AMT Pro

Rotating Equipment Diagnostic System

A Paradigm Shift in Condition Monitoring
AMT Pro

Artesis **AMT Pro** is a portable motor driven equipment test system which automatically generates a condition assessment report indicating existing electrical, mechanical, and operational faults, time to failure information, recommended corrective actions, and effects of faults on energy efficiency (EEE).

Powered by its patented machine learning algorithm and 10-million motor datasets, this unique instrument is capable of monitoring three phase AC motors and generators as well as driven equipment of all sizes and power levels to provide a clear, unambiguous indication of when the performance of a motor and driven equipment begins to degrade.
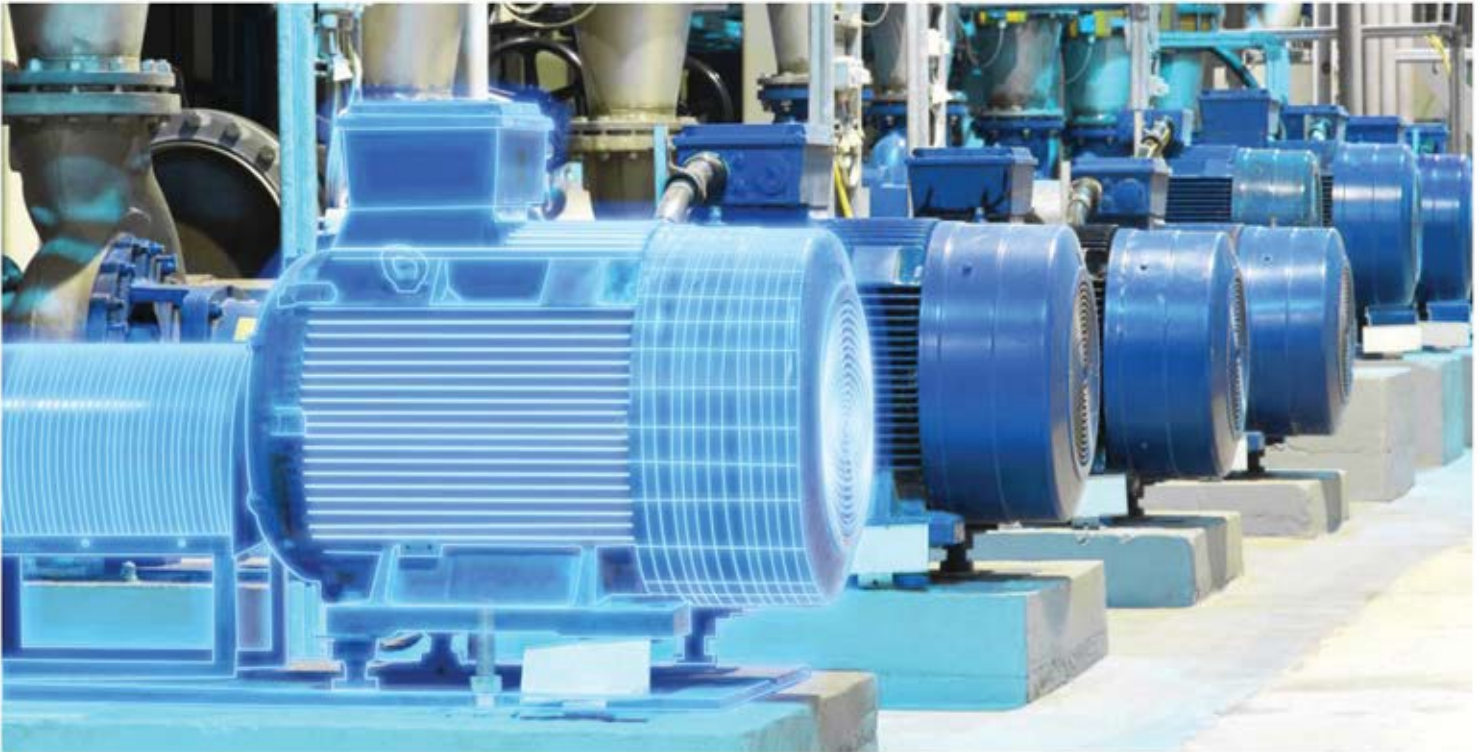

- No sensors to install on machinery

- Monitor any machinery driven by a 3-Phase AC motor

- Test from the MCC Panel

- Test Live - No interruption to plant operations using the AR Test Plug (optional)

- Fast – only 7-minutes for data acquisition, analysis, and reports!

- Fault detection on motor, drive train and driven equipment
- Automated spectrum analysis with immediate report
- No in-depth training required
- Comprehensive fault coverage
- Energy efficieny and time to failure information
- Cloud integration to IOT platform

Asset Management and
Energy Efficiency Toolkit

Key Benefits

- Decrease maintenance costs
- Increase productivity
- Extend the life of equipment
- Energy Saving
- Improve Safety

Sectors

- Oil & Gas
- Energy
- Cement
- Metal
- Pharmaceutical
- Automotive
- Water
- Transportation
- Food & Beverages
- Buildings

Applications

- Compressors
- Fans
- Pumps
- Conveyors
- Generators
- Centrifuges
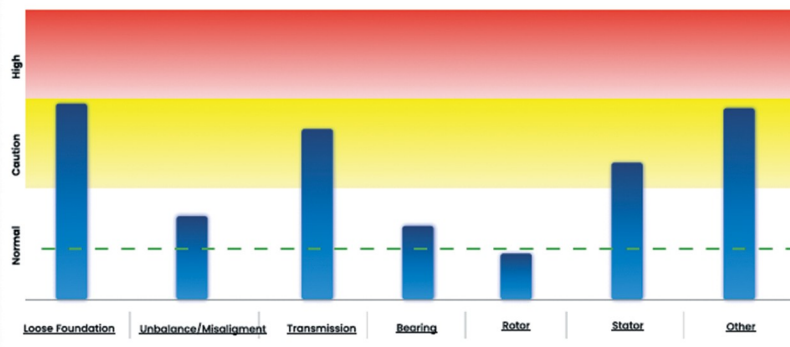- Nearly any AC Motor Driven Equipment

AMT Pro Features
Condition Assesment Report

AMT Pro is compatible with 3-phase AC motors of fixed and variable speed and generators. Utilizing Artesis' revolutionary Model Based Voltage and Current Analysis, AMT Pro offers comprehensive fault detection capability covering electrical, mechanical and process related faults.

Condition Assesment Report

| Asset Name: Asset 1 | Voltage: 400V | Freq:50hz | Rep. Name: Report 1 |
| Asset Type: Pump | Rpm: 1455 d/d | Curr:30A | Date: 02/09/2020 |

WATCH EXISTING FAULTS These faults should be checked for verification and corrective action should be taken at the next scheduled maintenance but no later than three (3) months.

Mechanical Faults
Looseness / foundation. Check for loose motor foundation, loose motor components, looseness or excessive tolerances in driven components. EEE: Mechanical faults such as misalignment, physical looseness and unbalance not only adversely affect a motor's performance and longevity but also its efficiency.

Corrective maintenance action will save energy up to **3540 kWh per year**, increase productivity, reduce maintenance cost, and increase equipment life time.

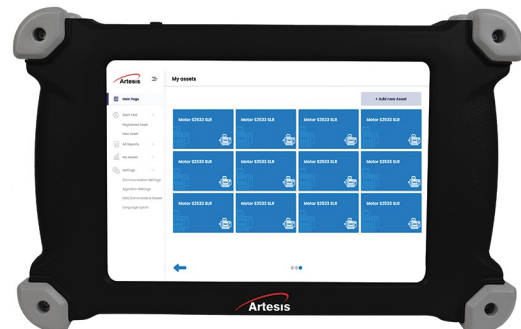| Detected Faults and Warnings	Effects on Energy Efficiency (kWh)
Loose Foundation / Components	145
Unbalance / Misalignment	145
Transmission Elements	145
Bearing	145
Rotor	145
Stator	145
Total	**3456**

Fault Coverage

- Loose foundation/ components
- Unbalance/misalignment/coupling
- Transmission faults
- Driven equipment faults
- Bearing faults
- Rotor faults
- Stator/insulation faults

Process Faults

- High energy consumption
- Low efficiency
- Cavitation in pumps
- Flow turbulence in fans, blowers
- Filter and heat exchanger fouling
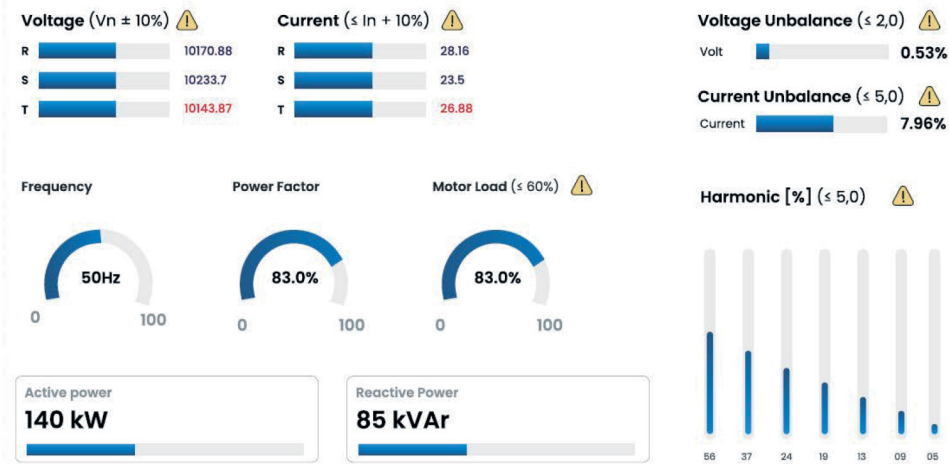- Lubrication
- Oversize/undersize motors

Watch AMT Pro Video

AMT Pro Features
Condition Assesment Report

Condition Assesment Report

Voltage (Vn ± 10%) ⚠

R	▬▬▬	10170.88
S	▬▬▬	10233.7
T	▬▬▬	10143.87

Current (≤ In + 10%) ⚠

R	▬▬▬	28.16
S	▬▬▬	23.5
T	▬▬▬	26.88

Frequency
50Hz
0   100

Power Factor
83.0%
0   100

Motor Load (≤ 60%) ⚠
83.0%
0   100

Active power
140 kW

Reactive Power
85 kVAr

Voltage Unbalance (≤ 2,0) ⚠
Volt   0.53%

Current Unbalance (≤ 5,0) ⚠
Current   7.96%

Harmonic [%] (≤ 5,0) ⚠
56 37 24 19 13 09 05

Electrical Parameter ⚡

- Vr, Vs and Vt
- Ir, Is and It
- Frequency
- Voltage Unbalance
- Current Unbalance
- Motor Load
- Power Factor
- Active Power
- Reactive Power
- Total and odd harmonics

Asset Name: Asset 1	Voltage: 400V	Frequency:50hz	Report name: Report 1
Asset Type: Pump	Speed: 1455 rpm	Current:30A	Date: 02/09/2020

POWER SPECTRAL DENSITY

Amplitude (Standart Devation)

0   25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 50

☑ High   ☑ Normal   ☑ Equipment   ☑ Log Scale   ☑ Bands

Frequency Bands

General

Line Frequency	50.0	Hz
Rotation Frequency	50.0	Hz

Bearing •••

Number of Balls	10	Calculate
Journal Ratio	0,4	✔
BPFO	3,8	
BPFI	6,2	
BSF	4,9	
FTF	0,4	
Harmonic	3	

Plot

Belt

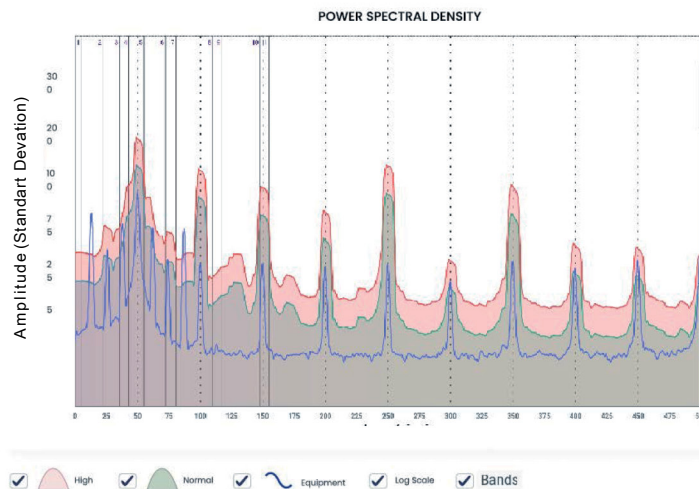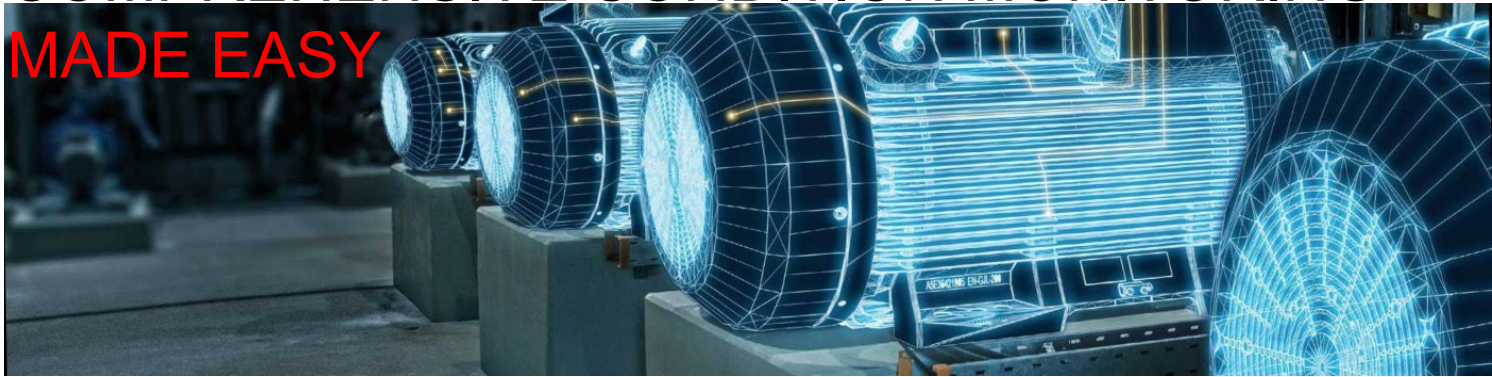| Diam_Motor	0,1	m
Diam_Fan	0,1	m
Dist_Centers	1.0	m

Electrical parameters are compared with standard reference values indicating electrical faults as well as power quality issues.

PSD (Power Spectral Density) waveform tools offer advanced level of use for root cause analysis.

Test results simultenously sync to secure cloud-based server allowing access to the reports on an IoT platform.

COMPREHENSIVE CONDITION MONITORING
MADE EASY

Artesis

USA

Shoreline Industrial Products, LLC

USA Headquarters
Windham, NH 03087

1 (978) 494-6040 sales@shoreline-industrial.com

www.shoreline-industrial.com

Artesis

Artesis Technology Systems

Headquarters

Kemal Nehrozoğlu Cad. GOSB Teknoparkı
Hightech Binası No:B10, 41480
Gebze/Kocaeli, TURKEY

www.artesis.com