



N.E.R.D.™ WIRELESS DYNAMOMETER

Over the years, the polished rod dynamometer has been a principal tool for evaluating, analyzing and optimizing the operation of sucker rod pumping systems. It is also a helpful tool in the design and selection of the pumping equipment. Through extensive research and comprehensive field testing, Nelgar Oilfield Services Ltd. has developed the world's first wireless dynamometer - **N.E.R.D.™ Wireless Dynamometer**.

Features	Benefits
72 data samples collected per second - the highest in industry (the slower the pumping speed, the higher the sample rate per stroke)	Provide thorough and accurate polished rod loading relative to its position. (i.e. 420 samples per stroke collected and used to plot one dynamometer card for a well at 10.0 spm; other major competitors use 90 samples per stroke for plotting one dynamometer card regardless of pumping speed.)
Wireless Data transmitting - the world's first	A wireless radio transmitter, connected to load and position transducers, sends data to a wireless radio receiver. The data is then relayed to a laptop computer using a RS232 data interface.
Transducer Ratings – load: 40,000 lbs maximum – position: 350 inches maximum	Lightweight and rugged.
Real-time data display	Dynamometer cards and valve checks and counterbalance check are plotted on laptop screen as the data is collected. This helps determine the stability of a well.
Storage and shipping case	Waterproof and durable construction with pre-formed foam.

A dynamometer is a continuous recording of all the resultant forces exerted on the polished rod with respect to the polished rod positions during a pumping cycle or a stroke. It provides important information in three major areas:

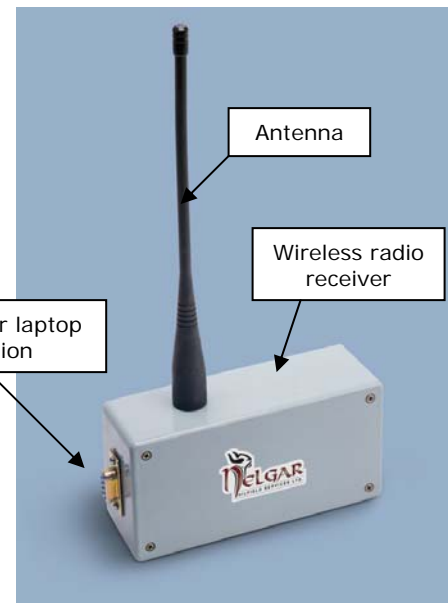
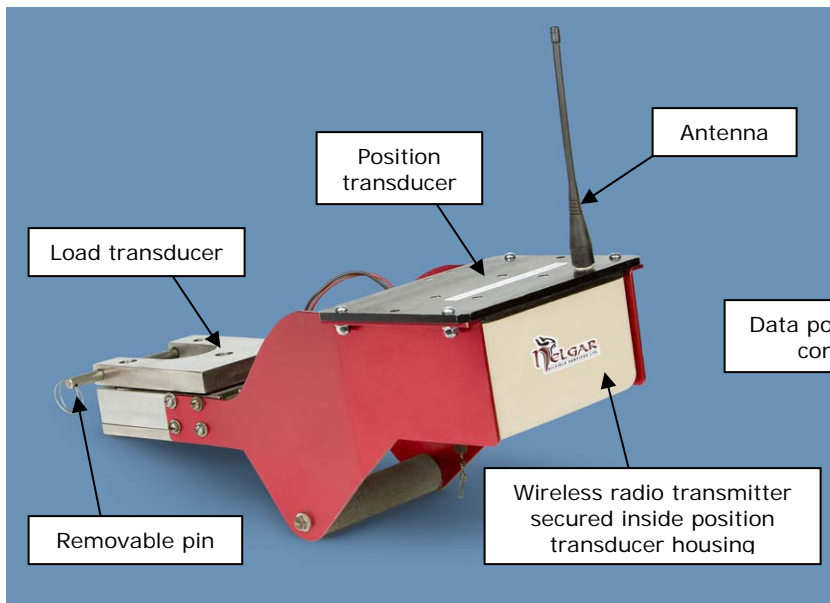
- loading of the surface equipment – polished rod, speed reducer, prime mover and pumping unit structure
- loading of downhole equipment - rod string
- conditions and performance of downhole pump

The proper use of the dynamometer and the correct interpretation of data obtained can help **increase production, reduce operating expenses** and extend equipment run-life. Pressure survey candidates can also be identified.

In conventional dynamometers, two long transmitting cables are used between the data collecting device and the load and position transducers. The cable entanglement has always been a safety concern for the industry. Elimination of these cables as a result of our technological advancement has substantially reduced the danger and damages posed to the operating personnel and the pumping equipment.



Load & position transducers are secured between carrier bar and polished rod safety clamp for a dynamometer test.



The load and position transducers are mounted together using a pair of aluminum brackets. This design simplifies the installation of dynamometers.

©**Color coded dynamometer analysis reports** are concise and offer distinctive visual identification of loading and stress on pumping equipment and ensure easy interpretation of the test results.