

BENTLY NEVADA ADRE 408

Advanced Vibration Diagnostic System for High-Value Rotating Machinery



a Baker Hughes business

Trans Lex Work Ltd. is building on **over 30 years of expertise** in **rotating machinery maintenance** and **condition monitoring** by introducing one of the most **advanced diagnostic technologies** available today.

Our company has added the **Bently Nevada ADRE 408 DSPi multichannel vibration diagnostic system** to its **service portfolio**, unlocking new possibilities for measuring **high-value, fluid-film bearing machines** operating **above critical speeds**, alongside **conventional equipment**.

The **Bently Nevada ADRE 408 DSPi** is one of the world's most **advanced multichannel data acquisition and analysis instruments**, designed for both **field** and **laboratory use**. Specifically developed for the **condition diagnostics of rotating machinery**, this device represents **over 40 years of technological evolution** and has become an **industry standard** for analyzing **complex machine trains** such as **steam and gas turbines, generators, turbo compressors, and multi-stage feed pumps**.

Thanks to its **real-time, parallel signal processing capabilities**, the system can **synchronously record all dynamic measurement channels** and **display processed data**—even during **machine run-ups and run-downs**. This enables **precise characterization of machine resonance behavior, shaft dynamics, and structural responses** across the entire **speed range**.



Technical Features and Capabilities

- **24 dynamic + 3 Keyphasor inputs**
- **50 kHz upper frequency limit and 100 ms sampling** on every channel
- **Configurable** for **accelerometers, velocity sensors, proximity/relative vibration probes, and other dynamic sensors**
- **Stand-alone data acquisition** without external computer, recording to **high-capacity SSD** (capable of supporting **long-duration measurements up to several weeks**)
- **LAN/WAN connectivity** for **remote access, configuration, and secure data transfer**
- **Support for modal and ODS analysis** (including **impact hammer testing**)
- **ADRE Sxp software: real-time visualization, multi-client connections, trend, spectrum, full spectrum, Bode, polar, orbit, cascade, and waterfall plots**

Application Areas

The introduction of the **Bently Nevada ADRE 408 DSPi** system represents a **significant advancement** in **diagnostic capabilities** for TLW Kft., offering clients **direct access to state-of-the-art vibration and condition monitoring solutions** supported by **Hungarian experts**.

We use the system for **vibration diagnostics of high-speed, fluid-film bearing rotating machinery**, where **traditional handheld instruments**—limited by **channel count, speed, resolution, and data capture frequency**—are no longer sufficient.

The system enables:

- **Run-up/run-down measurements and resonance analysis**
- **Simultaneous monitoring of shaft and bearing pedestal vibrations**
- **Shaft Center Line analysis** for detecting **alignment and shaft position issues**
- **Generation of spectral and waterfall plots** for **precise fault identification**
- **Post-processing of recorded data and preparation of expert diagnostic reports** based on **on-site or remotely collected datasets**

Service Options

Using the **ADRE 408 system**, TLW Kft. provides the following **measurement and evaluation packages**:

- **Operational vibration measurements** (on **bearing housings or shaft**, with **multichannel data acquisition**)
- **Variable-speed measurements and run-up/run-down analysis**
- **Remote diagnostic data collection** with **temporary system installation**
- **Structural testing, modal analysis, and ODS measurements**
- **Expert reports** prepared from our own or **partner-supplied data**

Customer Benefit

Diagnostics performed with the **ADRE 408 system** enable **fault detection** with **significantly higher accuracy** compared to **traditional vibration measurement methods**. Using this approach:

- **Mechanical and dynamic issues** can be **detected early**
- **Downtime and maintenance costs** can be **reduced**
- **Equipment reliability and service life** can be **increased**.