MODEL **2075E**

75 LBF ELECTRODYNAMIC EXCITER

DUAL-PURPOSE, PLATFORM WITH THROUGH-HOLE ARMATURE

Model 2075E

The Modal Shop 2075E electrodynamic exciter 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 Easy-Turn™ 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 very broad range of applications.

BENEFITS:

- 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 pk) specifications.

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SPECIFICATIONS:

PERFORMANCE:

Output Force, sine pk, ambient air cooling	40 lbf (178 N)
Output Force, sine pk, forced air cooling	75 lbf (334 N) [1]
Output Force, random RMS, ambient air cooling	17 lbf (76 N)
Output Force, random RMS, forced air cooling	28 lbf (125 N) [1]
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 [2]
Fundamental Resonance	> 4000 Hz [2]
Maximum Velocity	70 in/s pk (1.8 m/s pk)
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 Payload, typical	7 lb (3.2 kg)

PHYSICAL:

Platform Mounting Thread	5x 10-32 [3] [4]
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_2O [1]
Dimensions (H x W x D), nominal	10.5 x 12.55 x 6.5 in (267 x 319 x 165 mm) [5]
Weight, nominal	35 lb (16 kg)
Temperature Operating Range	40 °F–100 °F (4 °C–38 °C), < 85 % RH

SUPPLIED ACCESSORIES:

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, 900W, selectable voltage / current control [6]
2100E21-400 SmartAmp™ Power Amplifier 400W, 92% efficient, continuous gain adjustment [7]
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 adapter 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

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