TORONTECH

MEDICAL NEEDLE PUNCTURE TESTER

Medical Needle Puncture Tester | ISO 7864, ISO 8871-5, USP 381

Medical Needle Puncture Tester – ToronMed™ MNPT02 is designed to determine the puncture force of medical needles, injection needles, and needle tubes. By simulating penetration into artificial skin material, the system provides accurate, repeatable data for evaluating puncture resistance.

This tester is widely used by medical device manufacturers, inspection institutes, universities, and research laboratories to ensure compliance with international standards and patient safety requirements.

APPLICATIONS

- Basic Applications
  - Syringe needles
- Extended Applications
  - Puncture needles
  - Medical stapler blades and similar devices requiring puncture force evaluation

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TaronMed-MNPTQ2
Medical Needle Puncture Tester

FEATURES

- 7-Inch HD Color Touchscreen
  Intuitive interface with real-time display of test data and curves.
- High-Precision Measurement
  Imported sensors deliver greater accuracy for puncture resistance testing.
- Magnetic Test Fixture
  Easy adjustment of center position for efficient setup.
- External Sensor with Quick Plug
  Simplifies sensor replacement and reduces maintenance downtime.
- Variable Test Speed
  Continuously adjustable test speed for flexibility across test scenarios.
- Automatic Calibration & Memory
  Ensures reliable results with simple operation and automatic data retention.
- Large Data Storage Capacity
  Stores over 100,000 test records with optional GMP-compliant software for audit tracking.
- Real-Time Printing
  Integrated micro printer provides immediate reporting of test results.
- Built-In Safety Protection
  Over-range shutdown automatically protects the sensor.

THEORY & METHOD

Test Principle

The Medical Needle Puncture Tester secures a medical needle and polyurethane film (artificial skin) into its test fixture. The device then drives the needle through the film at a controlled speed, measuring the puncture force required. Results are automatically recorded, providing accurate assessment of needle sharpness and penetration resistance.

TECHNICAL SPECIFICATIONS

Specification	Value
Test Item	Puncture Resistance
Test Range	0–50 N
Resolution	0.01 N
Accuracy	0.5% FS
Test Speed	0.05–600 mm/min
Stroke	300 mm
Specimen	Polyurethane film (artificial skin)
Dimensions	460 × 400 × 770 mm
Net Weight	33.5 kg
Voltage	AC 220V 50Hz (110V is also available)

TORONTECH.com

TORONTECH

Torontech Inc.
251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC
601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE
Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE

Phone: +971 488 19252
Email: me@torontech.com

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