

SURGICAL INSTRUMENT & SUTURE TESTING EQUIPMENT



Surgical Instrument & Suture Testing | USP 861 Suture Diameter Compliance

Surgical instrument and suture testing equipment measures the cutting force of surgical blades and the diameter of surgical sutures before these devices reach the operating room. Torontech's range covers scalpel and stapler blade sharpness testing alongside suture diameter testing built to USP 861, the United States Pharmacopeia method for absorbable and non-absorbable sutures. Manufacturers, quality control labs, and R&D teams use these instruments to confirm a blade cuts cleanly and a suture meets its nominal size specification before product release.

The range covers two blade sharpness testers for different cutting tool types, plus a manual and a fully automated suture diameter tester, so a lab can match throughput and precision needs to its suture testing volume.

Why Choose Torontech for Your Surgical Instrument & Suture Testing

Torontech supplies testing and measurement equipment to laboratories and manufacturers across North America and worldwide, backed by responsive technical support and calibration service. The Surgical Instrument & Suture Testing range is built for reliable, standards-driven results, so you can standardize on one supplier as your testing needs grow. Our team helps you match the right configuration to your samples, applicable standards, and throughput, then supports you through installation and beyond.

Request a Quote

Tell us which surgical instrument or suture type you need to test and your required throughput, and we will recommend the right instrument from this range. [Contact the Torontech team](#) for pricing and lead times.

APPLICATIONS

Applications

Surgical instrument and suture testing supports manufacturers and labs producing cutting and wound-closure devices.

- Scalpel and Surgical Blade Manufacturing: confirms cutting force consistency across the front, middle, and rear of scalpel blades before release.
- Surgical Stapler Production: validates the sharpness of circular, linear, and round stapler cutting blades used in surgical staplers.
- Suture Manufacturing: verifies diameter of absorbable and non-absorbable sutures against USP 861 at multiple points along the strand.
- Regulatory and Contract Testing: provides independent compliance data for suture diameter and blade sharpness for regulatory submissions and supplier audits.

TECHNICAL SPECIFICATIONS

Surgical Instrument & Suture Testing Range

The range covers two blade sharpness testers and two suture diameter testers, sized for different throughput and automation needs.

Scalpel Blade Sharpness Tester

ToronMed™ SBST04 measures the cutting force of surgical scalpel blades as they are driven through a suture material at a controlled speed, recording force at the front, middle, and rear of the blade. Automatic peak-force calculation and statistical reporting give manufacturers an objective sharpness measurement for scalpel and similarly shaped blades.

Stapler Blade Sharpness Tester

ToronMed™ SBST01 applies the same cutting-force principle to circular, linear, and round surgical stapler blades, using dedicated fixtures for each cutter geometry. It supports the same suture-cutting test method as the scalpel tester, making it a natural pairing for labs that test both blade types.

Surgical Suture Diameter Tester (Semi-Auto)

ToronMed™ SSDT01 measures suture diameter at the quarter, half, and three-quarter points along the strand using a grating displacement sensor accurate to 0.001 mm, built to USP 861. Manual loading with automatic electric tensioning suits labs running moderate suture testing volumes.

Surgical Suture Diameter Tester (Automated)

ToronMed™ SSDT01H automates the full USP 861 test cycle, including suture locking, tensioning, 90-degree rotation, measurement, and reporting, completing a test in roughly one to two minutes. Imported precision micrometers and a dual-sensor load cell suit high-throughput suture manufacturing and QC environments.

How to Choose the Right Surgical Instrument & Suture Tester

- For scalpel blades: choose the scalpel blade sharpness tester to measure cutting force across the blade edge.
- For stapler blades: choose the stapler blade sharpness tester, which adds dedicated fixtures for circular and linear cutters.
- For moderate suture testing volume: choose the manual SSDT01 suture diameter tester for USP 861 compliance with operator-run tensioning.
- For high-throughput suture testing: choose the automated SSDT01H for one-click testing and faster cycle times.



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