

Specification

| Model | SmartVibro VM-4424S | SmartVibro VM-4424H | SmartVibro VM-3024S | SmartVibro VM-3024H | SmartVibro VM-7024 |
|---------------------------------------|---|---------------------|--|--|---|
| Usable 3 kinds pickups | Piezoelectric Type | | Electro-dynamic Type | | Piezo-resistive Type |
| Frequency Range | 5Hz ~ 10kHz (Acceleration) 10Hz ~ 1kHz (Velocity) 10Hz ~ 150Hz (Displacement) 1kHz ~ 10kHz (Bearing) 3Hz ~ 1kHz (H-function) | | 10Hz ~ 1kHz (Acceleration, velocity and displacement) | | 0.3Hz ~ 100Hz (Acceleration) 3Hz ~ 100Hz (Velocity and displacement) |
| Full Scale | Acceleration, velocity and displacement : 6 Range, Automatic Switching Bearing : 6 Range, Automatic Switching H-function : 6 Range, Automatic Switching | | Acceleration : 6 Range, Automatic Switching Velocity : 6 Range, Automatic Switching Displacement : 6 Range, Automatic Switching | | Acceleration : 6 Range, Automatic Switching Velocity : 6 Range, Automatic Switching Displacement : 6 Range, Automatic Switching |
| Max. measurable range | Acceleration, H-function : 300m/s ² (RMS, EQP, PEAK) Velocity : 1000mm/s (RMS, EQP, PEAK) Displacement : 10mm (p-p) | | Acceleration, H-function : 100m/s ² (RMS, EQP, PEAK) Velocity : 200mm/s (RMS, EQP, PEAK) Displacement : 1mm (p-p) | | Acceleration, H-function : 20m/s ² (RMS, EQP, PEAK) Velocity : 100mm/s (RMS, EQP, PEAK) Displacement : 10mm (p-p) |
| Indication | PEAK : Acceleration, velocity and displacement EQP : Acceleration, velocity and displacement RMS : Acceleration, velocity | | PEAK : Acceleration, velocity and displacement EQP : Acceleration, velocity and displacement RMS : Acceleration, velocity | | PEAK : Acceleration, velocity and displacement EQP : Acceleration, velocity and displacement RMS : Acceleration, velocity |
| Accuracy | <ul style="list-style-type: none"> ■ Frequency Response : ±5% (10Hz ~ 5kHz) ±30% (5Hz ~ 10kHz) ■ Sensitivity Error : ±5% (for Full Scale value at 160Hz) ■ Range Changeover Error : ±2% (160Hz Standard) ■ Linearity : ±1% (for Full Scale value at 160Hz) | | <ul style="list-style-type: none"> ±5% (20Hz ~ 500Hz) ^{+5%}/_{-15%} (10Hz ~ 1000Hz) ±5% (for Full Scale value at 80Hz) ±2% (80Hz Standard) ±0.5% (for Full Scale value at 80Hz) | | <ul style="list-style-type: none"> ±5% (0.3Hz ~ 100Hz) ±5% (for Full Scale value at 16Hz) ±2% (16Hz Standard) ±1.5% (for Full Scale value at 16Hz) |
| Output | AC OUT : 0 ~ ±1V (Load 10kΩ or higher) DC OUT : 0 ~ +1V (Load 10kΩ or higher) | | AC OUT : 0 ~ ±1V (Load 10kΩ or higher) DC OUT : 0 ~ +1V (Load 10kΩ or higher) | | AC OUT : 0 ~ ±1V (Load 10kΩ or higher) DC OUT : 0 ~ +1V (Load 10kΩ or higher) |
| Display | Japanese, English (Changeover) | | Japanese, English (Changeover) | | Japanese, English (Changeover) |
| Power Source | Battery: AA × 2 pcs. (Continuous duty approx. 20 hours) | | Battery: AA × 2 pcs. (Continuous duty approx. 20 hours) | | Battery: AA × 2 pcs. (Continuous duty approx. 20 hours) |
| Size/Mass of Body Unit | 74 (W) × 32.5 (D) × 148 (H) mm Approx. 230g (Including Battery) | | 74 (W) × 32.5 (D) × 148 (H) mm Approx. 230g (Including Battery) | | 74 (W) × 32.5 (D) × 148 (H) mm Approx. 230g (Including Battery) |
| Size/Mass of Pickup | Piezoelectric acceleration sensor φ19×42 (L) mm 40g (Pickup) φ6×185 (L) mm 70g (Probe) | | Electro-dynamic velocity pickup φ25.8×50 (H) mm 140g (Pickup) φ8×50 (L) mm 20g (Probe) | | Piezo-resistive acceleration pickup 45 (W) × 45 (D) × 45 (H) mm 200g (Pickup) |
| Corresponding Conventional Vibrometer | VM-4515 · VM-4416 (SI)  | | VM-3304 (SI)  | VM-3004 (SI)  | VM-7000 (L)  |
| FFT analysis | — | | — | Δf : 25Hz, 12.5Hz, 6.25Hz | Δf : 1Hz, 0.5Hz, 0.25Hz |
| Memory | — | | — | SD card Waveform data acquisition | SD card Waveform data acquisition |
| Option | <ul style="list-style-type: none"> ● Small size strong magnet MH-201R  ● Long cable  Image LC-4 (4m)  | | <ul style="list-style-type: none"> ● Long cable  Image CE-3004-3 (3m) CE-3004-6 (6m) CE-3004-10 (10m) ● AC adapter PS-3024-3  | | <ul style="list-style-type: none"> ● magnet MB-PB  ● Long cable  Image CE-7000 (10m) ● Carrying case C-3024  |

The screen contents, specs. or exteriors are subject to change without notice.

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SmartVibro

[VM-4424/VM-3024/VM-7024]



Smart Vibrometer
enables accurate
and easy operation

- Low price
- Simultaneous measurement of acceleration, velocity and displacement.
- FFT analysis*
- SD card data saving *(waveform data)

* Only for High-end model.



Vibrometer which has simultaneous measurement function of acceleration, velocity and displacement

SmartVibro
[VM-4424/VM-3024/VM-7024]

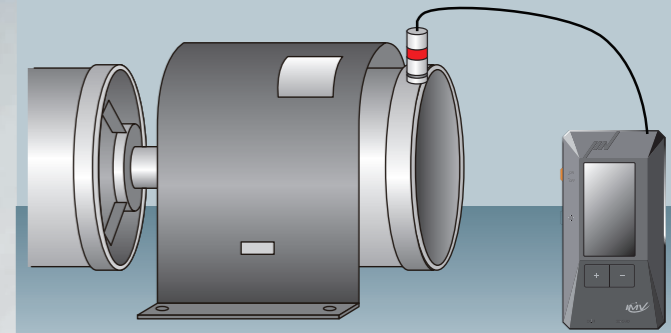
Low price and high function. Downsized compact design. Acceleration, velocity and displacement indicated simultaneously on LCD Touch screen. Addition to rotating machinery such as, turbine, power generator, blower, pump or compressor, it is also suitable to vibration measurement for performance retention of utility equipments or manufacturing machines. It also can be used in routine maintenance or shipping inspection. It is also useful in a variety of purposes, such as vibration investigation of electric appliances.



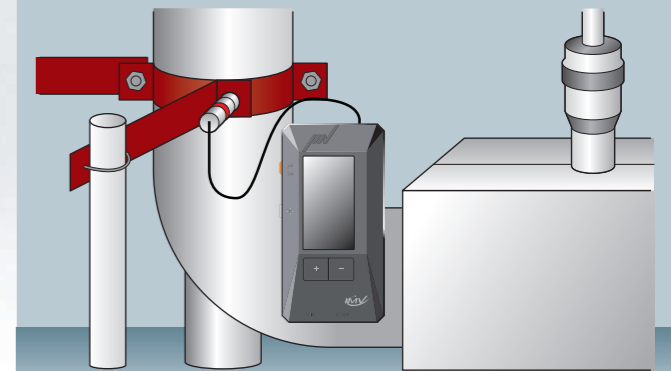
SmartVibro Function Table

| Usable 3 kinds pickups | | Piezoelectric Type | | Electro-dynamic Type | | Piezo-resistive Type |
|------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Model | | VM-4424S | VM-4424H | VM-3024S | VM-3024H | VM-7024 |
| | | Standard | High-end | Standard | High-end | High-end |
| Usability | Simultaneous Measurement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Waveform Data | | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| | FFT analysis is necessary | | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| Object | Motor, Blower, Pump | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Turbine | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Generator | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Mixer, Centrifuge | | | | | <input type="checkbox"/> |
| | Crane, Bridge | | | | | <input type="checkbox"/> |
| | Floor, Ground | | | | | <input type="checkbox"/> |

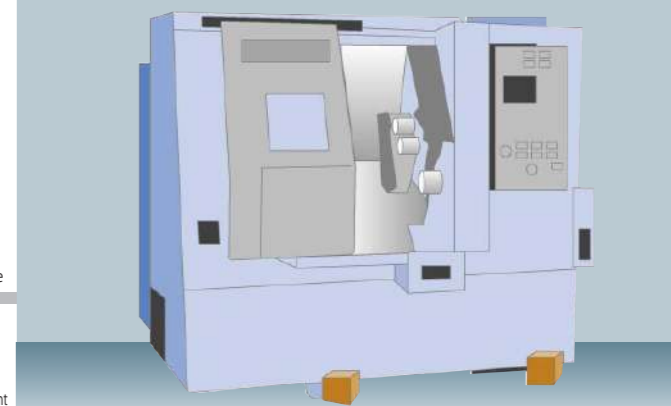
Maintenance of rotating machineries as Motors, Blowers etc.



Vibration condition check of pipe



Measurements of small displacement of machine tools

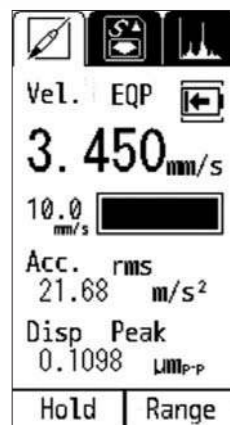


Others as routine maintenance or shipping inspection.

- Maintenance check of petrol pump, feed pump or mixer.
- Monitoring of Pipe, feed pump, motor or mill bearing.

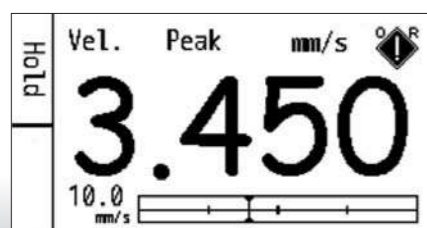
Simultaneous Measurement

Support of quick and easy measurements



There are many functions to express characteristics of vibration. However it is necessary for the conventional vibrometers that the same point is measured plural times switching objective functions one by one. SmartVibro which has a simultaneous measurement function can measure Acceleration, Velocity and Displacement simultaneously by just pressing the measurement start key one time. It can reduce the operating time and prevent miss-measurements. By switching the screen, VM-4424S・VM4424H can confirm Acceleration Envelope for bearing condition which enables small scars to be found easily.

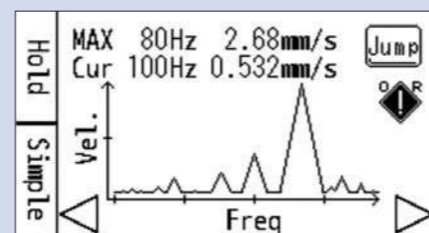
High functional LCD



◀ OA screen
(Display of velocity value)

FFT Analysis function * Only for High-end model.

For investigation of cause of vibration



◀ FFT Analysis screen
If the measured magnitude of vibration is too large, cause investigation by FFT is recommended.

SmartVibro is possible to perform Frequency Analysis by the minimum condition setting.

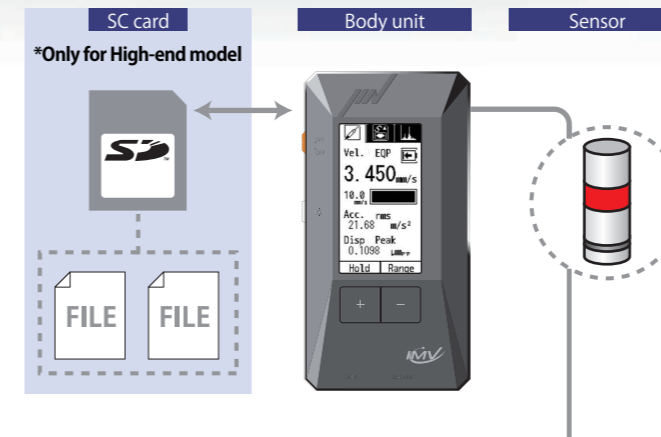
SD card data saving * Only for High-end model.

Crucial data saving function for recording and maintenance.

Waveform data saving is possible in data saving mode. Waveform data saved in SC card can be transferred to P.C.

[SD card]
Memory capacity 2GB. About 1000 files can be saved (1 file data for 5 seconds).

System Composition



VP-4316
Piezoelectric type for use in wide frequency range

[Most suitable vibrometer]
VM-4424S, VM-4424H
VP-3024
Electrodynamic type suitable for small amplitude displacement

[Most suitable vibrometer]
VM-3024S, VM-3024H

VP-7000L
Piezo-resistive type for low frequency vibration

[Most suitable vibrometer]
VM-7024

Usable 3 kinds pickups