

4X Diagnostics Products and Services



Family Owned and Operated since 2005

45+ years experience

providing

Vibration Analysis, Training & Diagnostic Measurement
consulting services nationwide

We provide:

- ✓ Route-Based Vibration programs
- ✓ Motion Amplification Video Surveys
- ✓ Advanced Diagnostic Vibration Testing
- ✓ Remote Vibration Monitoring and Analysis
- ✓ Floor Vibration Studies
- ✓ Noise Studies
- ✓ Vibration Mentoring, Training & Certification

Serving industries nationwide including:

- | | |
|------------------------|-----------------------|
| ➤ Manufacturing | ➤ Power Generation |
| ➤ Aluminum | ➤ Food & Beverage |
| ➤ Technology | ➤ Cement |
| ➤ Water Treatment | ➤ Pulp & Paper |
| ➤ Tooling | ➤ Mining |
| ➤ Research | ➤ Service |
| ➤ Local Municipalities | ➤ Government Agencies |
| ➤ E- Component Mfg. | ➤ And Many More |

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Top Services



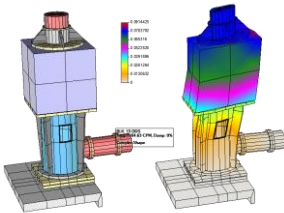
Route Based Data Collection & Analysis

Vibration and stress wave measurements are used to determine the mechanical health of machines and identify bearing and gear faults. Including Database Creation & Tune-ups.



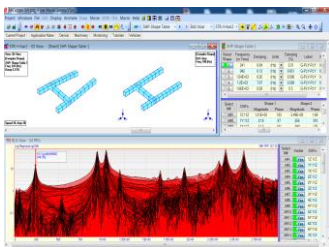
Motion Amplification Video Surveys

Motion Amplification detects subtle motion and amplifies that motion to visible levels. Every pixel becomes a sensor creating millions of data points in an instant.



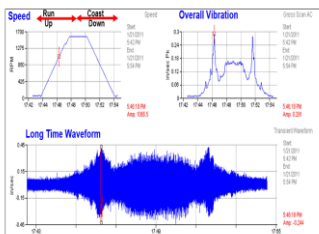
Operational Deflection Shape Studies

Time or frequency based Operational Deflection Shape (ODS) studies are used to animate and analyze the motion of rotating equipment and structures.



Modal Analysis

An experimental method of determining the natural frequencies, damping values and mode shapes of a structure.



Resonance Testing

Resonance results whenever forced vibration, from mechanical faults, coincides with a natural frequency. At resonance, a small change in the exciting force produces a large change in vibration.

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Additional Diagnostic Services

Acceptance Testing

To test and evaluate components for compliance & acceptability related to vibration and/or sound.

Remote Data Analysis

Remote analysis and reporting of route-based data, online data or any diagnostic measurements.

Short or Long-Term Monitoring

Short or long-term monitoring of vibration or process signals. Monitoring instrumentation is capable of measuring and storing long time waveform captures, trends, spectrums, and detailed waveforms.

Fan/Rotor Balancing

Dynamic balancing of rotating equipment in-situ.

Turbine Startups

Multi-channel measurement and data analysis of turbine startups and shutdowns. Including **Speed, Orbits, Shaft Centerline, and Shaft Position** measurements.

Sound/Noise Studies

Airborne noise measurement used to diagnose vibration on rotating machines, investigate neighborhood noise or document fence-line noise and human exposure levels.

Permanent Vibration Sensor and Tachometer Installations

Including spot face/surface prep, epoxy/drill and tap, connector & junction box wiring

Phone Support

For all vibration related services.

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Special Measurements

Seismic Vibration Studies

Floor vibration, structure or ground vibration monitoring and analysis. Used for vibration sensitive equipment and slow speed equipment.

Product Defect Analysis

To investigate product quality issues. Signal types include flow, pressure, vacuum, density, speed, displacement, force or any other analog signal.

Speed Variation or Torsional Analysis

Used to identify dynamic changes in shaft torsion, rotational or linear speed.

Displacement Measurements

Static or dynamic measurement of displacement using eddy current, laser and Motion Amplification camera systems.

Ultrasonic Measurement and Analysis

Used to identify air or fluid leaks, mechanical or electrical faults or corona in power distribution.

Ultrasonic Thickness and Inspection

Used to determine the thickness of metal castings, metal components and concrete structures.

Phase Studies

Relative or absolute phase studies to diagnose the source of vibration issues.

4X Diagnostics Vibration Training, Mentoring and Certification

We provide public and on-site vibration training, mentoring and vibration certification courses for many subjects including:

Operational Deflection Shape, Modal Analysis & MEscape training

Fundamentals of Vibration Analysis

Advanced Vibration Analysis Techniques

Route Database Training & Tune-up

Rotor Balancing Workshop

Onsite Custom
Mentoring
available

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Mobius Institute Training Courses



4X Diagnostics is a certified Mobius training instructor and reseller of Mobius training products in North America

Call for pricing and to schedule web-based video training, public courses and online classroom training and certification delivered by a certified Mobius instructor.

Vibration Analysis

Learn to be an effective vibration technician and progress to master analyst - capable of managing a condition monitoring program, diagnosing the widest range of fault conditions, verifying and correcting resonance and balance problems - with interactive simulations that make everything easy to understand.



ISO Category I
Basic Vibration Analysis

ISO Category II
Intermediate Vibration Analysis

ISO Category III
Advanced Vibration Analysis

The Asset Reliability Practitioner [ARP]

Training and accredited certification program provides the knowledge, qualifications, and growth path to enable a reliability program to be run successfully.



ARP-A
Reliability Advocate

ARP-E
Reliability Engineer

ARP-L
Reliability Program Leader

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ODS/Modal Software – MScope VES

4X Diagnostics sells and supports MScope VES Operational Deflection Shape, Modal Analysis and **new MScope ODS video** software, which makes it easier for you to observe and analyze noise & vibration problems in machinery.



Renew your Software Maintenance & Support (SMS)

Updates: Gain full functionality of the latest software improvements & upgrades

Avoid extra fees when renewing

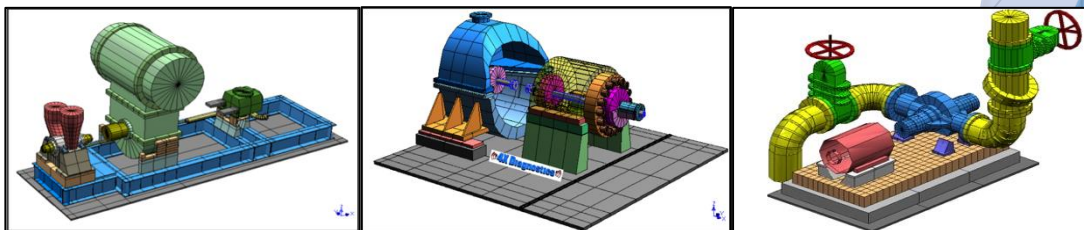
Get phone and e-mail support through Vibrant Technology

Upgrade and do more with your MScope Software

Visual Modal – Obtain Modal Parameters

Visual SDM – Experiment with Structural Modifications.

Visual Experimental – (FEA) Finite Element Analysis



****We are your authorized reseller****

Contact us or for more information, pricing, package options or to renew support