



MODEL 2075E

## 75 LBF ELECTRODYNAMIC EXCITER

- Innovative dual-purpose design integrates platform table for traditional vibration testing with a through-hole armature for modal studies
- 3.25 in (8.3 cm) diameter platform table supports payloads up to 7 lb (3.2 kg)
- Through-hole armature with chuck and collet attachment provides simple set-up with modal stingers
- Lightweight and portable - weighing just 35 lb (16 kg)
- Trunnion base with EasyTurn™ handles provides flexibility and full rotation when positioning and aligning the shaker
- 1.0 in (25.4 mm) stroke and wide frequency range (to 6500 Hz) support broad range of applications
- Forced air cooling sufficient to meet full shaker performance (75 lbf<sub>pk</sub>) specifications

## DUAL-PURPOSE SHAKER

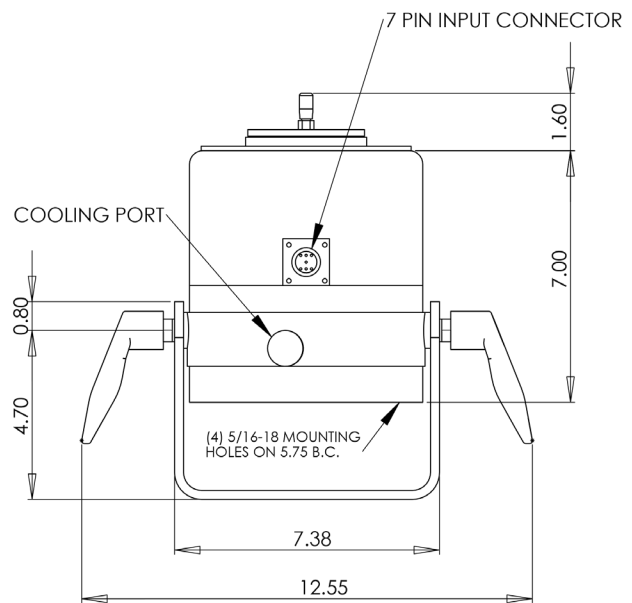
The Modal Shop's Dual-Purpose Shaker Model 2075E is a small and lightweight, yet powerful permanent magnet shaker, providing up to 75 lbf pk sine force. A large armature (3.25 in/8.3 cm diameter platform table supporting payloads up to 7 lb/3.2 kg) makes the shaker ideal for traditional vibration control testing of components and subassemblies. The unit is also designed with a through-hole armature and includes a chuck and collet attachment, providing simple set-up with stingers for experimental modal analysis applications. When used in this configuration, these stingers greatly simplify test setup with an easy connection to the force sensor and test structure, and help decouple cross-axis force inputs, minimizing force measurement errors.

The shaker is supplied in a standard trunnion mounting base with EasyTurn™ handles, allowing operation through a large rotation for easy set-up. Its armature suspension design provides excellent axial compliance with high lateral stiffness. There are no rolling or sliding components to wear out or produce unwanted noise and distortion. Its 1 in (25.4 mm) stroke, wide frequency range (useable to 6500 Hz), and innovative dual-purpose platform table design support a broad range of applications.

SPECIFICATIONS	
<b>Performance</b>	
Output Force, sine pk, ambient air cooling	40 lbf (178 N)
Output Force, sine pk, forced air cooling	75 lbf (334 N) <sup>[1]</sup>
Output Force, random RMS, ambient air cooling	17 lbf (76 N)
Output Force, random RMS, forced air cooling	28 lbf (125 N) <sup>[1]</sup>
Output Force, shock pk (50 ms)	75 lbf (334 N)
Stroke Length, continuous pk-pk	1.0 in (25.4 mm)
Stroke Length, between stops	1.03 in (26.2 mm)
Frequency Range, nominal	DC - 6500 Hz <sup>[2]</sup>
Fundamental Resonance	> 4000 Hz <sup>[2]</sup>
Maximum Acceleration, bare table	75 g pk
Maximum Acceleration, 1 lb load	38 g pk
Maximum Acceleration, 5 lb load	12 g pk
Maximum Acceleration, resonance	120 g pk
Maximum Acceleration, peak shock	150 g pk
Maximum Velocity	70 in/s pk (1.8 m/s pk)
Maximum Payload, typical	7 lb (3.2 kg)
<b>Physical</b>	
Platform Mounting Thread	5x 10-32 <sup>[3]</sup> <sup>[4]</sup>
Armature Weight	1 lb (0.45 kg)
Suspension Stiffness	60 lbf/in (10.5 N/mm)
Rated Drive Current, ambient air cooling	11 A RMS
Rated Drive Current, forced air cooling	22 A RMS
Stray Magnetic Field, 1.5 in (33 mm) above table	< 15 Gauss
Stray Magnetic Field, 1.0 in (25 mm) from body	< 20 Gauss
Cooling Air	100 cfm/15 in H <sub>2</sub> O <sup>[1]</sup>
Dimensions (H x W x D), nominal	10.5 x 12.55 x 6.5 in (267 x 319 x 165 mm) <sup>[5]</sup>
Weight, nominal	35 lb (16 kg)
Temperature Operating Range	40 – 100 °F (4 – 38 °C), < 85% RH
<b>Supplied Accessories</b>	
Trunnion base with EasyTurn™ handles	
Shaker cable 8 ft (2.4 m)	
2000X03 Shaker Accessory Kit (includes case, modal stingers, chuck with collets, wrenches, spare fuse, & other accessories)	

Suggested Accessories	
2050E09	Power Amplifier, 900 W, selectable voltage / current control <sup>[6]</sup>
2100E21-400	SmartAmp™ Power Amplifier 400 W, 92% efficient, continuous gain adjustment <sup>[7]</sup>
2050A	Lateral Excitation Stand
2000X01	Head Expander
2000X02	Base Isolation Mounts
PCB 288D01	ICP® impedance head driving point sensor
PCB 208	Series ICP® force sensors

- [1] Full force range requires forced air cooling with 2050E09 Power Amplifier.  
 [2] Load dependent, stated specifications based upon bare table.  
 [3] Includes 10-32 to chuck/collet adaptor for through-hole armature/stinger applications.  
 [4] Inserts also available with M5 threads.  
 [5] Reference outline drawing for details.  
 [6] Always included if ordered as K2075E075 Shaker System.  
 [7] Always included if ordered as K2075E040 Shaker System.



**Modal 2075E - Front View**  
 Dimensions in inches

## THE MODAL SHOP

AN MTS COMPANY

10310 Aerohub Boulevard, Cincinnati, OH 45215 USA

Toll-Free in the USA: 800 860 4867

Phone: 1 513 351 9919 | Email: info@modalshop.com

The Modal Shop, Inc. offers structural vibration and acoustic sensing systems and services for various applications in design and test laboratories as well as manufacturing plants. An extensive sound and vibration rental program, precision calibration systems, and both modal and vibration shakers are designed to simplify test phases. Non Destructive Testing Systems help manufacturers provide 100% quality inspection of metal components. The Modal Shop, Inc. is a subsidiary of PCB Piezotronics, Inc., and PCB® is a wholly owned subsidiary of MTS Systems Corporation.

© 2019 The Modal Shop, Inc. In the interest of constant product improvement, specifications are subject to change without notice. PCB®, ICP®, Swiveler®, Modally Tuned®, and IMI® with associated logo are registered trademarks of PCB Piezotronics, Inc. in the United States. ICP® is a registered trademark of PCB Piezotronics Europe GmbH in Germany and other countries. UHT-12™ is a trademark of PCB Piezotronics, Inc. SensorLine™ is a service mark of PCB Piezotronics, Inc. SWIFT® is a registered trademark of MTS Systems Corporation in the United States. All other trademarks are property of their respective owners.

DS-0077 revD



MTS Sensors, a division of MTS Systems Corporation (NASDAQ: MTSC), vastly expanded its range of products and solutions after MTS acquired PCB Piezotronics, Inc. in July, 2016. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corp.; IMI Sensors and Larson Davis are divisions of PCB Piezotronics, Inc.; Accumetrics, Inc. and The Modal Shop, Inc. are subsidiaries of PCB Piezotronics, Inc.