



Model 6310/MA

Reciprocating Machinery Maintenance Analyzer

Key Features at a Glance

- 2-channel Data Acquisition plus Encoder Channel
- View Pressure, Vibration, Ultrasonic, or Ignition vs. Crank Angle in Dual Combination
- Stores Machine Setup and Historical Data for 200 Stations and for 200 Machines at Each Station
- High Resolution Color Screen
- Lightweight (6.75 lbs)
- Compact (10.5" x 8.5" x 2" deep)
- Easy-to-use Menu-driven Interface
- Upgradeable Design

What's New

- Double "Enter" keypad for fast data collection and ease of use
- USB communications cable (analyzer to PC)
- Optional 900 MHz wireless encoder link
- Shielded transducer cables

6310/MA

The Model 6310/MA Maintenance Analyzer is specifically designed for the mechanical troubleshooter. Easy, one-person set up and operation makes this lightweight, rugged analyzer an efficient tool to detect and isolate machinery problems. Any dual combination of dynamic engine / compressor pressure, vibration, ultrasonic, or ignition vs. crank angle may be viewed simultaneously. The 6310/MA, the only two-channel analyzer on the market, is a cost-effective tool to improve machinery mechanical condition and reliability.

All 6310 models weigh only 6.75 pounds and are compact for ease of use. The analyzer contains an on-board processor, FIFO memory, and internal mass storage. This allows permanent storage capacity and data recall for up to 200 stations and 200 machines per station. Packaged in an EMI-hardened anodized aluminum case, the 6310 is rugged enough to withstand conditions encountered by technicians every day. A convenient field-replaceable lithium ion battery saves time on site. It's hard to believe the 6310 can pack all this power and yet measure only 8.5" high x 10.5" wide x 2" deep.

Engine

- Ignition System Deficiencies
- Peak Firing Pressure Imbalance
- Defective Fuel Injection Valves
- Leaking Valves and Rings
- Worn or Scored Liners
- Intake / Exhaust Port or Bridge Wear
- Worn or Defective Valve Train Components
- Damaged Connecting Rod and Wrist Pins

- Damaged Bearings
- Turbocharger Defects
- Jacket Water and Lube Oil Pump Faults
- Low Horsepower Output
- Poor Fuel Consumption Factors
- Excessive Exhaust Emission Factors

Compressor

- Mechanical Looseness
 - Piston and Nut
 - Cross Head
 - Pin and Bushing
 - Broken Rod
- Leaking Suction Valves
- Leaking Discharge Valves
- Defective Unloaders
- Leaking Rings
- Packing Leaks
- Defective Rider Bands and Liner Wear
- Horsepower and Load Discrepancies



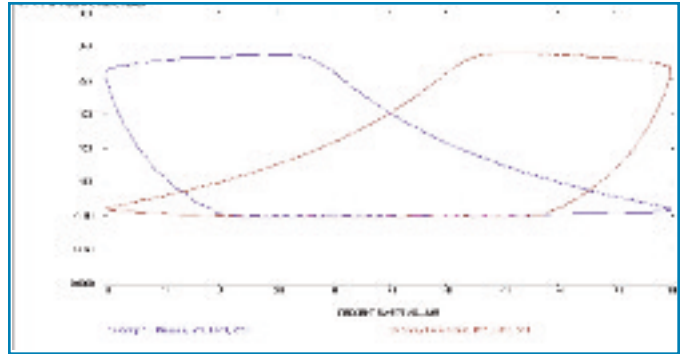
Lightweight, ergonomic design permits portability in any environment.

Features

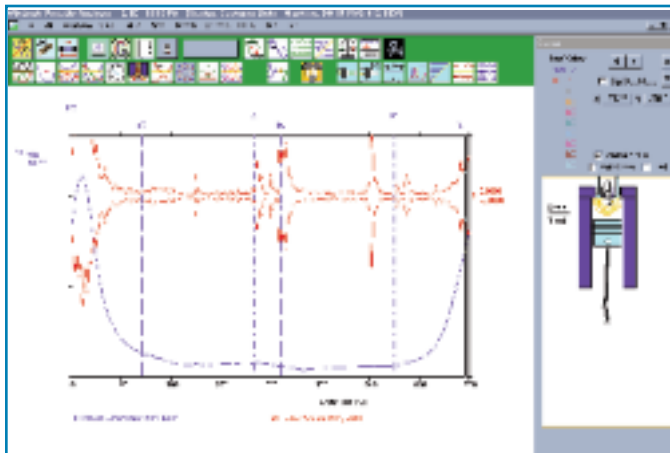
- Two Input Channels (plus trigger)
- Peak Pressure Statistics and Balance Functions
- "As Found" and "As Left" Balance Reports
- Peak Pressure / Angle Statistical Data
- RPM Display / Readout
- Pressure vs. Crank Angle and Volume Plots
- Engine Performance Report (IHP / IMEP)
- Secondary Ignition Timing and Peak Level Statistical Data
- Secondary Ignition Pattern Displays (Ionization Level and Rise Time, Arc Level and Duration, Coil Ring-down Event)
- Automated Secondary Ignition Survey Mode
- Primary Ignition Voltage vs. Crank Angle Plot
- Ignition Summary Report
- Vibration and Ultrasonic vs. Crank Angle Plots
- Compressor Horsepower / Total Load Calculations
- Compressor Pressure vs. Crank Angle and Volume Plots
- Optional Infrared Temperature Data Collection
- Optional Wireless Encoder Link

Upgradeable Design

Should your predictive maintenance program requirements change, the 6310/MA uses design criteria that permits the ability to upgrade your equipment to the next level, the 6310/PA Performance Analyzer, at a fraction of the cost of purchasing new equipment.



Compressor Pressure Volume Curves



Win6310/MA
Pressure and Ultrasonic Plot

Spark Plug Name (Cylinder)	Rylen Price	Peak Level				Spark Event	SD	Timing			Spark Event	SD
		Mean	High	Low	Spread			Mean	High	Low		
Pair 1 L. Piles Left	20' 0' 905.4	10633	2319	5104	1338	204.2	238	322	6.0	1.7		
Pair 1 R. Piles Right	20' 0' 1047.6	12674	8819	3828	1500	204.2	238	322	6.0	2.2		
Pair 2 L. Piles Left	20' 0' 964.6	12492	7812	4422	1254	204.2	238	322	6.0	1.8		
Pair 2 R. Piles Right	20' 0' 1100.2	12151	7217	4824	1221	204.2	238	322	6.0	2.2		
Pair 3 L. Piles Left	20' 0' 1112.2	12151	7217	4824	1221	204.2	238	322	6.0	2.2		
Pair 3 R. Piles Right	20' 0' 1027.4	13016	7570	5445	1443	204.2	238	322	6.0	2.2		
Pair 4 L. Piles Left	20' 0' 910.2	10633	2319	5104	1338	204.2	238	322	6.0	1.7		
Pair 4 R. Piles Right	20' 0' 1047.6	12674	8819	3828	1500	204.2	238	322	6.0	2.2		
Pair 5 L. Piles Left	20' 0' 1067.7	15509	6455	6856	1228	204.2	238	322	6.0	2.2		
Pair 5 R. Piles Right	20' 0' 1067.7	15509	6455	6856	1228	204.2	238	322	6.0	2.2		

Spark Plug Name (Cylinder)	Rylen Price	Peak Level				Spark Event	SD	Timing			Spark Event	SD
		Mean	High	Low	Spread			Mean	High	Low		
Pair 1 R. Piles Right	20' 0' 713.2	8849	2492	3273	974.1	204.2	238	322	6.0	1.7		
Pair 1 L. Piles Left	20' 0' 1029.8	12653	7424	5228	1641	204.2	238	322	6.0	2.2		
Pair 2 R. Piles Right	20' 0' 908.4	11062	7027	4028	974.8	204.2	238	322	6.0	1.8		
Pair 2 L. Piles Left	20' 0' 1027.4	13016	7570	5445	1443	204.2	238	322	6.0	2.2		
Pair 3 R. Piles Right	20' 0' 962.8	12674	8819	3828	1500	204.2	238	322	6.0	2.2		
Pair 3 L. Piles Left	20' 0' 947.8	12454	7570	4834	1245	204.2	238	322	6.0	1.8		
Pair 4 R. Piles Right	20' 0' 1112.2	12151	7217	4824	1221	204.2	238	322	6.0	2.2		
Pair 4 L. Piles Left	20' 0' 1067.7	15509	6455	6856	1228	204.2	238	322	6.0	2.2		

Spark plug level offset = 1500
Suggested Spark Timing = 35.00
Ignition report p. 1/1
Gear label
Unit 40
Max cylinder 1

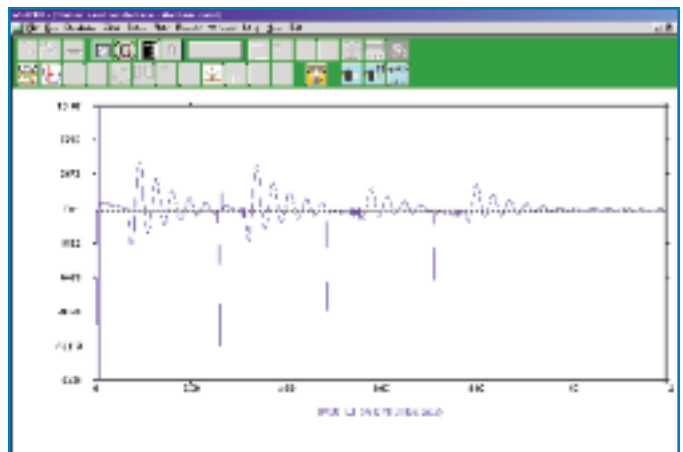
Secondary Ignition Report

Standard Equipment

- Portable Maintenance Analyzer with Protective Leather Case and Shoulder Strap
- Dual Bay Battery Charger and Lithium Ion Batteries (2)
- Accelerometer, Pressure Sensor, and Ultrasonic Sensor and Cables
- Secondary Ignition Sensor
- USB Communications Cable
- Keyboard
- Hard Transport Case with Wheels



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Win6310/MA
Multi-Strike Ignition Plot