

MODEL 2016 ELECTRODYNAMIC SHAKER

20,000 TO 50,000 FORCE POUNDS



- ▶ New Armature design
- ▶ 20,000 pounds force (89kN) Sine & Random
- ▶ Dual hydrostatic bearings for lateral support
- ▶ 2" (50.8 mm) stroke
- ▶ Lin-E-Air™ Isolation system
- ▶ 2000 (907 kg) pounds payload support

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The Ling Electronics Model 2016 Shaker is the next generation of closed-loop, water-cooled shakers. The 2016 can be configured with the DMA 1212E for an “enduro-performance” system rated at 18,000-lbf Sine and 13,000-lbf Random; with the DMA 4016E for 20,000-lbf Sine and 16,000 Random; or the DMA 4020 and a chiller when a full 20,000-lbf Random force rating is required.

The shaker is mounted in a standard, low-profile trunnion base and can be rotated 90 degrees for horizontal operation and 180 degrees for easy maintenance. The 2016 utilizes Ling’s Comp-Flex™ flexures constructed of state-of-the-art composite carbon material that provides long life, reliable operation, and excellent stability. Installed in a flat configuration with foreshortening compensation, the Comp-Flex system delivers a full 2.0-inch (50.8-mm) continuous stroke.

Designed for heavy-duty service, the 2016’s dual hydrostatic bearings reduce cross-axis motion and allow heavy side loading. Ling’s unique OPCS-100 optical centering system controls the pneumatic load support system and automatically centers the armature and test specimens in the vertical axis with loads up to 2,000 pounds (907 kg).

The newly designed double-ended magnetic field structure is water-cooled for high efficiency. The continuously wound copper field coils are highly reliable with no internal joints or connections. The armature combines a stiff, cast-aluminum structure with a lightweight, hollow aluminum driver coil. The low-mass coil allows the testing of heavy specimens with minimal change in axial resonance frequency, remaining above 2,000 Hz with a 1,000-pound load.

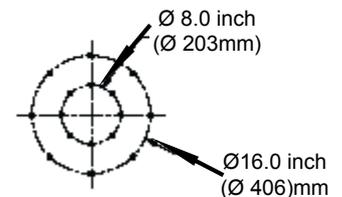
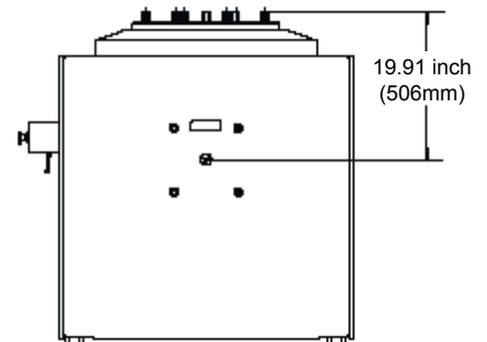
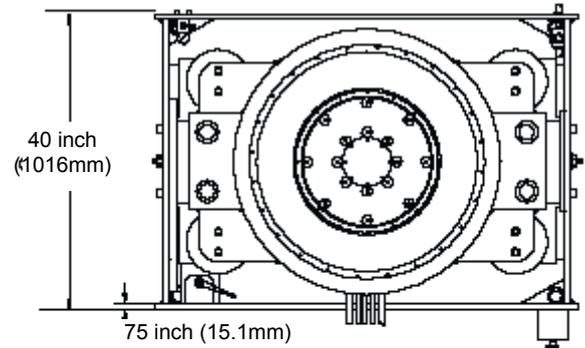
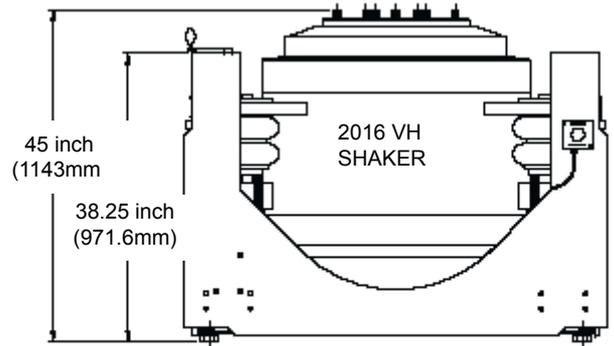
Over 50 Years of Proven Reliability!

MODEL 2016 ELECTRODYNAMIC SHAKER SPECIFICATIONS

20,000 TO 50,000 FORCE POUNDS

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|-------------------------------|---|
| AXIAL STIFFNESS: | 320 lbs. per inch (56 kN/m) |
| ARMATURE DIAMETER: | 17.25 inch (438.1 mm) with 16 inch bolt pattern |
| ARMATURE MASS: | 123 lbs. (55.79kg) nominal |
| ARMATURE SUSPENSION: | Four flat CompFlex, carbon composite flexures and two Hydrostatic oil bearings |
| STATIC LOAD SUPPORT: | 2000 lbs. (906 kg) |
| DISPLACEMENT: | 2.0 inch p-p (50.8 mm) continuous, 2.2 inch p-p (55.9 mm) between mechanical limits |
| FORCE RATING: | 20,000 lbf (89kN) Sine Vector, 20,000 lbf (89kN) RMS random 50,000 (222.5kN) Shock |
| MAXIMUM VELOCITY: | 70 IPS (1.78 m/s), bare table as limited by Amplifier voltage |
| MAXIMUM ACCELERATION: | 150g sine vector |
| FREQUENCY RANGE: | 5 to 3000 Hz |
| UTILITY POWER: | 290 MAX kVA |
| STRAY MAGNETIC FIELD: | Less than 8 gauss (0.8 mT) at 6 inch (152.4 mm) above table |
| TEMPERATURE RANGE: | Thermal Chamber Operation: -40° to +150° F (-40° to +65.5° C) Piggy-Back Operation: -100° to +350° F (piggyback) (-73° to +177° C) |
| RAW WATER TEMPERATURE: | 40° to 85° F (4.40° to 29.40° C) |
| COOLING METHOD: | Closed-loop system circulates distilled water through armature and field coils. Heat is transferred through a water-to- water heat exchanger. Standard cooling units provided for cooling tower or chilled. |



ARMATURE PATTERN

Comes equipped with 16 removable stainless steel inserts