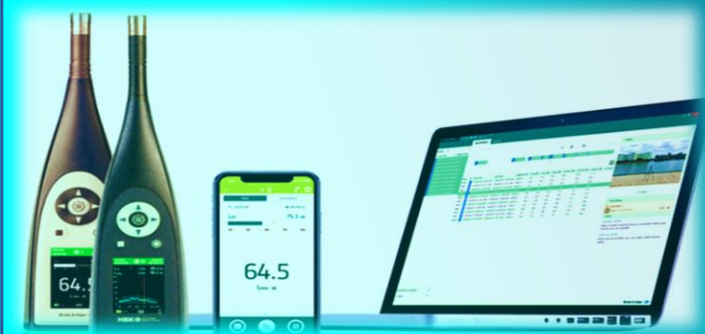
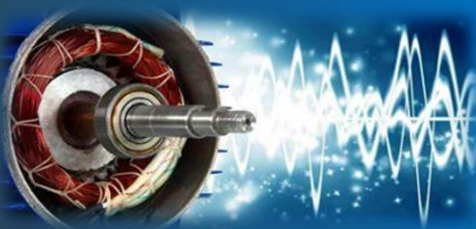
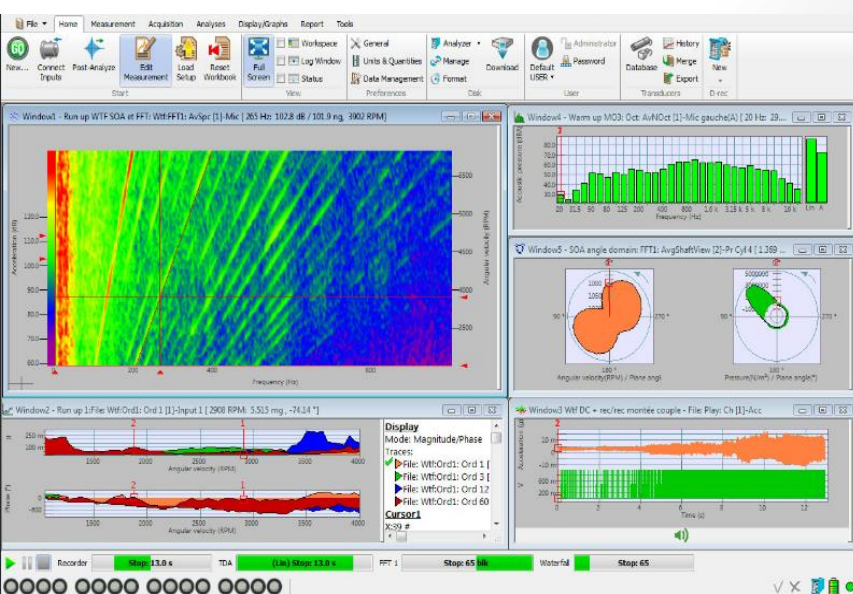


Noise and Vibration Laboratory



Noise and Vibration Services

- Dynamic Balancing of Rotors, Spindles.. on Dynamic Balancing Machine to G0.4, G1.0 & G2.5 grades.
- Ground Vibration Measurement
- In-situ Balancing of Spindles, Rotating Machinery's, AHU, Impellers etc.
- Sound Intensity Measurement
- Sound Power Measurement as per Standards
- Environmental Noise Measurement
- Noise Measurement and Control
- Thermography Measurement
- Vibration Monitoring for Condition Based Machinery Maintenance
- Noise and Vibration Measurement, Analysis and Mitigation
- Structural Testing and Modifications-Modal Analysis (CMA, ODS, OMA)
- Measurement of worker/operator noise exposure in working environment as per (OSHA, MSHA, ACGIH, ISO 9612, and EU Directive 2003/10/EC. IEC 61252 & ANSI S1.25:1991)
- Turbo Machinery Vibration Analysis
- Hand arm vibration & Whole body Vibration Measurement as per ISO 5349 and ISO 2631.
- Customized Projects
- Training Programs





Noise Dosimeter

Make: Larson Davis Model No: 730 IS

Measurement of Worker/Operator Noise Exposure in Working Environment

Frequency range: 20Hz to 20 KHz

Frequency weightings: A,C,Z

Measurement Parameters: SPL, Dose%, TWA, L_{peak} , L_{max} , L_{min} , L_{avg}

Dynamic range: 90dB

Standards: IEC 61252 & ANSI S1.25:1991

Applications: Mining, Process Plants, Earth Moving Machinery's etc.

Sound Level Meter (Noise Partner & Product Noise)

Make: B&K. Model No: 2245

Measuring range: 16 to 140 dB(A)

Frequency range: 6 Hz-20 KHz

Dynamic range: 140 dBA

Frequency weighting: A,B,C,Z

Standards: IEC 61672-1:2002-05 class 1, IEC 61672-1 (2013) class 1, IEC 60651 (2000-10), type 1, IEC 60804 (2000-10), type 1 etc.,

Measurements parameters: L_{eq} , L_{peak} , L_{max} , L_{min} , L_{Aeq}

Application: Sound pressure level measurement, Environmental noise measurement, Sound Power Measurement as per ISO 3744 & ISO 3746

Human Vibration Meter (HVM)

Make: SVANTEK. Model No: 106A

Features: Hand-Arm Vibration Measurement (ISO 5349).

• Whole-Body Vibration Measurement (ISO 2631).

• Low-Frequency Whole-Body Vibration Measurement (ISO 2631)

Applications: Mining, Process Plants, Earth Moving Machinery's etc

Machinery Health Analyser

Make: CSI. Model No: 2130 & 2140. Frequency range: DC to 80kHz.

No of Channels: 2 & 4. **A/D Converter:** 24 Bit. **Dynamic Range:** 120 dB.

Resolution: 12800 lines. **Input Voltage:** 0-20V

Application: Noise and Vibration Measurement. Frequency Response Function Measurement, Dynamic Balancing, Route Based Data collection and Analysis for condition monitoring, Time domain Analysis, Advanced Cross Channel Analysis, Run Up & Run Down Measurement, Transient Analysis. ODS. Order Tracking, Waterfall diagrams etc.,

OROS Data Acquisition System:

Make: OROS Model No:OR-34, OR-10 & OR-36

Frequency Range: 0 to 40kHz, **No of Channel:** 4, 8 & 16 channels

Dynamic Range: 140dB, **Sampling Frequency:** 102.4 kS/s

Resolution: 25001 lines. **Input Voltage:** 0-10V & 0-40V.

Features: Noise and Vibration Measurements, Time Domain and FFT analysis, FRF Measurement, Octave Analysis, Data Recording, Multi channel Multi Analysis, Order Analysis, Waterfall diagram, Run up and Rundown Measurement, Trend Analysis, 3D Waterfall Analysis and frequency v/s Time map, FFT Diagnostic Module, Turbo Machinery Vibration Analysis.

Modally Tuned Impact Hammer

Frequency Range: 1kHz & 8kHz

Sensitivity: 0.23mV/N and 2.3mV/N

Range: 22200N and 2200N

Application: FRF Measurement, Determination of Natural Frequency, Damping Factors Evaluation.



Modal Analysis System:

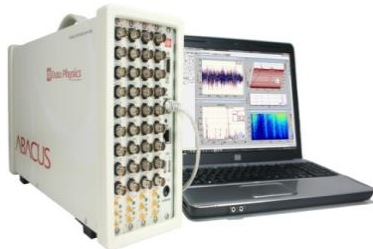
Frequency Range: 0 to 40 kHz

No of Channel: 8

Classical Modal Analysis, Operational Defection Shapes (ODS), Operational Modal Analysis (OMA).

Features: Mode Shapes, Modal Frequency, Modal Damping.

Modal Analysis Software: ME Scope (CMA, ODS, OMA)



Schenk Dynamic Balancing Machine:

Make: Schenck **Display:** CAB 690

Weight of Rotor: 60kg

Bearing Support Diameter: 60mm

Application: Dynamic Balancing of Armatures, Precision Spindles, Rotors, Propellers to balance quality grade of G0.4 as per ISO 1940.



Sound Intensity System

Intensity Probe Make: GRAS **DAQ System:** OROS OR-34.

Specification:

Frequency Range: 0-20kHz.

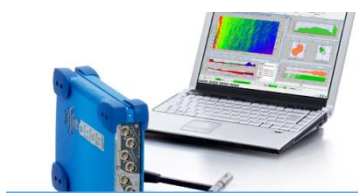
Dynamic Range: 25dB to 152dB

Applications: Sound-intensity measurements, Sound-source location, Sound-power measurements, Sound-intensity mapping.



NV Gate Noise and Vibration Software

FFT Analysis, Octave & One Third Octave Analysis, Frequency Response Function, Waterfall Diagram, Synchronous Order Tracking, Data Recording, Time Domain Analysis, Sound Intensity, FFT diagnostic module, Cepstrum Analysis. Orbigate Software for Turbo Machinery Vibration Analysis, Multi Channel Multi Analysis

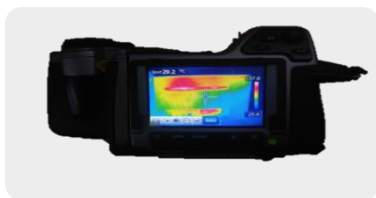


FLIR Thermal Camera T335

Make: FLIR **Model:** T335

Object Temperature Range: -20°C to 650°C

Application: Thermal Imaging of Electrical Cabinets, Furnaces, Machine Tools, Heat Leakages.



SATISFIED AND EVER INCREASING CUSTOMER BASE

Noise and vibration laboratory has executed more than 1000 tasks and served more than 1000 customers, over last 3 decades for a wide spectrum of manufacturing industries ranging from Aerospace, Automobile Machine Tools, Process machinery, Construction and mining, Consumer appliances, Electrical machines, Paper and printing industries, etc.

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