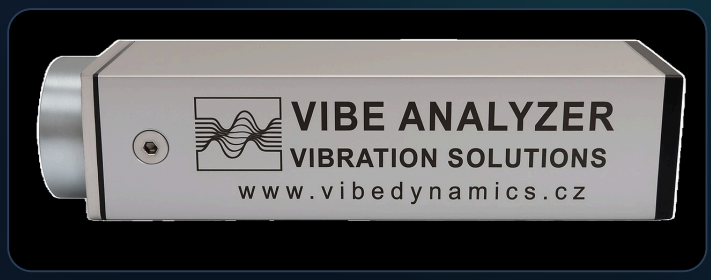
VIBE ANALYZER

Portable vibration analyzer with automatic diagnostics

A portable 24-bit vibration analyzer with automatic fault diagnosis of rotating machinery. The Android and Windows app recognises five fault types on its own, computes fault frequencies from a database of over 30,000 bearings, confirms bearing damage and creates a report per ISO 20816.



±100 g	2 Hz–12 kHz	31.2 kSPS	USB-C
RANGE · 24-BIT A/D	FREQUENCY BAND	SAMPLING RATE	27 KG MAGNET · 120 G

TECHNICAL PARAMETERS

Hardware

Sensor	MEMS accelerometer
Measuring range	±100 g
A/D converter	24 bit
Frequency band	2 Hz – 12 kHz
Sampling rate	31.2 kSPS
FFT resolution	0.125 – 1 Hz
Measurement time	1 – 8 s
Magnet pull	27 kg
Weight	120 g
Interface	USB-C · no batteries
Platforms	Android · Windows
Warranty	24 months

DIAGNOSTICS

Detected faults

- **Rotor imbalance**
- **Coupling misalignment**
- **Mechanical looseness**
- **Bearing damage (BPFO / BPFI / BSF / FTF)**
- **Motor electrical fault**

Measurement & analysis

- **FFT spectrum and time signal**
- **Envelope spectrum (gE) for bearings**
- **Run-up / coast-down**
- **Bump test (natural frequency)**
- **On-site rotor balancing**

STANDARDS & DATABASE

ISO 20816-3 · ISO 14694 · ISO 21940 · 30,000+ bearing database (SKF, FAG, NSK…)

Diagnosis without a vibration specialist

The result (Normal / Warning / Alarm) and the VIBE AI report are clear even without a trained analyst. Full spectra and tools are available for advanced users.

Remote evaluation within 24 h

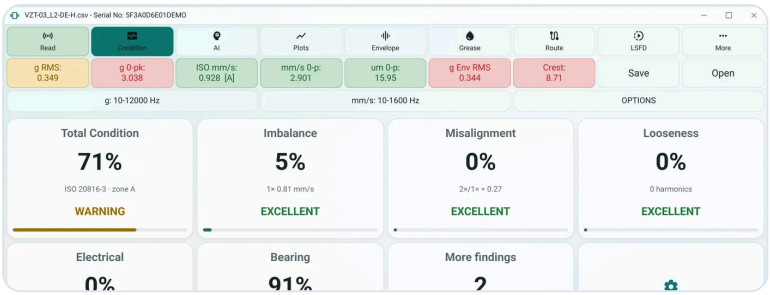
For unclear cases, upload the recording and our analyst confirms the fault type within 24 hours. Ten evaluations are included with every device.

KEY FUNCTIONS

What the app does



Measuring on a bearing housing: magnet, USB-C, phone or PC.



Machine condition in the app: scores of the five diagnostic models.

01

Automatic fault detection (VIBE AI)

The algorithms analyse the measured spectra and automatically detect five fault types — imbalance, misalignment, mechanical looseness, bearing damage and motor electrical faults. Each fault is given a confidence score and the machine is classified as Normal / Warning / Alarm. Even a technician without vibration-analysis training understands the result.

02

VIBE AI report

Every measurement produces a professional PDF report: machine and bearing identification, severity per ISO 20816-3 / 14694, diagnostic-model scores, a bearing frequency-match table (BPFO / BPFI / BSF / FTF), wear phase and a specific recommendation with a deadline. Generated instantly after the measurement, with no extra software.

03

Smart route

Identify measurement points with the built-in QR-code scanner or by tapping an NFC tag. Assign a specific bearing and both custom and standard limits to each point. The RMS/Peak trend is recorded automatically and shown in a graph; the cascade FFT waterfall reveals how vibration develops over time. Share data between devices (export/import, FTP).

04

Dynamic balancing (VIBE BALANCER)

Balance the rotor in place, without disassembly. The app guides you through the measurement step by step, performs the calculations and delivers a ready correction-weight proposal — single- or two-plane. When finished, it instantly generates a PDF protocol with polar diagrams and a residual-imbalance check per ISO 21940.

05

Complete machine report

Measures every defined point of a machine and creates a single report — the status of each point per ISO 20816 (zone A–D), RMS velocity, acceleration and gE envelope trends, statistical indicators and an estimated time-to-alarm for every point.

06

Route report

A one-page summary of the whole plant: number of machines, points and readings, the split into zones A / B / C / D, priority actions, a status map and a ranking of worsening trends with estimated time-to-alarm (ETA). Optionally a detailed version with charts for each point.

ANYONE UNDERSTANDS THE RESULT · INSTANTLY

Normal
Vibration within normal limits, the machine runs safely.

Warning
Elevated vibration; detailed analysis and a planned intervention are advised.

Alarm
High vibration, unsafe operation, immediate action required.

Envelope analysis (gE) — save hundreds of thousands

The gE indicator reveals wear of bearing raceways long before it shows up in the machine's overall running, preventing catastrophic failures and costly unplanned downtime.

Condition trend under control

The trend is recorded into the route and shown in a graph for easy assessment. The cascade FFT chart also gives a spatial visualisation of how the vibration evolves over time.

OPERATIONAL FUNCTIONS

For everyday operation

Bump test (natural frequency)
A tap on the stopped machine reveals hidden structural resonances and shows whether the structure itself amplifies the vibration.

Run-up and coast-down
Analysing the machine's behaviour during start-up and shutdown safely identifies critical speeds with dangerous resonances.

Lubrication module
Monitors the vibration signal in real time and helps determine the correct lubrication of a bearing — preventing bearings ruined by incorrect lubrication.

API integration (ERP / CMMS)
A built-in HTTP server exposes data in JSON for seamless integration with enterprise ERP and CMMS systems.

No batteries
The device needs no charging — power and data both run over USB-C straight from a phone (Android) or PC (Windows).

Czech product, CZ/EN
Developed and made in the Czech Republic. Full Czech and English localisation, firmware updates directly through the app. The app works offline; your data never leaves your plant.

Remote evaluation included
Upload recordings with a single click to the VibeDynamics server or your own FTP and our analyst advises remotely. Each new analyzer includes 10 data evaluations.

Training and service
Two hours of operator training are part of every package. We also offer complete machine service — from bearing replacement to balancing. We are not an accredited centre for ISO 18436-2 personnel certification.

LICENSING (PRICES EXCL. VAT)

Editions

VIBE ANALYZER

CZK 99,000 excl. VAT

`12 × CZK 8,250 a month, no surcharge`

Automatic fault detection, VIBE AI report, ISO evaluation, FFT, time signal and envelope spectrum, 30,000+ bearing database (SKF, FAG, NSK…), BPFO/BPFI/BSF/FTF, QR/NFC route, FFT waterfall, lubrication module, bump test, API.

VIBE BALANCER

CZK 139,000 excl. VAT

`12 × CZK 11,600 a month, no surcharge`

Everything in VIBE ANALYZER + dynamic on-site balancing, single- and two-plane, polar diagrams and residual-imbalance check per ISO 21940, run-up/coast-down, PDF balancing protocol.

The hardware is identical in both editions; only the app feature scope differs, and you can move up to balancing by paying the difference. Instalments come directly from us — no leasing company and no credit checks; the instrument remains our property until the final instalment is paid. A quarterly option is available (4 × CZK 24,750 or 4 × CZK 34,750). Remote evaluation beyond the 10 included: CZK 1,900/month. 3-month pilot: CZK 25,000, credited towards the purchase. Initial on-site measurement: CZK 9,000.

SALES

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TECHNICAL

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Try the app online without the instrument: machinerycondition.com/demo