

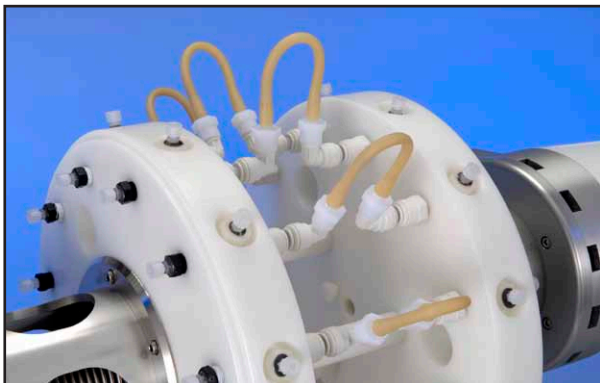
ElectroForce® Stent/Graft Test Instruments for Pulsatile Distention

Accelerated Performance to Reduce Testing Time

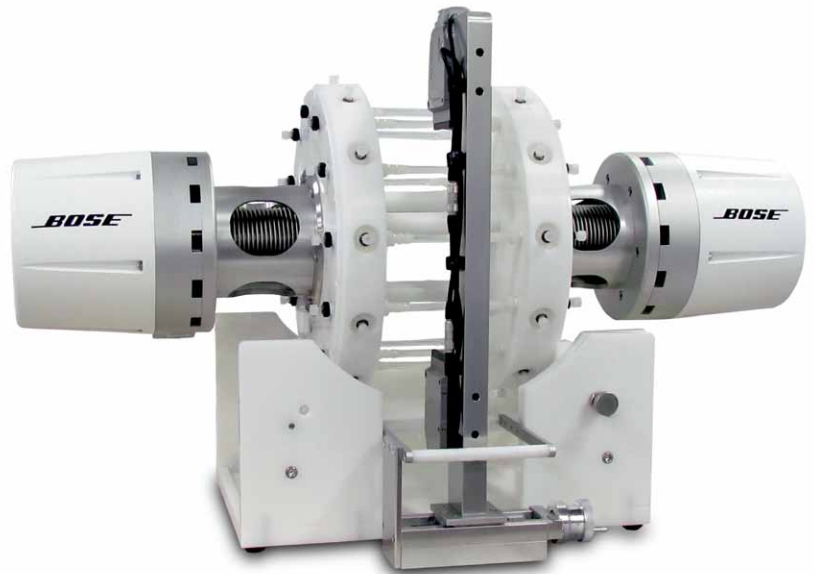
Ten year FDA in vitro tests take only weeks with ElectroForce® stent/graft test instruments. Using Bose® proprietary high-bandwidth, low distortion linear actuators, the instruments reduce test time and provide multi-billion cycle reliability. The ElectroForce stent/graft test instrument verifies the fatigue life of intravascular prostheses such as stents, grafts, occluders and shunts under simulated physiological displacements. The instruments are designed to provide automated control for long-term, 400-600 million cycle tests.

The proprietary dual pulsatile power head provides uniform pulsatile distention at accelerated test frequencies. The system is capable of achieving mock artery diametric distention that is equivalent to a test-to-success requirement, or, the system may be used to achieve greater than in vivo conditions for a fatigue-to-fracture test. This allows stent developers to evaluate the fatigue life of a stent design under a variety of programmed loading conditions.

The Bose direct measurement system uses a laser/optical measurement system that is capable of providing closed loop control of pulsatile distention, or it may be used to provide real-time measurements of distention for stented mock arteries.



ElectroForce® 9110-12 Test Instrument with the Pulse-on-a-Bend Option



ElectroForce® 9110-12 Small Vessel Stent/Graft Test Instrument

Features and Benefits

- Accelerated closed-loop control of pulsatile distention*
- 6, 8, 12 or 20 mock arteries for testing**
- 2.5 mm to 50 mm diameter device capacity**
- Programmable control and system monitoring using WinTest® controls
- Meets or exceeds international standards such as ISO 25539-2 and ASTM F2477
- Direct diametric distention measurement using a laser micrometer
- Configurations available for testing complex geometries such as bifurcations and aneurysms.

* Demonstrated to >120 Hz on the 9110-12 instrument. Dependent on stent and tubes used.

** Dependent on the model used.

BOSE
Better products through research®

ElectroForce® Stent/Graft Test Instruments

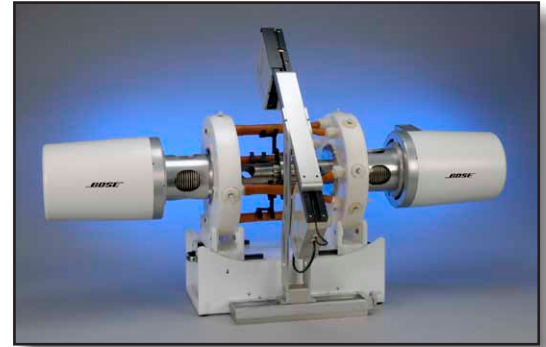


ElectroForce® 9140-20 Instrument for Small Diameter Stents

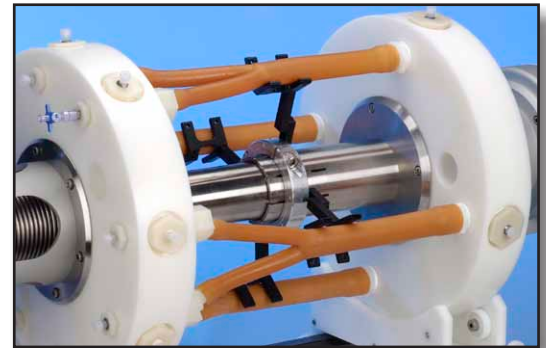
Programmable closed-loop servo control of pulsatile distention using the Bose® WinTest® Control System offers real-time control and integrated data acquisition. The user may choose to use diameter control, pressure control, or volumetric displacement control as the primary feedback for the servo control loop.

Diametric distention amplitudes and frequency may be adjusted at any time without the need to stop the test. Built-in monitoring software looks for unexpected conditions, and it may be programmed to automatically stop the test if problems are detected. The system is provided with an uninterruptible power supply back-up system to smooth out power bumps or ensure a smooth shut down in the event of a power failure.

Accelerated multi-mode stent fatigue may be performed using the model 9400 multiaxial peripheral stent test instrument.



ElectroForce® 9150-6 Instrument for Testing of Thoracic Stent Grafts



ElectroForce® 9120-4B Instrument for Testing of AAA Bifurcated Devices

Product Guide and Specifications

Instrument Model	Mean Stent Diameter Range	Number of Tubes	Maximum Pulsatile Frequency Demonstrated By Users	Dimensions
9110-12	2.5 to 14 mm	12	>125 Hz	50 cm x 46 cm x 84 cm (20" tall x 18" deep x 33" wide)
9120-8	2.5 to 32 mm	8	80 Hz	50 cm x 46 cm x 92 cm (20" tall x 18" deep x 33" wide)
9120-4B	12 to 30 mm	4	60 Hz	50 cm x 46 cm x 99 to 112 cm (20" tall x 18" deep x 39"-44" wide)
9140-20	2.5 to 10 mm	20	60 Hz	91 cm x 38 cm x 38 cm (36" tall x 15" deep x 15" wide)
9150-6	To 50 mm	6	80 Hz	83 cm x 64 cm x 108-118 cm (33" tall x 15" deep x 42"-47" wide)

Power Requirements

All models except 9150-6 110/220V Single Phase, 10 amps
 Model 9150-6 - 110/220V Single Phase, 30 amps

Specifications are subject to change