
condition
monitoring
& machinery
diagnostics





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company profile

AMC VIBRO offers machinery condition monitoring, diagnostics, and maintenance products and services. Our solutions support maintenance departments at industrial facilities around the world.

We offer our own AMC VIBRO brand of vibration-based condition monitoring and diagnostics systems, as well as laser shaft alignment, ultrasound, oil analysis and electrical current analysis systems. We represent **Easy-Laser, General Electric, Meggitt, Sonotec, IFM, FLIR, PdMA or Monitran** brands and other well-established Polish and international vendors. The company's wide experience, highly qualified team, own production line with full control of manufacturing process, and advanced testing setup (including EMC tester and climatic chamber) ensure high quality and competitive price of AMC VIBRO products and solutions.

WE OFFER:



VIBRO

- sensors
- wireless sensors
- monitoring systems
- protection systems
- portable systems
- accessories



LASER

- shaft alignment
- belt alignment
- geometric measurements
- accessories



ULTRASOUND

- laboratory systems
- leak detection
- condition based lubrication
- steam trap and/or valve inspection
- electrical inspection
- marine hatch testing



SERVICES

- diagnostic supervision
- trainings
- expertises
- reports
- others services



OIL

- parameters sensors
- particle counters
- portable labs
- accessories



CURRENT

- static motor testing
- dynamic motor testing
- combined motor testing
- software
- accessories

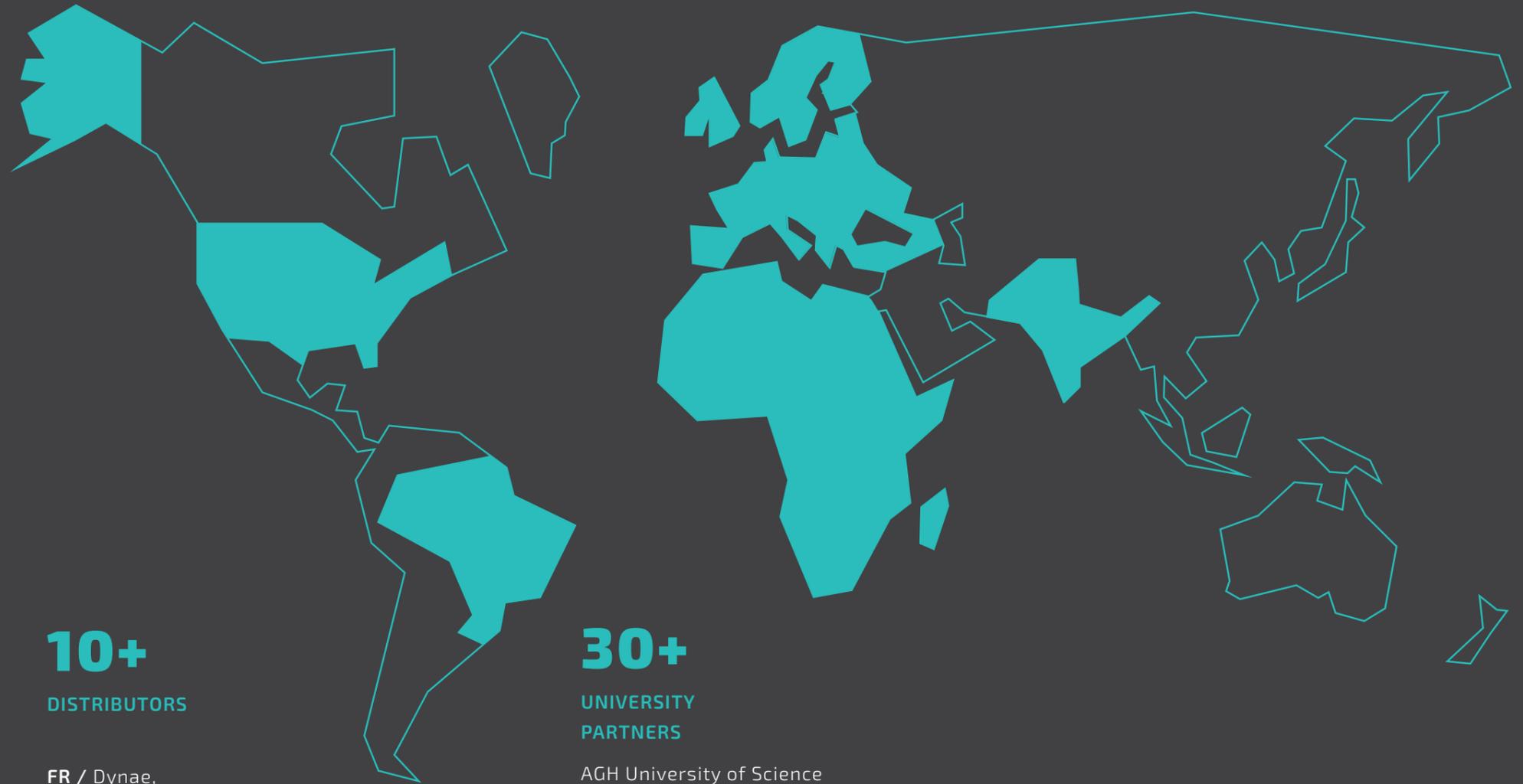


INFRARED

- thermographic cameras
- gas detection
- software
- accessories



we work for clients located worldwide



300+
CLIENTS

Alstom Power,
General Electric,
AMICA,
PESA,
Bosch,
Grupa Lotos,
PGE,
Grupa Azoty,
Brammer,
TI Automotive,
& others.

10+
DISTRIBUTORS

FR / Dynae,
DE / ROGA Instruments,
HU / Delta-3N,
HU / AA Stadium,
BG / CERB,
LV / Test General,
RS / North Protection,
IN / Techmantiq Envision,
PK / A. J. Enterprises,
IN / UMD Technologies,
ZA / Asset Monitors,
& others.

30+
UNIVERSITY
PARTNERS

AGH University of Science
and Technology in Krakow,
Cetim,
Danmarks Tekniske Universitet,
Grenoble INP,
INP Toulouse,
INSA de Lyon,
Air Force Institute of Technology,
Warsaw University of Technology,
Wrocław University of Technology,
The University of Sheffield,
& others.



wind
energy



conventional
power



food
processing



building
materials



steel



aviation



paper
& printing



automotive



rail
transport



oil & gas



mining



chemical

vibro

Vibration-based condition monitoring is a process of assessment of machine's technical status through analysis of vibration signals. It allows to detect failures in rotating and reciprocating machinery, identify damaged elements such as: bearings, gears, and shafts. It also allows to evaluate machine's remaining failure-free time of operation.

We offer a full range of solutions for condition monitoring of machinery with various levels of sophistication, from simple monitoring modules, up to complex diagnostic systems. We deliver stationary, portable, and wireless sensors and systems. Our systems perform wide range of analyses, and operate both online and offline.

We are an exclusive distributor of **Monitran** sensors in Poland, Romania, Hungary, Czech Republic and Slovakia. The Monitran's offer includes general purpose and universal acceleration sensors, special velocity sensors, eddy current sensors and LVDT linear displacement sensors.



vibro



laser



ultrasound



services



oil



current



infrared

condition monitoring systems

OFFERED PRODUCTS:



sensors

- general purpose acceleration sensors,
- wireless sensors,
- special velocity sensors,
- eddy current sensors and LVDT linear displacement sensors.



wireless sensors

- vibration sensors and process parameters for industrial applications, intended for monitoring such machines as fans, gears, pumps or compressors.



monitoring systems

- single-channel vibration monitoring systems,
- dual-channel, programmable machine diagnostic systems,
- multichannel, advanced online diagnostic systems.



protection systems

- protection and diagnostics systems for the most critical machinery.



portable systems

- simple, portable vibration monitoring systems,
- portable vibration monitoring systems with measurement path functionality.



accessories

- data acquisition devices, signal conditioners, scientific and research test benches.

TYPES OF MACHINES AND DEVICES:

- rotating machines with constant rotational speed, e.g. ventilators, pumps, compressors,
- rotating machines with variable rotational speed, small and high power, e.g. steam turbines, wind turbines,
- reciprocating machines: compressors, internal combustion engines.

APPLICATION:

- detection of bearings damage, imbalance, cavitation, piston rings wear, monitoring of proper operation of the valves.



laser

High precision laser measurements are used in the industry, among others, for shaft and geometry alignments. The alignment is one of the most important procedures during installation and maintenance of machines, especially these which have couplings in their drivetrains, such as pumps, ventilators or generators. Proper geometry of the machine, as well as the proper geometry of the foundation during installation are the key elements influencing machine's lifetime.

In order to meet market requirements and increasing demand for precise measurement systems, the AMC VIBRO company has partnered with Swedish manufacturer of laser equipment for shaft and geometry alignment, the **Easy-Laser AB** company.

In our offer there are systems, which can be used, among others, for alignment of horizontal machines, vertical machines, machine trains, belt transmissions, Cardan shaft alignment, systems for measurements of straightness, flatness, twist as well as parallelism.



vibro



laser



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laser systems

OFFERED PRODUCTS:



shaft alignment

- basic systems for shaft alignment of horizontal and vertical machines,
- advanced systems allowing multipoint measurements, selecting any number of machine feet and geometric measurements.



belt alignment

- intermediate systems for shaft alignment of horizontal and vertical machines in a train (up to 3 machines), belt transmissions (BTA) and vibration measurements.



geometric measurements

- systems for laser geometric measurements of general purpose machines,
- laser geometrical measurement systems dedicated to specific industries/machine types including necessary elements allowing measurements, among others, of: CNC machines, extruders, ship shafts, gas turbines, sawmills, transmission lines and others.



accessories

- holders, mounting elements, sensors, belt alignment sets, high resolution digital spirit level.

TYPES OF MACHINES AND DEVICES:

- rotating machines such as pumps, ventilators, CNC machines, Gas/steam turbines, paper and printing machines, extruders, in shipbuilding, in wind power, and all other machines with couplings in the drivetrain.

APPLICATION:

- fast and precise verification and correction of machine's alignment,
- control and identification of problems with machines' geometry during installation and operation.

ultrasound

Ultrasonic measurements allow to assess the technical condition of machines based on airborne and structural sounds with frequencies above hearing threshold of the human ear. The ultrasonic technology is used to detect leaks, and electrical anomalies, such as corona discharge, partial discharge or arc discharge, as well as to conduct inspection of valves, steam traps, and other mechanical devices.

AMC VIBRO is a distributor of industrial ultrasonic instruments of an German company **SONOTEC** and delivers laboratory equipment of its own production.

Our offer includes both devices allowing to conduct basic ultrasonic inspection, as well as more advanced, which allow, among other features, to record particular sound, to make a photo, and to conduct analysis. We also offer instruments aiding the process of bearings lubrication, which reduce the risk of both under and over lubrication.



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ultrasonic systems

OFFERED PRODUCTS:



portable systems

- basic and advanced instruments for ultrasonic inspection with features supporting analysis of the measurement results such as recording of a sound signal,
- instruments aiding the process of bearings lubrication.



laboratory systems

- system for generation and acquisition of elastic waves,
- system for non-destructive testing of structures using the phased array technology,
- CMAP and CMAR actuators (and stacks),
- CMBP and CMBR piezoelectric benders.



software

- organizer of results of conducted inspections, creation of measurement paths, creation of reports. Analysis of registered sound signals, including spectral analysis (together with mobile app).



accessories

- replaceable measurement modules, ultrasound generator, holsters.

TYPES OF MACHINES AND DEVICES:

- steam traps, valves, compressors, heat exchangers, gears, pumps, engines, filters, electrical gears, boilers, turbines, transformers, insulators, transmitters, aggregates, air conditioners, pneumatic systems.

DETECTED FAILURES:

- pressure leaks, vacuum leaks, bearings monitoring, electrical anomalies (corona discharges, partial discharges, arc discharges), cavitation.

services

In addition to the product portfolio, we offer a range of specialized services for the industrial sector. Our offer is unique due to the following factors: 25 years of experience in the sector, research and scientific background, access to specialized laboratories, skilled diagnostic team having competences in analysis of both small and large machines (steam and gas turbosets in power plants, large compressors of process gas, reciprocating compressors, etc.).

Our unique offer is constant (24/7), **remote diagnostic supervision** over machines which are most important for a company that guarantees keeping them in best possible condition. We also offer machine's dynamic state assessment, shaft alignment, calibration, expert's assessments and trainings.



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specialized services for industry

DIAGNOSTIC SUPERVISION

AVE CARE is a remote diagnostic supervision over operating machinery service. AVE CARE allows to run remote condition monitoring on hundreds of installations dispersed over any area, also in places with narrow bandwidth of internet connection. Thanks to AVE CARE machines will be under supervision of the best professionals, without additional staffing and organizational costs. We supervise many machines in Poland and in Europe.

AVE CARE is:

- regular periodical reports about condition of supervised machines,
- operational recommendations, supervision over run up and stoppage,
- immediate reaction in case when any kind of anomaly is detected,
- access to the specialists 24 hours a day, 7 days a week,
- limitless access to historical data of machine's operation.

TRAININGS:

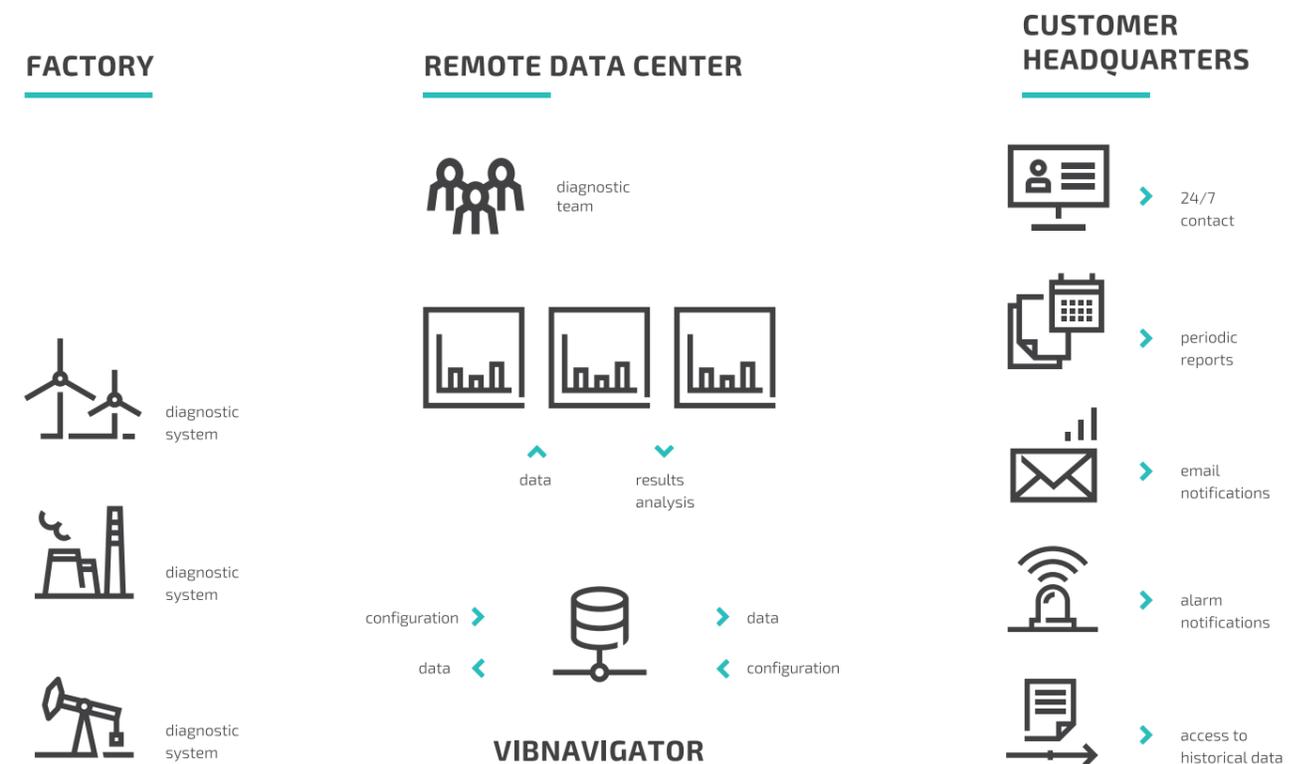
- vibration-based condition monitoring as a method of machine state assessment (AVE Training),
- shaft alignment and geometrical measurements of machines,
- use of ultrasonic technology and interpretation of sonic waves.

EXPERT'S EVALUATION/REPORTS:

- machine's dynamic state assessment,
- supervision over run up,
- failure's causes assessment.

OTHER SERVICES:

- shaft alignment and/or geometrical measurement of machines,
- calibration of measurement devices offered by the company.



oil

Machines and their engines are driven by fuel and lubricating oils. Because the quality of oil and lubricants directly affects the engine and machine performance, as well as the efficiency and maintenance costs. Considering that, the condition of fuel and lubricants must be constantly monitored to protect the investment.

AMC VIBRO distributes oil analysis and monitoring devices by German company **IFM**.



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laser



ultrasound



services



oil



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infrared

oil analysis systems

OFFERED PRODUCTS:



parameter sensors

- particle monitor measures the degree of cleanliness - or the level of contamination - in oils and coolants.
- the oil moisture sensor measures the relative moisture of the oil and air in the range of 0...100%. Besides the relative humidity the sensor also outputs the medium temperature as an analogue signal.

THE ADVANTAGES OF OIL ANALYSIS SYSTEMS:

Oil analysis is a very effective method of early detection of machine damage.

Impurities reduce the average life of the machine and oil. Chemical changes lead to loss of lubricity. The metallic particles have a negative effect and accelerate the aging of the oil.

Oil condition analysis is an effective diagnostic tool used to detect the wear of machine parts and functions as a complement to vibration measurement.

TYPES OF MACHINES AND DEVICES:

- gears, pumps, drives, compressors, turbine, hydraulic systems.

APPLICATION:

- reduction of machine maintenance costs, optimization of maintenance planning, acquisition of additional analytical data for diagnostics of the machine's condition, avoiding secondary damage.



current

Current measurement diagnostics is an assessment process of electrical machines' technical condition based on analysis of current and voltage in their power and operational circuits. It allows to detect electrical and mechanical defects of alternate current electrical motors. It is possible to assess power quality factor and evaluate condition of coils' insulation, condition of the rotor, and the air gap.

AMC VIBRO is a distributor of industrial testers of an American company **PDMA**. Our offer includes a full range of solutions for current diagnostics of electrical motors. We deliver systems for static measurement, for dynamic measurement (during operation), adapters allowing to minimize the time needed to connect the measurement set for periodical monitoring, and advanced diagnostic software.



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infrared

current measurement systems

OFFERED PRODUCTS:



static motor testing

- system for static measurements of motors with power supply switched off (MCE). Allows to inspect: coils' insulations quality, condition of rotor, stator, and air gap.



dynamic motor testing

- system for dynamic measurements during motor's operation (EMAX). Allows to assess power quality factor, condition of the rotor, stator, air gap.



combined motor testing

- hybrid systems for static and dynamic measurements.



software

- diagnostic software (MCE Gold). Allows to create databases for measurement data, measurement paths, analytics and to generate reports about motor's condition.



accessories

- permanent mounting adapters for motor with connectors.

TYPES OF MACHINES AND DEVICES:

- all types of electrical motors.

APPLICATION:

- condition monitoring of coil insulation, rotor, stator and air gap.



infrared

Infrared measurement is the fastest and the safest way to detect electrical, mechanical and other types of faults.

When components in the electrical system start to work improperly, thermal signals deliver early symptoms of developing failure. This heat signal can be easily detected by using thermal scanning technology in infrared. That helps to detect problems at an early stage giving time for preparation, planning, repair or parts exchange.

AMC VIBRO offers **FLIR E** series cameras for maintenance and scheduled system inspections, both electrical and mechanical. Cameras provide maximum performance and with minimal energy consumption.



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infrared



thermographic cameras

OFFERED PRODUCTS:



- FLIR series E cameras provide high-quality image and resolution up to 464 x 348 pixels.

FLIR THERMAL IMAGING CAMERAS:

- help to prevent defects and reduce maintenance costs
- provide fast and comprehensive analysis
- have user-friendly interface
- have dedicated equipment for industrial thermography
- have wide-angle lenses that guarantee high-quality image
- have very good price to performance ratio

TYPES OF MACHINES AND DEVICES:

- electrical transformers, medium and low voltage switchgears, other elements of electrical installations.

APPLICATION:

- inspection and troubleshooting for mechanical equipment and electrical systems. These tools allow you to safely check the live equipment, even in the peak working phase. In addition to diagnostics, thermal imaging cameras can also help in production process optimization and monitor the quality of machine performance.

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