ElectroForce® 3510 Test Instrument

Versatility, Exceptional **Performance**

ElectroForce® test instruments provide exceptional fidelity, precision and versatility for a variety of test applications. The ElectroForce 3510 test instrument features a 7.5 kN dynamic force capability, 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

- Orthopaedic materials and implants
- Medical devices, such as breast implants
- 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
- An optional ± 49 N-m torsional motor is available for multi-axial test applications.

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TA ElectroForce®

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Dynamic Performance Curves:

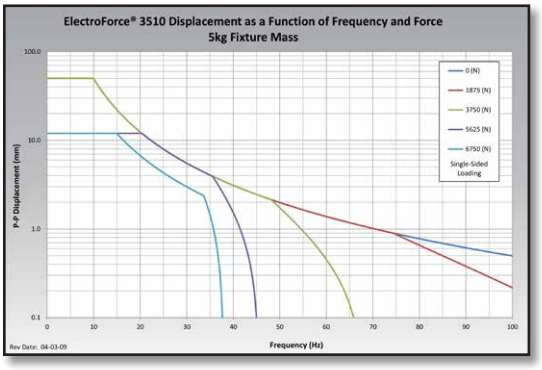


Figure 1

Figure 1: ElectroForce® linear motor performance for single sided (tension-tension) or (compression-compression) tests.

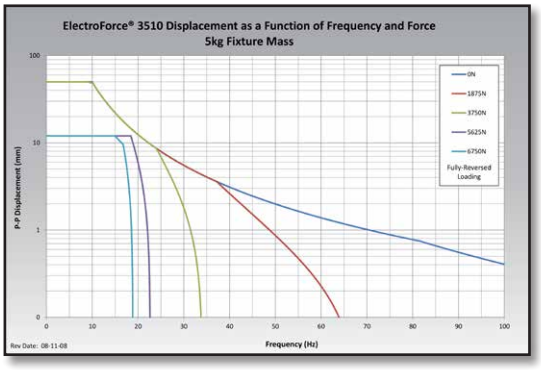


Figure 2

Figure 2: ElectroForce linear motor performance for fully reversed (tension-compression) tests.

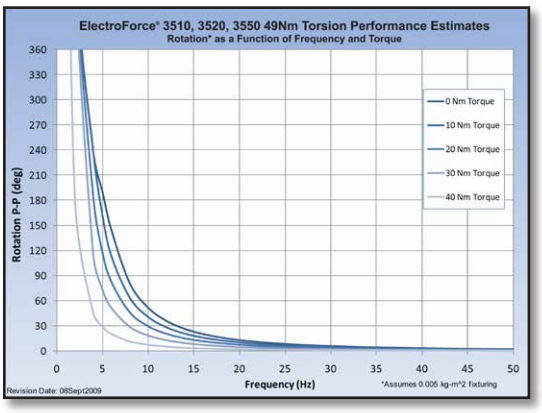


Figure 3

Figure 3: Performance of torsion actuator option for tests with peak to peak displacements up to 360°.

Figure 4: Performance of torsion actuator option for tests with peak to peak displacements up to 60°.

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

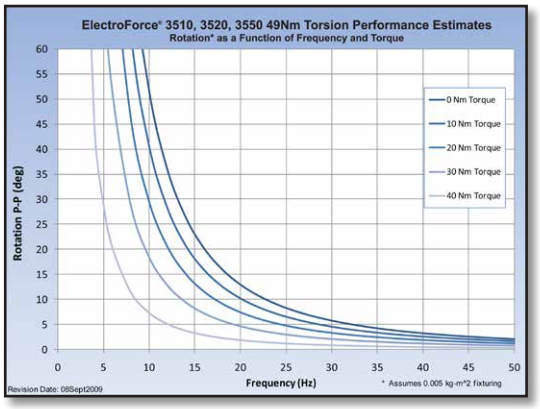
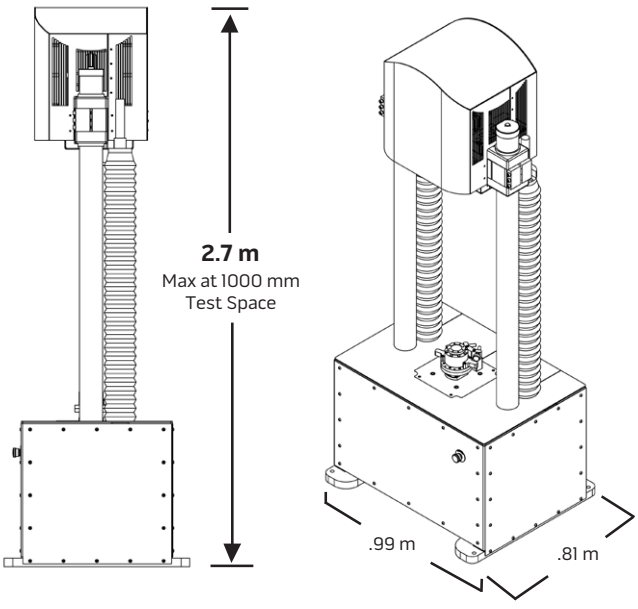


Figure 4



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Specifications are subject to change

General Specifications:

- 7.5 kN dynamic force capability
- 50 mm displacement range
- Maximum test space height 1000 mm
- Test space width 558 mm
- 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 elegance in a single test system.

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