

# SD-8360LS4-440M/SPA403/ACU153

## Typical System Application

The **Model SD-8360LS4-440M** Series Vibration test system is a versatile wide bandwidth electrodynamic shaker vibration test system. The 4 inch long stroke was designed to meet today's demanding high displacement and shock test requirements. These shakers perform tests which typically need hydraulic or shock exciters such as 100g@11ms half-sine. The long stroke series increases the capability of the laboratory testing capability without requiring extra area and cost. The shaker systems comply with ISO-5344.

The model is capable of a Random RMS force of 8,360 lbf and Sine Vector Force rating of 8,360 lbf in the frequency of 5 Hz to 2,700 Hz under controlled conditions. The system consists of a model SD-8360LS4-440M shaker and is driven by the Model SPA403 power amplifier and a 15 KW cooling blower.

### Unique and Reliable Armature Design

The unique reinforced armature structure design is state-of-the-art, providing increased reliability and unsurpassed performance. The armature structure has been designed to optimize its rigidity and force transmissibility. Designed for continuous duty and ideal for research & development, production, stress screening and qualification testing, the ruggedized armatures can endure severe vibration and shock forces and 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 of the shaker systems.

### Efficient Air Cooling

The SD-8360LS4-440M shaker system is totally air cooled for easy installation and economical operation.

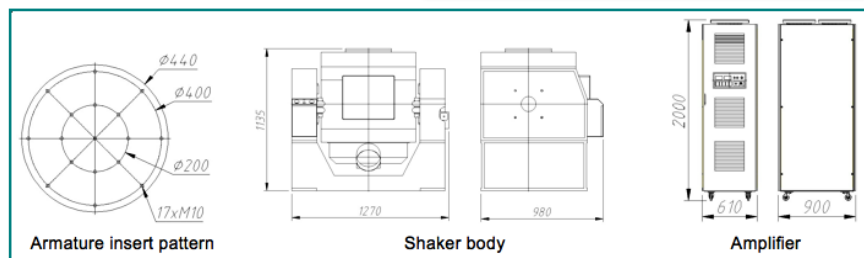
### Air-Isolated Rotating Trunnion

All shakers have a standard rotating trunnion for easy 90° rotation between the horizontal and vertical test axes. A user friendly labor-saving worm wheel is designed for this rotation. Trunnion is pneumatically isolated providing high stability



### SYSTEM OPTIONS

- Slip Table Configuration
- V-Groove Caster and Rail System
- Pneumatic Centering Controller, PCC-1
- Head Expander
- Table Inserts
- Thermal Barrier
- Load Support Air Compensator
- Air Caster



and allows 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 IGBT power modules of high quality.

### Safety

Products comply with European tests standards and ISO regulations.

## TECHNICAL SPECIFICATIONS

Shaker SD-8360LS4-440M			
<b>Sine (Pk)</b>	3,800 kgf (8,360 lbf)	<b>Armature Effective Nominal Weight</b>	35 Kg
<b>Random (RMS)</b>	3,800 kgf (8,360 lbf)	<b>Vertical Load Support</b>	500 kg (1100 lbs)
<b>Shock (Pk)</b>	7,600 kgf (16,720 lbf)	<b>Table Diameter</b>	440 mm (17.3")
<b>Usable Frequency</b>	5 to 3000 Hz	<b>Load Attachment Points (Standard)</b>	17 Stainless Steel Inserts of M10 (UNC Option)
<b>Max. Displacement (p-p)</b>	100mm (4") intermittent, 75mm (3") continuous	<b>Degauss coil</b>	Standard
<b>Maximum Velocity</b>	1.8 m/s (70.8 in/s)	<b>Stray Flux Density @6 inch (152mm) above table</b>	<1 mT (10 gauss)
<b>Maximum Acceleration</b>	85 g	<b>Overall Dimensions</b>	1270mmL x 980mmD x 1135mmH (50"L x 38.6"D x 44.7"H)
<b>Fundamental Resonance Frequency (Bare Table)</b>	2,400 Hz (nom.) +/- 5%	<b>Weight of Shaker (Uncrated)</b>	2,500 kg (5,500 lbs)
<b>Body Suspension Natural Frequency (Thrust Axis)</b>	Less than 2.5 Hz	<b>Compressed Air Requirement</b>	0.6 Mpa (87 psi)

System Environmental Requirement		Blower	ACU153	Power Amplifier		SPA403
<b>Operating Room Temperature</b>	0 to 40 degree C	<b>Blower Power (Full Load)</b>	15 kW (20 HP)	<b>Rated Output Capacity</b>	40 kVA	
<b>Humidity</b>	0 to 85%, non condensing	<b>Air Flow Rate</b>	1.1 m <sup>3</sup> /s (2336 CFM)	<b>Signal to Noise Ratio</b>	Greater than 65 dB	
<b>System Continuous Duty</b>	Not less than 7 hours at the full ratings	<b>Air Pressure</b>	0.0077 Mpa (1.12 PSI)	<b>Amplifier Efficiency</b>	Greater than 90%	
<b>Amplifier Power Requirement, exclusive blower motor which draws power separately from site distributor</b>	380/415/480 VAC, 50 Hz, 3 Ph, 56 kVA (60 Hz as an option)			<b>Interlock Protection (to prevent the output devices from working outside their specified limits)</b>	<ul style="list-style-type: none"> <li>• Input Over/under voltage</li> <li>• Logic fault</li> <li>• Output Over Voltage/Current</li> <li>• Control power</li> <li>• Shaker Oil pressure</li> <li>• Module O/T</li> <li>• Door Interlock</li> <li>• Shaker Temp</li> </ul>	

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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