Specifications

Model		SmartVibro VM-4424S	SmartVibro VM-4424H	SmartVibro VM-3024H		SmartVibro VM-7024H
Pickup type		Piezoelectric Type		Electro-dynamic Type		Piezo-resistive Type
Type		Standard	High-end	High-end		High-end
Frequency range		5Hz ～ 10kHz(acceleration) 10Hz ～ 1kHz(velocity)* 10Hz ～ 150Hz(displacement)* 1kHz ～ 10kHz(bearing) 3Hz ～ 1kHz(H function) * Maximum frequency of velocity and displacement is restricted by acceleration limit 450m/s² .		10Hz ～ 1kHz (acceleration, velocity, displacement)		0.3Hz ～ 100Hz(acceleration) 3Hz ～ 100Hz(velocity, displacement)* * Maximum frequency of velocity and displacement is restricted by acceleration limit 20m/s² .
Full scale		acceleration, velocity, 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 acceleration : 6 range, automatic switching acceleration : 6 range, automatic switching
Maximum mesurable range		acceleration, H function : 300m/s²(RMS,EQP,PEAK) velocity : 1000mm/s(RMS, EQP, PEAK) displacement :10mmp-p(EQP, PEAK)		acceleration : 100m/s²(RMS,EQP,PEAK) velocity : 200mm/s(RMS, EQP, PEAK) displacement : 1000μmp-p(EQP,PEAK)		acceleration : 20m/s²(RMS, EQP, PEAK) velocity : 100mm/s(RMS, EQP, PEAK) displacement : 10mmp-p(EQP, PEAK)
Sampling frequency		51.2kHz		20.48kHz		4.096kHz
Indication		PEAK : acceleration, velocity, displacement EQP : acceleration, velocity, displacement RMS : acceleration, velocity		PEAK : acceleration, velocity, displacement EQP : acceleration, velocity, displacement RMS : acceleration, velocity		PEAK : acceleration, velocity, displacement EQP : acceleration, velocity, displacement RMS : acceleration, velocity
Frequency response		±5%(10Hz ～ 5kHz) +30% / -50%(5Hz ～ 10Hz, 5kHz ～ 10kHz)		±5%(20Hz ～ 500Hz) +5% / -15%(10Hz～20Hz, 500Hz～1kHz)		±5%(0.3Hz ～ 100Hz)
Accuracy	Sensitivity error	±5%(for full scale value at 1kHz)		±5%(for full scale value at 80Hz)		±5%(for full scale value at 16Hz)
	Range changeover error	±2%(1kHz standard)		±2%(80Hz standard)		±2%(16Hz standard)
	Linearity	±1%(for full scale value at 1kHz)		±0.5%(for full scale value at 80Hz)		±1.5%(for full scale value at 16Hz)
Output		AC OUT : 0 ～ ±1V(load10kΩ or higher) DC OUT : 0 ～ +1V(load10kΩ or higher)		AC OUT : 0 ～ ±1V(load10kΩ or higher) DC OUT : 0 ～ +1V(load10kΩ or higher)		AC OUT : 0 ～ ±1V(load10kΩ or higher) DC OUT : 0 ～ +1V(load10kΩ or higher)
Language		Japanese, English, Chinese(switching)		Japanese, English, Chinese(switching)		Japanese, English, Chinese(switching)
Power supply		battery : AA×2pcs. (continuous approx. 20hours)		battery : AA×2pcs. (continuous approx. 20hours)		battery : AA×2pcs. (continuous approx. 20hours)
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 accelerometer φ19×42(L)mm 40g(pickup) φ6×195(L)mm 70g(probe) *including screw part		Electrodynamic velocity pickup φ25.8×50(L)mm 140g(pickup) φ8×50(L)mm 20g(probe)		Piezo-resistive accelerometer 45(W)×45(D)×45(H)mm 200g (pickup)
FFT analysis		—	Δf : 25Hz , 12.5Hz , 6.25Hz	—	Δf : 10Hz, 5Hz , 2.5Hz	Δf : 1Hz , 0.5Hz , 0.25Hz
Memory		—	SD card waveform data acquision saving time : 0.1Sec./ 0.2 Sec./0.5 Sec./1 Sec. sampling frequency : 51.2kHz	—	SD Card waveform data acquisition saving time : 1Sec./ 2 Sec./5 Sec./10 Sec. sampling frequency : 10.24kHz	SD Card waveform data acquisition Saving time : 5Sec./10Sec./25 Sec./50 Sec. sampling frequency : 2.048kHz
Option		•small size strong magnet 【for flat surface】 MH-201R (φ20×11mm)  •small size strong magnet 【for spherical surface】 MH-203R (φ24×20mm) 		•small size strong magnet 【for flat surface】 MH-202R (φ24×10.5mm)  •small size strong magnet 【for spherical surface】 MH-203R (φ24×20mm) 		•magnet MB-PB 
		•long cable LC4 (4m) 		•extension cable CE-3024-3 (3m) CE-3024-6 (6m) CE-3024-10 (10m) 		•long cable CE-7000 (10m) 
		•rubber jacket PC-3024 		•AC adapter PS-3024-3 		•carrying case C-3024 

IMV CORPORATION

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*The specifications and design are subject to change without notice.

JQA-1573
JQA-2988

CI/1460E

Accurate and Easy Operation

SmartVibro

[VM-4424S/H, VM-3024H, VM-7024H]

VM-3024H

1. Low-price and high-functionally
2. Simultaneous measurement of acceleration,velocity and displacement
3. FFT analysis*
4. Waveform data is saved into SD card*

*VM-4024H, VM-3024H, VM-7024H only

IMV CORPORATION

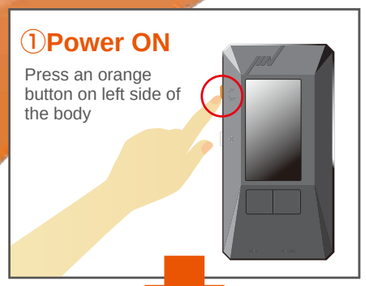
Easy operation and simultaneous measurement of acceleration, velocity and displacement

Compact and multi-functional portable vibrometer in low price! Acceleration, velocity and displacement indicated simultaneously on LCD touch screen. It's very useful for the measurement of turbine, power generator, blower, pump or compressor. In addition to routine maintenance use, it can be used in shipping inspection or vibration investigation of electric appliances.

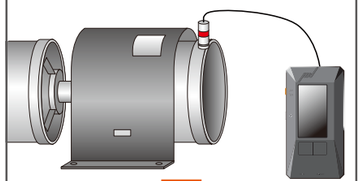
Operation Procedure

①Power ON

Press an orange button on left side of the body

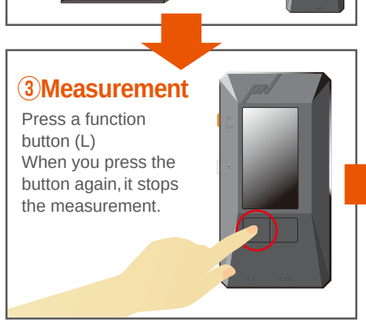


②Push a pickup against measurement spot



③Measurement

Press a function button (L)
When you press the button again, it stops the measurement.

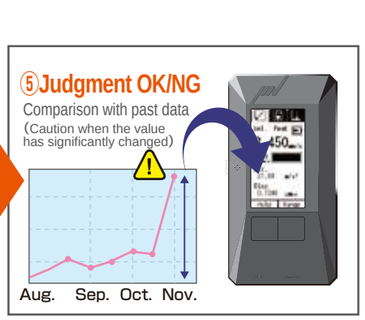


④Confirm data

Confirm data on LCD Screen

⑤Judgment OK/NG

Comparison with past data
(Caution when the value has significantly changed)

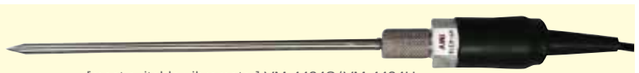


Three usable pickups • • • suitable for various measurement scenes

VP-4316

Piezoelectric type for wide frequency range

[most suitable vibrometer] VM-4424S / VM-4424H



VP-3024

Electro-dynamic type for small amplitude displacement

[most suitable vibrometer] VM-3024H

VP-7000L

Piezo-resistive type for low frequency vibration

[most suitable vibrometer] VM-7024H

Multi-functions and low price

Standard Model (VM-4424S)

STANDARD

1. Low price

Low-price and high-functionally

2. Simultaneous measurement

Just press one key and start measuring quickly, so it can reduce operation time and prevent miss-measurements.

3. Automatic switching (6range)

Automatic switching, no need for range setting

4. Three kinds of language is selectable

Japanese, English and Chinese

5. Light weight 230g(including battery)

Lighter and more compact than conventional model

Convenient multi-functions add to the standard model

High-end Model (VM-4424H/VM-3024H/VM-7024H)

HIGH-END

1. FFT analysis*

For further investigation of cause of vibration, SmartVibro is possible to perform frequency analysis by the minimum condition setting.

2. SD card data saving

Waveform data is saved into SD card as CSV format (Maximum 50 seconds*)
* In case of VM-7024H

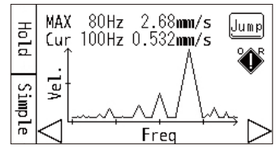
3. For low frequency vibration(VM-7024)

In case of measurement of low frequency under 1Hz.
(Ground vibration or small displacement of machine tool.)

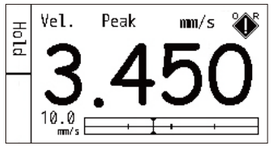
*What is FFT analysis?
FFT analysis is to extract frequency components from vibration waveform. By comparing frequency distribution, the cause investigation becomes possible.

SmartVibro function table

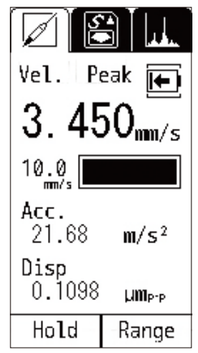
	Pickup Type	Piezoelectric Type		Electro-dynamic Type	Piezo-resistive Type
	Model	VM-4424S	VM-4424H	VM-3024H	VM-7024H
		standard	high-end	high-end	high-end
usability	Simultaneous measurement	○	○	○	○
usability	Waveform data storage		○	○	○
usability	FFT analysis		○	○	○
object	Motor, Blower, Pump	○	○	○	
object	Turbine			○	
object	Generator			○	
object	Mixer, Centrifuge				○
object	Crane, Bridge				○
object	Floor, Ground				○



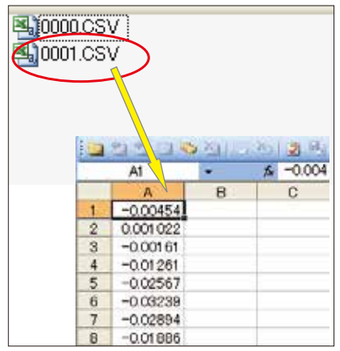
FFT screen



OA screen



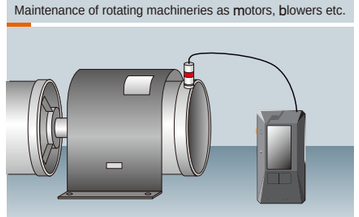
simultaneous measurement screen



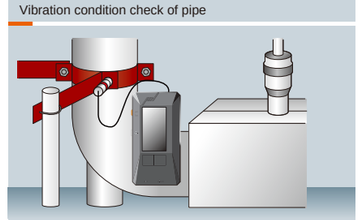
CSV import screen

Applications

Maintenance of rotating machineries as motors, blowers etc.



Vibration condition check of pipe



Measurements of small displacement of machine tools