

VIBRATION SYSTEM

ELECTRODYNAMIC VIBRATION TEST SYSTEMS

SEV 125 Series Shaker

- > SEV 125 - SPA 500V
- > SEV 125 - SPA 1K
- > SEV 125 - SPA 2K

Engineering institutions and test laboratories use our low-thrust shakers for experiments and injecting frequencies in a wide band.

The shaker's electromagnet is energized by the solid-state field power supply interlocked electronically to the amplifier console and is placed within the console to save space.

The system's front panel interface guides the user to operate sequentially. By integrating a controller, the system can also be used for studying and sample test projects.

Coupled with slip table, expander and controller, the system becomes most versatile for the TEST.



Saraswati Dynamics

SYSTEM APPLICATIONS

- LABORATORY EXPERIMENTS
- ELECTRONIC ASSEMBLY TESTING
- TRANSDUCER CALIBRATION
- ENGINEERING INSTITUTIONS
- MODAL TESTS
- TELECOMMUNICATION EQUIPMENTS

VIBRATION SYSTEM

Technical Performance Parameters

Model

Model SEV 125 / SPA 500V

SEV 125 series Shaker	Metric	American
Armature Diameter	125 mm	4.9 Inch
Sine force peak	70 Kgf	155 lbf
Random force rms*	50 Kgf	110 lbf
Bare table Acceleration	392 mt/s ²	40 'g'
Velocity	1.0 mt/s	3.29 in/s
Displacement (p-p)	15 mm	0.6 inch
Effective mass of Armature	1.5 Kg	3.3 lb
Armature Resonance (±5%)	4100 Hz	4100 Hz
Useful frequency range	upto 4500 Hz	upto 4500 Hz
Suspension axial stiffness	1.6 Kg / mm	89.6 lb / in
Suspension Cross-axial stiffness	230 Kg / mm	12879.5 lb / in
Cooling air flow rate	8.5 M ³ /mt	300 CFM
Stray Magnetic Field **	< 2.5 mT	< 25 gauss
Pay Load Capacity	12 Kg	26.4 lb
Working ambient temperature range	0 – 45°C	32° – 113°F
Shaker dimensions (L x W x H)	540 x 375 x 495 (mm)	21.2 x 14.7 x 19.4(Inch)

SPA Series Amplifier	
Rated Output Voltage	60 V
Rated Output Current	25 A
Input Impedance	10 KΩ
Input Sensitivity	4 V rms
Module Efficiency	> 90 %
Signal to Noise Ratio	> 70 dB
Total Harmonic Distortion	0.5%
Working Ambient Temperature Range	5-45°C
Overall dimensions W x D x H (mm)	600 x 600 x 500

System Utilities & Safety	
Power Requirement (3 Phase + N + E)	3 KVA
Pneumatic Supply	Not required
Protection Interlocks	Main Input Over & Under Voltage, Over Current, Loss of Input Phase, Module Disable, Over Temperature Amplifier & Shaker, Cooling, Field fail and user safety interlock
Safety Norms	Comply with International Safety requirements for CE

* Force with payload equal to or greater than twice the armature mass.

** At 150 mm above armature with full field power (optional).

- The formal quotations reflect latest specifications and supersedes this printed pdf sheet/ catalogue.
- Head Expander or Load Support Platforms can be integrated, if required for testing voluminous specimens.
- Armature top contains 9 nos. SS inserts. 01 at centre, 04 at 70 mm PCD and 04 at 100 mm PCD.



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VIBRATION SYSTEM

Technical Performance Parameters

Model

Model SEV 125 / SPA 1K

SEV 125 series Shaker	Metric	American
Armature Diameter	125 mm	4.9 Inch
Sine force peak	100 Kgf	220 lbf
Random force rms*	70 Kgf	154 lbf
Bare table Acceleration	588 mt/s ²	60 'g'
Velocity	1.2 mt/s	47.24 in/s
Displacement (p-p)	20 mm	0.8 inch
Effective mass of Armature	1.70 Kg	3.74 lb
Armature Resonance (±5%)	4100 Hz	4100 Hz
Useful frequency range	upto 4500 Hz	upto 4500 Hz
Suspension axial stiffness	1.6 Kg / mm	89.6 lb / in
Suspension Cross-axial stiffness	230 Kg / mm	12879.5 lb / in
Cooling air flow rate	8.5 M ³ /mt	300 CFM
Stray Magnetic Field **	< 2.5 mT	< 25 gauss
Pay Load Capacity	12 Kg	26.4 lb
Working ambient temperature range	0 – 45°C	32° – 113°F
Shaker dimensions (L x W x H)	540 x 375 x 495 (mm)	21.2 x 14.7 x 19.4(Inch)

SPA Series Amplifier	
Rated Output Voltage	60 V
Rated Output Current	35 A
Input Impedance	10 KΩ
Input Sensitivity	4 V rms
Module Efficiency	> 90 %
Signal to Noise Ratio	> 70 dB
Total Harmonic Distortion	0.5%
Working Ambient Temperature Range	5-45°C
Overall dimensions W x D x H (mm)	600 x 600 x 500
System Utilities & Safety	
Power Requirement (3 Phase + N + E)	4 KVA
Pneumatic Supply	Not required
Protection Interlocks	Main Input Over & Under Voltage, Over Current, Loss of Input Phase, Module Disable, Over Temperature Amplifier & Shaker, Cooling, Field fail and user safety interlock
Safety Norms	Comply with International Safety requirements for CE

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** At 150 mm above armature with full field power (optional).

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VIBRATION SYSTEM

Technical Performance Parameters

Model

Model SEV 125 / SPA 2K

SEV 125 series Shake	Metric	American
Armature Diameter	125 mm	4.9 Inch
Sine force peak	150 Kgf	330 lbf
Random force rms*	105 Kgf	231 lbf
Bare table Acceleration	784 mt/s ²	80 'g'
Velocity	1.2 mt/s	47.24 in/s
Displacement (p-p)	20 mm	1 inch
Effective mass of Armature	1.9 Kg	4.11 lb
Armature Resonance (±5%)	4100 Hz	4100 Hz
Useful frequency range	upto 4500 Hz	upto 4500 Hz
Suspension axial stiffness	1.6 Kg / mm	89.6 lb / in
Suspension Cross-axial stiffness	230 Kg / mm	12879.5 lb / in
Cooling air flow rate	8.5 M ³ /mt	300 CFM
Stray Magnetic Field **	< 2.5 mT	< 25 gauss
Pay Load Capacity	12 Kg	26.4 lb
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SPA Series Amplifier

Rated Output Voltage	70 V
Rated Output Current	35 A
Input Impedance	10 KΩ
Input Sensitivity	4 V rms
Module Efficiency	> 90 %
Signal to Noise Ratio	> 70 dB
Total Harmonic Distortion	0.5%
Working Ambient Temperature Range	5-45°C
Overall dimensions W x D x H (mm)	600 x 600 x 500

System Utilities & Safety

Power Requirement (3 Phase + N + E)	5 KVA
Pneumatic Supply	Not required
Protection Interlocks	Main Input Over & Under Voltage, Over Current, Loss of Input Phase, Module Disable, Over Temperature Amplifier & Shaker, Cooling, Field fail and user safety interlock
Safety Norms	Comply with International Safety requirements for CE

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