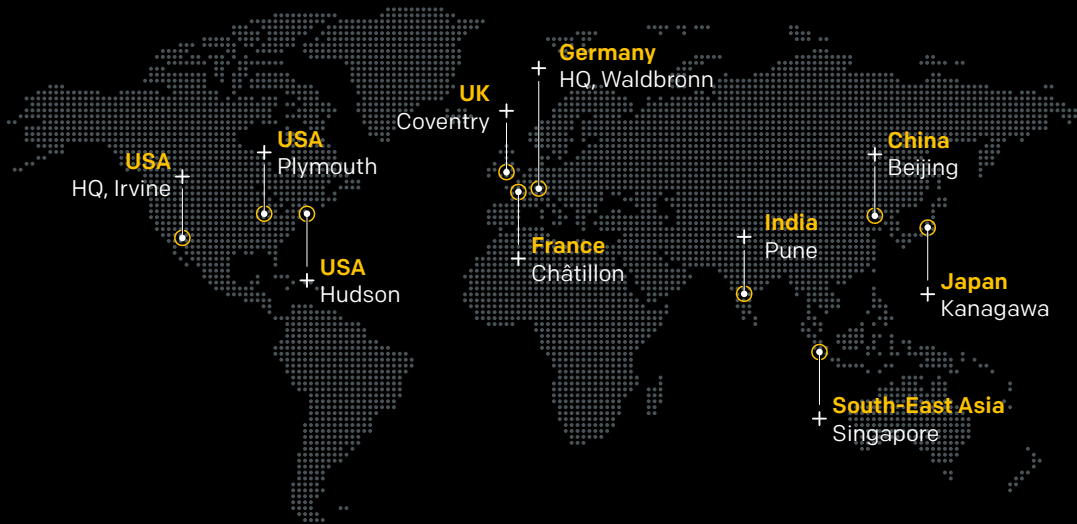




measure what matters. worldwide.

Find your Polytec representative:
www.polytec.com/contact

Polytec GmbH · Germany · Polytec-Platz 1-7 · 76337 Waldbronn
52223/2026/07 - Technical specifications are subject to change without notice.

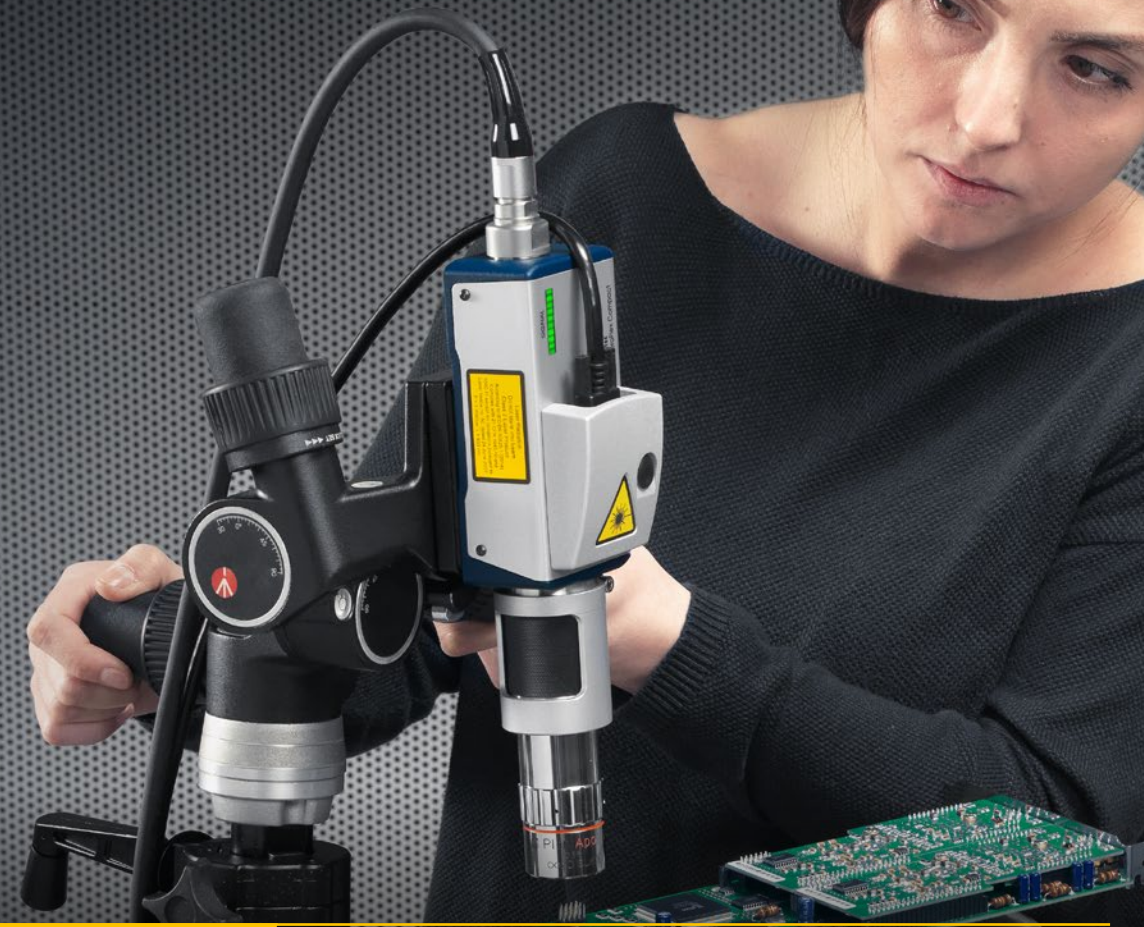


VibroOne+ //

One-box solution for laser
vibration analysis



Non-contact vibration measurement for compact setups //



VibroOne+ is the compact vibration sensor solution specifically designed for tightly packed setups, whether in research laboratories, challenging production environments or for non-contact analysis of tiny details on micro-structures or biomedical probes.

The Polytec VibroOne+ laser Doppler vibrometer is the one-box solution for non-contact vibration measurement. With VibroOne+, you analyze acoustic, dynamic and vibration behavior in both R&D and industrial quality control with laser precision.

As a non-contact alternative to contact transducers, VibroOne+ avoids mass loading while providing a micron-sized laser spot, simple operation, long stand-off distances and interferometric accuracy. Building on a proven platform,

VibroOne+ adds a reference channel input and a signal generator output at the front-end for extended measurement setups, as well as Trigger In and Sync Out for straightforward synchronization with external equipment. PTP synchronization (IEEE 1588) enables precise digital timing across multiple sensors in distributed test setups.

// < 1.5 μm
laser spot size

Highlights //

- | | |
|---|---|
| + One-box laser Doppler vibrometer ready to measure instantly | + Measure from DC to 3 MHz with the highest time resolution |
| + Non-contact measurement of vibration, acoustics and dynamics | + Reference channel & signal generator for transfer function measurements |
| + Synchronous output of displacement, velocity and acceleration | + PTP synchronization (IEEE 1588) for precise multi-sensor setups |
| + Trigger In & Sync Out for easy measurement synchronization | + VibroLink digital interface for convenient data transfer via Ethernet or Wi-Fi (TCP/IP) |

All-in-one & ready to measure //

PTP Synchronization (IEEE 1588)

Precisely synchronizes multiple sensors digitally using Precision Time Protocol

Trigger In & Sync Out Easy synchronization features

3X Simultaneous analog vibrometer outputs

Velocity, displacement, acceleration

HD+ HD+ Video Camera

Precise target alignment and visual documentation – optional integrated camera for enhanced positioning



VibroOne+
The complete single-point solution //

// VibSoft Software
unlocks the full
power of VibroOne+

Integrated Signal Generator

Direct sample excitation for complete FRF measurements

Reference Channel

Simultaneous data acquisition from different devices – no extra hardware needed

VibroLink Digital Interface

Control and data transfer via Ethernet or Wi-Fi

Complete measurement in a single unit //

LARGE BANDWIDTH AND HIGH PRECISION



The VibroOne+ measures velocities up to 12 m/s at frequencies up to 3 MHz. Selectable velocity ranges, high signal-to-noise ratio, and linear response ensure reliable, repeatable results. Optional displacement and acceleration outputs are available.

SYNCHRONIZATION



PTP synchronization (IEEE 1588 – Precision Time Protocol) enables precise digital time synchronization across multiple sensors. Trigger In and Sync Out connectors provide straightforward hardware-level synchronization for multi-device configurations.



CONNECTIVITY



Settings configurable via touch screen or remote control. VibroLink transfers measurement data digitally to VibSoft via Ethernet; Wi-Fi enables even more flexible network integration. A reference channel input and signal generator output on the front-end support complex measurement setups.

COMPACT SENSOR HEAD



The IP40-rated sensor head fits directly into test stands without special handling. The adjustable working distance ranges from approx. 200 mm to infinity, and an optional integrated camera supports 100% quality testing of noise, vibration, and material properties.



VibSoft software unlocks the full power of VibroOne+ //

VibSoft enables effortless use of all VibroOne+ capabilities, combining powerful data acquisition with comprehensive analysis in a single, seamlessly integrated software environment.

// Want to automate your test setup?

Polytec Device Communication
enables direct real-time integration via TCP/IP



Highlights //

Ready in minutes

Connect your VibroOne+ via Ethernet or Wi-Fi and start measuring immediately.

+

Complete FRF measurements without extra hardware

Control the integrated VibroOne+ signal generator and acquire the reference signal in phase using VibSoft. One system. Complete results.

+

From measurement to report

Analyze, document and export your results without switching tools. Live video, powerful post-processing and open data formats are all included.

+

Automate repetitive tests

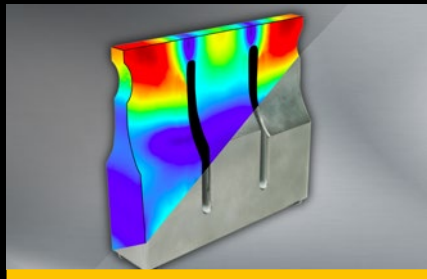
Automate test routines with the scripting engine and connect seamlessly to MATLAB, Python or LabVIEW. Ideal for production and R&D environments.

Applications //



Hard disk drive testing

- Models available up to 3 MHz frequency bandwidth
- High resolution of $0.0015 \mu\text{m s}^{-1}/\sqrt{\text{Hz}}$
- High spatial resolution with a microscope objective and HD+ video camera



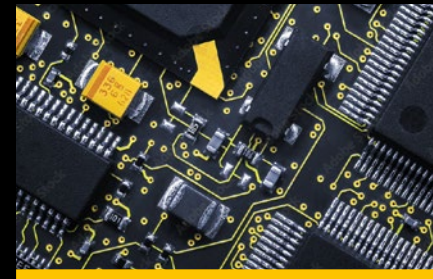
Quality assurance & production testing

- Very compact sensor with optional HD+ video camera
- High optical sensitivity for challenging production environments
- Variable stand-off distance and full remote control
- Precise class 2 laser with electronic laser shutter



Printers, inkjet, ultrasonic actuators, MEMS

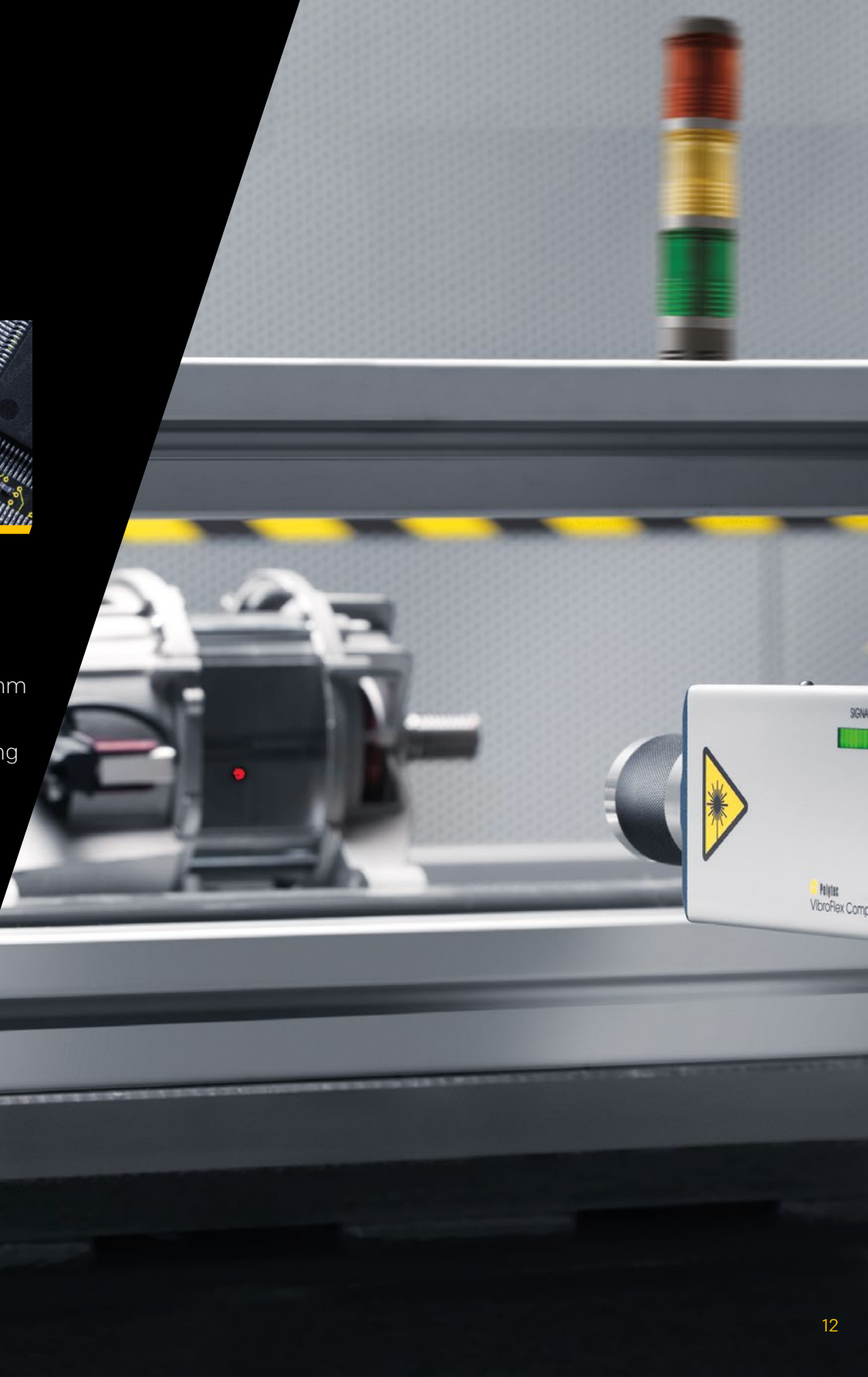
- Frequency bandwidth up to 3 MHz
- $\pm 12 \text{ m/s}$ maximum velocity
- Microscope objective for a $1.5 \mu\text{m}$ spot diameter
- Bright LED illumination unit



Wirebonding

- Very compact sensor
- Output signal resolving displacements down to 10 nm (peak) with sub-picometer resolution, ideal for capturing the smallest wire-bonding movements.

Designed for a wide range of applications, this compact vibration sensor system offers a broad selection of accessories for your individual measurement tasks.



Accessories that expand applications //

SCIENCE AND RESEARCH

VibroOne and its compact sensor head serve as an expandable tool for the lab to help push your science to new limits. It extracts vibration data from the smallest features with pm resolution and can be augmented with coaxial illumination and microscope lenses.



Magnification

Microscope lenses for small or intricate structures



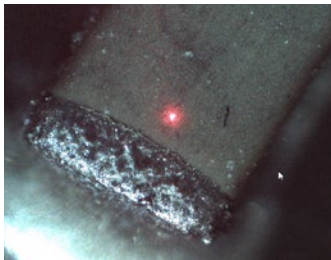
Illumination

Coaxial illumination for crisp images and best contrast



Positioning

Quickly fine-tune the laser beam with μm precision



Documentation

Easy laser positioning and test documentation with integrated HD+ camera and adjustable contrast filter

QUALITY ASSURANCE

Our most compact laser Doppler vibrometer sensor features a miniaturized interferometer that delivers reliable measurements, even in noisy production environments. A broad range of protective and beam-directing accessories enables flexible integration into test machines while helping to keep end-of-line testing life-cycle costs low.



Direction

Guide the laser to the right spot in confined spaces of testing machines



Protection

Protective windows against dust and oil spray

PolyFlex – precise metrology with lower investment risk //

When measurement matters and budgets are tight



PolyFlex is the smart choice if you...

- need to expand without capital expenditure.
- want financial flexibility and faster approvals (OpEx over CapEx).
- require metrology for short-term or project-based needs.
- operate with a limited budget or face uncertain forecasts.

Ideal for companies looking to quickly expand capacity, win new projects, or keep their measurement processes agile and adaptable.



PolyMeasure //

Our on-demand measurement services

Leverage our infrastructure and expertise.
We perform the measurement for you.

When timing and expertise matter most.



PolyRent //

Your temporary access to measurement equipment

Rent the equipment you need for a defined period. **For short-term needs without long-term commitments.**



PolyLease //

Long-term technology leasing

Lease the equipment over a defined period with a residual value option.

Reliable access with predictable costs.

LET'S TALK

Talk to a PolyXpert and take the smarter path to measurement success in vibrometry, velocimetry, surface metrology or acoustics.

Measure what matters — with full flexibility and no investment barriers.



polytec.com/polyflex