

SUPPLYING THE PRODUCTS WITH HIGH PERFORMANCE-PRICE RATIO

SUZHOU SONIC DYNAMICS TESTING EQUIPMENT CO.,LTD.



Model: S501LS3-440/SPA503/ACU153



Typical System Application

The **Model S501LS3-440/SPA503/ACU153** Vibration Test System is a versatile wide frequency band electro-dynamics vibration test system. The feature of the long stroke of 3 inches was designed to meet today's demanding high displacement random and shock test requirements with small to medium sized specimen such as use in the automotive, aerospace, defence, electronic and electrical machinery production sectors. Such kind of shakers can do some tests which need hydraulic shaker or shock machine. The long stroke series increases the spectrum of your lab's testing capability without requiring extra area and cost. The shaker systems all comply with ISO-5344.

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.

◎ 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

S501-440 shaker and SPA503 power amplifier is totally air cooled for easy installation and economical operation.

◎ Cooling Blower Unit

The suitable Cooling blower is ACU153 as below specification.

◎ Air-Isolated Rotating Trunnion

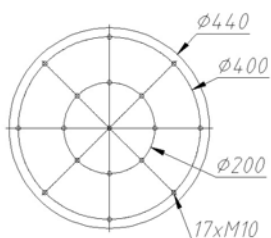
All shakers come standard in a rotating trunnion for easy 90° rotation between the horizontal and vertical test axes. Trunnion is pneumatically isolated providing high stability and allowing for direct mounting onto conventional industrial concrete floors. All shakers are optionally available with an integrated or stand-alone slip table assembly.

◎ D-Class Switching Amplifier

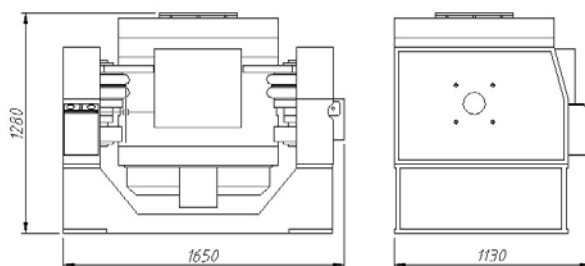
Our state-of-art modular switching amplifiers are 100% air-cooled with redundant safety systems and system interlocks insuring performance that is reliable and stable. All amplifiers adopt IGBT power modules of high quality.

◎ Safety

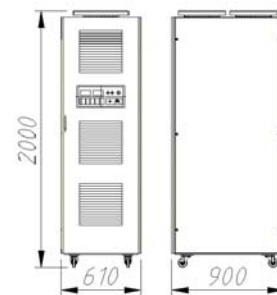
Products comply with European tests standards and ISO regulations.



Armature insert pattern



Shaker body



Amplifier

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S501LS3-440/SPA503/ACU153 TECHNICAL SPECIFICATIONS

Shaker Specifications S501LS3-440

<i>Sine (Pk)</i>	5,000 kgf (11,000 lbf)	<i>Vertical Load Support</i>	500 kg (1100 lbs)
<i>Random (RMS)</i>	5,000 kgf (11,000 lbf)	<i>Table Diameter</i>	440 mm (17.3")
<i>Shock (Pk)</i>	10,000 kgf (22,000 lbf)	<i>Load Attachment Points (Standard)</i>	17 stainless steel M10 Inserts (UNC option)
<i>Usable Frequency</i>	5 to 2,700 Hz	<i>Degauss Coil</i>	Standard
<i>Maximum Displacement (p-p)</i>	76mm (3") intermittence 63mm (2.5") continuous	<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>	1650mmL×1130mmD ×1280mmH (65"L×44.5"D×50.4"H)
<i>Maximum Acceleration</i>	90 g		
<i>Fundamental Resonance Frequency (Bare table)</i>	2,400 Hz (nom.) +/- 5%	<i>Weight of Shaker (Uncrated)</i>	4,500 kg (9,900 lbs)
<i>Body Suspension Natural Frequency (Thrust Axis)</i>	Less than 2.5 Hz	<i>Compressed Air Requirement</i>	0.6 Mpa (87 psi)
<i>Armature Effective Nominal Weight</i>	55 kg (121 lbs)		

Power Amplifier Specifications SPA503

<i>Rated Output Capacity</i>	50 kVA
<i>Signal to Noise Ratio</i>	Greater than 65 dB
<i>Amplifier Efficiency</i>	Greater than 90%
<i>Interlock Protection(to prevent the output devices from working outside their specified limits)</i>	•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

<i>Blower Power (Full Load)</i>	15 kW (20 HP)
<i>Air Flow Rate</i>	Air Flow: 1.1 m ³ /s (2336 CFM) Air Pressure: 0.0077 Mpa (1.12 PSI)

System Environmental Requirement

<i>Operating Room Temperature</i>	0 to 40 degree C
<i>Humidity</i>	0 to 85%, non condensing
<i>System Continuous Duty</i>	not less than 7 hours at the full ratings
<i>Amplifier Power Requirement, exclusive blower motor which draws power separately from site distributor</i>	380/415/480 VAC, 50 Hz, 3Ph, 75 kVA (60 Hz as an option)

SYSTEM OPTIONS

<ul style="list-style-type: none"> •Slip Table Configuration •V-Groove Caster and Rail System •Table Inserts •Head Expander 	<ul style="list-style-type: none"> •Thermal Barrier •Load Support Air Compensator •Air Caster •Pneumatic Centering Controller, PCC-1
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