



APPLICATION

Online Condition Monitoring of marine gears



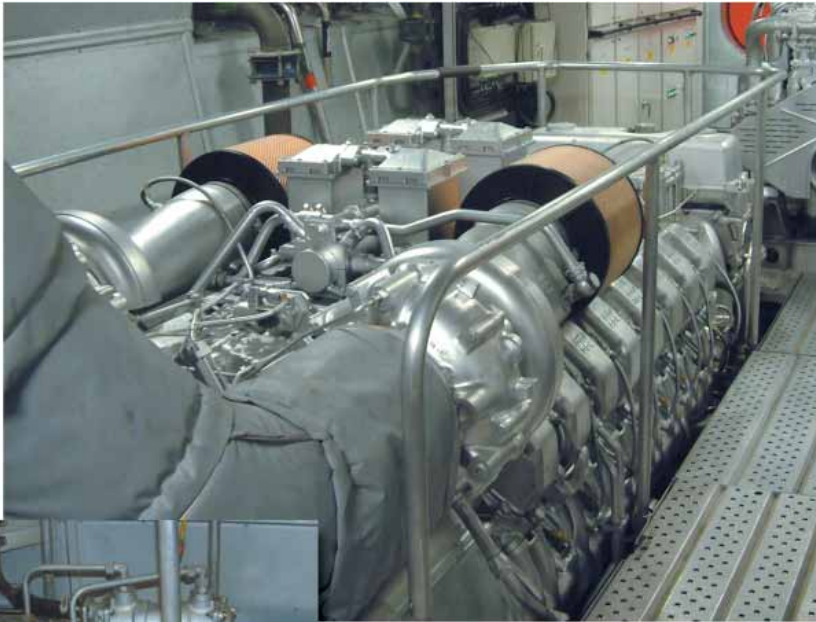
Increased system availability

Predictive maintenance

Service programs with remote monitoring

- Innovative solutions for**
- production
 - quality assurance
 - commissioning
 - process assurance
 - increased availability
 - service programs

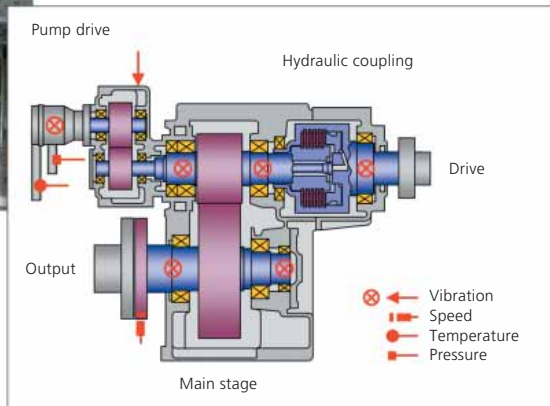
Increasing marine gear availability



High performance jet drive of a modern high-speed catamaran with...



... single-stage spur gear
- drive power $P = 2320\text{kW}$
- gear ratio $i = 2.58:1$



Marine gears

Marine drives must meet stringent demands for availability. A key role is played by the gear box, which as the link between the prime mover and the propeller is subjected to particularly high mechanical loads. In addition to improving gear design, manufacturing methods and quality management, reliability can also be increased through the steady flow of information on the gear condition – information that can then be used for scheduling machine service. In contrast to unplanned machine failure, this results in cost savings and briefer laytimes due to the precise planning of service activities and the timely provision of spare parts.

Innovative service program: Condition Monitoring via eMail or Internet – worldwide

The VIBROWEB® XP Condition Monitoring System collects characteristic values and diagnosis signals for condition monitoring purposes. When limit values are exceeded, the operator and service partners are immediately informed by an eMail alert. On the basis of the automatically measured diagnosis signals, well-founded recommendations can be made to the operator on how to proceed.



A service program for worldwide deployment

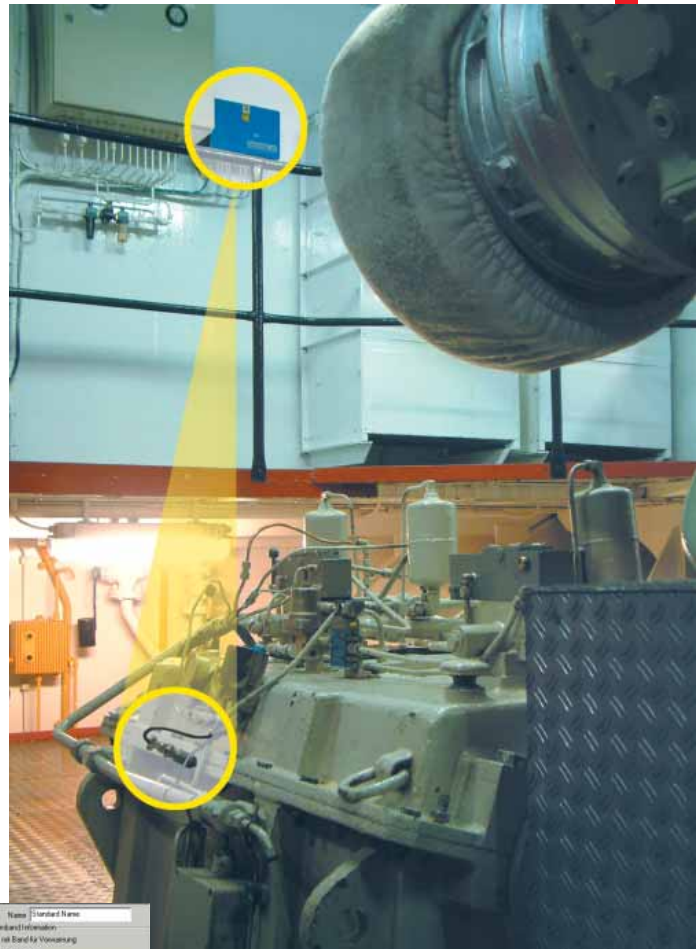
VIBROWEB® XP
Online Monitoring
System

Reliable monitoring with the VIBROWEB® XP Online Monitoring System

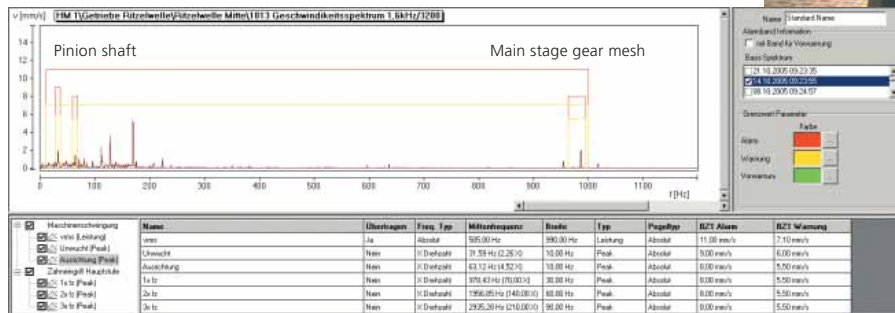
Condition Monitoring of the

- drive and output shafts
- main stage
- roller bearings
- oil pump drive

is accomplished through the frequency-selective monitoring of specific machine and roller bearing vibrations in conjunction with operating parameters such as engine speed, oil pressure and oil temperature. The condition information is transmitted to the shipowner or service partner, either automatically by eMail or on a removable storage medium. Alarm conditions are immediately signaled to the bridge.

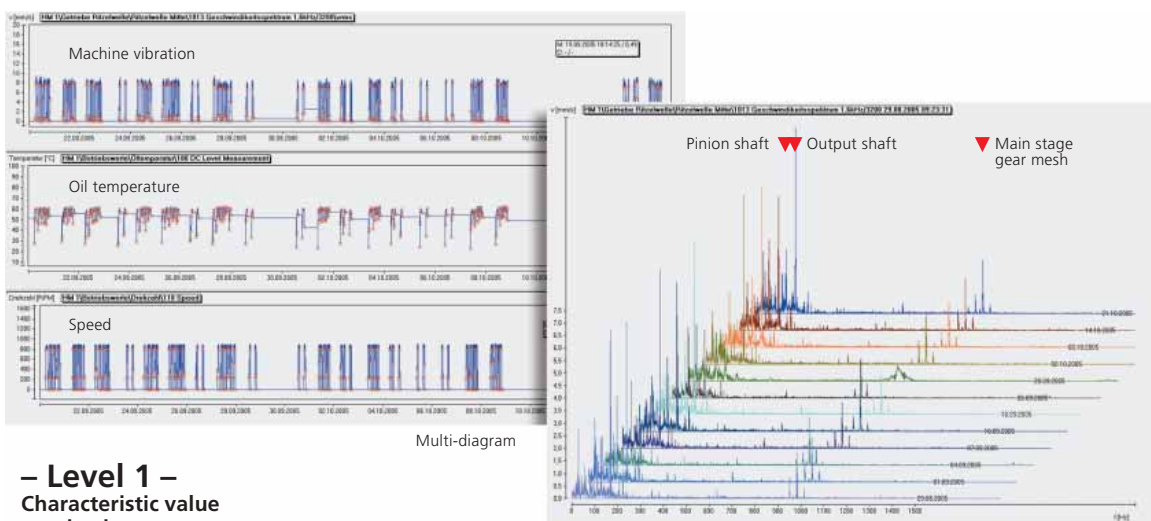


Vibration sensor
Pinion shaft bearing



Vibration spectrum
Frequency-selective monitoring
with three alarm bands

OMNITREND® Diagnosis Software



Multi-diagram

– Level 1 – Characteristic value monitoring

The characteristic vibration values are tracked along with the operating parameters. A rising trend can be analyzed to give a prognosis of how the machine condition will develop in the future. An alarm is issued if a limit value is exceeded.

– Level 2 – In-depth diagnosis

The causes for machine condition deterioration are identified using in-depth diagnosis functions. This enables condition-related and cost-optimized planning of maintenance procedures.

Waterfall diagram



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proven measurement systems –
and from the **extensive experience**
of our **worldwide PRÜFTECHNIK**

Machinery Service! ▶



Online + offline machine monitoring and diagnosis



Troubleshooting – Videoscopy, torque measurement



Measuring roller parallelism



Training, consulting and engineering



**Mobile measurements
Diagnosis + troubleshooting service**



Temporary and telediagnosis service

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