



IMV VIBRATION  
TEST SYSTEMS  
**A series**

# IMV-Smart™ ECO-Shaker

## Air-cooled Vibration Test Systems **A45/EM4HAG**



A series is the “new standard” in vibration testing, with a solid test performance. A series increases the relative excitation force and has a displacement of 3.0 in-p\*1, which provides a good balance within the specifications for velocity, acceleration and displacement. It also provides a maximum of 138 in/s shock velocity testing, which responds to the demand in lithium battery testing. A series supports rapid creation of tests from a set of pre-defined templates conforming to most international test standards. Simply select the standard required to generate the main test settings.  
\*1) Only for A30, A45, A65, A74

### 1. Improvement of performance

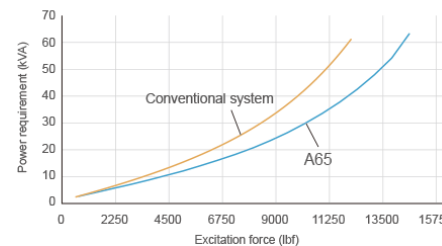
Expansion of test cases and responses to high spec. tests allow the A series to meet a wide range of testing needs.

- Improvement in excitation force
- Standard 3.0 in-p displacement
- Expansion in frequency range
- High velocity shock test

### 2. User friendly and security

Greater security and functionality with improved energy savings.

Comparison of consumed power per excitation force



### 3. User first principle

Intuitive interface guides the operator for easy use.





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System Specification		
Frequency Range (Hz)		0-2,600
Rated Force	Sine (lbf)	10,120
	Random (lbf rms) *1	10,120
	Shock (lbf)	20,240
	High Velocity Shock (lbf)	18,000
Maximum Acc.	Sine (g)	92
	Random (g rms)	65
	Shock (g peak)	183
	High Velocity Shock (g peak)	163
Maximum Vel.	Sine (in/s)	79
	Shock (in/s peak)	99
	High Velocity Shock (in/s peak)	138
Maximum Disp.	Sine (in-p)	3.0
	High Velocity Shock (in-p)	3.0
Maximum Travel (in-p)		3.2
Maximum Load (lbs)		1,323
Power Requirements (kVA) *2		57
Breaker Capacity (A) *3		100

Vibration Generator (A45)	
Armature Mass (lbs)	110
Armature Diameter (φ in)	17.2
Armature Resonance (Hz)	2,080
Allowance Eccentric Moment (lbf·in)	13,700
Mass (lbs)	7,055

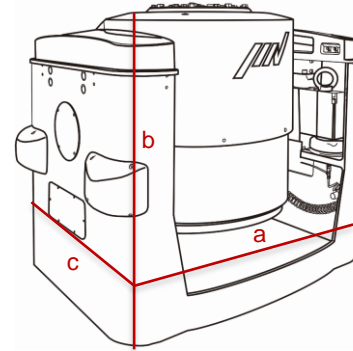
Power Amplifier (EM4HAG-A45)	
Maximum Output (kVA)	44
Amplifier Bay	2
Mass (lbs)	2,205

Cooling	
Mass (lbs)	618
Cooling Air Flow (cfm)	1,660

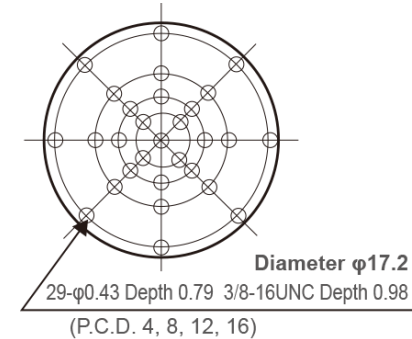
Environmental Data		
Input Voltage Supply (3 φ, V)		220/480
Compressed Air Supply (psi)		102
Working Ambient Temperature	Shaker (°F)	32-104
	Amplifier (°F)	32-104

\*1) Random force ratings are specified in accordance with ISO5344 conditions. Please contact IMV or your local distributor with specific test requirements.  
 \*2) Power supply: 3-phase 220/480 V, 60 Hz. A transformer is required for other supply voltages.  
 \*3) Breaker capacity for 480 V.  
 \*4) Above 4,000 Hz, the force rolls-off at a rate of -6 dB/oct.  
 \* For random vibration tests, please set the test definition of the peak value of acceleration waveform to operate at less than the maximum acceleration of shock.  
 \* Frequency range values vary according to sensor and vibration controller.  
 \* Armature mass and acceleration may change when chamber is combined.

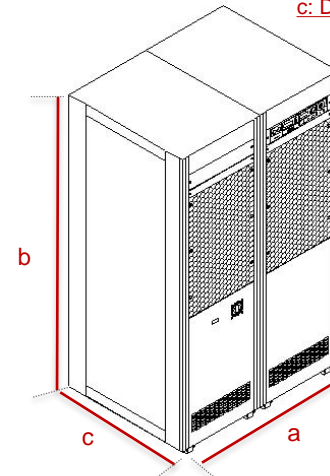
**Vibration Generator (A45)** a: W 49 in  
b: H 48 in  
c: D 41 in



**Table Insert Pattern (unit: inch)**



**Amplifier (EM4HAG-A45)** a: W 46 in  
b: H 77 in  
c: D 34 in



**Blower**

a: W 46 in  
b: H 84 in  
c: D 32 in

