

Type 2515A

ENGINE PEAK-METER II

Handy peak pressure meter for measuring cylinder pressure in slow- and medium-speed diesel and gas engines.

The battery-operated meter will record up to 36 successive pressure cycles and then calculate the arithmetic mean value of the peak pressure, the standard deviation, the steepest slope of the pressure curve as well as the engine speed. The measured data are shown on an LCD display and can be stored if required.

- 20 memory locations
- Windows-Software for data processing
- Simple operation, easy to use
- New multiple function p instant



Technical Data

| | | |
|---|-------------------|---------------|
| Measuring range | bar | 0 ... 250 |
| Error | % | ±1 |
| Resolution | bar | 1 |
| Sensitivity, (adjustable) | mV/bar | 10 ... 30 |
| Range of engine speed | r/min | 20 ... 2000 |
| | r/min | 20 ... 3000** |
| Number of pressure cycles (adjustable) | | 1 ... 36 |
| Low pass filtre (fixed 2nd order Butterworth) | Hz | 300 |
| storage capacity Data sets* | | 20 |
| Display | LCD | |
| Monitor output | Volt | 0 ... 5 |
| Operating temperature rang | °C | 0 ... 50 |
| Connections: | | |
| Signal input | Fischer KE 103 | |
| Output (engine) | BNC neg. | |
| Interface RS-232 | 0-Pol DSub female | |
| Dimensions | mm | 62x92x45 |
| Weight | g | 350 |
| Battery | Typ 3 | 9 V/EC6LR61 |
| Service life | h | >20 |

* A data set consists of numerical measured values, waveform, number of memory location

** Only valid for function p instant

Measurement functions:

| | |
|-----------|---|
| p_{max} | Maximum peak pressure |
| p_{min} | Minimum peak pressure |
| p_{av} | Average peak pressure |
| S_{dev} | Standard deviation of the peak pressure |
| dp/ca | slope of the pressure curve |
| r/min | Speed |
| p_{int} | Instantaneous peak pressure curve with unlimited duration |

Pressure curve

After each measurement an additional complete pressure curve is stored which can be printed out via the RS-232 interface.

Help functions:

Selecting pressure cycles 1 ... 36
 Selecting sensitivity 10 ... 30 mV/bar
 Selecting unit of measurement "bar" or "psi"
 Selecting engine type "2 stroke" or "4 stroke"

Trigger level: 5 ... 200 bar

Test: Calibration function

RS-232 interface, baud rate 4800 or 9600

Monitoring functions:

Battery display with symbol

The instrument switches off automatically 4 minutes after the last key stroke.

Description

The cylinder pressure is measured with a pressure sensor, e.g. Type 7613C, at the indicating valve of the engine. Since long indicating leads cause pipe resonance which will falsify the measuring signal, the cylinder pressure signal is filtered with a 300 Hz low-pass filter, which reduces the measuring considerably error.

A maximum of 36 successive pressure cycles is recorded per measurement and evaluated. Then, an additional complete pressure curve is recorded and stored.

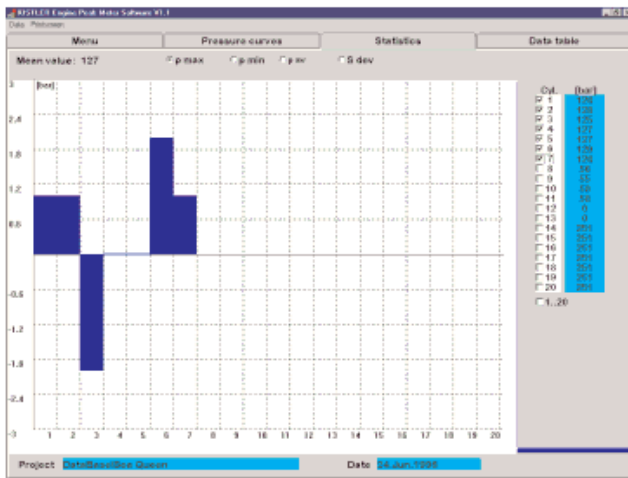
Connectable sensors

In general, all Piezotron pressure sensors with a sensitivity of 10 ... 30 mV/bar can be connected, provided that an appropriate connecting cable is available.

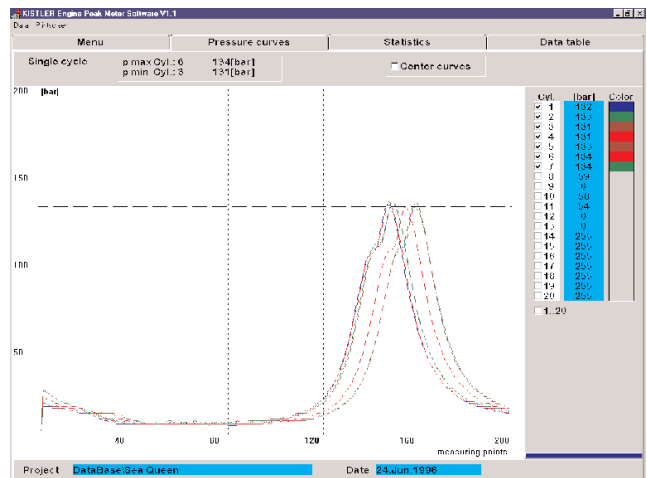
Equipment versions supplied

Type

| | |
|---|----------------------------------|
| Engine Peak-Meter Peak pressure meter without accessories | 2515A |
| Engine Peak Meter Type Set consisting of: | 2515A1 |
| Peak pressure meter Sensor 7613C Thompson adapter Socket wrench Special spanner | 2515A 7513A 1377 1300A1 |
| Case Art. No. 3.070.219 PC-Software Art.No. 7.642.014 | |



Statistic shows the deviation of peak pressure of all 7 cylinders of a low speed engine.

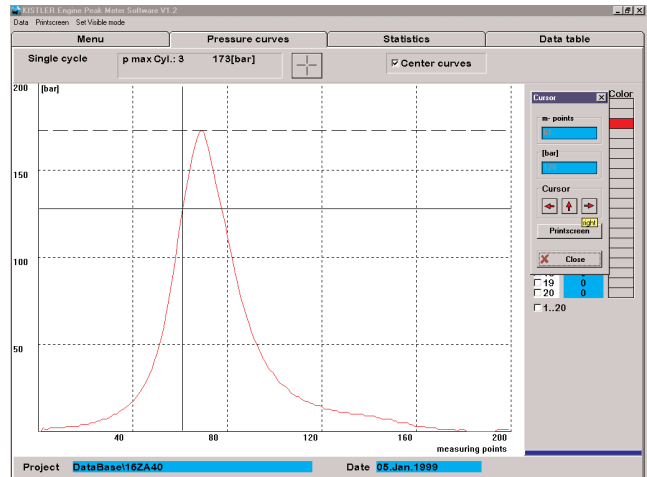


Cylinder pressure curves from Cylinder 1 ... 7 of a low speed engine.

| [bar] | Cyl. 1 | Cyl. 2 | Cyl. 3 | Cyl. 4 | Cyl. 5 | Cyl. 6 | Cyl. 7 | Cyl. 8 | Cyl. 9 | Cyl. 10 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| p max: | 123 | 126 | 125 | 127 | 127 | 129 | 128 | 58 | 55 | 58 |
| p min: | 52 | 126 | 123 | 124 | 126 | 126 | 124 | 8 | 3 | 9 |
| p av: | 121 | 127 | 124 | 125 | 127 | 127 | 127 | 37 | 40 | 41 |
| S dev: | 22 | 8 | 0 | 0 | 8 | 0 | 0 | 21 | 19 | 21 |
| d[pa] | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 |
| r[mm] | 194 | 165 | 106 | 105 | 165 | 105 | 105 | 1582 | 1582 | 1385 |

| [bar] | Cyl. 11 | Cyl. 12 | Cyl. 13 | Cyl. 14 | Cyl. 15 | Cyl. 16 | Cyl. 17 | Cyl. 18 | Cyl. 19 | Cyl. 20 |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| p max: | 04 | 0 | 0 | 251 | 251 | 251 | 251 | 251 | 251 | 251 |
| p min: | 7 | 0 | 0 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| p av: | 32 | 0 | 0 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| S dev: | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| d[pa] | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| r[mm] | 1316 | 0 | 0 | 1195 | 1195 | 1195 | 1195 | 1195 | 1195 | 1195 |

Data table for a quick overview.



Single cycle evaluation with cursor-function.

These pressure curves can be displayed graphically by means of Windows Software included into the scope of delivery. The pressure curves of all engine cylinders can be overlapped - a particularly useful feature for verifying the balancing of the engine.

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