

ElectroForce® 3520 Test Instrument

Versatility, Exceptional Performance

ElectroForce® test instruments from TA provide exceptional fidelity, precision and versatility for a variety of test applications. The ElectroForce 3520 test instrument features a 7.5 kN dynamic force capability, and has 50 mm displacement range. 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.



ElectroForce® 3520
Test Instrument

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Dynamic Performance Curves:

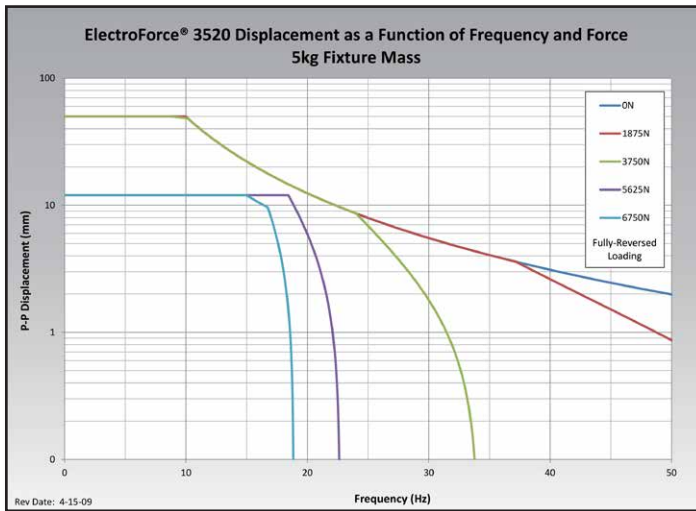


Figure 1: ElectroForce® linear motor performance for displacement as a function of force and frequency (fully reversed loading).

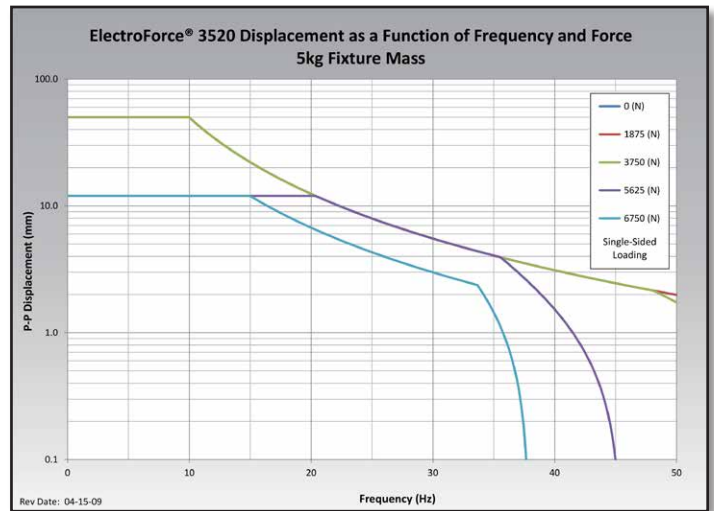
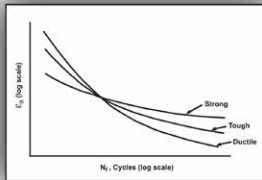


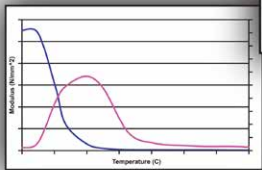
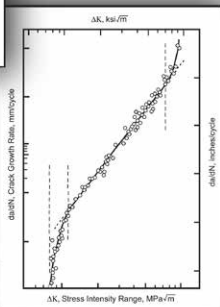
Figure 2: ElectroForce linear motor performance for displacement as a function of force and frequency (single-sided loading).

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:

- Dynamic force capability: 7.5 kN
- Maximum frequency: 50 Hz
- Displacement range: 50 mm
- 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 ElectroForce 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