

SD-660-150M/SPA302B/ACU751



FEATURES & OPTIONS

- ◆ Slip Table Configuration
- ◆ V-Groove Caster and Rail System
- ◆ Head Expander
- ◆ Thermal Barrier
- ◆ Air Caster
- ◆ Assistant Load Support Under Head Expander

Typical System Application

The **Model SD-660-150M** Series Vibration test system is a versatile wide bandwidth electro-dynamics vibration test system designed for testing small to medium sized payloads of the automotive, aviation, military, medical and electronic manufacturing industries.

This model is capable of a Random RMS force of 660 lbf and Sine Vector force rating of 660 lbf in the frequency of 5 Hz to 4,000 Hz under controlled conditions. The system consists of a model SD-660-150M shaker and is driven by the Model SPA302B power amplifier and a 0.75 KW cooling blower. Optional items including slip tables, head expanders, accelerometers and vibration controller can be added upon request.

State of the Art Magnesium Armature

The unique reinforced magnesium armature structure design is state-of-the-art, providing increased reliability, unsurpassed performance, optimized rigidity and force transmissibility. Designed for continuous duty and ideal for research and development, production, stress screening and qualification testing, the ruggedized armatures can endure severe vibration and shock forces as well as extreme temperature conditions.

How to select the suitable model

It is critical to consider the size and position of the test article and the total moving mass of the payload as well as the payload's inertial and overturning moments when selecting a system for your application. It is recommended the force selected should be 1.2 times the theoretical value, to insure appropriate safety margins. For assistance selecting the best system for your needs, please contact our sales representative.

High FRF & Wide UF

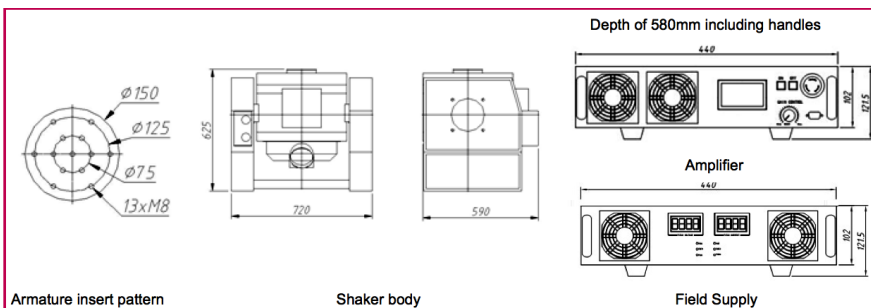
The new shaker design significantly raises the Fundamental Resonance Frequency and useable frequency range of the long stroke systems.

Cooling Blower Unit

The suitable ACU751 cooling blower is specified below.

Efficient Air Cooling

The SD-660-150M shaker system is totally air cooled for easy installation and economical operation.



Air-Isolated Rotating Trunnion

All shakers have a standard rotating trunnion for easy 90° rotation between the horizontal and vertical test axes. Trunnion is pneumatically isolated providing high stability and allowing for direct mounting onto

conventional industrial concrete floors. All shakers are optionally available with an integrated or stand-alone slip table assembly.

D-Class Switching Amplifier

The state-of-art modular switching amplifiers are 100% air-cooled with redundant safety systems and system interlocks insuring performance that is reliable and stable. All amplifiers adopt discrete IGBT power modules of high quality with a 120 KHz switching frequency. There are two boxes - amplifier and field supply.

Safety

Products comply with European tests standards and ISO regulations.

TECHNICAL SPECIFICATIONS

Shaker SD-660-150M			
Sine (Pk)	300 kgf (660 lbf)	Vertical Load Support	120 kg (264 lbs)
Random (RMS)	300 kgf (660 lbf)	Body Suspension Natural Frequency (Thrust Axis)	Less than 3 Hz
Shock (Pk)	600 kgf (1,320 lbf)	Table Diameter	150 mm (5.9")
Usable Frequency	5 to 4,000 Hz	Armature Effective Nominal Weight	3 kg (6.6 lbs)
Max. Displacement (p-p)	38 mm (1.5")	Load Attachment Points (Standard)	Stainless steel M8 Inserts or optional UNC
Maximum Velocity	2 m/s (78.7 in/s)	Overall Dimensions	720mmL x 590mmD x 625mmH (28.3"L x 23.2"D x 24.6"H)
Maximum Acceleration	100 g	Weight of Shaker (Uncrated)	600 kg (1,320 lbs)
Fundamental Resonance Frequency (Bare Table)	2,900 Hz (nom.) +/- 5%	Air Requirement	0.6 Mpa (87 psi)
Degauss coil	Standard	Stray Field @6 inch (152mm) above table	< 1 mT (10 gauss)

System Environmental Requirement		Air Cooling Blower ACU751	
Operating Room Temperature	0 to 40 degree C	Blower Power (Full Load)	1 HP (0.75 kW)
Humidity	0 to 90%, non condensing	Air Flow Rate	0.1 m ³ /s (215 CFM)
Amplifier	2.2 kVA	Air Pressure	0.001 Mpa (0.15 PSI)
Field Supply	2.5 kVA		
Blower	1 kVA		
Power Supply Requirement	Single phase, Neutral and Ground is required. 230VAC (50/60 Hz) and 115VAC (50/60 Hz) available. Amplifier, field and blower are powered separately. The values are actual ones, the mains need a safety margin.		

Switching Power Amplifier SPA302B	
Rated Output Capacity	3 kVA
Signal to Noise Ratio	Greater than 65 dB
Switching Frequency	120 kHz
Amplifier Efficiency	Greater than 90%
Interlock Protection <i>(to prevent the output devices from working outside their specified limits)</i>	<ul style="list-style-type: none"> • Shaker Over Travel • Shaker Over Temp • Shaker Air pressure • Shaker Oil pressure • Shaker E Stop • Amplifier E Stop • Transformer Over Temp • UART Power • PM Over Temp • PM Over Current • PM Drive Power • Input Under Voltage • Input Over Voltage • Output Over Voltage • Output Over Current • Cooling Fan • Power Over Temp • Logic Fault

NOTE: Standard vibration systems consist of an electro-dynamic exciter, a state-of-the-art air-cooled switching power amplifier with field power supply and cooling unit. Optional items including slip tables, head expanders, accelerometers and vibration controller can be added upon request.

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