

A person's hands are visible, typing on a silver laptop. In the foreground, a clipboard with a white sheet of paper is held. The background is a blurred workshop or factory floor with various equipment and a yellow and black striped safety barrier.

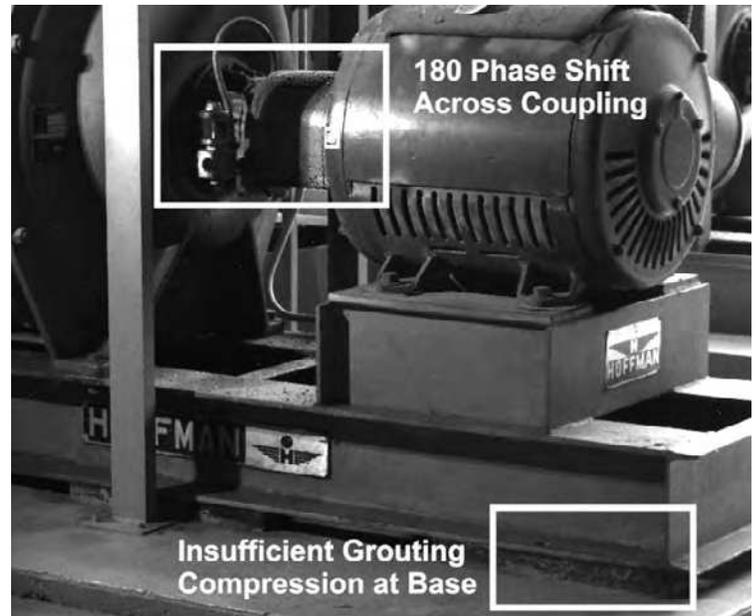
# The Key Benefits of Motion Amplification Monitoring for Your Electric Motors

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Not all movements—e.g., deflection, displacement, and vibration—are apparent or visible to the naked eye. Unfortunately, just because it isn't visible doesn't mean that it can't damage sensitive components. If left unchecked, unintentional or excessive movements can lead to severe equipment and system problems, ranging from misalignment and imbalance to structural damage and failure. With this in mind, any industry professional who works with electric motors should perform regular maintenance operations to ensure their equipment remains in proper working order. However, routine preventative maintenance is not always enough to prevent damage.

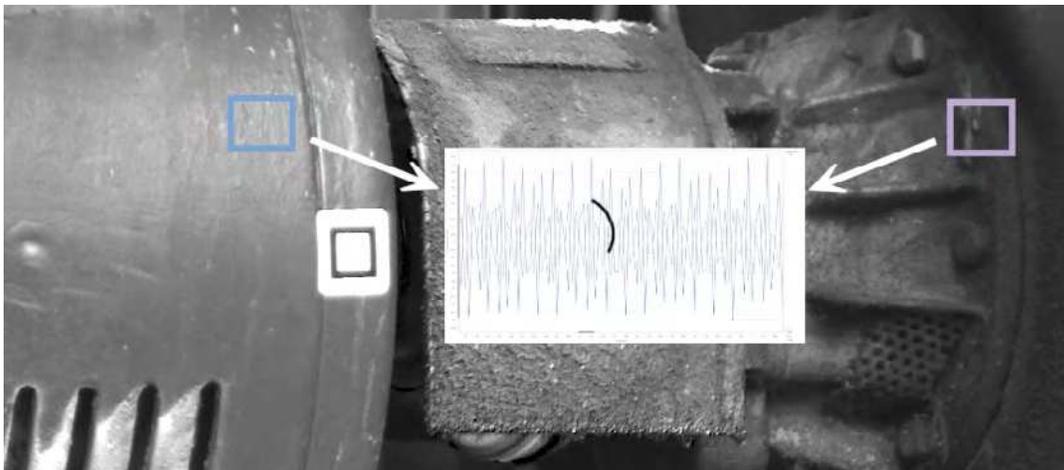
Motion Amplification is a proprietary video processing algorithm that—when combined with video cameras—amplifies subtle movements to make them visible to the naked eye. When used for motor systems, it can provide equipment technicians a more complete picture of equipment performance and condition. One way to stay ahead of motor malfunctions is to employ RDI Technologies' Motion Amplification® monitoring solutions with Renown Electric's team of leading maintenance experts.

As a certified service provider for RDI Technologies, Renown Electric is well-aware of the benefits of the innovative technology. In the following eBook, we review the key benefits of adopting a Motion Amplification monitoring solution to extend the working life of an electric motor.

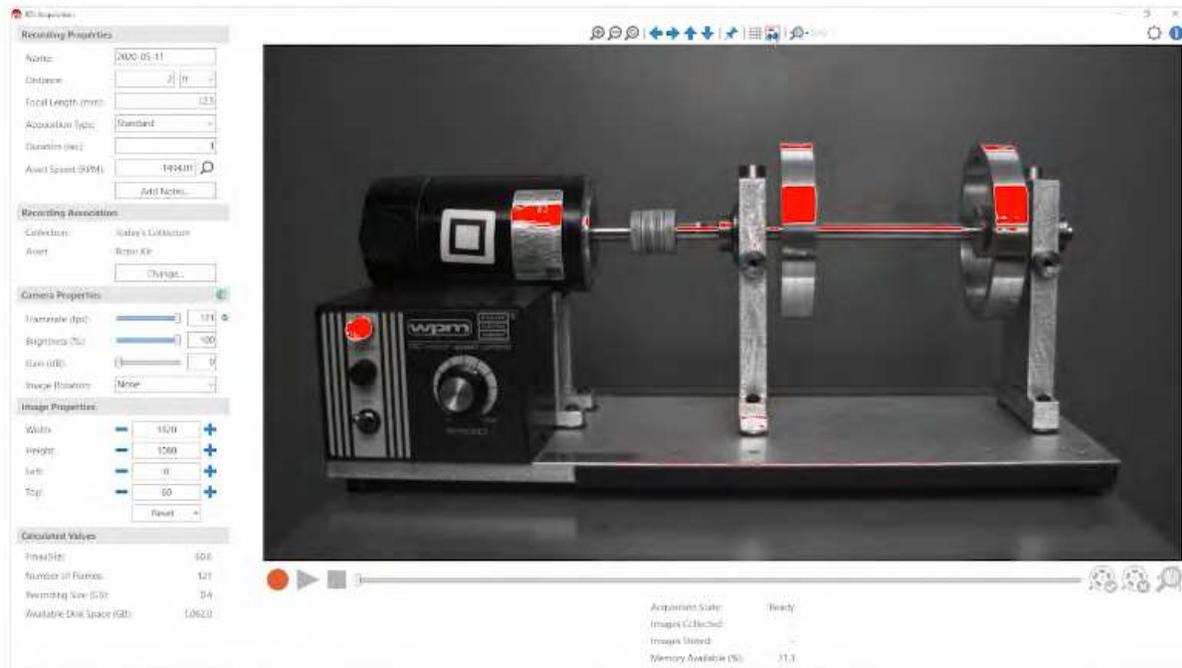


## Visualize Complex Vibration Problems Invisible to the Naked Eye

Motion Amplification solutions do more than output information about a motor system—they allow industry professionals to see the intricate and minute movements occurring within the equipment.



While other monitoring solutions might provide static magnifications or point measurements only, Motion Amplification offers real-time visualizations of system performance alongside any meaningful information extracted by the processing software. This visualization technique enables a better understanding of the different motor components and the relationships between them that, in turn, translates to a better understanding of the system as a whole. The insight attained makes it easier for industry professionals to identify if and when things go wrong and implement targeted and cost-effective solutions accordingly.



When used optimally, Motion Amplification technology can save both time and money regarding vibration analysis, routine monitoring, and troubleshooting, root cause analysis, and other maintenance and repair operations.

## Make Monitoring Safer & Easier With Non-Contact Measurement

In addition to facilitating monitoring and maintenance operations, employing a Motion Amplification solution substantially decreases the risk of injury to life and limb for employees.

Malfunctioning equipment carries the risk of damaging other equipment and injuring employees. For motors suspected to be malfunctioning, manual maintenance and inspection operations bring service technicians closer to the danger. Employing Motion Amplification technology, however, allows them to measure and quantify equipment movement without coming into direct contact with the motor or equipment needing measurement.

The technology's non-invasive design facilitates the identification and documentation of motor condition through a high frame rate (frames per second - fps), high-resolution camera—rather than physical means. A sophisticated video processing algorithm then analyzes the visual data to output metrics and a visual representation of the movement. In this way, technicians gain access to a wealth of monitoring data without needing to go near a potentially hazardous system.

The elimination of physical contact in no way diminishes accuracy. Despite being taken from a distance, the measurements collected by Motion Amplification systems are at the same level of accuracy as those of standard contacting displacement sensors.



## Prevent Costly Motor Repairs and Replacements

Over the service life of a motor, Motion Amplification systems can save significant amounts of time and money. By enabling the detection of potential issues and identifying failure points, they allow technicians to implement appropriate solutions before the motor is significantly damaged and requires more costly comprehensive repairs or needs complete replacement.

Where other monitoring systems may fail, Motion Amplification systems can detect even the slightest deviations from normal operations. This quality makes them well-suited for use in regular diagnostics and preventative maintenance procedures as well as troubleshooting and root cause analysis operations.

Some examples of common errors that these systems can help identify and diagnose include:

- Imbalance

- Looseness

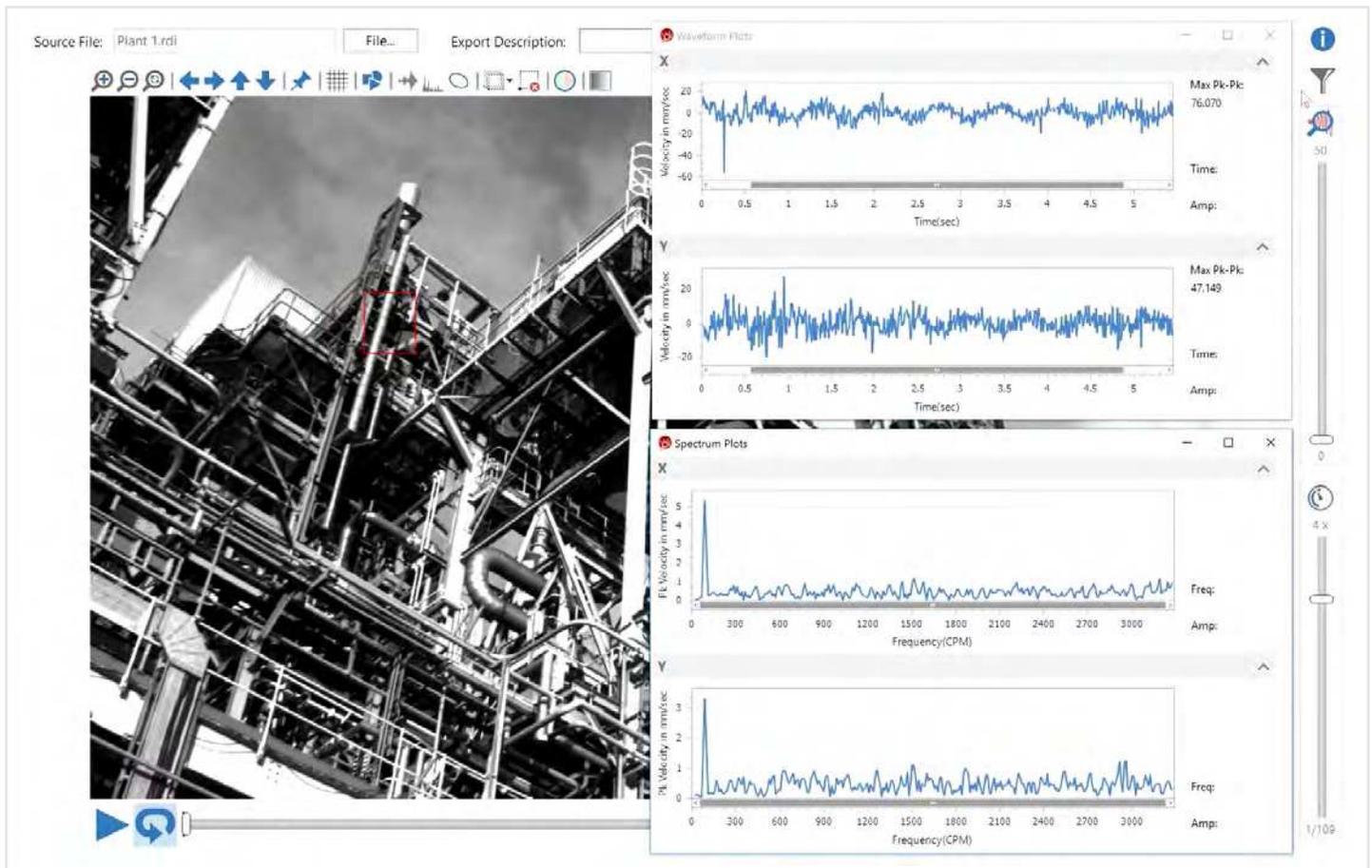
- Misalignment

- Resonance

- Soft foot

- Structural cracking

## Manage All of Motion Amplification Data from One Place



When it comes to monitoring and troubleshooting, it's important that equipment records be organized and easily accessible. It's not enough to rely on one-off measurements or incomplete data sets as they generally do not provide a full picture of a motor's performance and condition history. A comprehensive record is needed to accurately monitor and track a motor's performance and identify if and when an issue may arise.

Motion Amplification systems monitor and track equipment issues and store all of the data together in a hierarchical structure. The recorded videos are saved together with links to associated files, including reports and other key data. This organizational system allows service technicians to track the status of an electric motor over time and makes it easy to access relevant information when it comes time to troubleshoot a problem.



## Renown Electric: Experts in Motor Repair and Replacement

Renown Electric is a leading provider of repair and replacement services for electric motors. Equipped with over three decades of industry experience, we fully understand the complexities and challenges of keeping electric motors running at their best, especially when some threats to performance are invisible.

Our recent partnership with RDI Technologies allows us to provide services using their Motion Amplification product solutions. Safe, accurate, and cost-effective, the technology enhances our ability to help monitor and troubleshoot motors for our customers.

For more information on our Motion Amplification solutions and how they can benefit your company's electric motors, [contact us](#) today.



## About Renown Electric

Founded in 1984 and centrally located in Concord, Ontario, Renown Electric operates from a 25,000 square foot state-of-the-art main repair facility, a 30,000 square foot large motor repair facility with 50 ton cranes throughout, and a 12,000 square foot warehouse dedicated to motor management and inventory of new products. Our team includes over 50 employees who excel in all aspects of electric and mechanical motor repair, remanufacture, overhaul, field service, on-site rewind, and engineering support.

We are proud to serve a diverse customer base from a wide range of industries from across the globe. No matter the size of the company, from a small start-up to a massive multinational concern, Renown offers unmatched customer service to support you every step of the way.

Renown is an authorized dealer and service representative for most major manufacturers, so our customers are assured the highest-quality products and repairs. Our engineering expertise and production capability allows us to remanufacture all major AC & DC motors up to 50,000 HP.

Our company has CSA qualification for the repair and service of motors and generators in hazardous locations, as well as [ISO 9001:2015](#) certification; we utilize the latest computerized testing techniques to ensure our repairs meet or exceed OEM specifications.

Renown has a large fleet of service and delivery vehicles—including a selection with cranes for simple and prompt job-site pick-up and returns.

Renown's commitment to service extends beyond the reaches of our shop by offering predictive maintenance programs designed to meet the customers' requirements. Programs include on-site laser alignment, balancing, vibration analysis, infrared thermography, oil analysis, and non-destructive testing.

To learn more about Renown Electric and the services we provide, [contact us](#) today.

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