



Product Sheet

Compass 6000™ - Diagnostic Monitoring Software Introduction & Benefits

The “**Diagnostic Monitoring Software**”, type 3160-02, is a signal analysis tool with powerful, easy-to-use functions that assist the user to quickly and accurately detect, diagnose and interpret machine damage in the event of a fault or damage. This enables the operator to quickly identify the source of the damage and initiate a corrective response that reduces downtime and maintenance costs and boosts machine availability.

Benefits of Diagnostic Monitoring

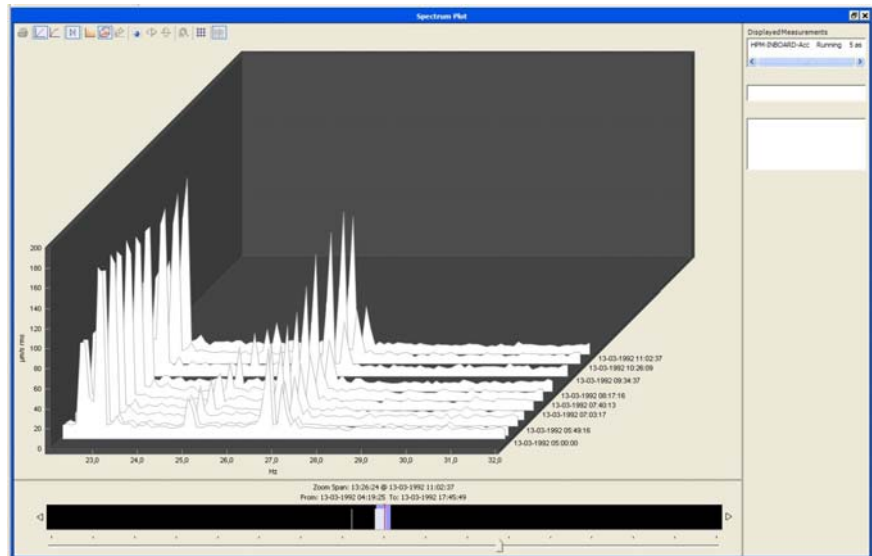
At the onset of a potential failure mode, the “**Diagnostic Monitoring Software**” accurately diagnoses faults and provides information to plan maintenance action to suit production schedules. Repair time and cost is minimised, only damaged parts need replacing, only necessary spares need to be ordered and machine uptime is resumed faster.

Compass Monitoring System

Compass 6000™ - the new generation of monitoring software is built on COMPASS’ proven monitoring methods. The “Trend Monitoring Software” provides the basic platform for the **Diagnostic Monitoring Software**.

Diagnosis Software Application Packages

An increasing number of ready-to-use machine-specific software application packages are available for monitoring specific machine types. Only the filters, alarm limits, adaptive configuration and communication interfacing need to be set up. This allows you to implement and benefit from



diagnostic monitoring with a minimum of preparation work, delay and resources.

Diagnostic Monitoring Techniques

Diagnostic tools, e.g. autospectrum (FFT), envelope analysis (SED), vectors, etc. are provided to help identify different potential failure modes. The spectrum alarm functions provide fast detection and identification of specific machine faults. Use the software’s analysis expertise instead of the diagnostic technician’s valuable time to quickly diagnose faults.

Adaptive Monitoring

The unrivalled COMPASS adaptive monitoring strategy automatically changes the monitoring strategy according to different machine (operating) states.

Profile Monitoring

Profile monitoring automatically monitors scalar values (e.g. overalls or vectors) vs. RPM, and allows an alarm envelope to be set around a parameter’s “normal” run-up profile. This simplifies detection of even small changes in machine behaviour, e.g. caused by changes in bearing parameters or rotor and machine properties

like unbalance, cracks, resonance, changes in stiffness, etc.

Triggered Measurements

Used for machines that are monitored only at a specific point during a cycle, e.g. in rod-drop monitoring of reciprocating compressors, measurement is triggered at a user-defined crank-angle during rotation. Triggered measurements can also utilise binary signals from the machine control system to recognise stable operating

periods, e.g. in dockside container cranes, and ‘trigger’ the monitoring system into action during that period.

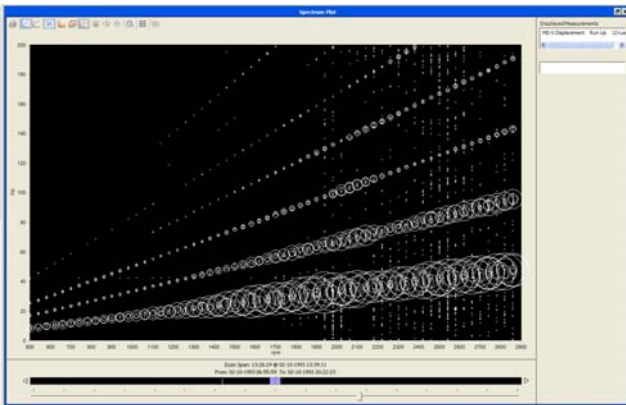
Diagnostic Software Plots

The sample of diagrams below illustrates some diagnostic plots obtainable with the **Diagnostic Monitoring Software**.

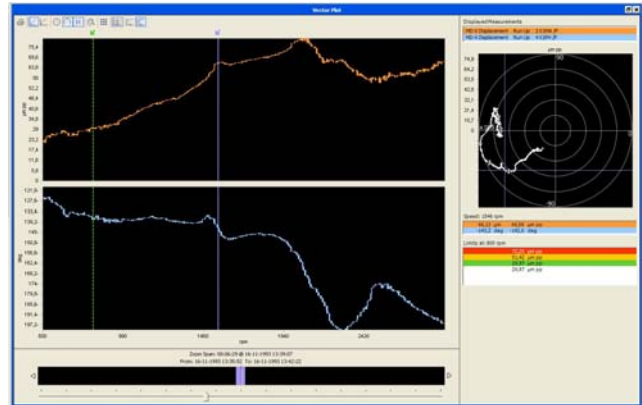
Accurate, easy-to-interpret plots such as 2-D spectrum and 3-D spectra plots, orbits, Bode’ plots of transient behaviour, polar plots of harmonic amplitude and phase

and static shaft position, and many others, with authoritative information that supports the diagnostic and corrective action decision-making process.

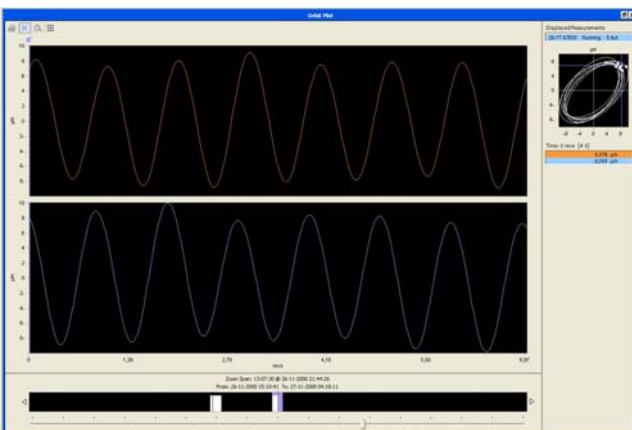
For each application-specific SM hardware module in the VIBROCONTROL 6000™ system through which diagnostic monitoring is to be carried out, a “**Diagnostic Monitoring Software**” licence must be ordered.



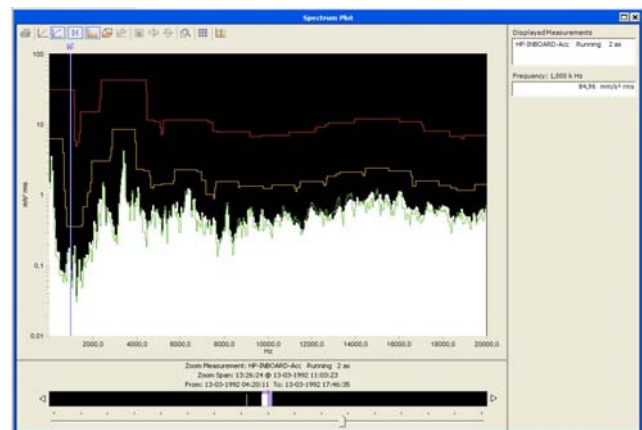
Campbell diagram



Bodé with Nyquist



X/Y time series with orbit



2D spectrum

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