

GfM Gesellschaft für Maschinendiagnose mbH

Machine diagnosis report

Customer: ###
Meas. engineer, date, time: ###, ###, ###
Measuring system: PeakStore
Turbine operator: ###
Turbine supplier, type, SN: ###, ###, ###
Bearing supplier, type, SN: A: ###, ###, ###
B: ###, ###, ###
C: ###, ###, ###
Kinematics data source: delivered with order
Wind speed in m/s: ###
Consultant GfM: ###
GfM no.: ###
Number of pages: 4

Berlin, ###

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Please find details of the measuring method and of the shortcuts on our homepage www.maschinendiagnose.com/diagnostic-report or please ask for information in written.

The given statements in the report are based on a time slot of the vibration signal according to the measuring time. Consequently are detectable irregularities which according to the construction and the mode of operation causes untypical vibrations. Irregularities at the toothing are only detectable at enough distribution of forces. The detection bearing irregularities works, if these have a local character and are passed forceful enough by the rolling elements.

For the detected irregularities are made recommendations only on the basis of the vibration signal and if possible a failure probability is stated. For the exact quantification of irregularities have to be executed further test method.

Conclusion:

The vibration signals are showing indications for damages or damaging influences which could disturb the operation of the drive. The indications in the following table diagnosis results have to be considered.

Diagnosis result:

no.		found irregularities	trend	recommendation	$P_{\tau < 1a}$
Rotor:					
15	Blade bearing A	-			
16	Blade bearing B	-			
17	Blade bearing C	Outer ring blade bearing (fig. 3)		Test of grease	20 %

trend - comparison to the last report, see reference report

↑ - intensity of irregularities increased

→ - intensity of irregularities almost unchanged

↓ - intensity of irregularities decreased

n.p. - comparison not possible, because e.g. the measurement conditions were different

$P_{\tau < 1a}$ - estimated probability, that the by the vibration diagnosis assumed irregularity will lead to a failure within the next 12 months

< 5 % - a minimal irregularity is detectable, no need for action

20 % - one of five of such irregularities will lead to a failure within one year

50 % - one of two of such irregularities will lead to a failure within one year

Spectra:

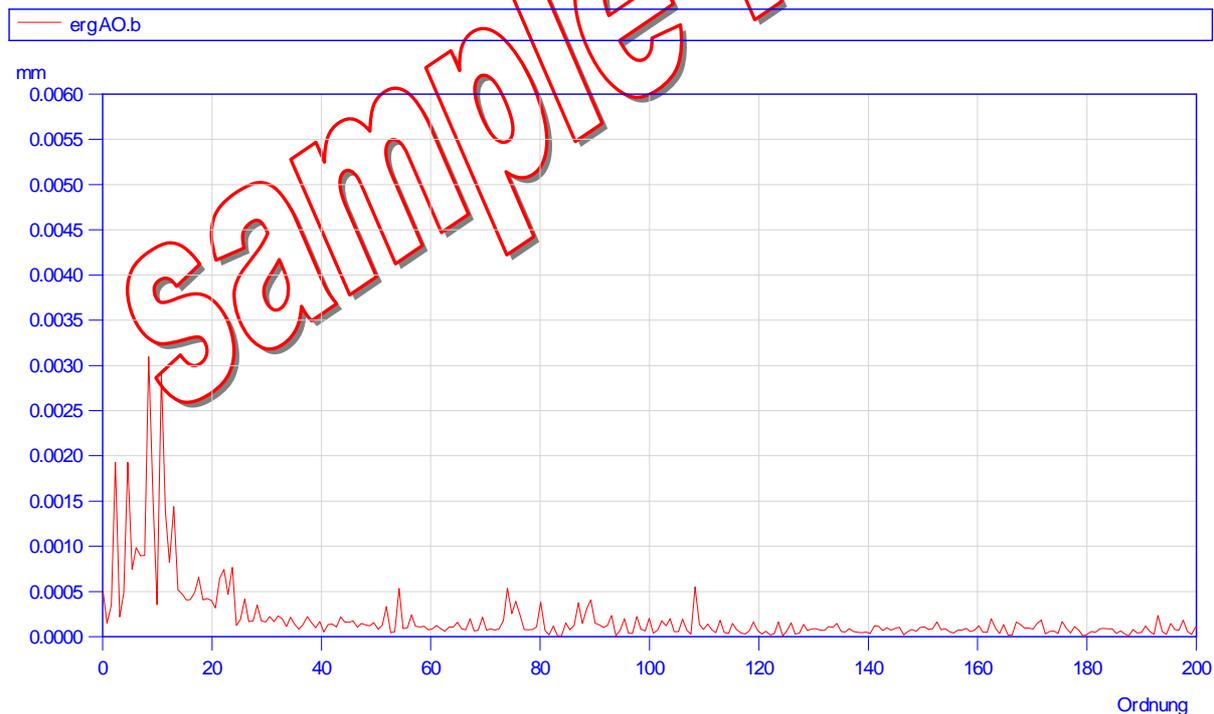
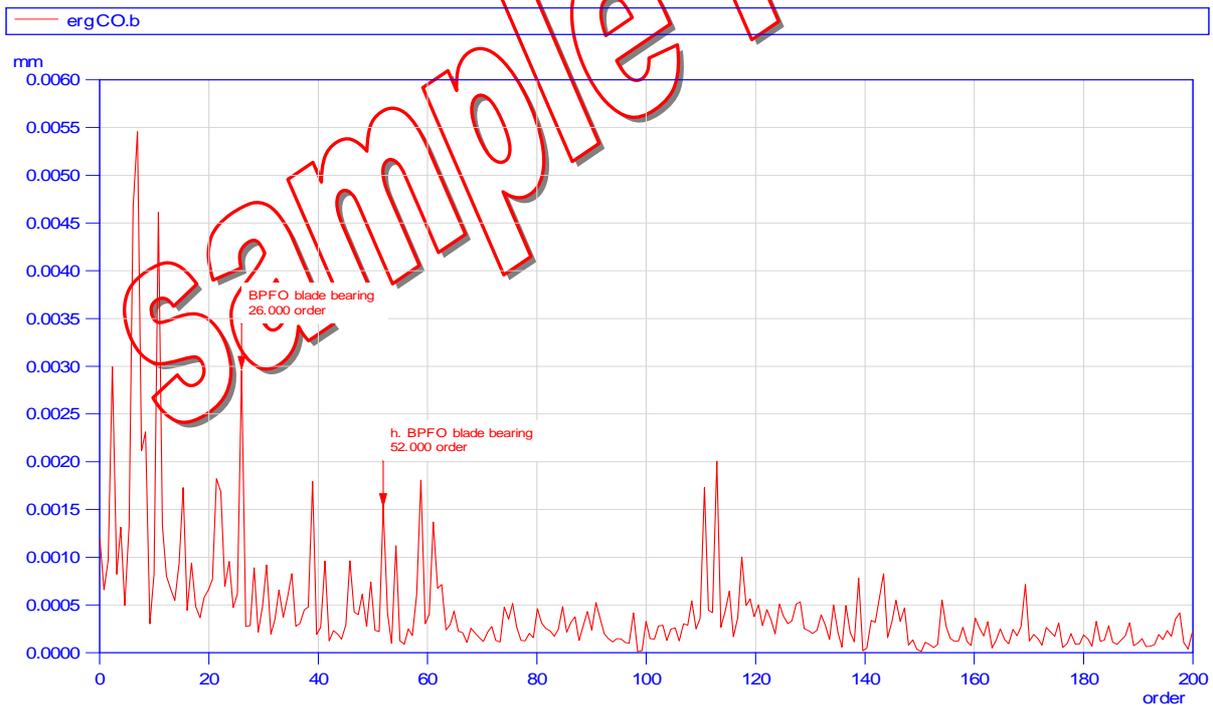
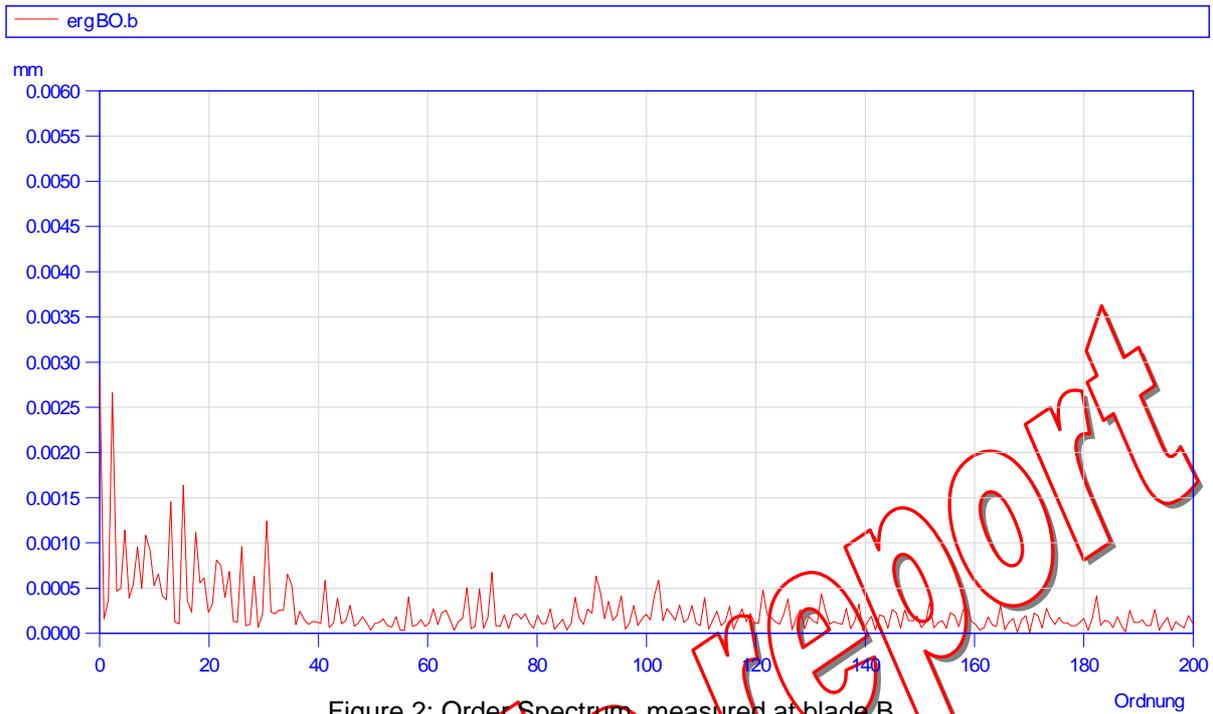


Figure 1: Order Spectrum, measured at blade A



Kinematics:

Table 1: Kinematics (theoretic) in order

(In this sample report, unfortunately, we have to renounce the representation of the kinematic table for reasons of secrecy.)