Leading-Edge Equipment for Catheter, Balloon, Stent, & Heart Valve Makers

Rotating Beam Wire Fatigue Tester Model FTX

www.blockwise.com

Rotating Beam Wire Fatigue Tester Model FTX Tests wires to failure by rotating the specimen such that it is bent through 180 degrees, causing a once-per-revolution bending stress cycle in the specimen. Unlike competitive machines, the wire is driven from both ends eliminating the possibility of induced torque in the wire.

Machine Control Executed by a high-speed microcontroller & associated digital servo drive controllers. The user interface displays: cycle count, test RPM, rotation direction, & distance between the chucks. Test parameters are easily input using the intuitive menu-driven interface.

Integrated Sample Break Detection Unique Optical Break Detector is standard; capable of reliably detecting a break of wire diameters ≥ 0.1 mm, in air or clear liquid. Can detect breaks in coated or other non-conductive wires. Detection of a break stops the cycle count & motors, while displaying a message on the user interface. The sensor is easy to set up; it is supported on a 'swing-away' arm allowing easy access to the spindles for wire change without adjusting the sensor each time.

Optionally, a sensor design based on conduction between two plates is available for applications testing multi-strand cables; this sensor requires that any liquid bath used be of high resistivity.

Testing stress depends on: wire diameter, wire material properties, length of wire between the spindles, & spindle spacing (We can provide references for calculating test parameters.) Set spacing in seconds in the operator interface, the spindles automatically move into position. Unlike competitive machines, there are no belts to readjust when changing the spacing.

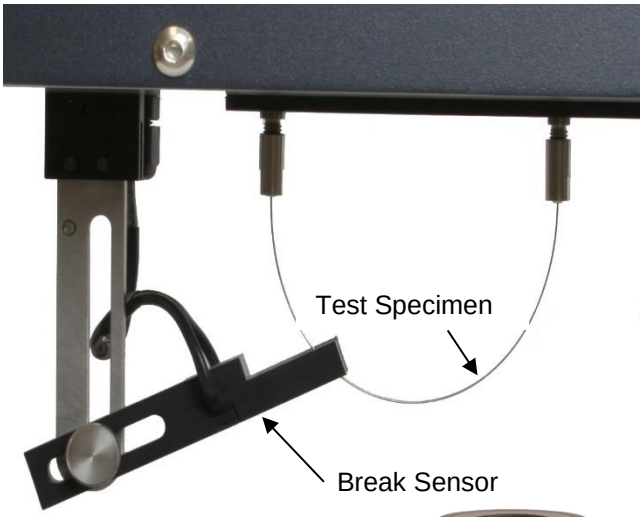
Rotation speed & direction are also set through the user interface. Range of speed available: 0 - **10,000 RPM** (Standard)

Each spindle is equipped with a Blockwise Microchuck; a gapless, spring-loaded, self-centering, 3-jaw wire holder with precise depth stop.

RS485 communication capability allows data collection of various operating parameters & conditions.

Optional Features & Accessories:

- High-speed model (25,000 max RPM) for extremely quick test times.
- Water Bath with recirculation & temperature control (heating only).
- V-style conduction break sensor for testing multi-strand wire cables.
- Micro-Collets in place of the Microchucks.
- Tester Arrays (10 FTX on a common support bench, common water bath, single-point utility connections, etc.) Compact system for efficient floor space utilization.
- F400 Data Logging System. Event-based data logger capable of collecting test information directly from multiple FTX units. Simplifies test data management. Includes laptop, interface cable, & software.



Micro Chuck

- **Gapless** 3-jaw chuck perfect for holding very small diameter wires or fibers.
- **No gaps** between jaws for wire to fall into.
- Workpiece stays centered as chuck closes.
- Fast operation.

Specifications:

Drive Type	**Direct drive high-speed servo-motors**
Wire Diameter Capacity (standard Microchucks)	**0.13 mm - 0.9 mm**
Wire Diameter Capacity (optional MicroCollets)	**0.5 mm - 2.54 mm**
Shaft Speed (Standard Model)	**1 to 10,000 RPM**
Shaft Speed (High-Speed Model)	**1 to 25,000 RPM**
Shaft Speed Accuracy (all speeds)	**Better than 0.002%**
Shaft Direction	**Forward, Reverse, or Alternating at programmed count**
Shaft Spacing Adjustment Range (standard unit)	**20.5 mm - 140 mm**
Shaft Spacing Adjustment Range (close spacing option)	**8.9 mm - 128 mm**
Shaft Spacing Accuracy	**± 0.025 mm**
Service Connections - FTX Tester	**110 or 240 VAC, 1.4 A**
Service Connections - Water Bath Option	**110 or 240 VAC, 11 A**
Dimensions (standard Unit)	**Width 20 cm x Length 48 cm x Height 40 cm**
Weight (Standard Unit)	**13.6 Kg**