

Model Number
K394B31

CALIBRATION SHAKER SYSTEM – AIR BEARING SHAKER

Revision: B
ECN #:

PERFORMANCE

	<i>English</i>	<i>SI</i>	
Stroke	0.4 in pk-pk	10 mm pk-pk	
Frequency Range, frequency response testing	2 to 20000 Hz	2 to 20000 Hz	
Frequency Range, resonant search testing	Up to 50 kHz	Up to 50 kHz	
Acceleration Level (sinusoidal)			
Continuous (25 to 10000 Hz)	8.5 g pk	83 m/s ² pk	
Intermittent (35 to 10000 Hz)	40 g pk	392 m/s ² pk	
Maximum Payload	17.6 oz	500 gm	[1]
Lifting Spring	Lorentz – force coil	Lorentz – force coil	
Air Supply Specifications			
Graphite	Graphite	Graphite	
Pressure	30 to 60 psi	2 to 4 bar	
Recommended flow supply to regulator	1.5 ft ³ /min	0.7 L/s	
Air-bearing flow rate (typical)	0.15-0.20 ft ³ /min	0.07-0.09 L/s	
ISO 8573.1 Quality Class	3	3	
Dirt (particle size)	5 micron	5 micron	
Water pressure dewpoint (100psi gauge)	-4 °F (128 ppm vol.)	-20 °C (128 ppm vol.)	
Oil (including vapor)	1 mg/m ³	1 mg/m ³	
Armature	Beryllium	Beryllium	
Insert	Beryllium	Beryllium	
Total mass	1.6 oz	45 gm	[2]
Sensor mounting thread size	¼-28 UNF	¼-28 UNF	[3]
Transverse Motion			
<5000 Hz	5%	5%	
<10000 Hz	10%	10%	
<20000 Hz	20%	20%	
Shaker Dimensions	6.5 x 5.25 inch	165 x 133 mm	
Shaker Weight	22.3 lbs	10.1 kg	

ELECTRICAL

Drive-Coil Resistance	1.0 Ohm (nominal)	1.0 Ohm (nominal)
Lorentz-Coil Resistance	2.8 Ohm (nominal)	2.8 Ohm (nominal)

INTERNAL REFERENCE ACCELEROMETER

Type	Quartz Shear ICP®	Quartz Shear ICP®
Sensitivity	10 mV/g	1.02 mV/m/s ²
Frequency Range (+/- 3dB)	0.35 to 30000 Hz	0.35 to 30000 Hz
Resonant Frequency	>70 kHz	>70 kHz

POWER AMPLIFIER

Output Voltage, max	38 V rms	38 V rms	[4]
Current Limit	18 A peak	18 A peak	[5]
Output Power	400 W	400 W	[6]
DC Current Supply	1.75 Amp	1.75 Amp	

All specifications are at room temperature unless otherwise specified.

System Components

- 396C11: Air bearing shaker
- 080A200: Beryllium insert (1/4-28 mount) with internal reference accelerometer [2]
- 482A21: ICP® sensor signal conditioner
- 2100E21-C: SmartAmp™ AC power amplifier with integrated DC supply and air regulator
- 003C10: Reference accelerometer sensor cable
- 012A03: Signal conditioner output cable
- 012A01 (Qty 2): Shaker cable

NOTES

- [1] DC coil payload limit. See manual for dynamic frequency response limits.
- [2] 080A200 is standard armature insert supplied. Other units available include 080A199 (10-32 thread), 080A205 (M6 x 0.75 – 6H thread), and 080A206 (M8 x 1.0 – 6H thread).
- [3] Typical, tested to ISO 16063-21:2003 recommendations
- [4] at 4 Ω load impedance, 1 kHz, THD 0.1%
- [5] typical, over-current protection limited
- [6] at 4 Ω load impedance, 1 kHz, THD 0.6%

INCLUDED ACCESSORIES

- Air filter assembly, includes filter and appropriate couplings
- Sensor mounting adapter kit, includes typical mounting adaptor studs and plates
- Primary calibration of internal reference accelerometer via laser interferometer for ultra low uncertainty of 0.2% at 100 Hz and 160 Hz
- Rack mount brackets for 2100E21 SmartAmp
- Power cables
- Spare fuses

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In the interest of constant product improvement, specifications may change without notice.

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Date: 9/23/19

Product Manager:

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Date: 9/11/19

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Date: 9/23/19

Spec Number:

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