



ECHOMETER

TESTING

Echometer's Well Analyzer is an integrated artificial lift data acquisition and diagnostic system that allows an operator to maximize oil and gas production and minimize operating expenses.

It is a computerized instrument for acquiring liquid level data, acoustic pressure transient data. Well productivity, reservoir pressure, overall efficiency and well performance are derived from the combination of measurements of surface pressure, acoustic liquid level and pressure transient response.

FEATURES

- Notebook computer, software, analogue to digital converters and sensors
- Total well management software (TWM)
- Acoustic liquid level test and BHP calculation
- Instant determination of percentage foam in the annulus
- Record and perform pressure transient testing and analysis
- Data can be analyzed and saved to external sources or sent electronically





SPECIFICATIONS

- Dustproof plastic case
- Notebook computer (Windows)
- Sigma-delta analog to digital converters
- Precision sensors
- Shielded cables
- Total well management software (TWM)
- Total weight complete system: 75 Lbs (35 kgs)
- Approximate dimensions: 20" x 20" x 20" (50.8 cm x 50.8 cm x 50.8 cm)
- System typically ships in two packages



Well analyze + Laptop

Manuals

External charger cable

Laptop + echometer charger

Gas cylinder

Microphone cable

Gas gun + pressure transducer + accessories

Cables to connect the pressure transducer + solenoid to the echometer



Tools for maintenance

Adapter connection

Tools for maintenance

Thread protector

Spare parts

Remote fire gas gun

Tools for maintenance

Pressure transducer



» MAIN CONTENT

PORTABLE SYSTEM



This **portable system** is based on a precision analog to digital converter controlled by a notebook computer with windows-based application. The Well Analyzer acquires, stores, processes, displays and manages the data at the well site to give an immediate analysis of the well's operating condition. It is compact, rugged and designed for use in any climate. The well analyzer is controlled by a user-friendly software package. The software controls the electronics, acquires data, calculates bottom hole pressures and constructs pressure analysis plots.

REMOTE FIRE GAS GUN



The **Remote Fire Gas Gun** offers the convenience of not having to manually open the gas valve on the gun to generate the pressure wave. A solenoid valve is triggered automatically from the Well Analyzer system or the Model M recorder that opens the internal gas valve and releases compressed gas from the volume chamber into the well. It also

utilizes the same dual-disc noise cancelling microphone with an excellent signal-to-noise ratio along with a 12 cubic inch volume chamber. It is required for automatic acquisition of pressure transient data. All gas guns are constructed from 316 stainless steel and are suitable for H₂S and corrosive service.

FUNCTION	REMOTE FIRE GAS GUN
Volume chamber size	12"
Working pressure PSI (ATM)	1500 (100)
Best operating pressure PSI (ATM)	1-1500 (0-100)
Mode of operation	Explosion only
Types of operation	Automatic / Solenoid
Dimensions	4.5" x 8.5" x 14.5" (11.4 cm x 21.6 cm x 36.8 cm)
Weight	12 Lbs (5.5 kgs)
Microphone	Dual disc noise cancelling
Echometer unit compatibility	Model M,E

Note: For single shot analysis, the 5000 psi implosion gun is preferred when the well pressure exceeds 1500 psi.



PRESSURE TRANSDUCER

The Pressure Transducer has a rugged design and is accurate over a wide range of temperatures from -40°F to 140°F. It can be easily attached to the gas gun connector or to a special connector that can be made to customer's specifications. The pressure transducers are available in ranges of 375, 900, 1500, 3000 and 6000 psi. Pressure transducers with pressure ratings higher than 6000 psi are available by special order. The 1500 psi range is normally supplied with the Well Analyzer unless the customer requests a different range.