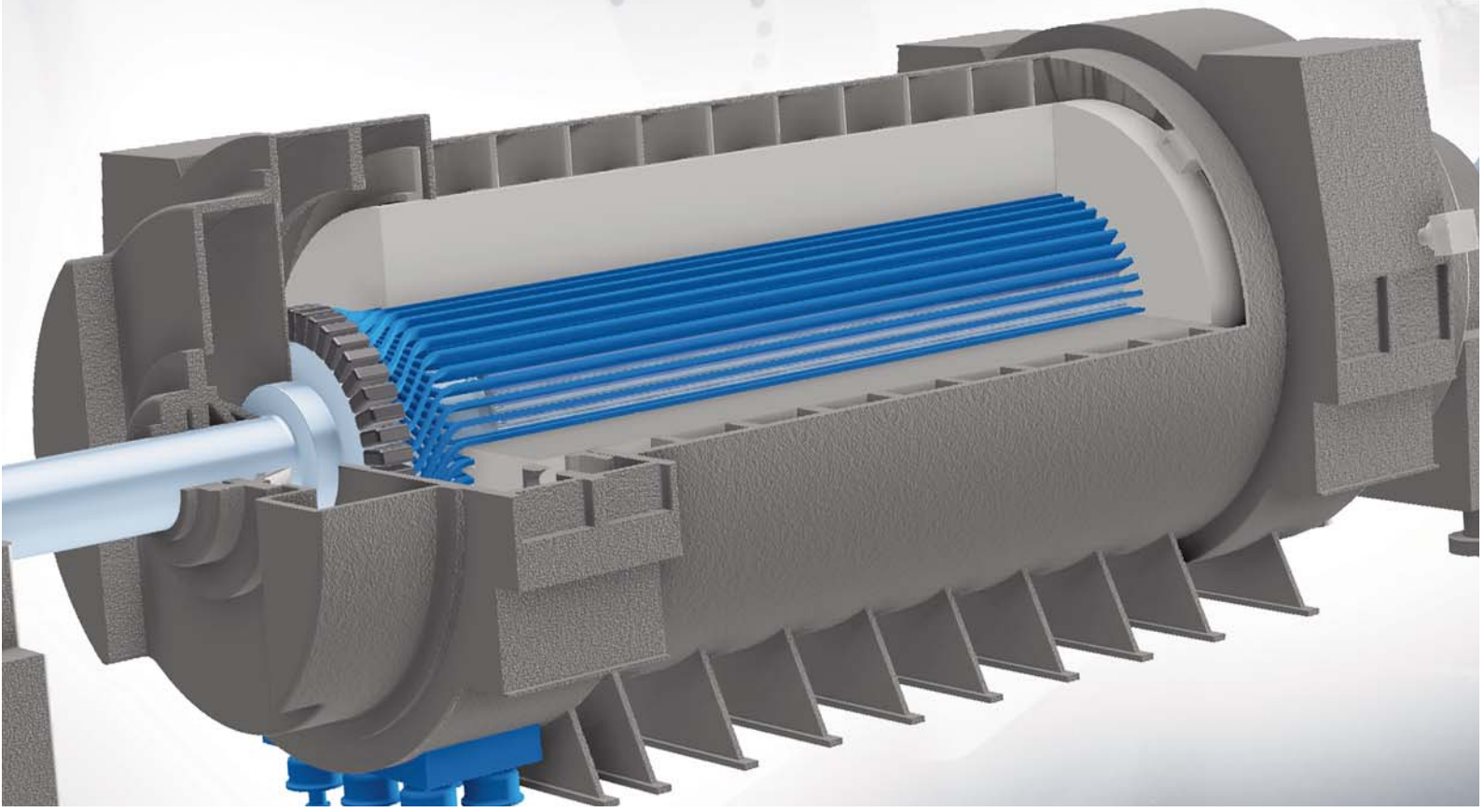
ZOOM MC/TM

VIBROSYSTM MD/®

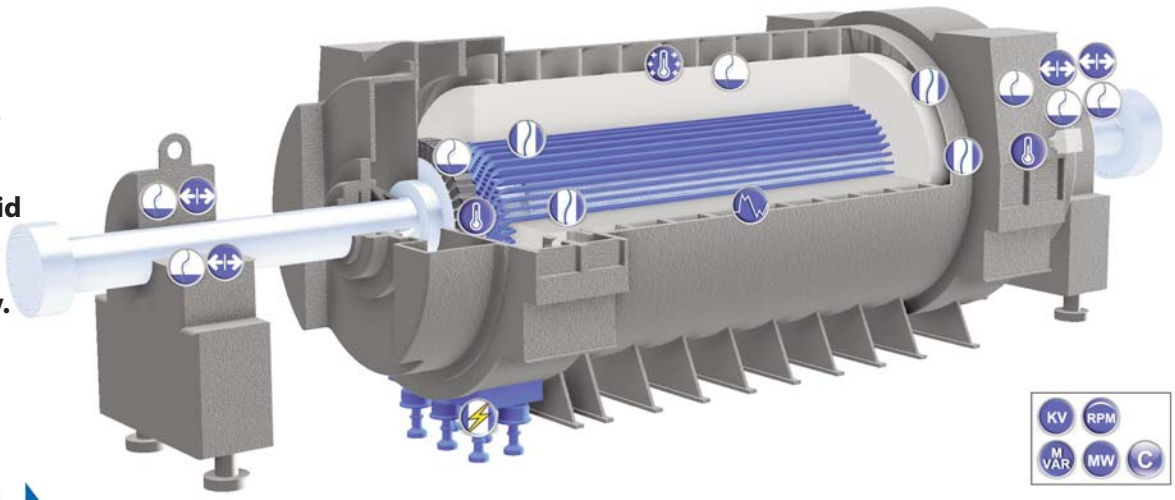
INFORMATION TO BETTER MANAGE YOUR MACHINES

Complete Monitoring Solutions for the TURBO INDUSTRY



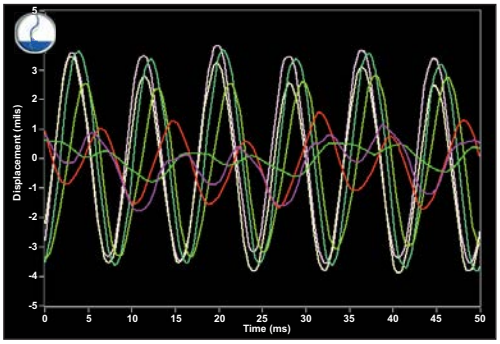
Complete monitoring solutions for the Turbo Industry

Most online monitoring solutions for turboelectric generators only provide standardized protection solutions. VibroSystM provides ZOOM® users with autonomous data analysis and first level diagnostics that are both predictive and preventative. Our complete monitoring solutions are tailored to avoid machine downtime and extend equipment longevity.

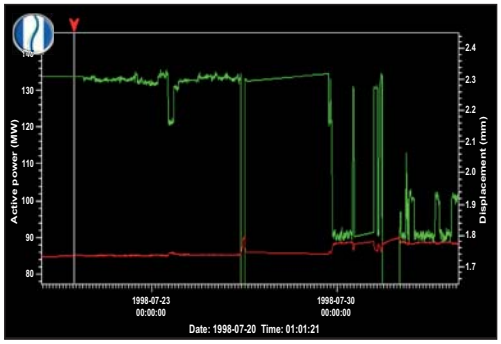


Zero Outage Online Monitoring ZOOM™ Software Suite

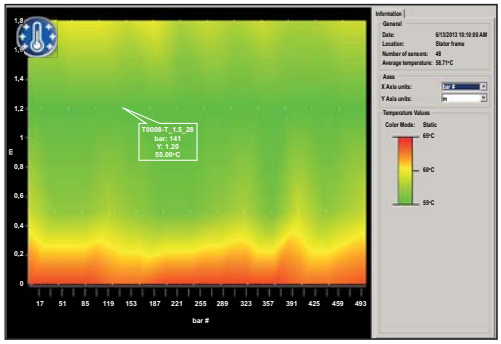
Integrates and correlates all machine parameters in the same software



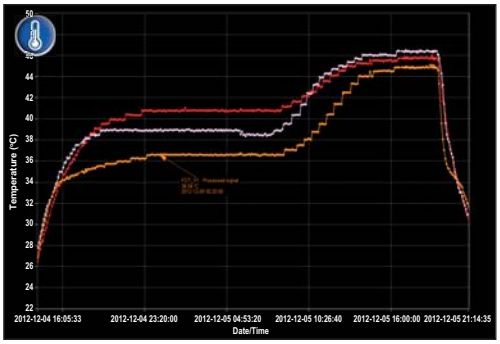
Raw acceleration signals from different sensors, at various amplitudes, during normal operation (FOA + ZOOM)



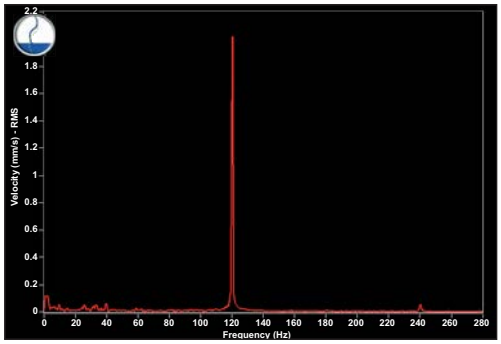
Trend Graph Correlating Bar Position and Active Power (MW) (SBV + ZOOM)
This graph shows that the bar is magnetically pulled inward into the slot as the load is increased



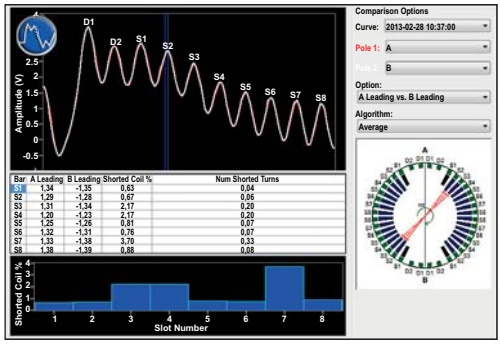
Stator Thermal Mapping (TWS + ZOOM)
Provides valuable information about the thermal behavior of a stator core, especially the hot spots or shorted laminations



Temperature trend of a switchgear (FOT + ZOOM)



Absolute Vibration Monitoring (VSM797S + ZOOM)
Spectrum graph of stator core vibration

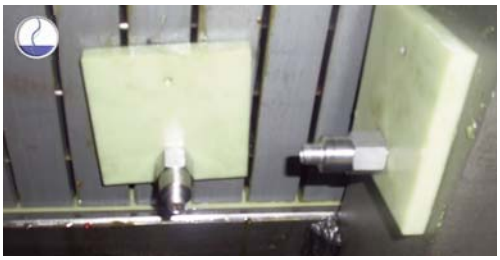


Stray Flux Pole Comparison View (SFA + ZOOM)
Visual representation of shorted turns. Allows all combinations in a single click

FOA - Fiber optic accelerometer for end-winding vibration monitoring

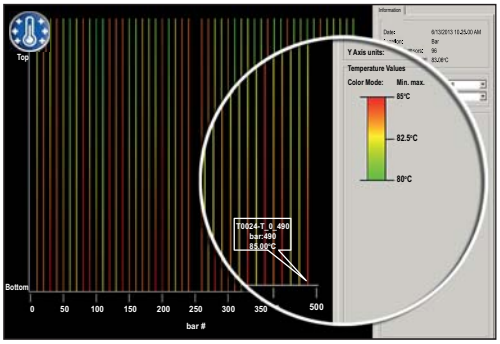
SBV - Capacitive sensor for measuring bar vibration inside the slot while machine is in operation

FOT - Fiber optic temperature sensor for monitoring end-windings, isophase bus bars, switchgears and circuit breakers



VSM797S - Piezoelectric accelerometer for stator core vibration measurement

VibroSystM provides independent and trustworthy information on the condition of your machine

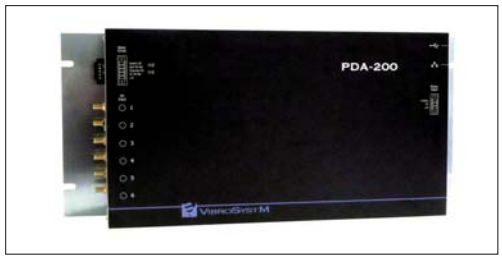


Bar Graph (TWS + ZOOM)
Graph showing temperature measurements of the stator bars

Connectorized Internal Flange

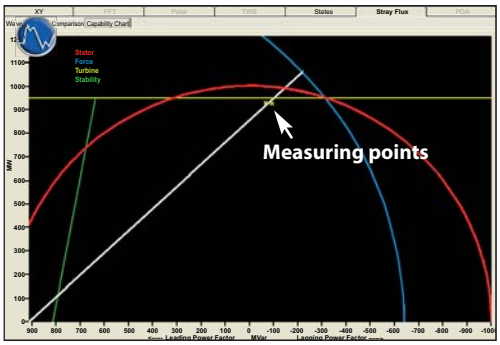
M12 x 9 - Connectorized internal flange factory tested to withstand very high pressure levels and comes with a high quality O-ring seal that guarantees trouble-free operation

Analysis Unit

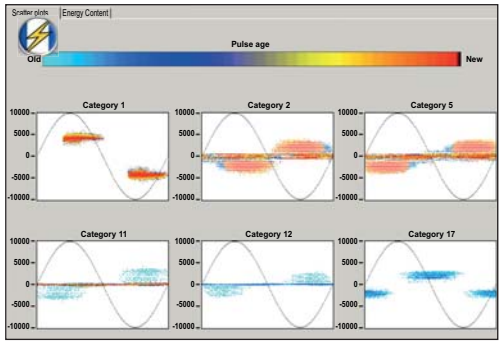


Partial Discharge Analyzer
Three (3) systems in One (1): Partial Discharge, EMI & Pattern Recognition
The PDA-200 is a high speed multi-channel data acquisition unit used for analyzing very high frequency signals from continuous partial discharge measurements

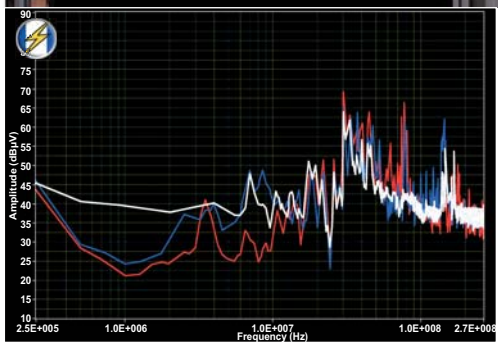
Acquisition units & ZOOM™ Cabinet



Capability Chart (SFA + ZOOM)
Visual representation showing both regions of allowed operation (inside the curve) and forbidden operation (outside the curve)

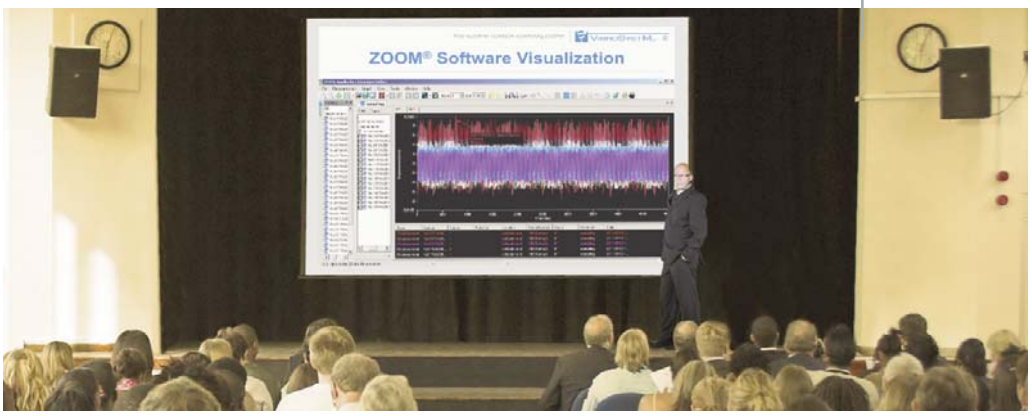


Pattern Recognition
The ZOOM software automatically categorizes partial discharge patterns that occur inside and outside the machine



EMI - Electromagnetic interference is continuously measured and displayed. EMI detection helps identify frequency bands corresponding to faults in specific equipment

Data Interpretation Course



VibroSystM offers you the most comprehensive training courses, allowing you to take full advantage of your monitoring systems.

Our training courses, presented by our Results Interpretation Specialists, will give you the skills necessary to analyze the results that your new system has compiled, which will ultimately save you time and money.

Whether on site or at VibroSystM headquarters, individually or in a group, our in-depth courses on machine condition monitoring and diagnostics enable you to maximize the usage of your ZOOM System.

VibroSystM's expertise is solicited by IEEE®, CIGRÉ & EPRI®

We have the most experience in data interpretation

VibroSystM® Services

When starting up a new project or when upgrading an existing one, the most important step is to assess the requirements, from start to finish.

Our Project Management Division takes charge of your project from A to Z. Our professionals plan every detail, from the equipment that is needed to the interpretation of the results that are obtained.

Periodic status reports keep you apprised of every step that is taken to guarantee the successful outcome of your project.

Extensive experience in the field and commitment to our clients have always been the main source of motivation for our team of engineers. Our Research & Development Departments continually pursue ground-breaking ideas that best fit our clients' requirements.

VibroSystM technicians travel around the world installing our systems in the most remote places on the planet. On site or from our head office, VibroSystM's trained technicians ensure that all inquiries are taken care of swiftly and efficiently. Their main focus is to assist with on-site challenges in order to maintain our systems' accuracy and reliability.

www.vibrosystm.com

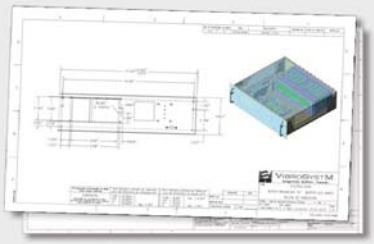
Results Interpretation Service (RIS)

Analysis & Diagnostic Tools

In combination with our powerful ZOOM software, VibroSystM's results interpretation service puts decades of experience to work, allowing our clients to extract the most out of their monitoring systems. The service helps users identify patterns and anomalies that are both meaningful and informative.

Our RIS is among the many tools we put directly into the hands of our customers around the world empowering them to make informed business decisions that will have a direct impact on the bottom line of plant management.

Research & Development



Innovation is one of VibroSystM's most important goals and great amounts of time and money are invested in research and development. From new products to the improvement of the existing ones, VibroSystM's skilled workforce succeeds in continually advancing in the high technology market. The R&D department is a large umbrella under which two teams are enlisted and interact with each other to assess, enrich and create products and configured solutions that meet the clients' special requirements.