

VIBRATION SYSTEM

ELECTRODYNAMIC VIBRATION TEST SYSTEMS

SEV 140 Series Shaker

- > SEV 140 - SPA 2K
- > SEV 140 - SPA 3K
- > SEV 140 - SPA 4K

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 140 / SPA 2K

SEV 140 series Shaker		
	Metric	American
Armature Diameter	140 mm	5.51 Inch
Sine force peak	100 Kgf	220 lbf
Random force rms*	70 Kgf	154 lbf
Bare table Acceleration	323.4 mt/s ²	33 'g'
Velocity	1.4 mt/s	55.11 in/s
Displacement (p-p)	25 mm	1 inch
Effective mass of Armature	3 Kg	6.6 lb
Armature Resonance (±5%)	3500 Hz	3500 Hz
Useful frequency range	upto 4200 Hz	upto 4200 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)	585 x 415 x 635 (mm)	23 x 16.3 x 25(Inch)

SPA Series Amplifier	
Rated Output Voltage	70 V
Rated Output Current (Sine & Random)	40 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 1635

System Utilities & Safety	
Power Requirement (3 Phase + N + E)	6 KVA
Pneumatic Supply Requirement	- - -
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 Platform and Combo base Horizontal Slip Table can be integrated, if required for testing voluminous specimens.
- Armature top contains 9 nos. of SS inserts, 01 at centre, 04 at 70 mm PCD and 04 at 100 mm PCD.



Saraswati Dynamics

VIBRATION SYSTEM

Technical Performance Parameters

Model

Model SEV 140 / SPA 3K

SEV 140 series Shaker		
	Metric	American
Armature Diameter	140 mm	5.51 Inch
Sine force peak	200 Kgf	440 lbf
Random force rms*	140 Kgf	308 lbf
Shock force	-	-
Bare table Acceleration	657 mt/s ²	67 'g'
Velocity	1.4 mt/s	55.10 in/s
Displacement (p-p)	25 mm	1 inch
Effective mass of Armature	3 Kg	6.6 lb
Armature Resonance (±5%)	3500 Hz	3500 Hz
Useful frequency range	upto 4000 Hz	upto 4000 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	20 Kg	44 lb
Working ambient temperature range	0 – 45°C	32° – 113°F
Shaker dimensions (L x W x H)	585 x 415 x 635 (mm)	23 x 16.3 x 25(Inch)

SPA Series Amplifier	
Rated Output Voltage	70 V
Rated Output Current (Sine & Random)	50 A
Input Impedance	10 KΩ
Input Sensitivity	4 V ram
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 1635

System Utilities & Safety

Power Requirement (3 Phase + N + E)	8 KVA
Pneumatic Supply Requirement	- - -
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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VIBRATION SYSTEM

Technical Performance Parameters

Model

Model SEV 140 / SPA 4K

SEV 140 series Shaker	Metric	American
Armature Diameter	140 mm	5.51 Inch
Sine force peak	300 Kgf	660 lbf
Random force rms*	200 Kgf	440 lbf
Shock force	-	-
Bare table Acceleration	882 mt/s ²	90 'g'
Velocity	1.4 mt/s	55.10 in/s
Displacement (p-p)	25 mm	1 inch
Effective mass of Armature	3.5 Kg	7.7 lb
Armature Resonance (±5%)	3750 Hz	3750 Hz
Useful frequency range	upto 4200 Hz	upto 4200 Hz
Suspension axial stiffness	1.6 Kgf / mm	89.6 lbf / 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	20 Kg	44 lb
Working ambient temperature range	0 – 45°C	32° – 113°F
Shaker dimensions (L x W x H)	585 x 415 x 635 (mm)	23 x 16.3 x 25(Inch)

SPA Series Amplifier	
Rated Output Voltage	75 V
Rated Output Current (Sine & Random)	55 A
Input Impedance	10 KΩ
Input Sensitivity	4 V ram
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 1635

System Utilities & Safety

Power Requirement (3 Phase + N + E)	10 KVA
Pneumatic Supply Requirement	- - -
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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