

Simpler and More Accurate Fault Diagnosis

RION's diagnostic solutions support machinery inspection and maintenance

Fault-Diagnosis Program VX-14D



■ Replicates expert skills to simplify diagnostic measurements

■ Stores abnormal data for later review by engineers

- Automatically evaluates conditions by installing sensors on the target machines
- Fault Diagnosis: Identifies fault type, structural or wear, and severity level
- Absolute Value Evaluation: Supports ISO 10816-1 criteria and user-defined thresholds

[Learn more here!](#)



The Vibration Analyzer VA-14 is enhanced with the fault-diagnosis function and the absolute value evaluation function



The VX-14D is supplied on an SD card.

Fault-Diagnosis Function

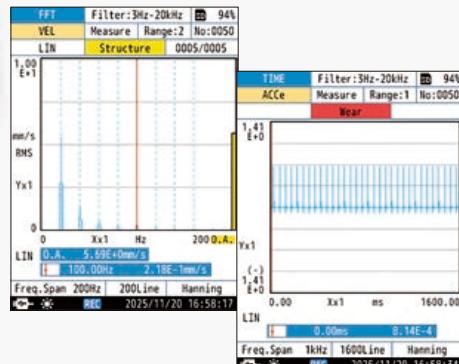
Diagnoses structural and wear faults using waveform and FFT data

Shows diagnostic results

Fault Diagnosis Result Screen



Fault Diagnosis Screen (Structural / Wear)



Displays measurement point values with a simple screen switch

Fault-Diagnosis Function Specifications

- Diagnoses structural faults such as unbalance, misalignment, and looseness and wear faults such as bearing and gear abnormalities
- Fault progression is rated 1 to 99 and classified in 3 stages Normal, Caution, or Abnormal
- Displays and stores diagnostic results for both structural and wear faults

Type of Diagnosis	Displays and stores structural and wear fault results
Diagnostic Conditions	Rotating machinery (rotational speed: 180–3,000 rpm)
Fault Categories	Fault stages: Normal / Caution / Abnormal, Fault level: 1–99
Output of Diagnostic Results	Displays and stores diagnostic results with waveform and FFT data

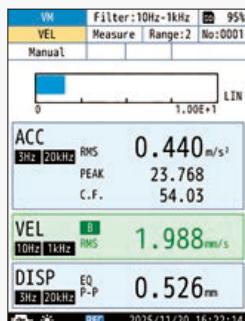
Absolute Value Evaluation Function

In the Vibration Meter Mode, the VX-14D evaluates vibration levels using either user-defined threshold values or criteria based on ISO 10816-1.

Absolute Value Evaluation

Vibration levels (acceleration, velocity or displacement) are compared to preset thresholds and rated 4 evaluation levels (A, B, C, D).

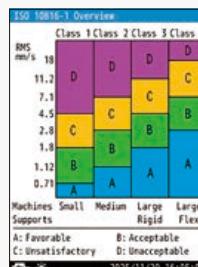
Color-coded results (A: Blue, B: Green, C: Yellow, D: Purple) on the Vibration Meter Mode screen allow quick condition checks and are saved with measurement data.



Measurement screen

Evaluation Based on ISO 10816-1

Evaluation follows the zone criteria defined in ISO 10816-1 (A: Good, B: Satisfactory, C: Unsatisfactory, D: Unacceptable). Selecting Class 1 to 4 by machine type automatically sets standard threshold values.

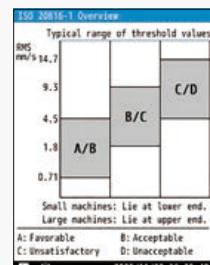


User-Defined Evaluation

Evaluation follows custom threshold values for acceleration, velocity or displacement. Evaluation based on the ISO 20816 series is also supported, allowing users to set zone thresholds as desired.

ISO 20816 Series

The standard covers both rotating and non-rotating parts. Non-rotating parts e.g. bearings are assessed by vibration velocity or displacement using zone criteria.



Evaluation Criteria Values

- A: Typical range for newly installed machines
- B: Acceptable for long-term continuous operation

- C: Not suitable for continuous operation; limited-time operation only
- D: High risk of damage; operation prohibited

Absolute Value Evaluation Function Specifications

Outputs a four-level result for the evaluated vibration levels

Supported Measurement Mode	Vibration Meter Mode
Type of Evaluation	ISO 10816-1
	Evaluation based on ISO 10816-1:1995 thresholds (Evaluated parameter: RMS of velocity)
User-Defined	Evaluation based on user-defined thresholds for RMS value (acceleration, velocity, or displacement).
Output of Evaluation Results	Measurement screen, Manual/Auto calculated values, and data via communication commands (VX-14S required)



RION CO., LTD. is recognized by the JCSS which uses ISO/IEC 17025 as an accreditation standard and bases its accreditation scheme on ISO/IEC 17011. JCSS is operated by the accreditation body (IAJapan) which is a signatory to the Asia Pacific Accreditation Cooperation (APAC) as well as the International Laboratory Accreditation Cooperation (ILAC). The Quality Assurance Section of RION CO., LTD. is an international MRA compliant JCSS operator with the accreditation number JCSS 0197.

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