

■ Specifications

System Model	m030/MA1-CE	m060/MA1-CE	m120/MA1-CE	m130LS/MA1-CE	m030H/MA1 (High frequency)		
Image							
System Specifications	Frequency Range (Hz)	0 - 3,000	0 - 3,000	0 - 2,000	2 - 1,000	1,000 - 10,000	
	Rated force	Sine (lbf)	67	135	270	292	85
		Random (lbf rms)	47	94	189	146	60
		Shock (lbf)	67	135	270	292	85
	Maximum Acc.	No load (g)	51	51	51	13	20
		0.5 kg load (g)	28	35	42	12	16
		1.0 kg load (g)	19	27	36	11	13
	Maximum Velocity (in/s)	63	63	63	1.0	— ¹	
	Maximum Displacement (in-p-p)	1.0	1.2	1.2	2.0	— ¹	
	Maximum Load (lbs)	33	33	265	220	33	
Power Requirements (kVA) ²	0.4	0.7	1.1	1.1	0.5		
Vibration Generator	Model	m030-CE	m060-CE	m120-CE	m130LS-CE	m030H	
	Armature Support Method	Diaphragm spring	Diaphragm spring	Air Suspension	Air Suspension	Rubber spring	
	Armature Mass (lbs)	1.3	2.7	5.3	22	4.2	
	Armature Diameter (pin)	4.5	4.5	6.9	7.1	2.6	
	Dimensions (in)	φ7.5 x H10	φ9 x H11	φ12.6 x H12.9 ³	W16.1 x H23.3 x D18.1	φ7.5 x H11	
Power Amplifier	Model	MA1-CE	MA1-CE	MA1-CE	MA1-CE	MA1-CE	
	Maximum Output (kVA)	1.0	1.0	1.0	1.0	1.0	
	Dimensions (in) W x H x D	17 x 6 x 17	17 x 6 x 17	17 x 6 x 17	17 x 6 x 17	17 x 6 x 17	
	Mass (lbs)	55	55	55	55	55	
	Cooling Method	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling	
Cooling	Blower	Housed in vibration generator	Housed in vibration generator	Housed in vibration generator	Housed in vibration generator		

¹ The displacement at the lower limit of frequency (1,000 Hz) and maximum acceleration (20 g) is so small that there is no certified value.
² Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10% 50/60 Hz. A transformer is required for other supply voltages.
³ Insulation pad (W16.1 x H1.8 x D16.2 in) is standard equipment.
 *The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%. Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 * Frequency range values vary according to sensor and vibration controller.



m-series

Silent model ideal for abnormal noise inspection

Compact BSR Vibration test systems

- Feature 01** Compact and silent, but also powerful enough for full-scale tests
- Feature 02** Can be installed anywhere with AC100V
- Feature 03** Silent design with a built-in cooling fan



	For Light test samples	For Heavy test samples	For Transportation tests	For High-frequency tests
Frequency range	0 - 3000 Hz	0 - 2000 Hz	2 - 1000 Hz	1000 - 10000 Hz
Maximum load	15 kg	120 kg	100 kg	15 kg
Applicable model				

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<https://www.imv-usa.com/>

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

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m030/MA1-CE

Compact and silent, but also powerful enough for full-scale tests.

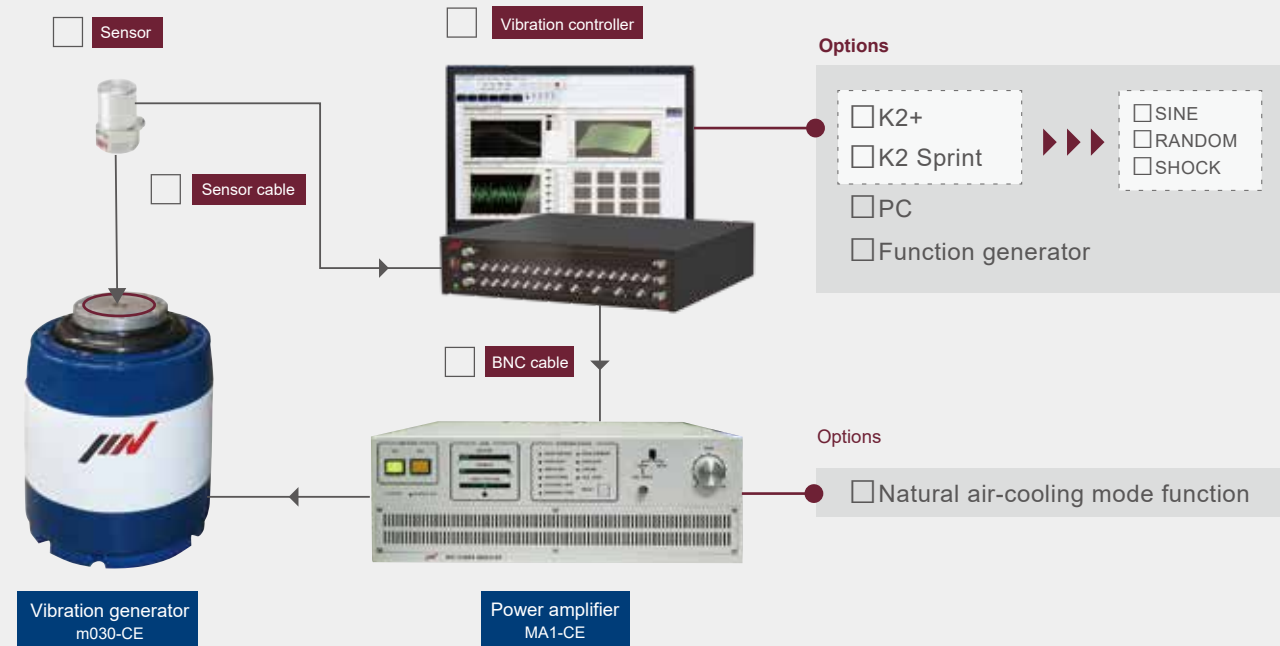


System Model		m030/MA1-CE		Model	m030-CE	
System Specifications	Frequency Range (Hz)	0 - 3,000	Vibration Generator	Armature Support Method	Diaphragm spring	
	Rated force	Sine (lbf)		67	Armature Mass (lbs)	1.3
		Random (lbf rms)		47	Armature Diameter (qin)	4.5
		Shock (lbf)		67	Dimensions (in)	φ7.5 x H10
	Maximum Acc.	No load (g)		51	Mass (lbs)	49
		0.5 kg load (g)	28	Power Amplifier	Model	MA1-CE
		1.0 kg load (g)	19		Maximum Output (kVA)	1.0
		Maximum Velocity (in/s)	63		Dimensions (in) W x H x D	17 x 6 x 17
	Maximum Displacement (in-p-p)	1.0	Mass (lbs)		55	
	Maximum Load (lbs)	33	Cooling	Cooling Method	Air cooling	
Power Requirements (kVA)*	0.4	Blower		Housed in vibration generator		

*1 Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10% 50/60 Hz. A transformer is required for other supply voltages.
 *2 The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%.
 *3 Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 *4 Frequency range values vary according to sensor and vibration controller.

System composition

■ Standard equipment ■ Optional items



Head expander compatible with m030

Use a head expander for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (33 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBV-125-m30-A	4.9 × 4.9 × t 0.8	2.0	2,000	Aluminum alloy
<input type="checkbox"/> TBV-200-m30-A-G*	7.9 × 7.9 × t 0.8	6.0	1,500	Aluminum alloy
<input type="checkbox"/> TBV-200-m30-M-G*	7.9 × 7.9 × t 0.8	4.2	1,500	Magnesium alloy

*A supplementary guidance system with linear bearings is used with the vibration generator when combined with the head expander.
 Armature mass is increased due to the addition of the guide support.



Slip table compatible with m030

Use a slip table for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (33 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBH-200-m30-A-MB	7.9 × 7.9 × t 0.8	8.8	500	Aluminum alloy
<input type="checkbox"/> TBH-315-m30-A-MB	12.4 × 12.4 × t 0.8	16.5	500	Aluminum alloy



Cubic fixture compatible with m030

Use when mounting directly on a vibration generator and performing vibration in 3 axes (X, Y, and Z).

Two types of cubic fixture are available. Type A has mounting holes on each face and type B has specimen mounting plates which attach to the cubic frame.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TCJ-A150-m30-A	5.9 × 5.9 × 5.9	12.1	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A150-m30-M	5.9 × 5.9 × 5.9	8.8	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-A160-m30-A	6.3 × 6.3 × 6.3	14.3	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A160-m30-M	6.3 × 6.3 × 6.3	10.1	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B150-m30-A	5.9 × 5.9 × 5.9	7.7	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B150-m30-M	5.9 × 5.9 × 5.9	5.5	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B160-m30-A	6.3 × 6.3 × 6.3	8.8	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B160-m30-M	6.3 × 6.3 × 6.3	6.1	2,000	Magnesium alloy



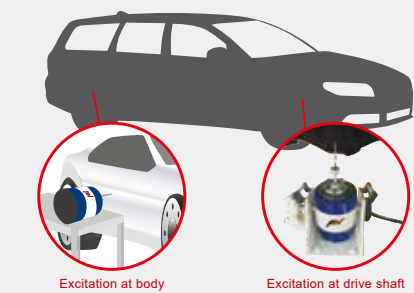
Soundproof enclosure

Acoustic noise testing is made possible by placing the shaker in a soundproof box.



Excitation at any selected point

Modal analysis can be done by applying vibration to the car body, etc.



Emergency stop switch

It is possible to stop the system in an emergency.



Trunnion Base

It is possible to use the vibration generator horizontally.



m060/MA1-CE

Compact and silent, but also powerful enough for full-scale tests.

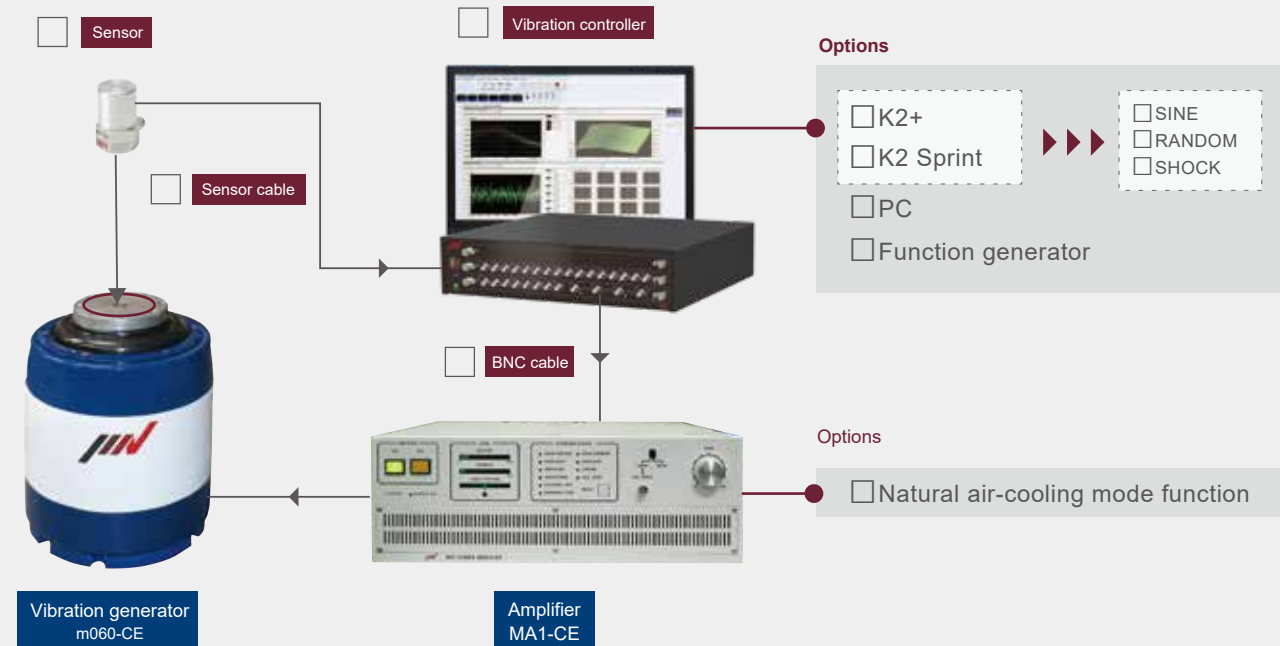


System Model		m060/MA1-CE		Model	m060-CE	
System Specifications	Frequency Range (Hz)	0 - 3,000	Vibration Generator	Armature Support Method	Diaphragm spring	
	Rated force	Sine (lbf)		135	Armature Mass (lbs)	2.7
		Random (lbf rms)		94	Armature Diameter (qin)	4.5
		Shock (lbf)		135	Dimensions (in)	φ9 x H11
	Maximum Acc.	No load (g)		51	Mass (lbs)	90
		0.5 kg load (g)	35	Power Amplifier	Model	MA1-CE
		1.0 kg load (g)	27		Maximum Output (kVA)	1.0
		Maximum Velocity (in/s)	63		Dimensions (in) W x H x D	17 x 6 x 17
	Maximum Displacement (in-p-p)	1.2	Mass (lbs)		55	
	Maximum Load (lbs)	33	Cooling	Cooling Method	Air cooling	
Power Requirements (kVA)*	0.7	Blower		Housed in vibration generator		

*1 Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10% 50/60 Hz. A transformer is required for other supply voltages.
 *2 The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%.
 *3 Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 *4 Frequency range values vary according to sensor and vibration controller.

System composition

■ Standard equipment ■ Optional items



Head expander compatible with m060

Use a head expander for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (33 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBV-125-m60-A	4.9 × 4.9 × t 0.8	2.0	2,000	Aluminum alloy
<input type="checkbox"/> TBV-200-m60-A	7.9 × 7.9 × t 0.8	5.5	1,500	Aluminum alloy
<input type="checkbox"/> TBV-200-m60-M	7.9 × 7.9 × t 0.8	3.7	1,500	Magnesium alloy
<input type="checkbox"/> TBV-315-m60-A-G*	12.4 × 12.4 × t 1.2	19.4	1,000	Aluminum alloy
<input type="checkbox"/> TBV-315-m60-M-G*	12.4 × 12.4 × t 1.2	13.4	1,000	Magnesium alloy

*A supplementary guidance system with linear bearings is used with the vibration generator when combined with the head expander. Armature mass is increased due to the addition of the guide support.



Slip table compatible with m060

Use a slip table for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (33 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBH-200-m60-A-MB	7.9 × 7.9 × t 0.8	8.8	500	Aluminum alloy
<input type="checkbox"/> TBH-315-m60-A-MB	12.4 × 12.4 × t 0.8	16.5	500	Aluminum alloy
<input type="checkbox"/> TBH-400-m60-A-MB	15.7 × 15.7 × t 0.8	27.1	500	Aluminum alloy



Cubic fixture compatible with m060

Use when mounting directly on a vibration generator and performing vibration in 3 axes (X, Y, and Z). Two types of cubic fixture are available. Type A has mounting holes on each face and type B has specimen mounting plates which attach to the cubic frame.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TCJ-A150-m60-A	5.9 × 5.9 × 5.9	12.1	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A150-m60-M	5.9 × 5.9 × 5.9	8.8	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-A160-m60-A	6.3 × 6.3 × 6.3	14.3	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A160-m60-M	6.3 × 6.3 × 6.3	10.1	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B150-m60-A	5.9 × 5.9 × 5.9	7.7	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B150-m60-M	5.9 × 5.9 × 5.9	5.5	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B160-m60-A	6.3 × 6.3 × 6.3	8.8	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B160-m60-M	6.3 × 6.3 × 6.3	6.1	2,000	Magnesium alloy



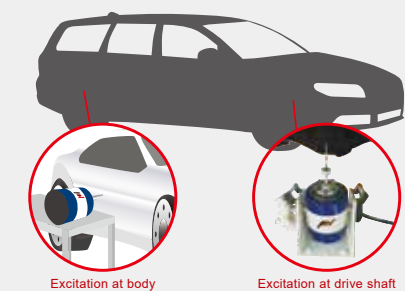
Soundproof enclosure

Acoustic noise testing is made possible by placing the shaker in a soundproof box.



Excitation at any selected point

Modal analysis can be done by applying vibration to the car body, etc.



Emergency stop switch

It is possible to stop the system in an emergency.



Trunnion Base

It is possible to use the vibration generator horizontally.



m120/MA1-CE

Compact and silent,
but also powerful enough for full-scale tests.

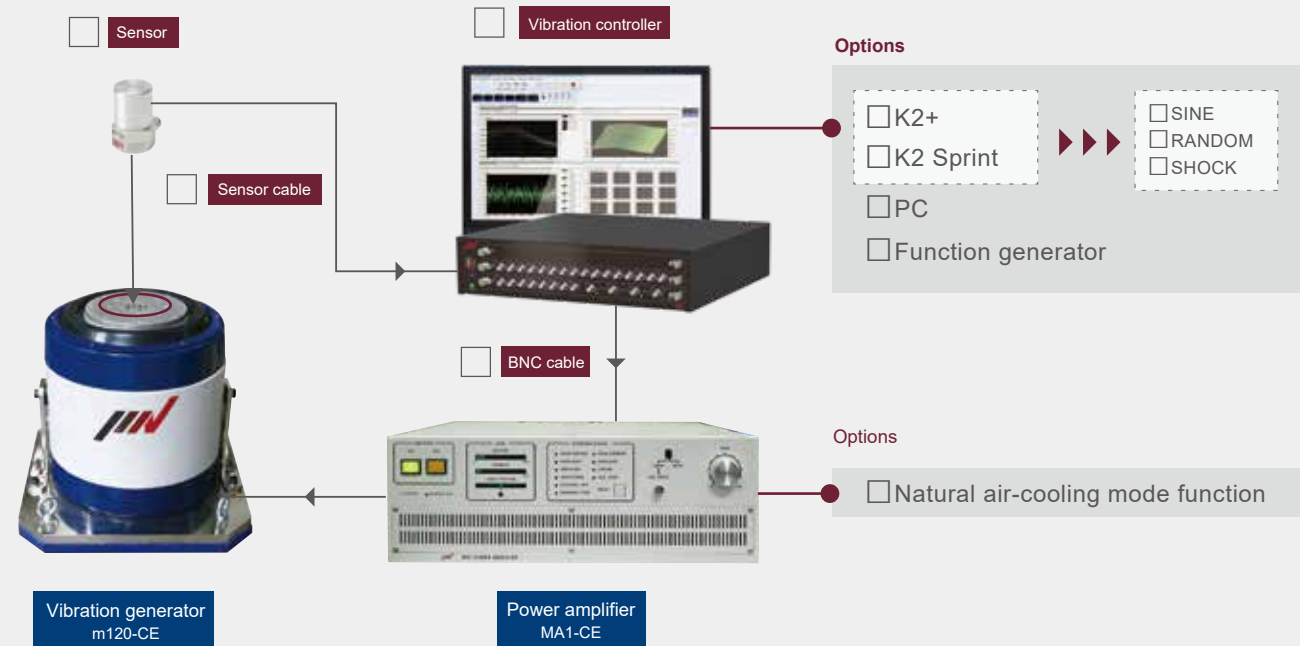


System Model		m120/MA1-CE		Model	m120-CE	
System Specifications	Frequency Range (Hz)	0 - 2,000	Vibration Generator	Armature Support Method	Air suspension	
	Rated force	Sine (lbf)		270	Armature Mass (lbs)	5.3
		Random (lbf rms)		189	Armature Diameter (qin)	6.9
		Shock (lbf)		270	Dimensions (in)	φ12.6 x H12.9*2
	Maximum Acc.	No load (g)		51	Mass (lbs)	245
		0.5 kg load (g)	42	Power Amplifier	Model	MA1-CE
		1.0 kg load (g)	36		Maximum Output (kVA)	1.0
	Maximum Velocity (in/s)	63	Dimensions (in) W x H x D		17 x 6 x 17	
	Maximum Displacement (in-p-p)	1.2	Mass (lbs)		55	
	Maximum Load (lbs)	265	Cooling Method		Air cooling	
Power Requirements (kVA)*	1.1	Cooling	Blower	Housed in vibration generator		

*1 Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10% 50/60 Hz. A transformer is required for other supply voltages.
 *2 Insulation pad (W16.1 × H1.8 × D16.2 in) is standard equipment.
 * The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%.
 * Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 * Frequency range values vary according to sensor and vibration controller.

System composition

■ Standard equipment ■ Optional items



Head expander compatible with m120

Use a head expander for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (265 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBV-200-m120-A	7.9 × 7.9 × t 0.8	5.5	1,500	Aluminum alloy
<input type="checkbox"/> TBV-200-m120-M	7.9 × 7.9 × t 0.8	3.7	1,500	Magnesium alloy
<input type="checkbox"/> TBV-315-m120-A	12.4 × 12.4 × t 1.4	19.8	1,000	Aluminum alloy
<input type="checkbox"/> TBV-315-m120-M	12.4 × 12.4 × t 1.4	13.6	1,000	Magnesium alloy
<input type="checkbox"/> TBV-400-m120-A-G*	15.7 × 15.7 × t 1.4	33.0	600	Aluminum alloy
<input type="checkbox"/> TBV-400-m120-M-G*	15.7 × 15.7 × t 1.4	23.0	600	Magnesium alloy

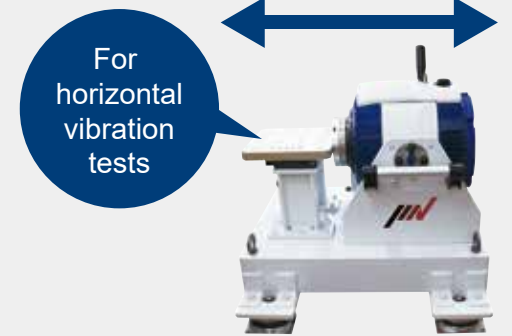
*A supplementary guidance system using linear bearings is used with the vibration generator when combined with the head expander.
 Armature mass is increased due to the addition of the guide support.



Slip table compatible with m120

Use a slip table for test samples that are too large to put on the table. The test sample mass must fall within the load limit of the shaker (265 lbs) minus the head expander mass. When using the head expander, the upper limit frequency is smaller than when using the test system alone.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TBH-200-m120-A-MB	7.9 × 7.9 × t 0.8	12.1	500	Aluminum alloy
<input type="checkbox"/> TBH-315-m120-A-MB	12.4 × 12.4 × t 0.8	19.8	500	Aluminum alloy
<input type="checkbox"/> TBH-400-m120-A-MB	15.7 × 15.7 × t 0.8	30.8	500	Aluminum alloy



Cubic fixture compatible with m120

Use when mounting directly on a vibration generator and performing vibration in 3 axes (X, Y, and Z).

Two types of cubic fixture are available. Type A has mounting holes on each face and type B has specimen mounting plates which attach to the cubic frame.

Model	Dimensions (in)	Mass (lbs)	Maximum frequency (Hz)	Material
<input type="checkbox"/> TCJ-A150-m120-A	5.9 × 5.9 × 5.9	12.1	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A150-m120-M	5.9 × 5.9 × 5.9	8.8	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-A160-m120-A	6.3 × 6.3 × 6.3	14.3	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-A160-m120-M	6.3 × 6.3 × 6.3	10.1	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B150-m120-A	5.9 × 5.9 × 5.9	7.7	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B150-m120-M	5.9 × 5.9 × 5.9	5.5	2,000	Magnesium alloy
<input type="checkbox"/> TCJ-B160-m120-A	6.3 × 6.3 × 6.3	8.8	2,000	Aluminum alloy
<input type="checkbox"/> TCJ-B160-m120-M	6.3 × 6.3 × 6.3	6.1	2,000	Magnesium alloy



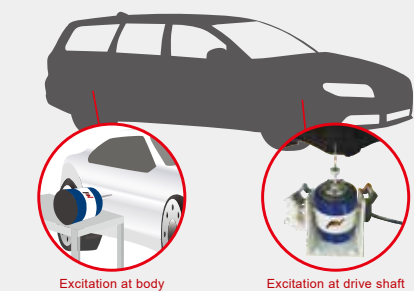
Soundproof enclosure

Acoustic noise testing is made possible by placing the shaker in a soundproof box.



Excitation at any selected point

Modal analysis can be done by applying vibration to the car body, etc.



Emergency stop switch

It is possible to stop the system in an emergency.



Trunnion Base

It is possible to use the vibration generator horizontally.



m030H/MA1

Supports high frequencies (up to 10,000 Hz)

Sample test products that can be tested with the m-series



System Model		m030H/MA1		Model	m030H	
System Specifications	Frequency Range (Hz)	1,000 – 10,000	Vibration Generator	Armature Support Method	Rubber spring	
	Rated force	Sine (lbf)		85	Armature Mass (lbs)	4.2
		Random (lbf rms)		60	Armature Diameter (φin)	2.6
		Shock (lbf)	85	Dimensions (in)	φ7.5 x H11	
	Maximum Acc.	No load (g)	20	Mass (lbs)	66	
		0.5 kg load (g)	16	Model	MA1-CE	
		1.0 kg load (g)	13	Maximum Output (kVA)	1.0	
		Maximum Velocity (in/s)	±2	Dimensions (in) W x H x D	17 x 6 x 17	
		Maximum Displacement (in-p-p)	±2	Mass (lbs)	55	
	Maximum Load (lbs)	33	Power Amplifier	Model	MA1-CE	
Power Requirements (kVA)*	0.5	Cooling	Blower	Air cooling	Housed in vibration generator	

*1 Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10 % 50/60 Hz. A transformer is required for other supply voltages.
 *2 The displacement at the lower limit of frequency (1,000 Hz) and maximum acceleration (20 g) is so small that there is no certified value.
 *3 The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%.
 *4 Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 *5 Frequency range values vary according to sensor and vibration controller.

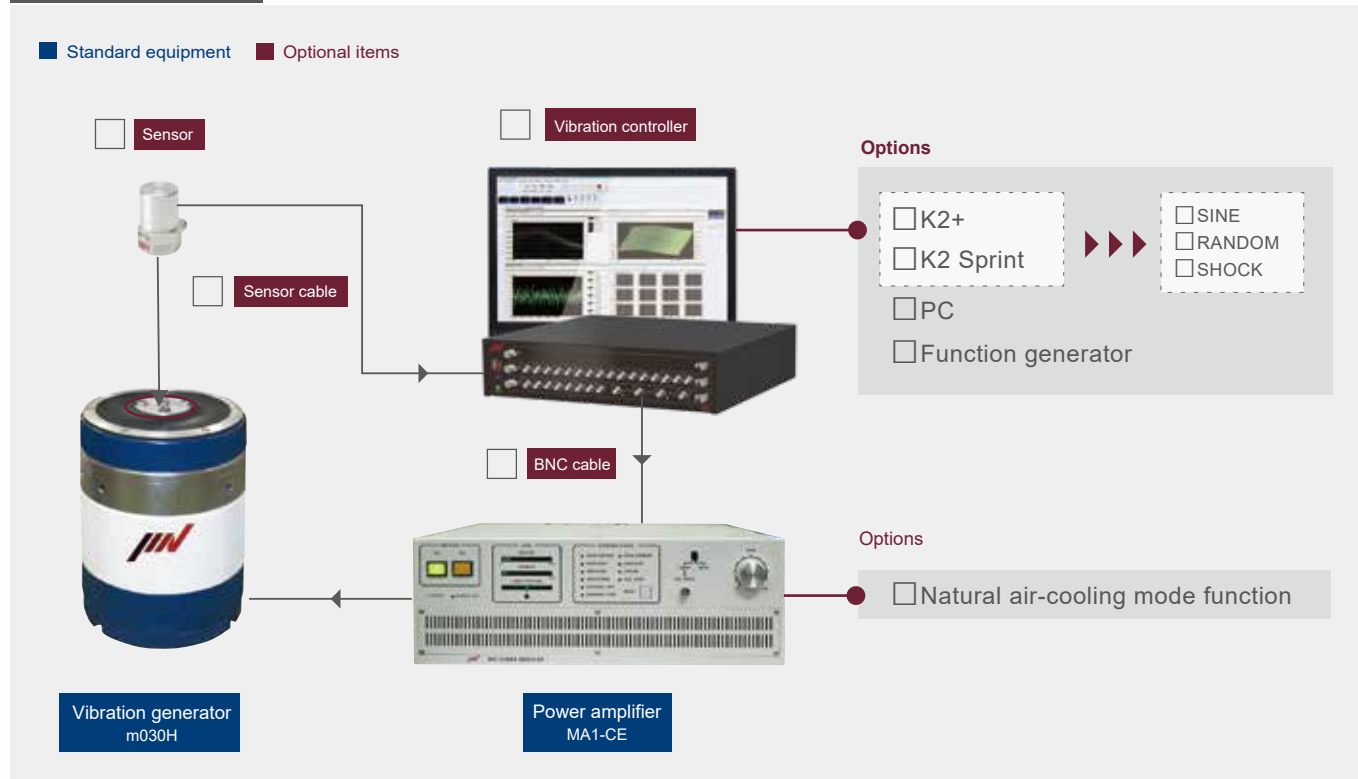
Automobile related parts



Electronic devices



System composition



Emergency stop switch

It is possible to stop the system in an emergency.



Pharmaceuticals



Cosmetics



Food



Beverages



Various Sensors



Packing material



Drones



Medical equipment



m030H/MA1-CE

Supports high frequencies (up to 10,000 Hz)

Sample test products that can be tested with the m-series



System Model		m030H/MA1-CE	Model	m030H	
System Specifications	Frequency Range (Hz)	1,000 – 10,000	Armature Support Method	Rubber spring	
	Rated force	Sine (lbf)	85	Armature Mass (lbs)	4.2
		Random (lbf rms)	60	Armature Diameter (φin)	2.6
		Shock (lbf)	85	Dimensions (in)	φ7.5 x H11
	Maximum Acc.	No load (g)	20	Mass (lbs)	66
		0.5 kg load (g)	16	Model	MA1-CE
		1.0 kg load (g)	13	Maximum Output (kVA)	1.0
		Maximum Velocity (in/s)	±2	Dimensions (in) W x H x D	17 x 6 x 17
	Maximum Displacement (in-p-p)	±2	Mass (lbs)	55	
	Maximum Load (lbs)	33	Cooling Method	Air cooling	
Power Requirements (kVA)*	0.5	Cooling	Blower	Housed in vibration generator	

*1 Power supply: single-phase AC100 V/200 V or AC110 V/220 V or AC120 V/240 V ±10 % 50/60 Hz. A transformer is required for other supply voltages.
 *2 The displacement at the lower limit of frequency (1,000 Hz) and maximum acceleration (20 g) is so small that there is no certified value.
 *3 The specifications show maximum system performance. For long-duration tests, system must be de-rated up to 70%.
 *4 Continuous use at maximum levels may cause failure. Please contact IMV if your system operates at more than 70%.
 *5 Frequency range values vary according to sensor and vibration controller.

Automobile related parts

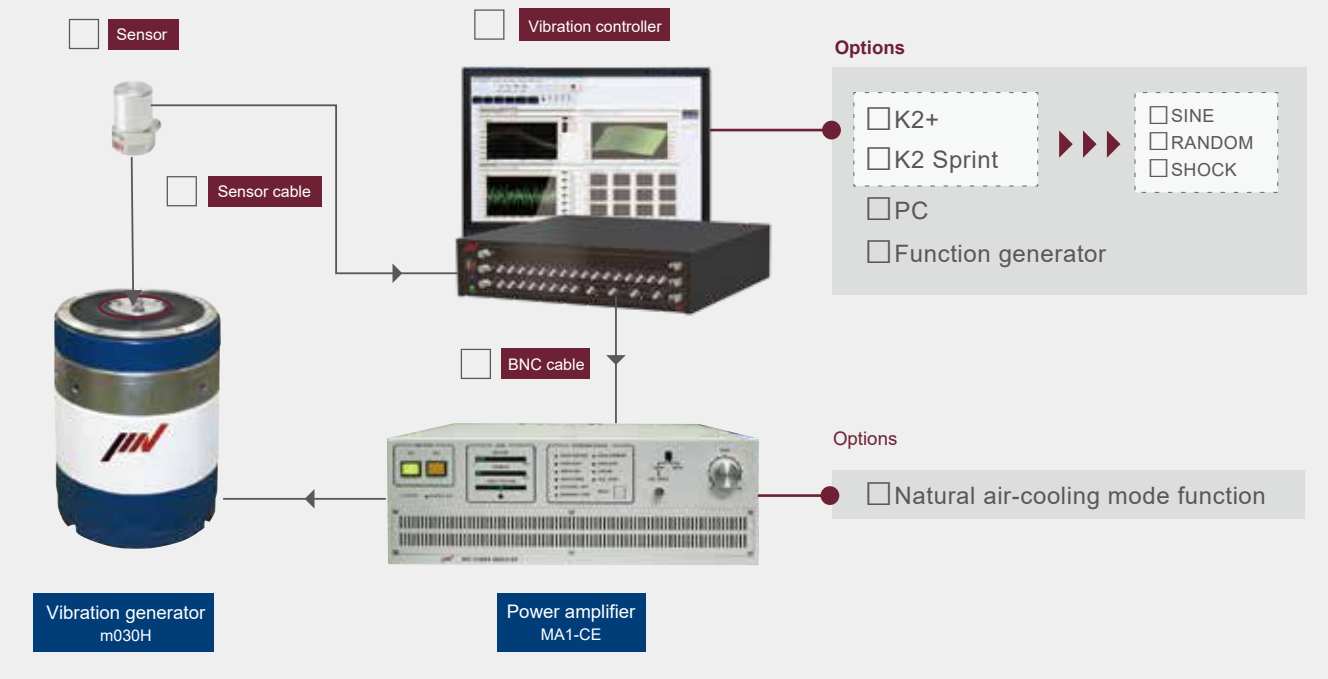


Electronic devices



System composition

■ Standard equipment ■ Optional items



Emergency stop switch

It is possible to stop the system in an emergency.



Pharmaceuticals



Cosmetics



Food



Beverages



Various Sensors



Packing material



Drones



Medical equipment



Test cases using the m-series

Electronic parts

Vibration tests can be done on small electronic components such as connectors, capacitors, sensors, resistors, and LEDs.



Fatigue testing of copper plating

A custom system developed using a compact m-series shaker for fatigue testing copper plating. Up to 12 sheets of copper plating can be tested simultaneously using this system.



Seismic evaluation tests

Complete systems are available for the reproduction and study of seismic events.



Transportation tests

Transportation tests can be done on small and packaged products. (Compatible with various test standards including JIS, IEC, MIL, and ASTM.)



Automotive tests

A vibration system can be set up to move along guide rails. The system can be combined with other types of test equipment, including temperature chambers, if necessary.



Automotive tests

Simulation testing using actual measured data or more traditional random testing can be done in simultaneous 3-axis. When the shaker system is combined with a half-anechoic chamber, 3D squeak-and-rattle testing can be done in an environment with a background noise level of less than 30 dB.



Automotive tests

Function and durability tests can be done on parts exposed to rapid temperature changes.



Automotive tests

A 6-DOF vibration test system with 8 compact, silent shakers for squeak-and-rattle acoustic noise evaluation of instrument panels.



Videos



IMV's compact transport vibration test system, ideal for conducting a wide variety of transport tests, can be operated easily by anyone.

