

Electrodynamic Vibration Test System Vibration Table

Item Number: DA10



Introduction

Electrodynamic vibration test system vibration table delivers 300 Kg.f excitation, 1 to 4000 Hz control, 100G acceleration, and reliable sine random shock testing for industrial component qualification.

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Application	Description	Key Benefit
Battery cell and module fixture evaluation	Applies controlled sine, random, or shock vibration to battery R&D fixtures, mechanical holders, and associated assemblies within defined payload and acceleration limits.	Supports repeatable mechanical exposure using documented force and motion limits.
Electronics assembly vibration qualification	Evaluates mounted electronic assemblies, housings, connectors, and instrument modules across 1 to 4000 Hz.	Helps identify vibration-sensitive behavior through time-domain and frequency-domain analysis.
Automotive component durability testing	Tests brackets, sensors, enclosures, small assemblies, and subcomponents in vertical or horizontal orientations.	The extension platform and oil-film slip table support orientation-specific fixture arrangements.
Aerospace-related equipment screening	Subjects compact hardware, instrument assemblies, and mounted components to sine, random, and shock excitation profiles.	High specified shock force and broad frequency coverage support structured screening programs.
Materials and structural resonance studies	Investigates dynamic response of materials specimens, bonded structures, and prototype assemblies using sine sweep analysis.	Digital control and acceleration measurement enable clear resonance-focused test setup.
Industrial product transport simulation	Applies broadband random vibration to packaged components, industrial controls, and laboratory-made prototypes.	Random excitation capability supports controlled simulation of variable vibration environments.
Academic mechanical engineering research	Supports teaching and research involving modal behavior, vibration transmission, fixture dynamics, and control analysis.	Software functions for signal display, storage, parameter setting, and analysis support traceable experiments.
Precision instrument and sensor testing	Evaluates mechanical integrity of measuring instruments and sensor assemblies with monitored operating protections.	Low specified stray magnetic field of less than 10 gauss helps define the test environment.

System Item	Specification
Site-facing identifier	DA10
Test system type	Electrodynamic vibration test system vibration table
Electrical power supply	3-phase 380V/50Hz, 15 KVA
Grounding resistance	<=4Ω

Parameter	Specification
Maximum sine excitation force	300Kg.f peak
Maximum random excitation force	300Kg.f r.ms
Maximum shock excitation force	600Kg.f peak
Frequency range	1□ 4000 Hz
Maximum displacement	38mm p-p

Parameter	Specification
Maximum velocity	2m/s
Maximum acceleration	100G(980 m/s ²)
Maximum payload	120 kg
Vibration isolation frequency	2.5 Hz
Moving coil diameter	Φ150 mm
Moving coil mass	3kg
Table screws	13×M8
Stray magnetic field	≤ 10gauss
Shaker body dimensions	750mm×560mm×670mm (vertical table)
Shaker body weight	Approximately 560Kg

Payload-Acceleration Relationship	Payload
F=M.A at 5G(49m/s ²)	57kg
F=M.A at 10G(98m/s ²)	27kg
F=M.A at 20G(196m/s ²)	12kg
F=M.A at 30G(294m/s ²)	7kg

Parameter	Specification
Output power	4KVA
Output voltage	100V
Output current	30A
Dimensions	720mm×545mm×1270mm
Weight	230KG

Parameter	Specification
Protection functions	Temperature, air pressure, over-displacement, over-voltage, over-current, input under-voltage, external fault, control power, logic fault, input phase loss, and related monitored conditions

Parameter	Specification
Controller designation	VCSusb-2
Hardware configuration	2 input channels, 1 output channel
Control modes	Sine, random
Control computer	Brand computer, liquid-crystal display, keyboard, optical mouse
Software language	Chinese/English operation
Software functions	Time-domain and frequency-domain analysis, signal source, sine sweep analysis, automatic Word test-report generation, signal and data display, storage, test-parameter setting, and analysis functions
Operating system	Windows 8

Parameter	Specification
Sensor designation	LAB
Frequency range	0.5—7000Hz

Parameter	Specification
Sensitivity	30.15PC/g
Temperature range	-40 -160℃

Parameter	Specification
Material	Aluminum alloy
Table size	400mm×400mm
Mounting holes	M8 stainless-steel threaded inserts, durable and wear-resistant
Upper use frequency	2000Hz
Weight	15KG

Parameter	Specification
Material	Aluminum alloy
Table size	400 mm×400 mm
Mounting holes	M8 stainless-steel threaded inserts, durable and wear-resistant
Upper use frequency	2000 Hz
Weight	17KG

Parameter	Specification
Fan power	1.1 KW
Flow rate	1404m3/h