Model Number
K394B30

# CALIBRATION SHAKER SYSTEM – AIR BEARING SHAKER

Revision: E
ECN #:

| PERFORMANCE | English | SI | |
|---|---|---|---|
| Stroke | 0.4 in pk-pk | 10 mm pk-pk | |
| Frequency Range, frequency response testing | 2 to 15000 Hz | 2 to 15000 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 | Aluminum | Aluminum | |
| Insert | Beryllium | Beryllium | |
| Total mass | 2.2 oz | 62 gm | |
| Sensor mounting thread size | ¼-28 UNF | ¼-28 UNF | [2] |
| Transverse Motion | | | [3] |
| <921 Hz | 5% | 5% | [4] |
| <10000 Hz | 10% | 10% | [4] |
| <15000 Hz | 30% | 30% | [4] |
| 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 | [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.***

## System Components

396C10: Air bearing shaker
080A200: Beryllium insert (1/4-28 mount) with internal reference accelerometer [2]
482A21: ICP® sensor signal conditioner
2100E23-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 uncertainty of 0.2% at 100 Hz and 159 Hz
Rack mount brackets for 2100E21 SmartAmp
Power cables
Spare fuses

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%.



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

| | Project Engineer: | Product Manager: | Mkt Team Leader: | Spec Number: |
|---|---|---|---|---|
| | NEW | CGL | DEG | PS-0095 |
| | Date: 1/14/25 | Date: 1/14/25 | Date: 1/14/25 | |

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