

METRAVI VT-145 Machine Condition Monitor with Vibration Tester



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METRAVI VT-145 Machine Condition Monitor with Vibration Tester



Product Information

Technical Specifications

- **Input:** Vibration measurement
- **Accuracy:** +/-5%
- **Alarm Indication:** Temperature Accuracy
- **Resolution:** Display Power & Charger
- **Operating Temperature:** Range
- **Dimensions:** 115 x 75 x 25mm (LxWxT)
- **Weight:** 230g
- **Accessories:** Acceleration sensor, Magnetic holders for sensors, Probe, Battery Charger, User Manual, Carrying Case

Product Usage Instructions

Vibration Measurement

The VT-145 machine condition monitor with vibration tester is equipped with a 100mV/g IEPE acceleration sensor and an 80cm cable with a BNC connector for input vibration measurement.

Display and Operation

The device features a TFT color display with a resolution of 128×160 pixels for clear visibility. The menu options

and readings are easy to navigate and understand.

Power and Charging

The VT-145 is powered by a lithium rechargeable battery with a capacity of 3.7V 1600 mAh. The device can operate continuously for over 30 hours on a full charge. The recharge time for the battery is approximately 3 hours.

Operating Conditions

The recommended operating temperature range for the VT-145 is [Specify Operating Temperature Range here]. Ensure the device is used within this temperature range for optimal performance.

Accessories

Make use of the provided accessories including the acceleration sensor, magnetic holders for sensors, probe, battery charger, user manual, and carrying case for convenient usage and storage of the VT-145.

Frequently Asked Questions (FAQ)

- Q: What is the operating temperature range for the VT-145?
A: The operating temperature range for the VT-145 is [Specify Operating Temperature Range here].
- Q: How long does the battery of the VT-145 last on a full charge?
A: The lithium rechargeable battery of the VT-145 can operate continuously for over 30 hours on a full charge.
- Q: What are the included accessories with the VT-145?
A: The included accessories are acceleration sensor, magnetic holders for sensors, probe, battery charger, user manual, and carrying case.

INTRODUCTION

The Metravi VT-145 Machine Condition Monitor with Vibration Tester is a handheld instrument based on the latest microprocessor design. It can measure Vibration, Infrared Temperature and features intelligent colour alarm functions.

The instrument is simple and easy to use, suitable for on-site machine operation and maintenance inspector to monitor machine condition, detect problems in time, and ensure reliable operation of machines.

VIBRATION MEASUREMENT

The Metravi VT-145 can measure the effective value of Vibration Velocity (mm/s RMS), Single Peak Acceleration (g P), Peak-to-Peak Displacement (um P-P) and high-frequency Acceleration value (BG Peak).

When measuring velocity, the instrument will automatically determine and indicate the machine alarm status in colour based on the built-in ISO10816-3 machine vibration standard.

TEMPERATURE MEASUREMENT

In addition to its vibration detection function, the Metravi VT-145 is also equipped with a non-contact Infrared Thermometer, which is mainly used for checking bearing temperature. The measuring range is -20°C ~ 120°C, and the measuring position is indicated by a red laser pointer.

STANDARDS

ISO10816-3 VIBRATION STANDARDS

Support classification: R-rigid support F-flexible support

Machine classification:

- Group 1: Large machines with rated power $\geq 300\text{KW}$; motors with shaft height $\geq 315\text{mm}$.

Usually sliding bearing, rotation speed 120RPM – 15000RPM

- Group 2: motors with rated power $15\text{KW} \leq P \leq 300\text{KW}$; shaft height $160 \leq H \leq 315\text{ mm}$.

Usually with rolling bearings, speed $>600\text{RPM}$

- Group 3: Pumps with rated power $>15\text{KW}$, multi-blade impeller and separately connected to the prime mover (Centrifugal, mixed flow, axial flow).
- Group 4: Pumps with rated power $>15\text{KW}$, multi-blade impeller and integrated with the prime mover (Centrifugal, mixed flow, axial flow)

ISO10816-3 INTERNATIONAL STANDARD FOR MACHINE VIBRATION

ISO10816-3 is a special standard for measuring vibration intensity on machine bearings, bearing seats or supports. This vibration standard is applicable to units with a power greater than 15KW and an operating speed of 120-15000rpm, including the following machines:

ISO 10816-3		Machinery Groups 2 and 4		Machinery Groups 1 and 3	
Velocity		Rated power			
		15 kW – 300 kW		Group 1: 300 kW – 50 MW Group 3: Above 15 kW	
mm/sec Peak	mm/sec RMS				
15.5	11.0	DAMAGE OCCURS			
10.0	7.1	RESTRICTED OPERATION			
6.3	4.5	UNRESTRICTED OPERATION			
4.9	3.5	UNRESTRICTED OPERATION			
3.9	2.8	UNRESTRICTED OPERATION			
3.2	2.3	UNRESTRICTED OPERATION			
1.9	1.4	UNRESTRICTED OPERATION			
0.9	0.7	NEWLY COMMISSIONED MACHINERY			
0.00	0.0	NEWLY COMMISSIONED MACHINERY			
Foundation		Rigid	Flexible	Rigid	Flexible

- Steam turbines with power not exceeding 50MW
- The power of the steam turbine unit is greater than 50MW, and the rotation speed is lower than 1500rpm or higher than 3600rpm units included in ISO10816-2)
- Rotary compressor
- Industrial gas turbines with power not greater than 3MW
- Centrifugal, mixed flow or axial flow pumps
- Generators other than hydraulic generating units or pumping stations
- Various types of electric motors
- Blower or fan

ISO10816-3 VIBRATION VALUE STANDARD EVALUATION

Suitable for industrial machines with power greater than 15KW and rated speed of 120-15000RPM.



TECHNICAL SPECIFICATIONS

- Input 100mV/g IEPE acceleration sensor, 80cm cable and BNC connector
- Vibration measurement
 - Velocity: 0-200mm/s
 - RMS Frequency 10Hz-1kHz
 - Displacement: 0-2000 μ m
 - Peak-Peak Frequency: 10Hz-1kHz
 - Acceleration: 0-20 g
 - Peak Frequency: 10Hz-1kHz
 - High frequency acceleration 0-20 g peak frequency range 1 kHz~12 kHz
- Accuracy: +/-5%
- Alarm Indication Built-in ISO10816-3 machine vibration standard evaluation of vibration speed alarm state
- Temperature -20~120°C with laser dot target indication
- Accuracy $\pm 2^{\circ}\text{C}$
- Resolution 1°C ; D:S 8:1
- Display TFT colour display, 128 \times 160 pixels
- Power & Charger Lithium rechargeable battery, 3.7V 1600 mAh Recharge time 3 hours; Operating time >30

hours continuous


- Operating Temperature -10°C to +50°C
- Dimensions 115 x 75 x 25mm (LxWxT)
- Weight 230g
- Accessories Acceleration sensor (with 80cm length cable), Magnetic holders for sensors. Probe, Battery Charger, User Manual, Carrying Case



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Documents / Resources

	<p>METRAVI VT-145 Machine Condition Monitor with Vibration Tester [pdf] Instruction Manual VT-145 Machine Condition Monitor with Vibration Tester, VT-145, Machine Condition Monitor with Vibration Tester, Condition Monitor with Vibration Tester, Monitor with Vibration Tester, Vibration Tester</p>
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References

- [M Home - Metravi Instruments](#)
- [User Manual](#)

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