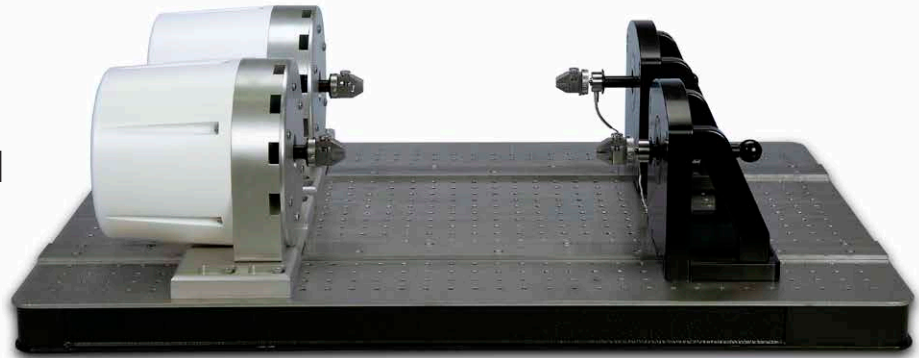


TestBench Instruments

Versatility for Component and Material Testing Applications



Two Motor TestBench Instrument with Reaction Brackets for Simultaneous Testing of Two Specimens

TestBench configurations are a versatile addition to the ElectroForce® line of high performance test instruments from ElectroForce®. They were designed with component testing in mind, and thanks to their modular approach, a wide array of configurations and performance capabilities are possible. The multiple specimen inputs can be synchronized and phased with one another to provide complex loading and simulations. If your needs change, you can reconfigure your existing components or add new components or capabilities at any time.

Actuator Technologies

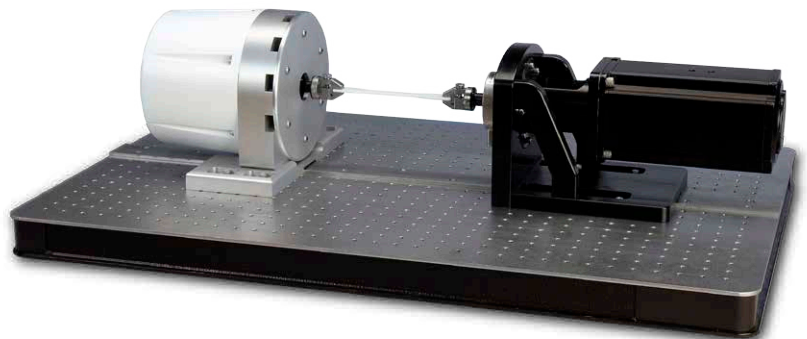
Choose the type of actuators that are best suited for your needs: ElectroForce motors for high bandwidth linear performance or rotary actuators for rotation or torque control performance.

- **ElectroForce linear actuators** are the same proprietary high-bandwidth, low-distortion actuators used with ElectroForce test instruments. They feature “plug-in-the-wall” operation, making them clean, quiet, energy efficient and practically maintenance-free.
- **Rotary brushless motors** are available for fine control, low torque applications. They are also available with continuous rotation for applications such as screw insertion simulation.

Benefits

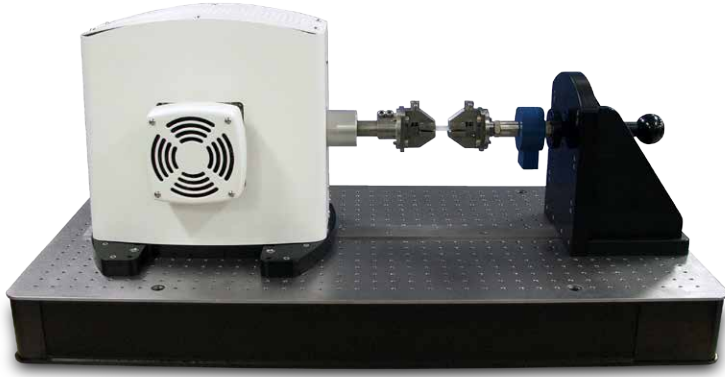
Some of the many benefits of ElectroForce TestBench instruments include:

- The modular design allows you to choose the components and configurations to suit your testing needs in one small, compact, space-saving package
- TestBench systems can be configured for different test applications
- TestBench systems can be multi-channel and multi-axis. The WinTest® PCI controller can provide control for up to eight channels at a time.



Axial-Torsion TestBench Instrument

TestBench Instruments



Single Motor 3000 N TestBench Instrument with Reaction Bracket

Configurations

Base plates can be provided in a variety of sizes. All are supplied with a bolt pattern that makes it easier to mount the TestBench components for your desired configuration. Smaller base plates can be oriented vertically with the addition of mounting legs.

Base Plate Specifications [†]	
Dimensions (W x L x T)	Weight
600 x 600 x 50 mm (24 x 24 x 2 in)	36 kg (78 lb)
600 x 915 x 50 mm (24 x 36 x 2 in)	55 kg (117 lb)
915 x 915 x 50 mm (36 x 36 x 2 in)	84 kg (175 lb)
508 x 1016 x 100 mm (20 x 40 x 4 in)	72 kg (156 lb)
600 x 1524 x 100 mm (24 x 60 x 4 in)	128 kg (281 lb)

Reaction brackets are pre-designed to allow you to attach your components or test specimen to the base plate in vertical or horizontal configurations. A microadjuster is included for easier specimen positioning.

Standard grips and accessories can be used to connect the specimen to the base plate or to the movers. We can also customize grips for your specific test requirements.

Transducers and Environmental Systems

Displacement or rotation transducers are included with each actuator, and there are many options for local measurement including laser micrometers, strain gages and a video extensometer.

Single or multi-axis force or torque transducers are also included depending on the configuration. Because the use of these transducers is often application specific, consult with our applications engineers for details.

Vertical or horizontal saline chambers can be provided to simulate real life conditions for the characterization of material properties in a 37°C environment.

Typical TestBench Component Specifications*

	Peak Force/ Torque	Stroke/ Rotation	Maximum Velocity [‡]	Approximate Dimensions (H x W x L)	Approximate Weight
ElectroForce 200 N	± 200 N (± 45 lb)	± 6.5 mm (± 0.25 in)	3.2 m/s (126 in/s)	216 x 280 x 254 mm (8.5 x 11 x 10 in)	7.3 kg (16 lb)
ElectroForce 400 N	± 400 N (± 90 lb)	± 6.5 mm (± 0.25 in)	3.2 m/s (126 in/s)	236 x 305 x 361 mm (9.3 x 12 x 14.2 in)	14.1 kg (31 lb)
ElectroForce 3000 N	± 3000 N (± 450 lb)	± 12.5 mm (± 0.5 in)	2 m/s (79 in/s)	361 x 356 x 457 mm (14.2 x 14 x 18 in)	34.0 kg (75 lb)
Rotary Motor 5.6 N-m	± 5.6 N-m (± 50 in-lb)	± 3600° (± 10 revolutions)	3000°/s	191 x 185 x 338 mm (7.5 x 7.3 x 13.3 in)	14.5 kg (32 lb)
Rotary Motor 28 N-m	± 28 N-m (± 250 in-lb)	± 3600° (± 10 revolutions)	3000°/s	330 x 381 x 508 mm (13 x 15 x 20 in)	73.0 kg (161 lb)

* Components can be combined to meet your unique testing needs. Other components available upon request. Some actuators are not compatible with other actuators. Please consult Bose for further details.

[†] Some actuator options and applications may require alternate bases.

[‡] Varies depending on test protocol, fixture mass and specimen stiffness.

Specifications are subject to change