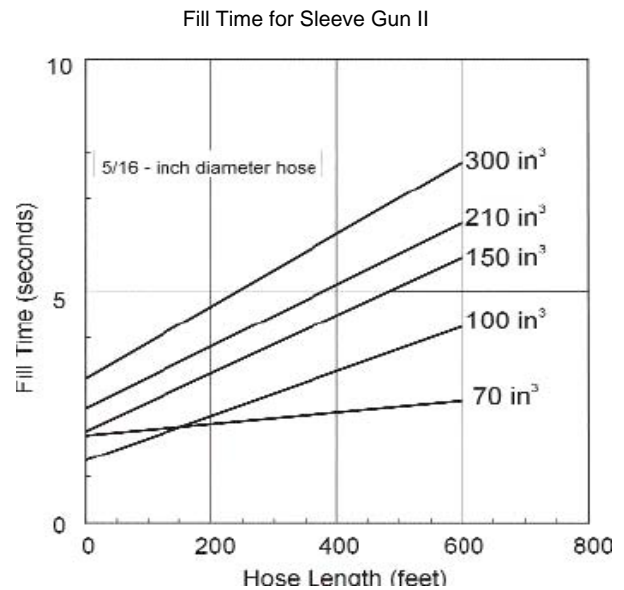
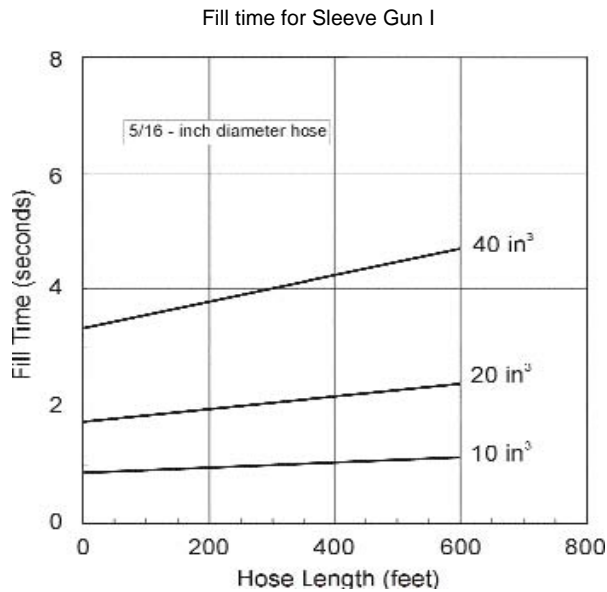
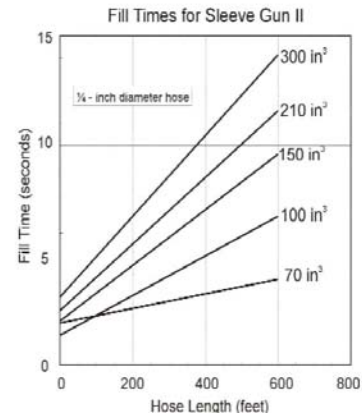
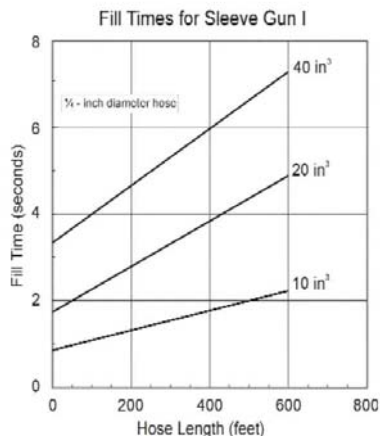
Exhaust bubble of a conventional air gun.



Exhaust bubble of an I/O Sleeve Gun.



No recoil & 360° exhaust port



Marine Imaging System Division

5200 Toler Street

Harahan, LA 70123

Tel +1 505 733 6061 Fax +1 504 734 8627

www.i-o.com E-mail info@i-o.com

