

VIBROWEB® XP

Machine diagnostic monitoring that pays

VIBROWEB® XP is a compact monitoring and diagnostic system which was specially developed for production-critical or process-critical special machines:



Extruders – Process ventilators – Special drives – Remote pumping stations – Emergency power supplies (UPS)

VIBROWEB® XP runs through the programmed measurement tasks autonomously – even without a PC connection. As an intelligent diagnostic robot, it detects different operating states of a system and independently adapts the recording and evaluation of the measured data to these states.



Ten good reasons for VIBROWEB® XP

Operating-state-dependent measurement and alarms

Machine diagnostics are supported by smart measurement functions

Variable operating conditions – such as changes in load & RPM – are under control due to fast measurement channel switchover

Also suitable for machines with low RPM

Compact, simple installation – ideal for individual aggregates

Connection for LineDrive or ICP® accelerometers

Automatic alarm notification by eMail, SMS, Fax.

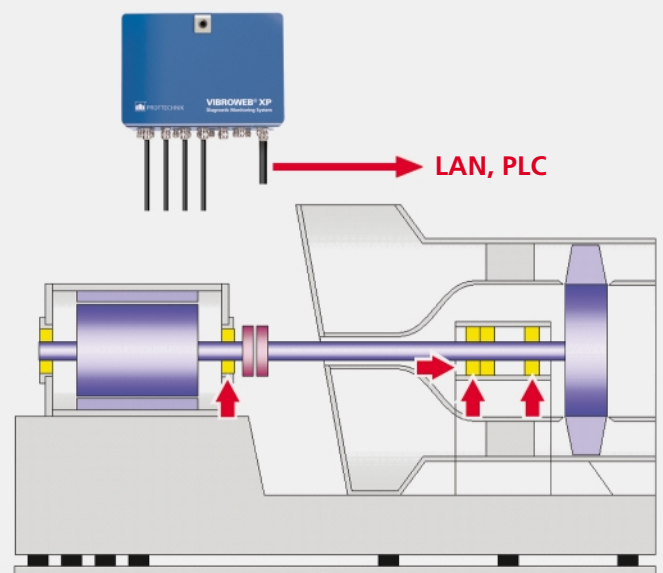
Autonomous in operation - measurement, evaluation, saving, alarm notification without a PC connection

Sending of measurement data, remote access and remote control via Ethernet, modem or radio – ideal for service staff

User-friendly data evaluation and measurement settings with OMNITREND® PC software

Mounting directly on the aggregate

- Connection for**
- 8 x accelerometers
 - 3 x process data (0/4-20 mA)
 - 2 x displacement probe
 - 1 x RPM
 - 1 x trigger



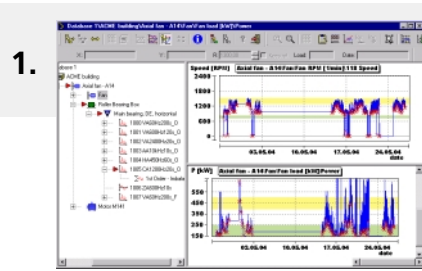
Diagnostic monitoring for different operating states

VIBROWEB® XP has special diagnostic processes which allow the simpler analysis and display of complex damage trends. These processes are based on the narrow band monitoring of characteristic frequencies in a spectrum. By recording the corresponding amplitude trend, the condition of the affected machine components can be tracked when the machine is operating under constant operating conditions. If the machine experiences differing operating states, however, these overlap in the trend and prevent any reliable statement on the development of the condition.

VIBROWEB® XP measures and issues alarms according to the operating states.

The graphics show the advantages of 'diagnostic monitoring' using the example of an axial fan with pitch control.

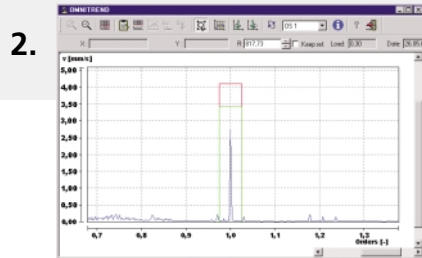
In comparison to the broadband characteristic value trend which depicts the overall condition of an aggregate, the narrow band amplitude trend permits more targeted monitoring of individual machine components.



1.

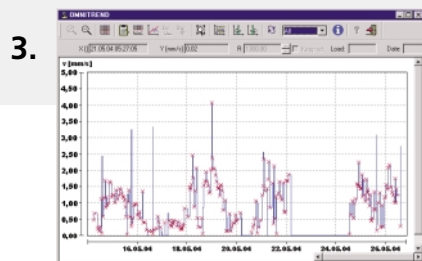
Definition of the operating states

- Operating state 1:**
Speed: 700 - 800 rpm
Load: 150 - 250 kW
- Operating state 2:**
Speed: 1300 - 1500 rpm
Load: 400 - 500 kW



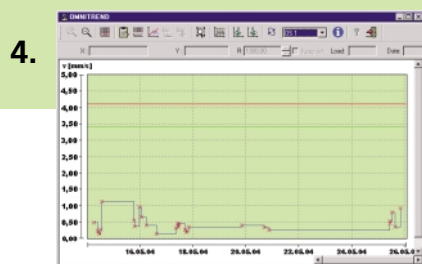
2.

The amplitude of the 1st order (imbalance) is recorded in a narrow band frequency range and is monitored for alarms.



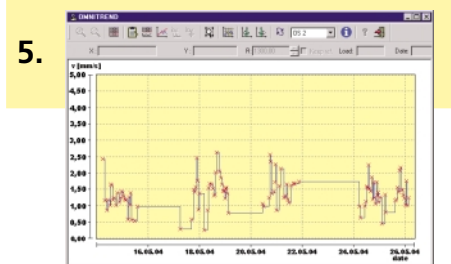
3.

The amplitude trend derived from figure 2 without consideration of the operating states: The high amount of fluctuation makes clear interpretation of the measured value impossible.



4.

Amplitude trend for operating state 1:
Low fluctuations – low load on machine components.



5.

Amplitude trend for operating state 2:
Higher fluctuations indicate higher loading in this operating state.

VIBROWEB® XP – technical data

Analog inputs

2x4 inputs for LineDrive (ICP optional) accelerometers (2 of them synchronous) each with four programmable frequency ranges:
0.1 Hz to 10 Hz / 10 Hz to 10 kHz
10 Hz to 48 kHz / 0.1 Hz to 48 kHz

2x1 input for inductive displacement sensors (2 of them synchronous); AC/DC coupling

3x1 input for 0/4...20 mA signals

RPM / Counter input

1x counter input for inductive pulse sensor or pulse signal (5V to 30V)

Key phasor input

1x key phasor for inductive pulse sensor or pulse signal (5V to 30V)

Measurement range, analog input

±10 V, ±1 V, ±100 mV, ±10 mV

Dynamic Range / Resolution

96 dB / 16 bit

Accuracy, analog input

0,05% of full scale

Sampling rate, analog inputs

153,6 / 76,8 / 38,4 / 19,2 / 9,6 kHz

Frequency range

48 kHz to 48 Hz sub-divided into 11 areas

Antialiasing

Dynamic adaptation

Frequency resolution

400, 800, 1600, 3200, 6400, 12800 lines

Envelope

Digital input filter, selectable

Digital inputs / Digital outputs

2 / 1

FET switch output

12 V DC, 1A, switchable

System OK relais

change-over contact

Measurement functions

Time waveform, spectrum (amplitude, envelope), integration of the spectrum, order analysis, cepstrum

RAM / Flash memory capacity

32 MB / 32 MB

Ethernet interface

1, data rate: 10 Mbit

RS 232 interface

2, data rate: 38,4 kbit

Power supply

90-260 VAC / 50-60 Hz

Dimensions (LxWxH)

approx. 300 x 240 x 135 mm /
approx. 11.8 x 9.5 x 5.3 inch

Total weight

approx. 4 kg / 8.8 lb.



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Productive maintenance technology