VIBRATION ANALYSER

ALVIB sistemas

107VF-T2

Vibration, Shock Pulse, Kurtosis Measurement, RPM, Temperature and Noise

VIBRATION ANALYSER 107VF-T2

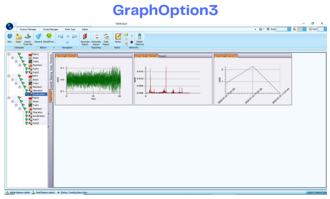
Overview

The 107VF-T2 Vibration Analyzer (Device, Analyzer) is a compact yet powerful, vibration analyzer designed to measure overall vibration parameters, FFT spectrum analysis of the rotating machinery, immediate evaluation against ***ISO 10816 standard,*** balancing of rotating machinery, condition monitoring by route-based measurements and data collection. Route files and data files exchange via email makes it ideal for data collection at remote sites. ***Simple in use, with free firmware upgrades,*** comes with data management and reporting software.

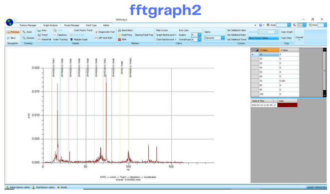
Features

- Possibility to obtain trends of vibration variation with the help of "ConSpect" software.
- Time waveform Analysis.
- Display Peak-peak, RMS, and peak vibration values.
- Non-contact infrared tachometer for measuring the rotational speed.
- Built-in rechargeable battery.
- Fast, easy, and reliable diagnosis of Rolling Element Bearing condition.
- Easy-to-understand condition evaluation in :
- **green-yellow-red scales**
- Precision analysis of oil film condition in the interface between the outer and inner races
- Spectrum Analysis to verify the source of high shock pulse
- Optional- temperature measurement and advanced route management software VibAnalyst.
- Optional- Noise measurement

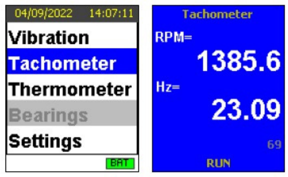
GraphOption3



fftgraph2



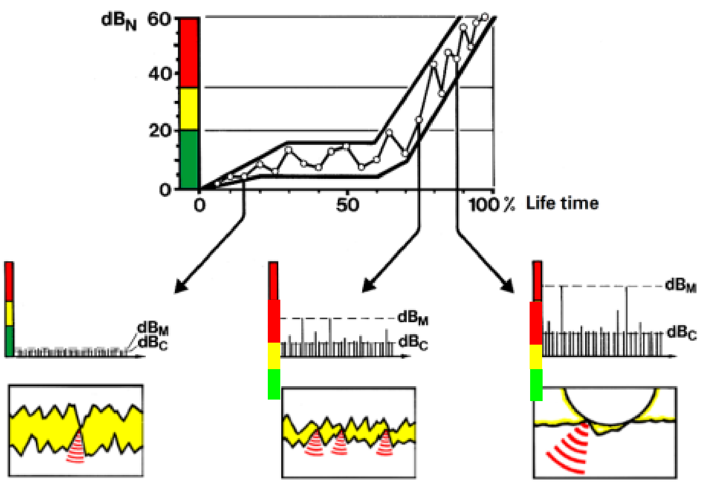
Tachometer (-T versions)



Non-contact optical tachometer, IR thermometer

SHOCK PULSE & KURTOSIS

Distinguishes and measures two characteristic values of the shock pulse amplitude – the carpet value - dBc, and the maximum - dBm values.
Amplitude of the impact acceleration representing maximum values - dBm, relates to Rolling Element Bearing damage, and the value of dBc depends on the state of lubrication which increases with lack of lubrication. Graphical representation in time helps to monitor the health and to predict the condition of Rolling Element Bearings. Measurement results can be stored in the device memory.



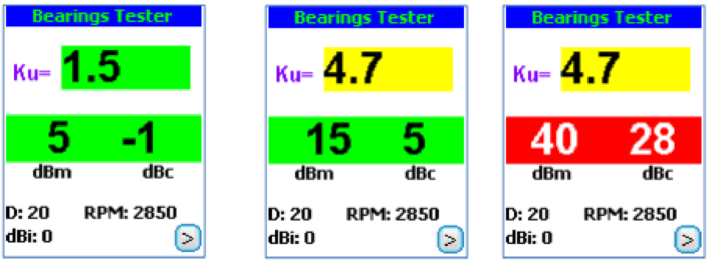
As defects in the Rolling Element Bearing develop, the amplitude of shock pulses increases. Value exceeding the dBi characterizes the damage and is used to assess the condition of the Rolling Element Bearing:

- *0..20 - good condition*
- *20..35 – satisfactory condition*
- *>35.. - Poor condition, risk of failure*

Kurtosis Advantage

The generation of defects leads to a change in the shape of the probability density curve p(x) and, accordingly, to a change in the numerical value of the kurtosis coefficient E. The more developed the defect, the sharper the density curve Following threshold values of the kurtosis coefficient were established:

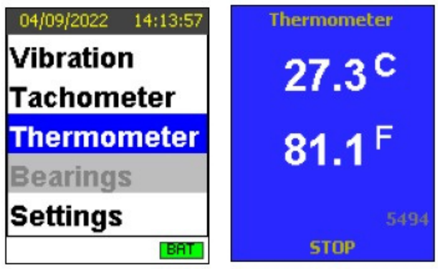
- ***Ku < 3 – corresponds to the good condition of the Rolling Element Bearing;***
- ***Ku > 3 – the Rolling Element Bearing can be operated until the next replacement;***
- ***Ku > 5 – the Rolling Element Bearing is not allowed to be used.***



SPECIFICATIONS

Inputs	IEPE or charge type accelerometers with known sensitivity, switchable. Optical RPM transducer with IR pyrometer sensor		
Supply Voltage, V:	9		
AD conversion	24 bits		
Dynamic range	106 dB		
Frequency range	1...10000 Hz		
Temperature measurements range	-70°C to 380°C		
Tachometer measurements range	10...200,000 rpm		
Vibration measurement range:		Optional	
Acceleration	200 m/s2	Frequency range	30Hz to 20 kHz
Velocity	200 mm/s	Head Set	Steriotype
Displacement	2000 uM		
Accuracy	±5%		
Shock pulse measurement range	99 dBa		
Kurtosis Measurement			
FFT spectrum resolution	400, 800, 1600 lines		
Data storage	4GB micro SD card, built-in		
PC interface	USB		
Display	color, sunlight readable 128x160 dots		
Battery	Li-Po rechargeable, up to 8 hrs continuous operation		
Operating Temperature	0°C to 50°C		
Storage Temperature	-20°C to 60°C		
Operating Humidity	up to 80%-		
Dimensions	132 x 70 x 33 mm		
Weight	150 g		

Thermometer (-T2 version)



STANDARD DELIVERY

The 107VF-T2 kit Standard Accessories:

- 107VF-T2 display unit;
- Accelerometer, Inc. Cable 1.5m, Magnet mount.
- Optical probe, magnetic stand (-T, -T2, -B versions);
- USB wall Charger.
- USB Cable.
- with ConSpect Software and User's Manual;
- Calibration Certificate
- Carry case.

- Vibration Analyser/ Rolling Element Bearing Tester
- battery- LiPo

carry case

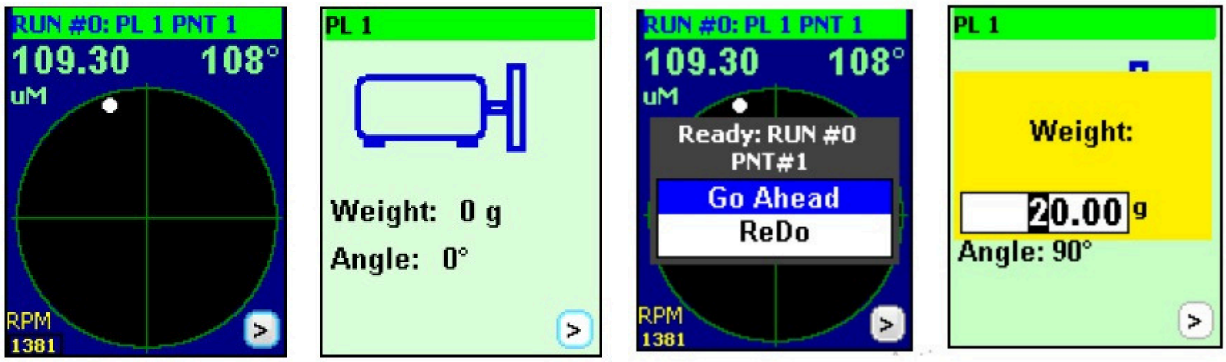
USB charger with cable

OPTIONAL

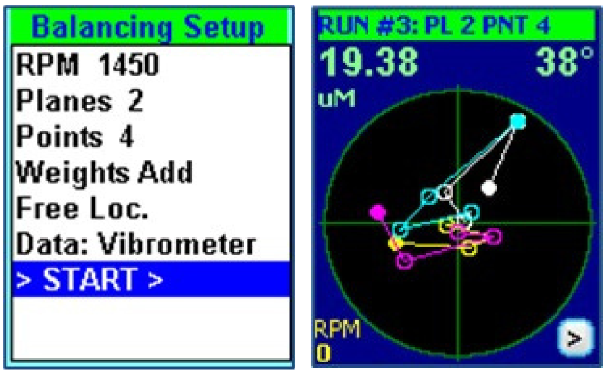
P77 Rolling Element Bearings probe

OPTIONAL FEATURES

in-situ balancing



Balancing overview



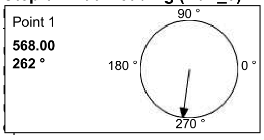
Balancing

Built-in balancing reports

File name	info/OneDrive/Desktop/701 (230307_114634 - Balancing)

Plane	Point	0_Run		Trial_Run		Initial Wght Info		Compens. Value		Influence Coefficients		Theoretical residue		Correction Wghts Info		Run_Final Value	
		Amp.	Deg	Amp.	Deg	Wght	Deg	Amp.	Deg	Amp.	Deg	Amp.	Deg	Wght	Deg	Amp.	Deg
1	1	567.9969	262°	503.6707	258°	5		503.6707	258°	14.6145	108°			34.4639	330°		

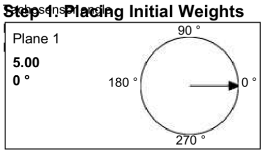
Step 0. Initial reading (Run_0)



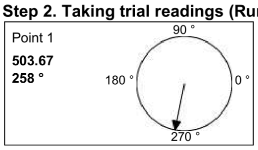
230307_114634 - Balancing
No
M/S^2
1
1
1
0
0
0
07.03.2023 11:46:34

Tachosensor angle

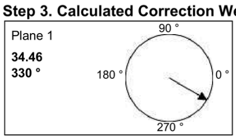
Step 1. Placing Initial Weights



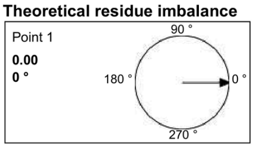
Step 2. Taking trial readings (Run_NN)



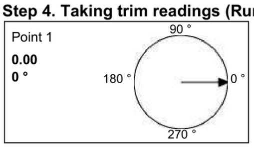
Step 3. Calculated Correction Weights



Theoretical residue imbalance



Step 4. Taking trim readings (Run_Final)



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