



Typical System Application

The **Model SD-8360LS4-17** Series Vibration test system is a versatile wide frequency band Electrodynamic Vibration Test system. It is designed to test from small to medium sized payload such as electronic assemblies and design features meet the testing requirements of the automotive, aviation, military, medical and electronic manufacturing industries, too.

The model is capable of a **Random RMS force of 3800 KgF and Sine Vector force rating of 3800 KgF** in the frequency of DC to 2,700 Hz under controlled conditions. The system consists of a model SD-8360LS4-17 shaker and is driven by the Model DA-60 power amplifier and a 15 KW cooling blower.

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

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 us at jariwalad@sd-star.com or davist@sd-star.com

◎ High FRF & Wide UF

Our new shaker design significantly raises the FRF (Fundamental Resonance Frequency) and UF (Useable Frequency) of our long stroke systems and outperforms similar products from other manufacturers.

◎ Reliable Armature

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

◎ Efficient Air Cooling

SD-8360LS4-17 shaker and DA-60 Power Amplifier is totally air cooled for easy installation and economical operation.

◎ Cooling Blower Unit

The suitable Cooling blower is ACU153 as specified below

◎ Air-Isolated Rotating Trunnion

All shakers come standard in a rotating trunnion for easy 90° rotation between the horizontal and vertical test axes. A labor-saving worm wheel is designed for this rotation, which make it friendly for both men and women. Trunnion are pneumatically isolated (except low force series) 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**

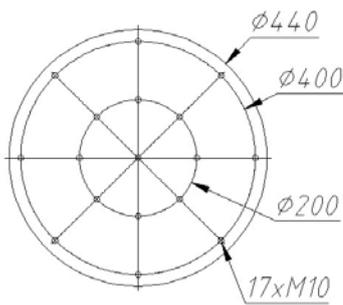
Our state-of-art modular switching amplifiers are 100% air-cooled with redundant safety systems and system interlocks insuring performance that is reliable and stable. All amplifiers adopt IGBT power modules of high quality.

© **Safety**

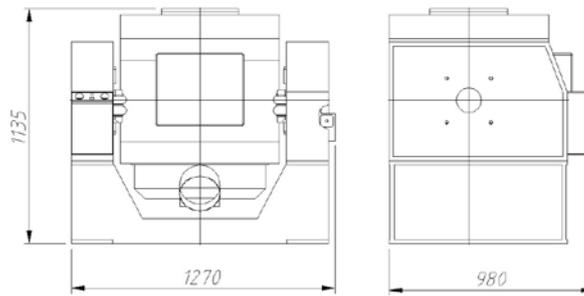
Products comply with European tests standards and ISO regulations.

© **High Armature Stroke**

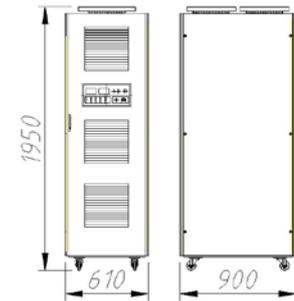
The Shaker has a 100 mm (4 inches) stroke to meet high Shock Test applications



Armature insert pattern



Shaker body



Amplifier

SD-8360LS4-17/DA-60/ACU303
TECHNICAL SPECIFICATIONS

<i>Shaker Specifications</i>		<i>SD-8360LS4-17</i>	
<i>Sine (Pk)</i>	3,800 kgf (8,360 lbf)	<i>Vertical Load Support</i>	500 kg (1100 lbs)
<i>Random (RMS)</i>	3,800 kgf (8,360 lbf)	<i>Table Diameter</i>	440 mm (17 ")
<i>Shock (Pk)</i>	7,600 kgf (16,720 lbf)	<i>Load Attachment Points (Standard)</i>	1 @0;8@100;8@200;8@300 ; M10,3/8
<i>Usable Frequency</i>	DC to 2,700 Hz	<i>Degauss Coil</i>	Standard
<i>Maximum Displacement (p-p)</i>	100mm (4")	<i>Stray Flux Density @6 inch (152 mm) above table</i>	< 1 mT (10 gauss)
<i>Maximum Velocity</i>	2 m/s (78.7 in/s)	<i>Overall Dimensions</i>	1270 mmL×980 mmD ×1135 mmH (50"L × 38.5"D × 44.6"H)
<i>Maximum Acceleration</i>	85 g		
<i>Fundamental Resonance Frequency (Bare table)</i>	2,400 Hz (nom.) +/- 5%	<i>Weight of Shaker (Uncrated)</i>	2,500 kg (5,500 lbs)
<i>Body Suspension Natural Frequency (Thrust Axis)</i>	2.5 Hz	<i>Compressed Air Requirement</i>	0.6 Mpa (87 psi)
<i>Armature Effective Nominal Weight</i>	45 kg (100 lbs)		

<i>Power Amplifier Specifications</i>		<i>DA-60</i>
<i>Rated Output Capacity</i>	60 KVA (Specially high for ARAI requirement)	
<i>Signal to Noise Ratio</i>	Greater than 65 dB	
<i>Amplifier Efficiency</i>	Greater than 90%	



Interlock Protection (to prevent the output devices from working outside their specified limits)

- Input Over/Under Voltage
- Logic Fault
- Output Over Voltage/Current
- Control Power
- External
- Shaker Oil Pressure
- Module O/T
- Door Interlock
- Shaker Temp

Blower Specifications ACU153

Blower Power (Full Load)

15 kW (20 HP)

Air Flow Rate

Air Flow: 1.1 m³ /s
Air Pressure: 7.7 KPa

System Environmental Requirement

Operating Room Temperature

0 to 45 degree C

Humidity

0 to 85%, non condensing

System Continuous Duty

not less than 7 hours at the full ratings

Power Supply Requirement

380/415/480 VAC, 50 Hz, 3Ph, 48 KVA

SYSTEM OPTIONS

- Slip Table Configuration
- V-Groove Caster and Rail System
- Table Inserts
- Head Expander

- Thermal Barrier
- Load Support Air Compensator
- Air Caster
- Auto-Centering Support-OPCS

All the features make the SD-8360LS4-17/DA-60 a reliable and affordable system for your applications.

NOTE: In keeping with our commitment to continuous product improvement, the information herein is subject to change. Copyright 2010 SpectralDynamics all rights reserved.