

Model Number
K394B31

CALIBRATION SHAKER SYSTEM – AIR BEARING SHAKER

Revision: C
ECN #:

PERFORMANCE

	<u>English</u>	<u>SI</u>	
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			
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	Class 3	
Armature	Beryllium	Beryllium	
Insert	Beryllium	Beryllium	
Total mass	2.2 oz	62 gm	[2]
Sensor mounting thread size	¼-28 UNF	¼-28 UNF	[3]
Transverse Motion			[4]
<921Hz	5%	5%	[4]
<15000 Hz	10%	10%	[4]
<20000 Hz	20%	20%	[4]
Shaker Dimensions	6.5 x 5.25 inch	165 x 133 mm	
Shaker Weight	22.3 lbs	10.1 kg	

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

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 certainty of 0.2% at 100 Hz and 159 Hz
 Rack mount brackets for 2100E21 SmartAmp
 Power cables
 Spare fuses

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	[5]
Current Limit	18 A peak	18 A peak	[6]
Output Power	400 W	400 W	[7]
DC Current Supply	1.75 Amp	1.75 Amp	

All specifications are at room temperature unless otherwise specified.

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] These are typical values. TMS performs 100% acceptance testing to the suggested specifications of ISO 16063-21-2003.
 [5] At 4 Ω load impedance, 1 kHz, THD 0.1%.
 [6] Typical, over-current protection limited.
 [7] At 4 Ω load impedance, 1 kHz, THD 0.6%.

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

Project Engineer:

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Date: 9/23/21

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Date: 9/23/21

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Date: 9/23/21

Spec Number:

PS-0092

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