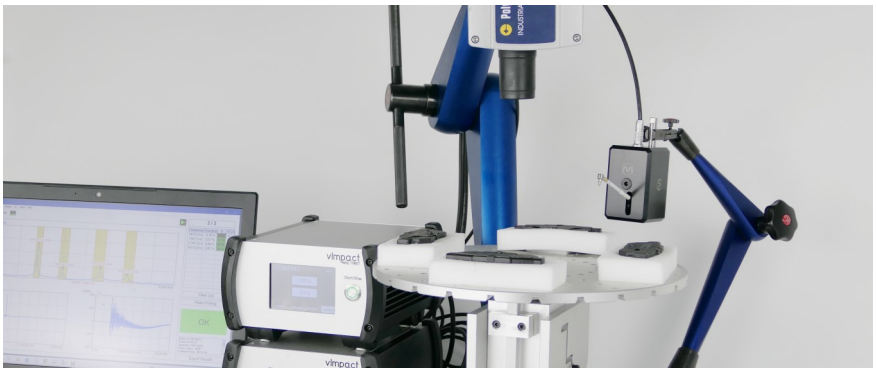
MAUL-THEET
Vibration Test & Analysis

Quality Control System
End of Line Test

VQC

High Precision Quality Control System checking the natural frequencies and damping of components



The vQC system is optimized for the determination of
- Natural Frequencies
- Damping Values or Loss Factor with Quality factor and other quality criteria (fingerprint).

It includes the following components:
- Controller with Data Acquisition
- Excitation Device
- Vibration Sensor

Excitation Unit
The broad band excitation is done with an Automatic Impact Hammer:
- Frequency Range 0.3 to 40 kHz
- Impact Force up to 200N peak
- High Reproducibility

Vibration Sensor
The following sensors can be used with the VQS:
- Laser Doppler Vibrometer
- Microphone
- Acceleration Sensor

Data Acquisition
4 Channel DAQ with synchronous sampling
- Frequency Ranges 1 Hz to 100 kHz
- Frequency Resolution100 to 25600 FFT Lines
- AC, DC and IEPE Coupling

End of Line Test System

- **Automatic measurement with broad band impact excitation**
- **Estimation of natural frequencies, left and right side damping, loss factor, coherence and other quality criteria**
- **100% serial tests**
- **Short cycle times**
- **Non-destructive**
- **PLC and Data Base Interface**
- **Digital output**

Automatic Measurement

- **Measurement started via PLC or digital input**
- **"Fail/OK" sent to PLC or digital output**
- **Optional: Results stored in Data Base or send to SAP**

Manual Measurement

- **Single selected test objects**
- **Measurement**
- **"Fail/OK" display**
- **Report generation**

Data Export Manual Mode

- **Data Base Interface**
- **LabLINK**
- **ASCII or CSV**
- **PDF**

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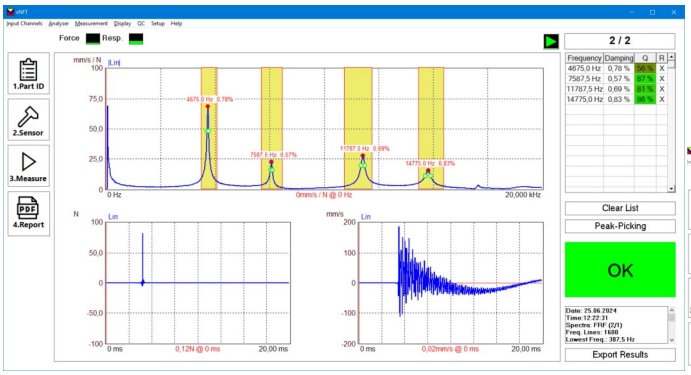

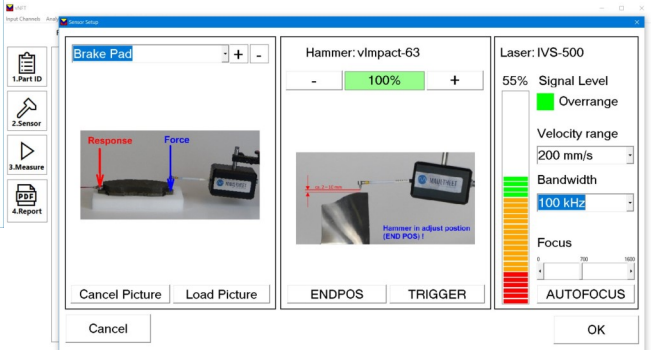

Software

The software receives the Meta Data for the test object, starts the measurement and sends the "Fail/OK" information to a PLC or a digital output.
Optional the result values are sent to a data base or a report generator.

Part type specification:
- Name and Meta data
- Frequency range (1 Hz - 100 kHz) selectable
- Frequency Resolution (No of FFT lines) selectable
- Damping Calculation Method (0.5 to 3dB)

Automatic Measurement Procedure:
- Triggering of Automatic Impact Hammer
- Measurement of Excitation Force and Vibration Response
- Averaging and Analysis
- Peak Picking, Damping Calculation and Quality Assessment

PLC and Digital Interface:
- Meta Data input
- Measurement start
- "Fail/OK" output to PLC and digital output

Report Generation and Data Export:
- Printer, PDF, Excel, CSV, etc.
- LabLINK
- ASCII Files

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