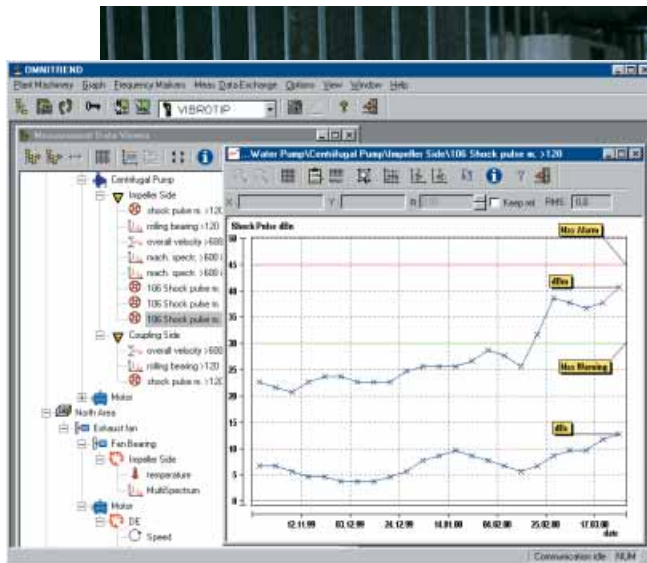PRÜFTECHNIK

VIBROTIP®

Machine condition trending data collector

VIBCODE®
compatible

Five most-wanted measurements and a data collector in one!

Modern industrial practices, particularly those of lean maintenance, demand autonomous decisions based upon hard facts such as vibration readings, rpm and temperature measurements. But who can afford to acquire and carry around a whole collection of hand-held instruments, each designed for its own particular type of measurement? VIBROTIP® offers a rational approach to measuring, displaying and storing five of the most vital indications of rotating equipment condition. Imagine measuring vibration level, bearing condition, cavitation, rotation speed and temperature with only one instrument!

All transducers are already built into the instrument, with no cumbersome cables or fragile plugs.

VIBROTIP® is an ideal data collector, too: it transfers the whole day's measurements to your personal computer for long-term storage, analysis and graphic representation.

RPM sensor
Non-contact contrast sensor measures RPM from distances up to 1 m (39")

RS-232C Interface
For sending measurements to PC and receiving measurement path programs from PC

For connection of external vibration probes

For connection of external temperature probes

Top view

Temperature probe
Flexible stalk flips out of the way when not in use, maintains proper probe contact regardless of application angle. Also measures temperature of fluids. External temperature probes can also be connected.

Rear view

This rugged instrument features a tough, rubberized housing designed to take the rigors of daily maintenance work in its stride. All operating elements are robust and easily withstand the unavoidable shocks, splashes and dirt that come with the territory. Intrinsic safety or mining safety is also available upon request.

Tandem-Piezo® dual function accelerometer
Revolutionary design is ideal for both bearing measurement and general vibration readings; contoured tip minimizes contact resonance.

LCD display
Clear symbols and large, easy-to-read digits show measurement results at a glance.

VIBROTIP® housing
Extremely robust housing withstands shocks, chemicals, water spray and dirt (IP 65).

Actual size

5 Measurements

Vibration severity

Bearing condition

Temperature

RPM

Pump cavitation

● Design Zentrum
Nordrhein Westfalen
Design Innovations
Award for High Design Quality

Accessories: VIBCODE®
Automatic measurement point identification

"*I am* **point no. 0186:** *please check my vibration level and bearing condition*"

VIBCODE® is the world's first intelligent system to encode the measurement stud with location number and measurement type. A special patented probe locks onto the stud, ensuring excellent signal transmission and repeatability. It also allows VIBROTIP® to recognize each location and to take the appropriate measurement(s) fully automatically. By allowing any operator to collect accurate data, this enhances trending reliability and eliminates repeat measurements due to mixups.

The VIBCODE® concept
VIBCODE® obtains all the measurement location information from the red code ring (shown on the left) placed in the measurement stud: it is encoded by breaking off specific teeth to form the required code. The transducer fulfills two functions: First, it deciphers the code ring and then retrieves the required machine signals. The combination of measurement studs and transducer guarantees reliable machine evaluation by ensuring that measurements are always taken in the same location, in the same direction and with the same amount of pressure.

- **No measurement location confusion**

- **Optimum signal transmission**

- **More than 8000 unique codings**

- **A single transducer for decoding and measurement**

# Accessories: OMNITREND® PC software for reliable data evaluation and storage

Let the OMNITREND® software save you valuable time in evaluating VIBROTIP® measurement data! The program is extremely easy to operate and supervises your machine park, instantly calling your attention to critical changes in the machine condition. Regularly recurring measurement rounds can be easily compiled and transmitted by data cable to the VIBROTIP®.

With a simple click, the recorded machine data are displayed as clear trend plots that can be evaluated with a range of practical tools (zoom, alarm preview ...). Simply press a key to obtain the information on paper to compile a full report that complies with the documentation requirements of ISO.

OMNITREND® can be expanded for use with other measurement systems from PRÜFTECHNIK AG like VIBSCANNER®, VIBROCORD® or VIBRONET® Signalmaster.
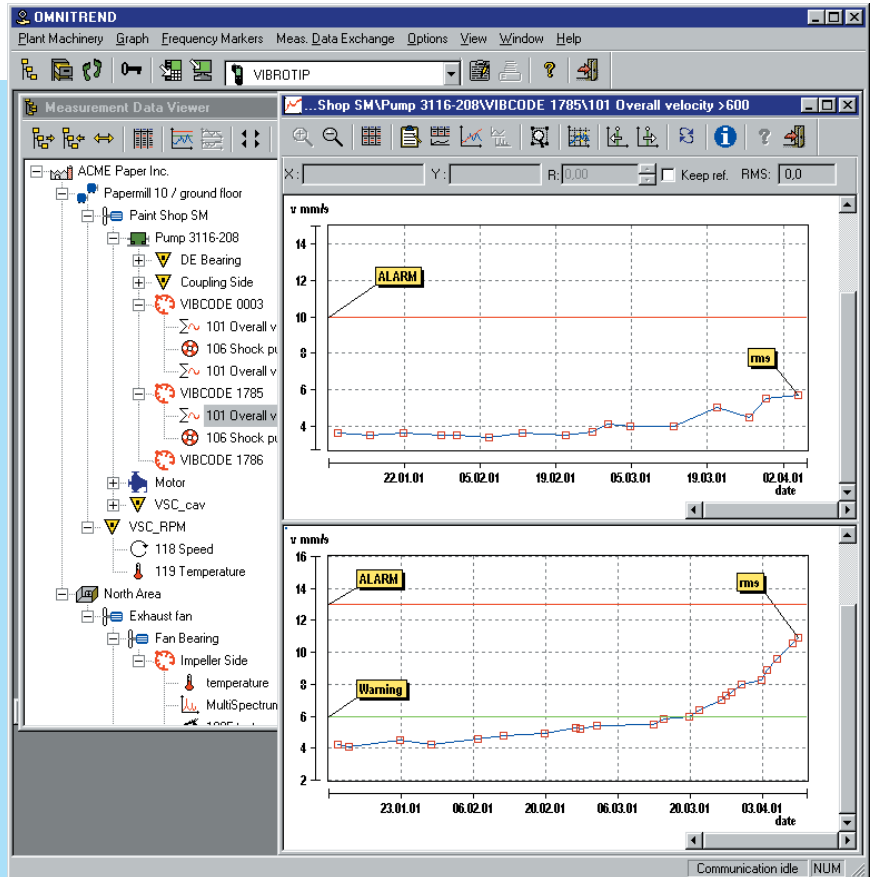
- **Comfortable operation**
- **Clear trend diagrams**
- **Intuitive route editor**
- **Multi-instrument software**
- **ISO-conform documentation**

Alarm preview

OMNITREND® even lets you look into the future. The preview function extrapolates the trend curve, and predicts when a limit may be exceeded. This allows you to respond promptly and take suitable preventative measures.
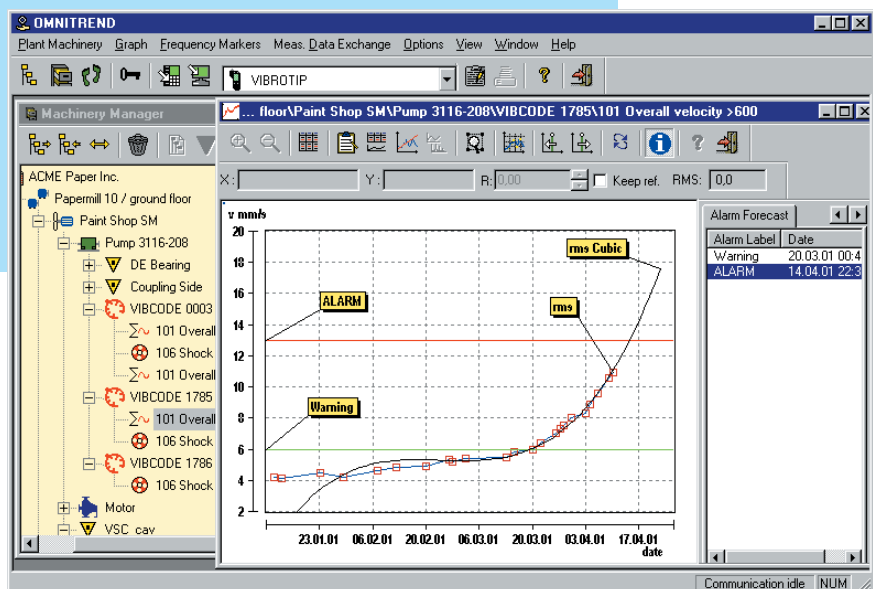
Condition Monitoring à la carte
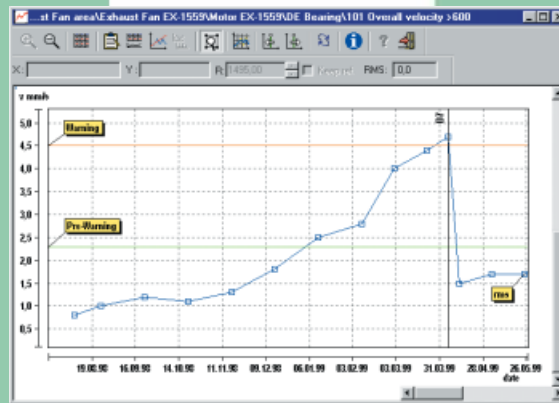
Level 1

Level 1

Level 2

VIBROTIP®
Data collector
VIBROTIP® is an ideal level-1 data collector for recording the most important machine parameters. All the required transducers are integrated in the instrument.
- 1 analog measurement channel
- Built-in transducers for vibration, RPM & temperature
- Route
- Segment display
- Simple 3-key operation
- Battery operation

VIBSCANNER®
Universal data collector and machine analyzer
As a level-1 data collector, VIBSCANNER® can be used for all measurement variables and inspection tasks. Optionally, it can be updated to a level-2 analyzer.
- 1 analog measurement channel
- 1 digital trigger input
- Built-in transducers for vibration, RPM & temperature
- Visual inspection (e.g. 'Check oil level!')
- Adaptive route (condition-based route)
- FFT analysis (optional)
- Machine scan (graphical route guidance)
- Balancing (optional)
- Illuminated pixel display
- Joystick operation
- Battery/mains operation

Clever strategy:

Level 1 = Detection
Level 2 = Diagnosis

To monitor the condition of the machine, it is usually sufficient to use a simple data collector to record the characteristic parameters ('Level 1'). If one of these characteristic parameters changes appreciably, the cause must be investigated and an in-depth diagnosis is required. The machine analyzer now comes into its own ('Level 2'). In contrast to the data collector, this requires a skilled operator. This dual strategy of machine monitoring results in the efficient use of existing resources and provides all vital information concerning the machine park.

OMNITREND®
The common software platform for all systems
OMNITREND® is the common PC platform for all level 1/level 2 instruments. It automatically adapts its functionality to the active instrument and, thus, enables the optimum preparation and evaluation of the machine data.

VIBXPERT®
2-channell FFT data collector and machine analyzer
As a combined level 1 – level 2 instrument, VIBXPERT® is ideal for condition monitoring and diagnosis on machines crucial to production.
- 2 true synchronous channels (for almost all sensor types)
- 1 digital trigger input
- Analysis functions (e.g. tracking, orbit, phase)
- Adaptive route (condition-based route)
- FFT analysis with characteristic machine frequencies
- Machine scan (graphical route guidance)
- Time waveform
- Balancing (1/2 planes)
- Large backlit pixel display
- Joystick operation
- Battery/mains operation

Technical data

Vibration severity

	Sensor built in; external Tandem-Piezo® sensor available
Measurement units	mm/s, in/s (selectable) RMS or peak-to-peak or 0-to-peak
Frequency range	10 Hz - 1 kHz
Measurement range	0 - 50 mm/s / 0 - 2 in./s RMS Max. value depends on sensor type and signalfrequency
Resolution	0.1 mm/s, 0.01 in./s
Accuracy	±5% (DIN 45666)

Bearing diagnosis

	Sensor built in; external Tandem-Piezo® sensor available
Measurement units	dB_{SV}, dB_N, carpet value, maximum value
Range	-9 - 80 dB_{SV}
Resolution	1 dB_{SV}

Cavitation

	Sensor built in; external Tandem-Piezo® sensor available
Measurement units	dB_C
Range	-9 - 80 dB_C
Resolution	1 dB_C

Temperature

	Sensor built in; external & replacement probes available
Accuracy	±3%
Measurement units	°C, °F (selectable)
Measurement range	
Internal probe	-30° - 270° C (-22° - 518° F)
External probe (NiCrNi)	-30° - 500° C (-22° - 932° F)

Tachometer

	Sensor built in
Measurement units	rpm
Resolution	1 rpm
Range	60 - 30,000 rpm
Max. distance	1 m (39")

Data collector

Capacity	Over 1000 points without trending software (or 400 per function), including time and date for each point
Measurement rounds	Up to 1000 programmable meas. locations

General characteristics

Interface	RS-232C (9600 Baud)
Battery operation	1x IEC 6LR61 (9V)
Lithium	20 hrs.
Alkaline	10 hrs.
Rechargeable	3 hrs.
Display	LCD (5 x 10 mm digits)
Hold function	yes
Intrinsic safety	EEx ib IIC T4 (optional)
Coal mining safety	EEx ib I (optional)
Protection	IP 65 (waterproof and dustproof) Chemical protection
Operating temperature range	0° - 60° C (32° - 140° F)
Automatic shutoff	yes
Shock resistance	2 m (6 ft.) drop test
Dimensions	see illustration
Weight incl. battery	300 g (10 oz.)

81 mm
3 3/16"

32 mm
1 3/16"

180 mm
7 1/8"

2.2

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VIBROTIP

PRÜFTECHNIK

Practical accessories

A wide range of useful accessories simplifies working with the VIBROTIP®. You can download the current product catalog from the Internet under www.pruftechnik.com.

Productive maintenance technology