DYNAMIC BALANCING

EI BALANCE is a balancing software for single and two planes, based on a laptop; this equipment was specially designed for outdoor works as well as for updating old balancing machines.

Thanks to its automated tracking filter, the system identifies the RPM in a selected range to avoid inaccuracies in case of slightly changes of speed.

The balancing speed range varies from 100 to 120,000 RPM with signal recording times of up to 5 minutes.

The EI BALANCE can be used by users with minimal knowledge in the dynamic balancing field, as it has a very intuitive platform as well as a tutorial video and an operation manual.

The system shows in all time the following data:

- Maximum amplitude
- RMS value
- Tachometer.
- Polar graphs.
- Real-time graph amplitude versus time.
- FFT graphs (amplitude versus frequency graphs).

This allows the user to have a complete description of the machine's vibration at any time during the balancing process.

BALANCING WITH EI CALC

EI BALANCE Has a very friendly balancing interface. With a single click you can start balancing.

Balancing tools include 2 polar graphic, real time FFT spectrum and a powerful balancing calculator.

Importance of balancing:

- Minimizes vibrations: The unbalance is the most common cause of vibration in a machine.
- Decreases fatigue: unbalance produces efforts that may affect the parts surrounding the unbalanced element.
- Higher quality processes: By reducing the vibration of certain machines, (i.e. machine tools) you improve product quality.
- Increases the life of the machine and its rolling elements: Such as bearings, where the vibration ends up damaging this kind of elements.

FAST FOURIER TRANSFORM

EI BALANCE performs its calculations using the fast Fourier transform (FFT). The resolution of its spectra is adjustable up to several million resolution lines.

Two-plane and single-plane, balancing capability

FFT SPECTRUM WITH MILLIONS OF LINES OF RESOLUTION
EI-BALANCE has a calculator for single plane and two planes balancing, this calculator uses the influence coefficients method. Therefore it is not necessary to establish the dimensions of your rotor and their bearings position (cantilever, between bearings, etc.)

### Balancing Calculator

- Single plane balancing
- 2 planes balancing
- Split weights
- Combine weights
- Drill weights
- Calculate mass
- Trial Mass
- Radius changing

### Input

- Accelerometer.
- Optical sensor.
- Bandwidth: 0.5 Hz to 10 KHz.
- Recording sampling rates up to 96000 Hz.
- Balancing range 100 RPM to 120,000 RPM (Real)
- Range: 0.01 – 6 G.

### FFT

- Frequency accuracy of 0.1% with a 10 seconds sample.
- Measurement window (defined by user)
- Harmonics, Hz and CPM display.
- 1600 FFT Points on real time 30,000 on basic recording and adjustable up to 1'000,000.

### Output

- Graphs can be saved into BMP or JPG file formats. They also can be copied to the clipboard.

### Hardware

- 1 Accelerometer with magnetic base (2nd accelerometer optional)
- 2 Channel DAQ interface
- 1 Optical sensor
- Installation disk
- Calibration device
REQUIREMENTS:

- Intel® Celeron® M 380 (1.60GHz / 400MHzFSB) or higher.
- Windows Vista or higher.
- SVGA or higher.
- 1GB RAM, DDR2 or higher.
- 300 MBytes free hard disk space or higher.

Accelerometer

Features
- Sensitivity 330 mV/g
- Frequency range: 1Hz – 8kHz
- Amplitude range: 6g Peak to peak
- Axis: 3
- Weight 45 grams
- Dimensions 0.625” diameter 1.625” long
- Neodymium magnetic base
- 5 Pin connector
- Aluminum design

Optical Sensor

Features
- Weight 28 grams
- Dimensions 0.625” diameter 0.750” long
- Stainless steel
- Operating Voltage 3.5V to 8V
- Reverse current protection
- Cable with UBS-B square connector (1.80 cm)

Data Acquisition Card

Features
- Weight 80 grams
- Dimensions 7cm x 4cm x 2.5cm
- 3 Input connections: accelerometer 1, accelerometer 2, optical sensor.
- Selector button for channel 1 and channel 2
- Cable with USB connector (15cm)
- Includes calibration device

INSTALLATION DISK
OPTIONAL ACCESSORIES

- Case or backpack with laptop capacity and accessories.
- Digital weight scale.
- Sensor extension cable.
- Extra accelerometer.

WARRANTY:

One year full warranty directly with ERBESSD INSTRUMENTS.

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