

# ElectroForce® 3550 Test Instrument

## Versatility, Exceptional Performance

ElectroForce® test instruments from Bose provide exceptional fidelity, precision and versatility for a variety of test applications. The ElectroForce 3550 test instrument features a 15 kN dynamic force capability, using two linear motors in tandem, and has the largest range of displacement of all the ElectroForce instruments. Dynamic performance is dependent on test specimen characteristics, fixturing and test specimen configuration.

### Typical test applications

- Engineered materials, including reinforced plastics and composites
- Automotive and aerospace components
- Elastomeric components and materials
- Consumer products, including sports equipment, household items and electronics.

### Advantages and benefits

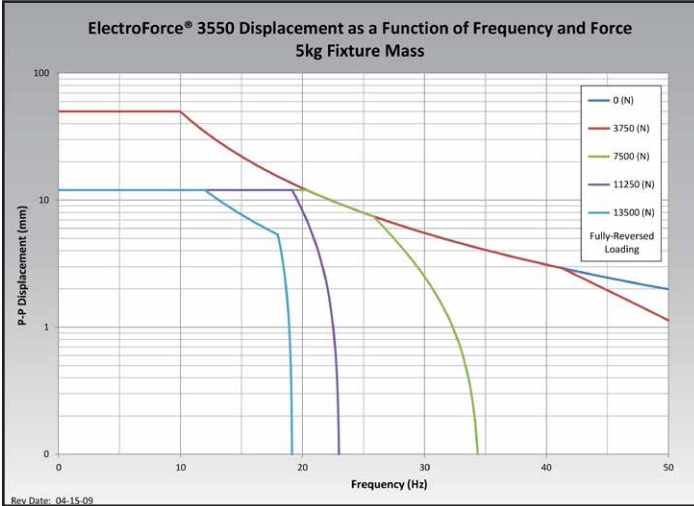
- Versatility for a variety of mechanical fatigue and dynamic characterization tests
- The linear motor subsystem is powered from a standard electrical outlet, requiring no additional infrastructure
- The load frame is air-cooled, clean-room compatible and provides quiet operation in a compact, space-saving package
- The ElectroForce linear actuator uses direct electromagnetic conversion to apply force, and features a proprietary design to provide greater acceleration, higher frequencies and high velocities
- Optional torsional motors are available for multiaxial test applications.



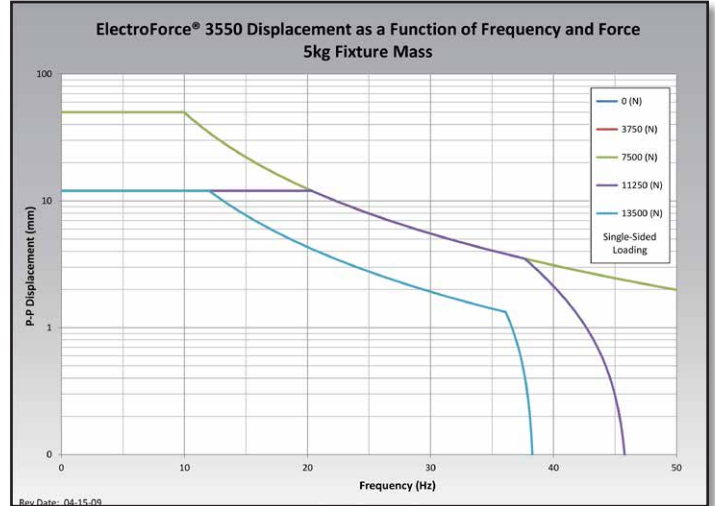
**BOSE**®

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## Dynamic Performance Curves:



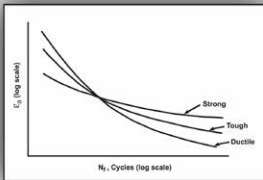
**Figure 1:** Bose® linear motor performance for displacement as a function of force and frequency (fully reversed loading).



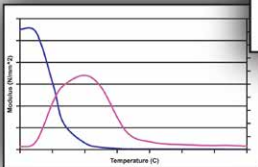
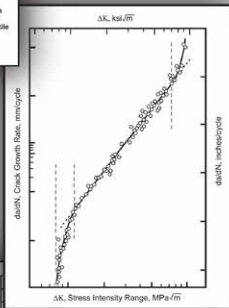
**Figure 2:** Bose linear motor performance for displacement as a function of force and frequency (single-sided loading).

Note: Actual attained force and frequency are dependent on test conditions, specimen, grips and environment.

### Fatigue/Durability



### Fracture Toughness/ Crack Growth



### DMA/ DMTA

### General Specifications:

- 15 kN dynamic force capability
- Maximum frequency: 50 Hz
- 50 mm displacement range
- Test space size: 0 to 1000 mm
- Maximum linear velocity: 1.5 m/sec
- Power: 208 - 230 V (400 V Europe) three phase power

### ElectroForce Test Instrument Overview:

ElectroForce® test instruments incorporate proprietary Bose linear motor technologies and WinTest® controls. WinTest software features an intuitive design which enables the user to quickly set up tests with little training. The ElectroForce linear motor utilizes a simple and durable moving-magnet design that provides excellent dynamic performance. ElectroForce test instruments are also lab-friendly thanks to their practically maintenance-free operation. As a result, they have set a new standard for performance, simplicity and versatility in a single test system.

Specifications are subject to change