

TXL-UNI-004 / 27 October 2026 · One-year manufacturer warranty

Strength Testing Machine (300 N)

A single-column strength testing machine with a maximum force capacity of 300 N. It has an electronic load cell, adjustable motor speed, a 3.5-inch colour touch screen, USB connection and a standard mechanical grip set. PC application software is optional. Yarn testing requires confirmation of suitable yarn grips and the setup specified by the test method.



Model technical data

1	Maximum force capacity: 300 N.
2	Elongation measurement resolution: 0.01 mm.
3	Travel excluding jaws: 250 mm, varying with the jaw set used.
4	Single-column construction with electronic load cell force measurement.
5	Automatic motor with adjustable speed.
6	3.5" colour touch screen; testing can be performed on the instrument without a computer.
7	Standard USB computer communication port.
8	Supplied as standard with one set of mechanical jaws.
9	Optional application software preloaded with general test methods and standards; new standards can be added.
10	Measures breaking and separation strength on materials such as fabric, paper and leather.

Physical specifications and utilities

Electrical supply	Approx. 220–240 V AC, 50/60 Hz, single phase; build-dependent.
Power / connected load	Approx. 100–400 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 500 × 500 × 1500 mm (W × D × H).
Instrument weight	Approx. 45–80 kg net.
Gross / shipping weight	Approx. 74.5–125 kg gross; estimated packing allowance.
Interfaces	Standard USB computer communication port.
Lab requirements	Compressed air for pneumatic grip option; grip interface and safety clearance depend on the host machine.

Dimension order and approximate values are stated in each row. Packaging data are separate from instrument dimensions and net mass. Approx. rows are preliminary engineering estimates based on comparable equipment and function/capacity; they are not verified manufacturing measurements or standard requirements. Installation and shipment are finalised against the approved drawing and nameplate. Estimate scope: base product / one unit; external computer, bench and auxiliary plant excluded.

Specifications, dimensions, and power requirements are approximate and subject to change without prior notice for continuous design improvements.

Product technical specifications and images may vary according to manufacturing conditions and applicable standards.

Test and configuration

Measured output / function	Breaking force (N), elongation (%)
Parameters selected for the method	Grip type, gauge length, test speed and load cell
Verification points	Force, displacement and speed verification

Control and recording specification

Method-specific software and recording requirements follow. Delivered software modules are defined by the order scope.

- Method code and edition, specimen ID, operator and selected test parameters are linked to the record.
- Force-extension curve; strain = $100 \times (L - L_0) / L_0$; crosshead and extensometer results are identified separately.
- Raw measurements, units, valid/invalid test flags and the reported result remain traceable.
- Calculations are checked against known inputs and an independent calculation; sensor channels are checked against calibration values.

Related test methods

ASTM D2256 · ISO 2062 · ISO 8124 · M&S P115

Listed methods are application references. Suitability is established by assessing hardware, method edition and calibration together.

Test parameters for the reviewed method

The values below were reviewed in selected clauses of the stated source edition. They are not a declaration of equivalence to a later edition or independent instrument verification.

ISO 13934-1:2013 / 6.1.3-6.1.5 / 8.2

1	Force error: no greater than $\pm 1\%$ in the working range; jaw-separation error: no greater than ± 1 mm.
2	CRE rates: 20 and 100 mm/min, $\pm 10\%$; gauge lengths: 100 and 200 mm, ± 1 mm.
3	Preferred strip specimen width: 50 ± 0.5 mm; other widths require agreement and reporting.

ASTM D2256-97 / 5.9.2, 9.2-9.3

1	Yarn tensile recipe: gauge length 250 ± 3 mm or 500 ± 5 mm by agreement. Keep the 20 ± 3 s average time-to-break option separate from the 300 ± 10 mm/min fixed-speed option at 250 mm gauge; report straight, knot or loop configuration.
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ISO 8124-1:2009 / 5.24.6.1

1	Toy-component tension test: force indication accuracy ± 2 N; apply 70 ± 2 N parallel and perpendicular to the component axis. Build force over 5 s and hold 10 s. Only this tension clause of part 1 has been reviewed.
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