

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% (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) ● Rubber jacket PC-3024  		<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)

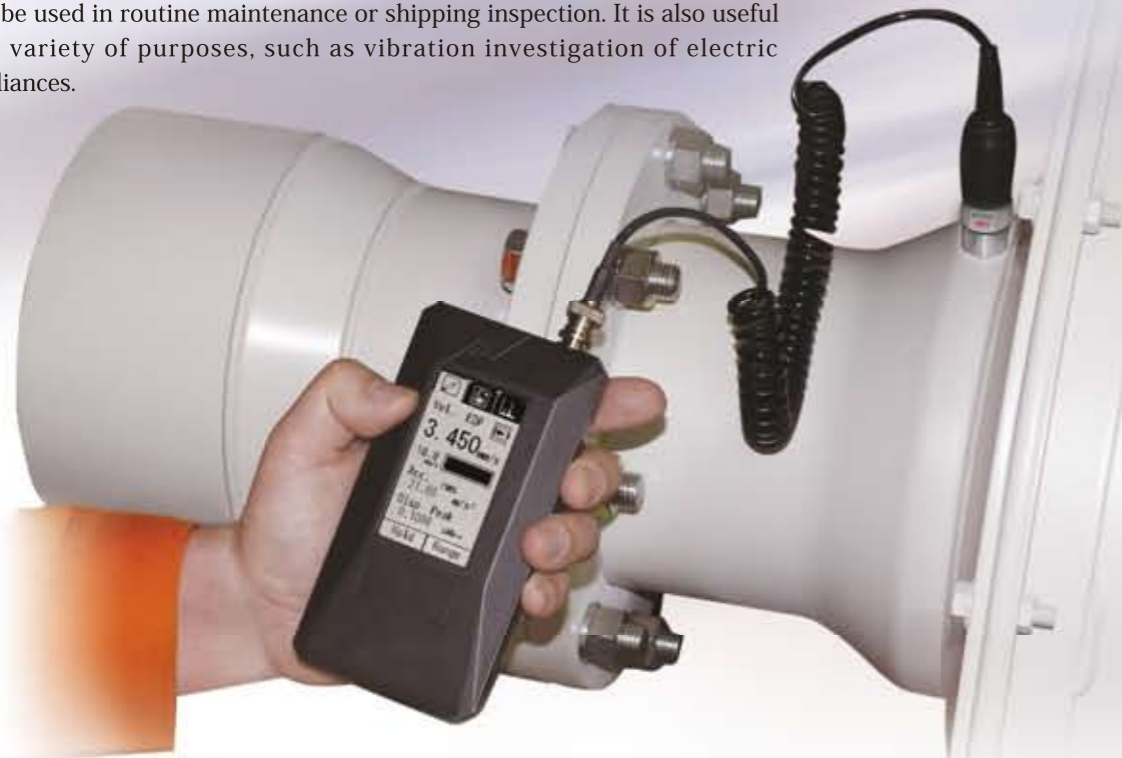
* Only for High-end model.



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

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

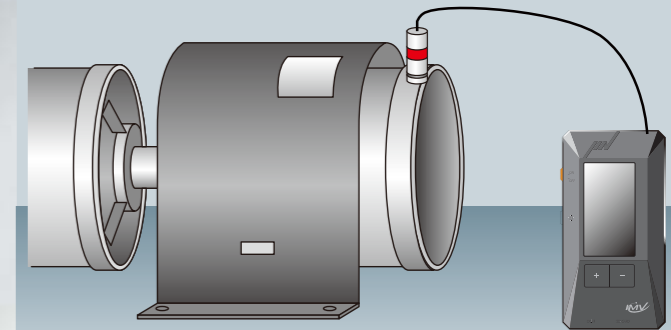
Low price and high function. Downsized compact design. Acceleration, velocity and displacement indicated simultaneously on LCD Touch screen. Addition to rotating machinery such as, turbine, power generator, blower, pump or compressor, it is also suitable to vibration measurement for performance retention 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.



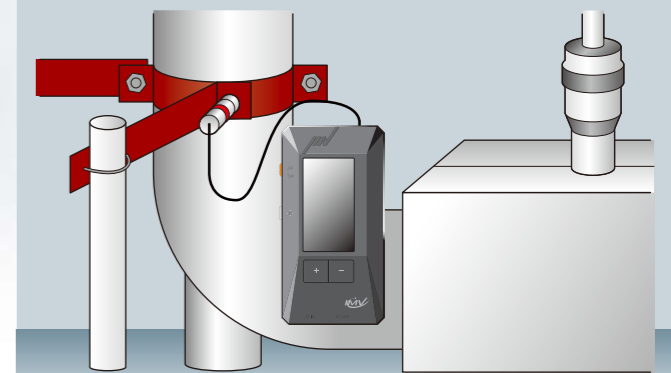
SmartVibro Function Table

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"/>

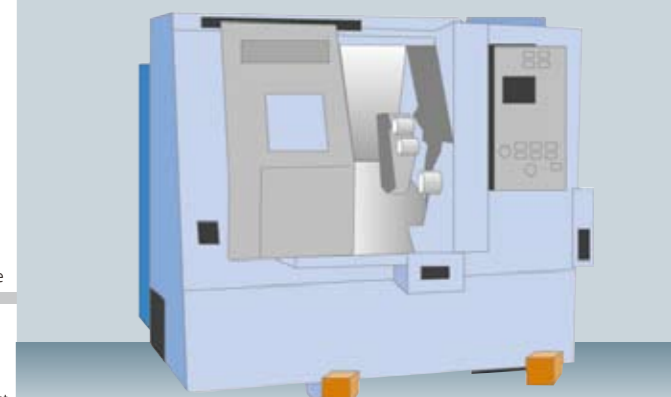
Maintenance of rotating machineries as Motors, Blowers etc.



Vibration condition check of pipe



Measurements of small displacement of machine tools

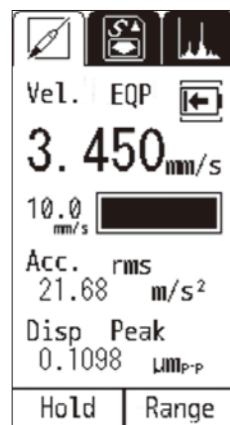


Others as routine maintenance or shipping inspection.

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

Simultaneous Measurement

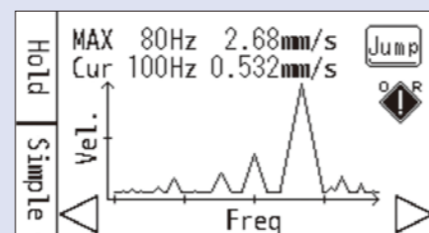
Support of quick and easy measurements



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.

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.

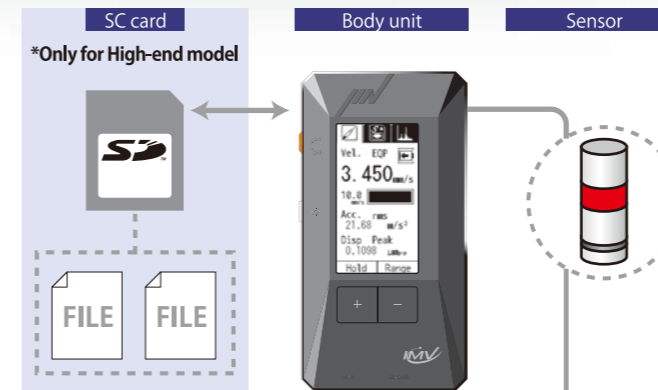
SD card data saving * Only for High-end model.

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.

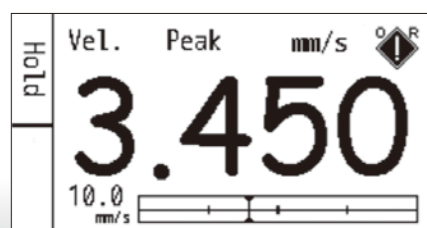
[SD card]
Memory capacity 2GB. About 1000 files can be saved (1 file data for 5 seconds).

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

High functional LCD



◀ OA screen
(Display of velocity value)