

PORTABLE CONDITION MONITORING SYSTEMS



VSHOOTER+[®]
AUTO VIBRATION ANALYZER



VSHOOTER-3-WL[®]
WIRELESS VIBRATION ANALYZER

synergys-technologies.com





VSHOOTER+[®]

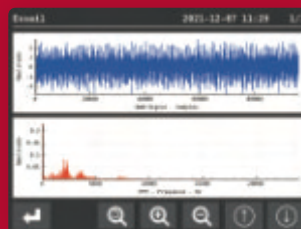
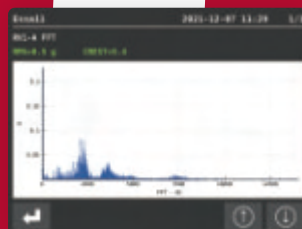
AUTO VIBRATION ANALYZER

PREDICTIVE MAINTENANCE HAS NEVER BEEN EASIER!

- **Machine Condition Picture (MCP)** at a glance
- High quality wired 100 mV/g ICP&IEPE sensor with strong magnet
- Overall RMS values - FFT spectrum - Time signal - Trend curve - T°
- Li-Ion battery with 6 hours autonomy
- Embedded IR thermal camera (160x120 FLIR Lepton)
- Embedded 5 MP digital visible camera
- AUTO ANALYSIS capabilities : Unbalance - Misalignment - Looseness - ??? - Bearing lubrication - Bearing shock
- BALISHOOTER[®] firmware for severity checking of only Unbalance or Misalignment defaults
- Reporting capabilities with PC via USB
- Stereo headphone output



	ISO						
RV1	G2F-10						
RH2	G2F-10						
AX3	G2F-10						



VSHOOTER+[®] TECHNICAL SPECIFICATIONS

Weight 3,2kg with case - 0,7kg for device only

Size 310x165x65mm for device only

IP54 for device only (ABS plastic) - 6H Li-Ion rechargeable battery

Camera Digital 5MP

IR camera FLIR LEPTON 160x120 px

Display 5,7" 640x480 px touchscreen

Sensor ICP/IEPE accelerometer - 100 mV/g with strong magnet

Output Stereo headphone for "mechanical" listening

Measurements 10(2)-1000 Hz ISO RMS in mm/s

1000-14000 Hz RMS in g & CREST

T° from -10°C > +400°C

2-400 Hz in mm/s & 2-14000 Hz in g FFT & TIME

TRENDING mm/s & g

Memory Micro USB output for PC reporting and memory saving

Power charger Universal 12VDC-1,5A



TECHNOTE 1

Automatic Vibration Analysis of an industrial fan (Cement plant) with the new VSHOOTER+®:



The new unique Auto Vibration Analyzer VSHOOTER+® is able to easily and quickly analyze rotating machine like an electrical motor or a pump or a fan or a bearing housing or a spindle.

With its special dedicated MCP (Machine Condition Picture) firmware, VSHOOTER+® automatically diagnoses the machine excessive vibration causes like the Unbalance, the Misalignment, the Looseness, the Bearing lubrication....

The MCP result is given around the machine picture (embedded visible camera) with an Easy-to-Understand summary table with all vibration problems and color indications.

VSHOOTER+® measures vibration Trending Overall values (ISO RMS-Bearing-T°), FFT spectrums values and Time Signal values.

VSHOOTER+® is also able to automatically focus on UNBALANCE or MISALIGNMENT severity vibration problems with the unique BALISHOOTER® firmware.

Of course, you can store all the measurement data in the memory to download to PC to create your own reports.



VSHOOTER+® NEWS
N° 1- 06/2022

**WITH TOUCHSCREEN
TECHNOLOGY**

**AUTO VIBRATION
ANALYZER FOR
PREDICTIVE
MAINTENANCE**

**WITH VISIBLE &
THERMAL CAMERAS**

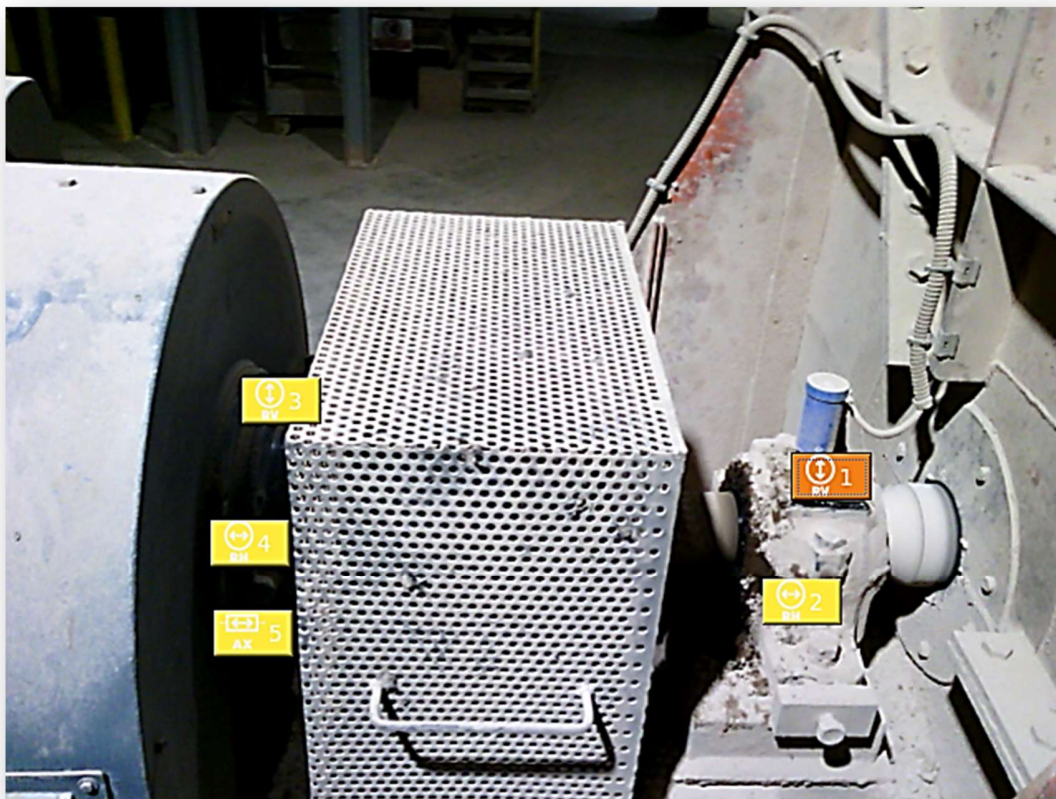
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Cement plant industrial smoke exhaust blower/fan (1480 RPM- 650 kW)



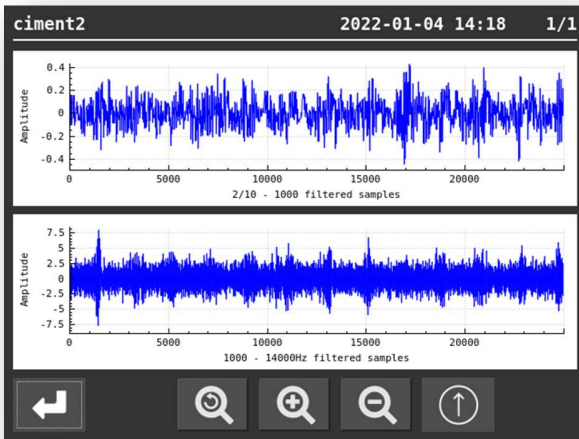
MCP (Machine Condition Picture) with 5x measured points (2xV, 2xH, 1xAX) created from the VSHOOTER+® capacitive touch screen.

Point	mm/s	g	CREST	RPM	°C
1 RV1	1.9	1.3	6.9	1480	--
2 RH2	2.1	0.9	6.6	1480	--
3 RV3	4.4	1.0	7.6	1480	--
4 RH4	3.5	1.0	7.6	1480	--
5 AX5	4.0	1.2	6.5	1480	--

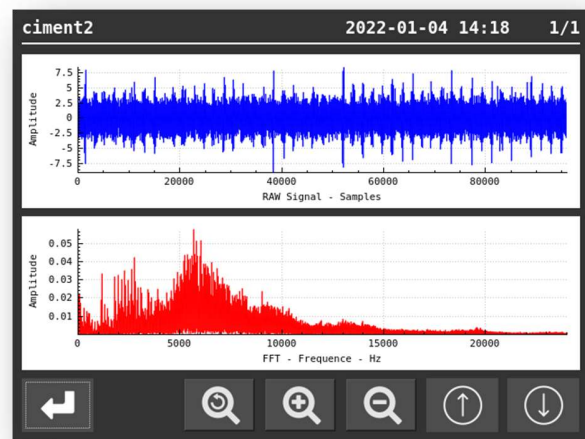
a)

Point	Parameter	Severity	Severity	Severity	Severity	Severity
RV1	G2F-10	Green	Green	Green	Green	Orange
RH2	G2F-10	Green	Green	Green	Green	Green
RV3	G2F-10	Yellow	Green	Green	Green	Green
RH4	G2F-10	Green	Green	Yellow	Yellow	Green
AX5	G2F-10	Green	Green	Green	Yellow	Green

b)



c)



d)

You can see all overall vibration measurements (a) with severity color indications (Green (New) / Yellow (Acceptable) / Orange (Abnormal) / Red (Dangerous)).

mm/s is the ISO 10(2)-1000 Hz velocity vibration measurement (RMS), g is the 1000-14000 Hz acceleration bearing measurement (RMS + CREST (useful for lubrication or shock problem detection)).

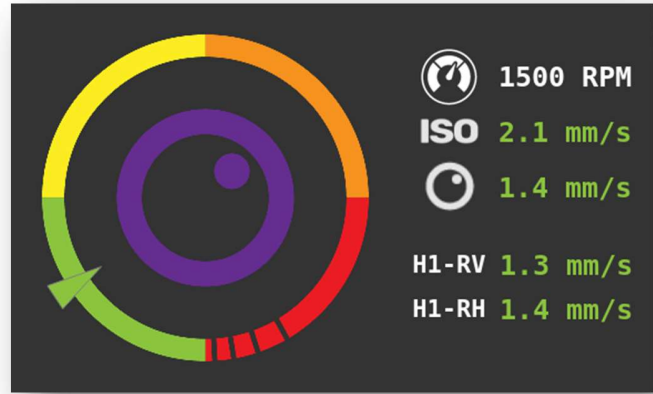
You can see summary table (b) with default problem severities. Here we can see a presence of non-negligible shocks (orange color) in the bearing housing near the fan. It is recommended to follow this bearing to see trending evolution on this shock condition before failure.

For people who have vibration knowledge, they can access to FFT (d) and TIME SIGNAL (c).

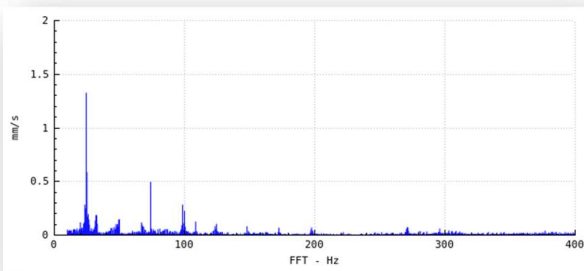
You can measure the machine several times in time, you will then have TRENDING curves.



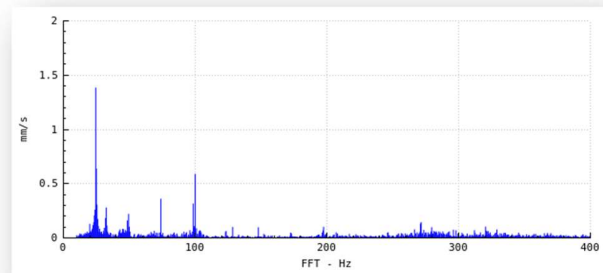
e)



f)



g)



h)

If you only need to check UNBALANCE or MISALIGNMENT severity situation, you should use the new and unique BALISHOOTER® firmware. It will help you to check the situation in a few seconds!

Take a picture of the location you want to measure (e) – Collect both RV and RH measurements – See the UNBALANCE severity result (f) – FFT are also available for details (g) & (h).

Here on this machine, UNBALANCE is OK (GREEN). MISALIGNMENT will add AX measurement.

EASY TO USE – EFFICIENCE – VERSATILE – WITH TRACEABILITY



VSHOOTER+®

AUTO VIBRATION ANALYZER

VSHOOTER®-3-WL

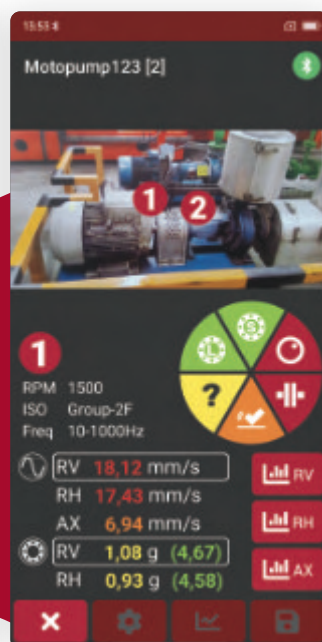
WIRELESS VIBRATION ANALYZER

TRIAxIAL PREDICTIVE MAINTENANCE

- Rugged smartphone (IP68 - MIL STD 810G)
- Li-PO battery with high continuous 12H capacity
- Overall RMS, FFT, TREND (mm/s & g)
- Large memory (64 GB)
- Data transfer to PC via USB-C
- Multimeter & MCP mode (Machine Condition Picture)
- Auto analysis of defaults:
 - Unbalance – Misalignment – Looseness – Bearing Lubrication & Shock
- **2 versions available:**
 - VSHOOTER®-3-WL standard version
 - & VSHOOTER®-3-WL-IR with thermal camera



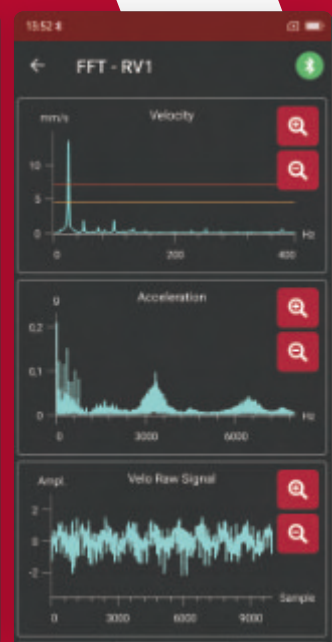
HOME MENU



MCP MODE



MULTIMETER MODE



FFT SPECTRUM

NEW!

A UNIQUE VIBRATION ANALYSIS EXPERIENCE WITH THE VSHOOTER®-3-WL AND ITS **WIRELESS TRIAXIAL SENSOR!**



Bluetooth connectivity

For more security!



Large autonomy

About 2 years!

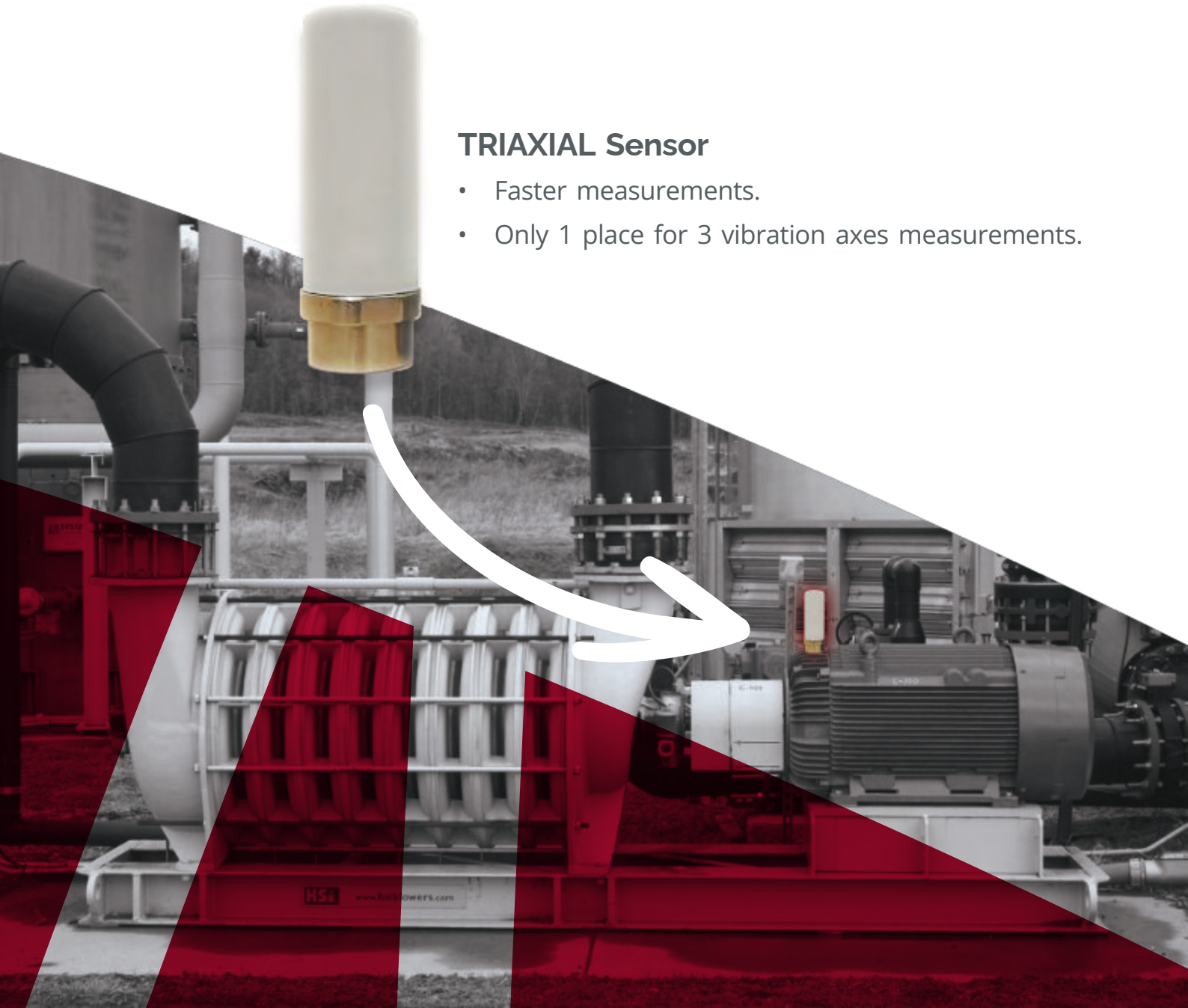


Rugged & Waterproof

For more efficiency!

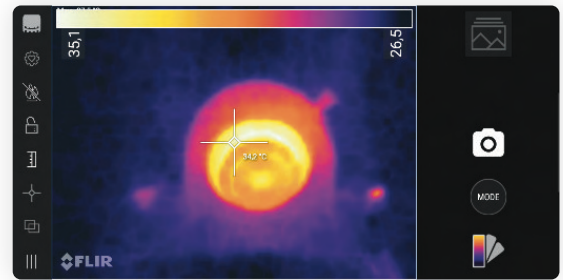
TRIAxIAL Sensor

- Faster measurements.
- Only 1 place for 3 vibration axes measurements.





VSHOOTER®-3-WL-IR has an embedded thermal camera (80x60 pixels FLIR LEPTON) where you can view the hottest and the coldest temperatures of the scene (Automatic) but also a fixed central cursor. Thermal pictures can be saved and reported to PC. Adjustable emissivity.



VSHOOTER®-3-WL SPÉCIFICATIONS TECHNIQUES

Weight 1,5 kg with case - 0,3 kg without case

Size 159x80x18mm smartphone only – 235x180x106mm case only

IP68 for smartphone (MIL STD 810G) - Rechargeable Li-Po battery

Camera Digital 16+8 MP

Thermal Camera FLIR LEPTON 80x60 px & MSX

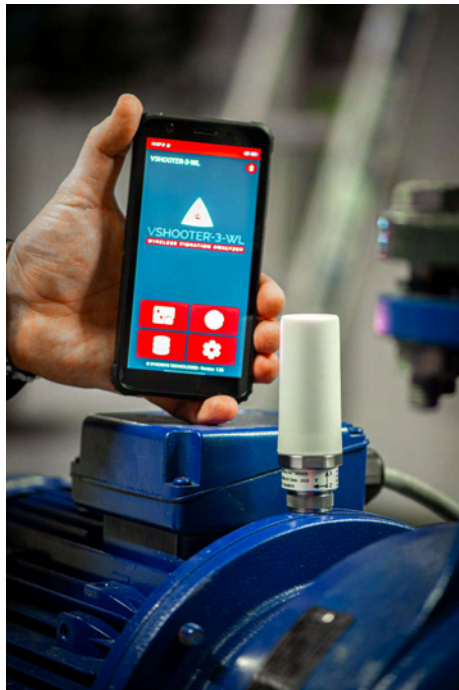
Screen 5,7" 1440x720 px touchscreen

Sensor IP67 Triaxial MEMS Bluetooth® (Li-SOCI2 battery) with magnet

Measurements 10(2) - 1000 Hz ISO10816 RMS in mm/s
1000 – 8000 Hz RMS in g & CREST
2-400 Hz in mm/s & 2-8000 Hz in g FFT spectrum & TIME & TREND

Memory USB-C output for PC reports and data saving

Power Universal USB-C charger



TECHNOTE 1

Automatic vibration analysis of an industrial belt driven fan (Agrofood industry) with the new VSHOOTER-3WL®:



The new unique wireless vibration analyzer VSHOOTER-3-WL® is able to easily and quickly analyze rotating machines like an electrical motor, a pump, a fan, a bearing housing or a spindle.

With its special dedicated MCP (Machine Condition Picture) firmware, VSHOOTER-3-WL® automatically diagnoses the machine excessive vibration causes like Unbalance, Misalignment, Looseness, Bearing lubrication and shock....

The MCP result is given around the machine picture (embedded visible camera) with an easy-to-understand summary table with all vibration problems and color indications.

VSHOOTER-3-WL® measures vibration Trending Overall values (ISO RMS-Bearing), FFT spectrum values and time signal values in 3 axes.

As an option, you can also have an additional embedded Infrared Camera for T° analysis and measurements (VSHOOTER-3-WL-IR® model).

Of course, you can store all the measurement data in the memory to download to PC and create your own reports for your predictive maintenance job.



VSHOOTER-3-WL® NEWS
N°1 - 11/2023

**TRIAxIAL WIRELESS
RUGGED SENSOR**

**AUTO VIBRATION
ANALYZER FOR
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**WITH VISIBLE &
THERMAL CAMERAS**

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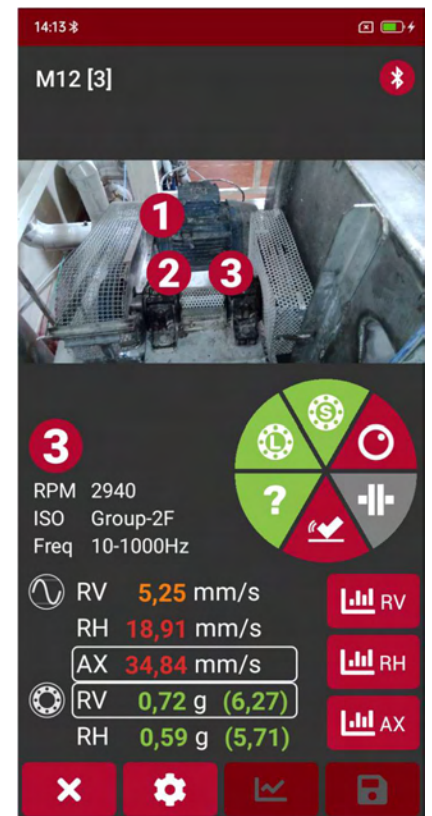
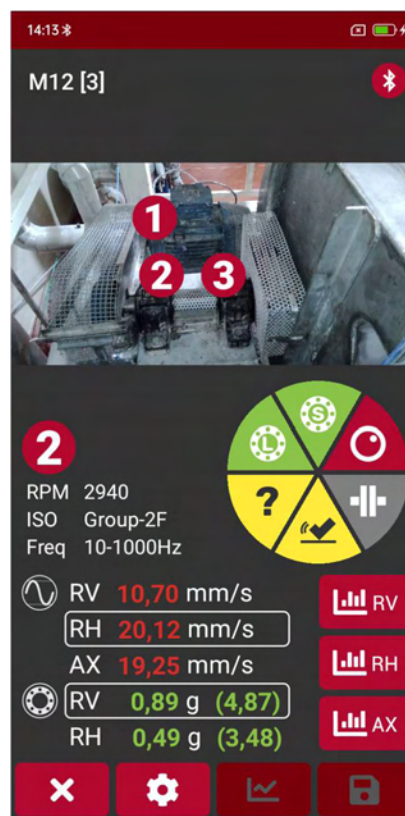
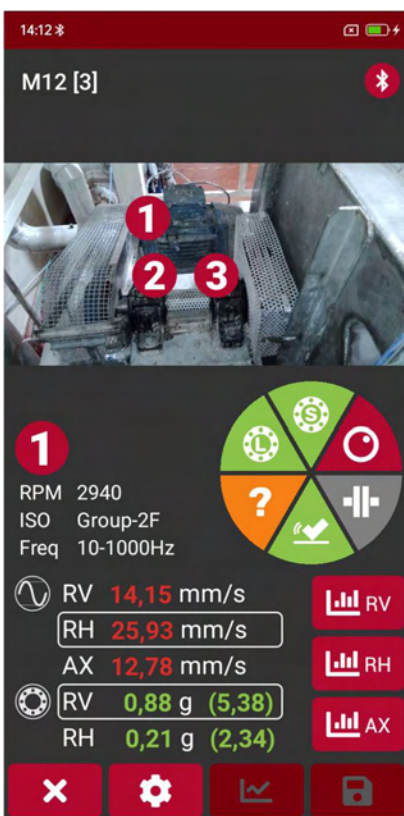
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Detection of a severe **Unbalance and Looseness** on a belt driven centrifugal fan (2940 RPM-speed ratio 1 :1 - 15 kW)



Machine photo before measurements



MCP pictures after measurements (location 1 on motor side, location 2&3 on turbine bearings side)

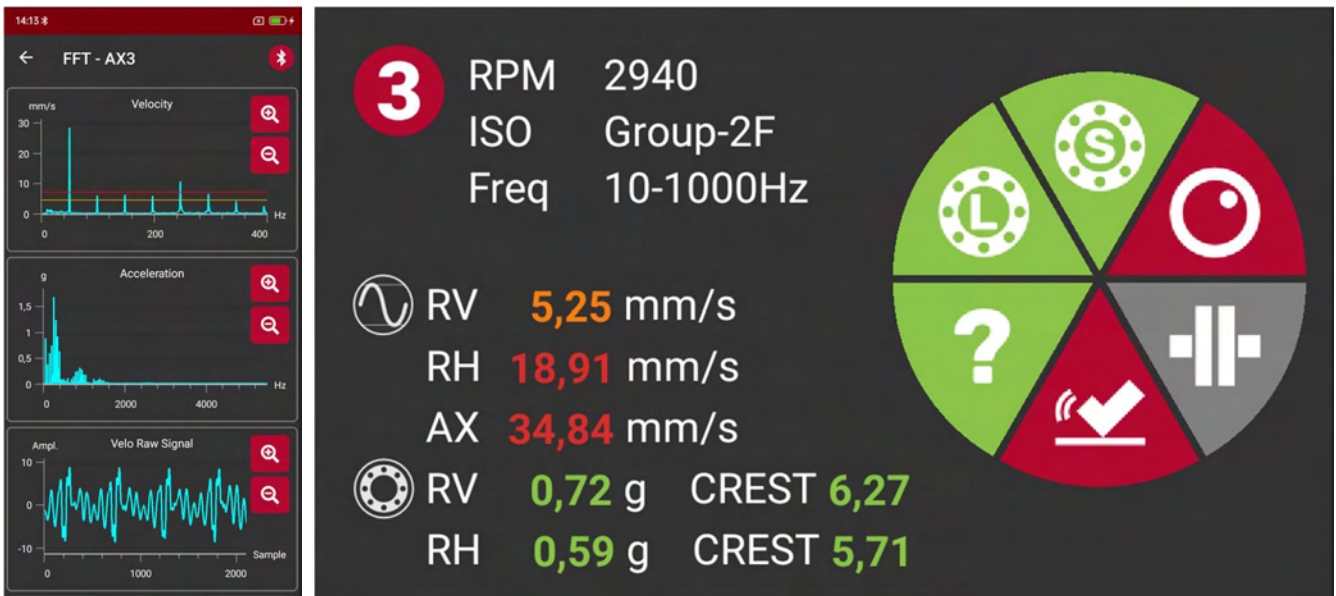
MCP (Machine Condition Picture) with the 3 measured points (motor + bearing housings) has been automatically created on the VSHOOTER-3-WL® rugged industrial smartphone touchscreen.

You can see 3 different pictures (with TRIAXIAL measurement results) with all overall measurements with severity color indications (Green (New) / Yellow (Acceptable) / Orange (Abnormal) / Red (Dangerous)). X&Y for radial and Z for axial.

mm/s is the ISO 10(2)-1000 Hz velocity vibration measurement (RMS), g is the 1000-8000 Hz acceleration bearing measurement (RMS + CREST (useful for lubrication or shock problem detection)). Trending is also possible when you have more than 1 measurement in memory.

You can see summary pie chart with default problem severities. Here we can see a presence of a **severe unbalance and looseness** near the turbine (location 3). Mechanically, this unbalance being at the highest level in the axial direction (AX3) is probably due to a bent shaft/turbine.

If needed, you can access to FFT and TIME SIGNAL (example on location 3- AX3):



EASY TO USE – EFFICIENT – VERSATILE – WITH TRACEABILITY



VSHOOTER®-3-WL
WIRELESS VIBRATION ANALYZER



VSHOOTER+[®]

AUTO VIBRATION ANALYZER



VSHOOTER-3-WL[®]

WIRELESS VIBRATION ANALYZER

SYNERGYS TECHNOLOGIES has been established in 1996 in France, to offer innovative and professional solutions for preventive and predictive maintenance.

SYNERGYS TECHNOLOGIES is the inventor of the ultrasonic visualization concept with the LEAKSHOOTER[®], of the MCP (Machine Condition Picture) concept with the VSHOOTER[®] and of the thermal contour concept with the TSHOOTER[®].

We are present worldwide with professional and trained distributors.



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VSHOOTER[®] une innovation
de SYNERGYS TECHNOLOGIES

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