Specifications

Technical Data*

Basic Installation

- Testing Unit for measuring Tensile Properties (Yarn, Lea and Fabric)
- PC and Printer
- Automatic Yarn Changer
- Creel With provision for 20 cops/cones

Measuring principle

- Strength and Elongation - Constant Rate of Elongation (CRE) principle

Application Range

Material

- Cotton, Polyester, Viscose, Acrylic and blends

Breaking Force

- Single and Ply Yarn (Upto 30 kgf)
- Lea (Upto 95.9 kgf)
- Woven Fabric Strips (Upto 95.9 kgf)

Breaking Elongation

- Upto 375% for 150 mm test length
- Upto 43% for 500 mm test length

Test Speed (Recommended)

- 5000 mm/min (Yarn)
- 500 mm/min (Lea)
- 50 mm/min (Fabric)

Test Length (Recommended)

- 500 mm (Yarn)
- Fixed length for Lea
- 200 mm (Fabric)

Calibration

- Calibration using standard weights (50, 100, 200, 500 & 1000 gram)

Output Parameters

Numerical Results:

- Breaking Force (kgf, gf, lbf, mN, cN, N & kN)
- Breaking Elongation (%)
- Breaking Tenacity (cN/Tex, gf/Tex, Rkm)
- Time to Break (sec, min)
- Work done
- Part work done
- Modulus characteristics

Graphical Results:

- Force Elongation / Tenacity Elongation Curve
- Stroke Diagram
- Frequency Distribution Curve
- Scatter Plot
- Trend and Comparison

Unique Features

- Multi Testing
- Trend and Comparison
- Lab App - Mobile Application for Smartphones

Ambient Condition

- Relative Humidity : 65 ± 2%
- Temperature : 21 ± 1°C (27 ± 1°C (80 ± 2°F) for Tropical Conditions)

Power Consumption

- Single Phase 2 kVA; On-line UPS

Compressed Air Consumption

- 22m^3/hr at 6 bar

* Subject to change without Prior notice

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TurboMaxx7™

Fully Automatic Single Yarn Strength Testers

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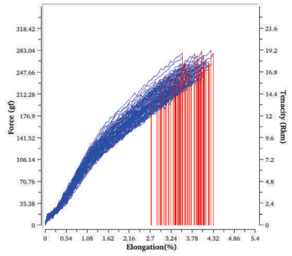
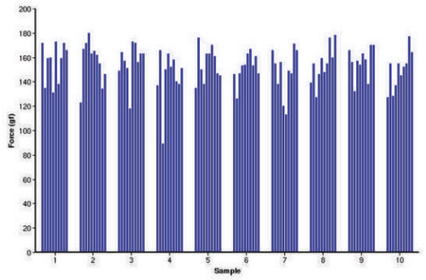
TurboMaxx7™

PREMIER TurboMaxx7 New generation High Speed Fully Automatic Single Yarn Strength Tester for testing more number of samples at a higher speed compared to any traditional system available today. With significantly higher testing speeds, Larger samples can be subjected to Quality scrutiny for estimating t he weak places in Yarn precisely. A good correlation with the performance of downstream processes like Weaving and Knitting can be established there by.

Force Elongation Curve

- The Force Elongation curve represents the characteristic relation between Breaking Force and Elongation encountered during the tensile testing of a specimen.
- Force Elongation curve can be effectively used to compare two different yarns
- It can be used to read off any chosen value along the curve



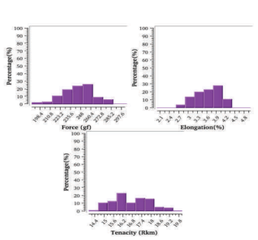


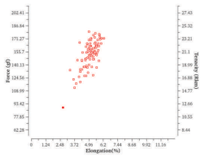
Stoke Diagram

- Stroke diagram, the stacked individual value by means of a representative line side by side facilitates quick understanding of values within a test
- The stroke diagram is available for both Force and Elongation characteristics
- It also enables to identify periodicity or variations present in the Yarn under test

Histogram

- Histogram depicts the distribution and frequency of force and Elongation values in a test
- Extreme variations, more importantly the low tensile values can be quickly recognized to attend the back process





Scatter Plot

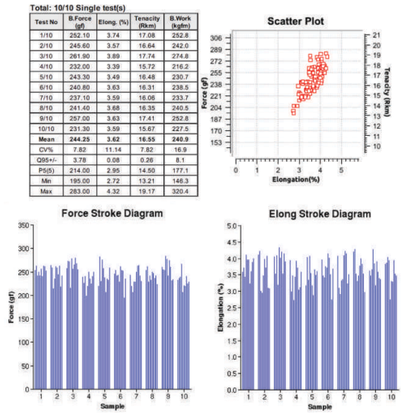
- Scatter plot represents the distribution of readings with respect to Force/Tenacity and Elongation values
- It helps to identify outlier readings easily

Intelligent Reports

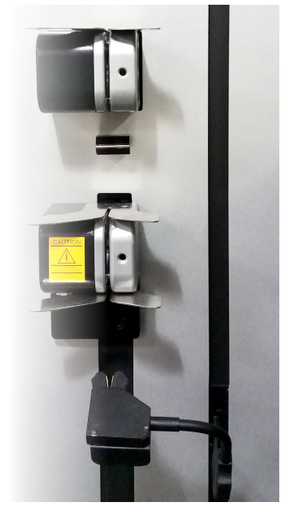
- Single / Overall report to judge the performance of the test specimen and Within / Between report for comparative performance analysis
- Combined Report to view the numerical results along with important graphical results for comprehensive analysis
- Limits can be selected for results, to know the impact of deviated values from the mean
- Comprehensive information viz; Breaking Force, Elongation, Tenacity, Time and Work done

Total: 10/10 Single test(s)

Test No	B.Force (gf)	Elong. (%)	Tenacity (Rkm)	B.Work (kgfm)
1/10	252.10	3.74	17.08	252.8
2/10	245.60	3.57	16.64	242.0
3/10	261.90	3.89	17.74	274.8
4/10	232.00	3.39	15.72	216.2
5/10	243.30	3.49	16.48	230.7
6/10	240.80	3.63	16.31	238.5
7/10	237.10	3.59	16.06	233.7
8/10	241.40	3.68	16.35	240.5
9/10	257.00	3.63	17.41	252.8
10/10	231.30	3.59	15.67	227.5
Mean	244.25	3.62	16.55	240.9
CV%	7.82	11.14	7.82	16.9
QS5+/-	3.78	0.08	0.26	8.1
PS(5)	214.00	2.95	14.50	177.1
Min	195.00	2.72	13.21	146.3
Max	283.00	4.32	19.17	320.4

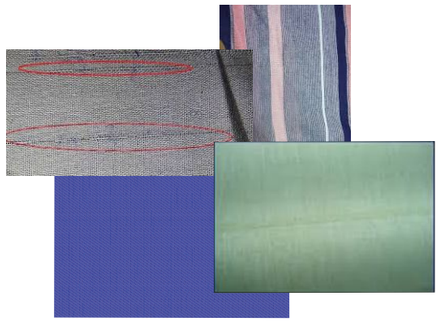


TurboMaxx7 is an automatic high speed tensile testing equipment. This PC based system is incorporated with all the added features of today's high speed strength testing equipment. The user friendly front end software with touch screen facility enables the instrument operations highly simple. The most widely used principle of operation - Constant Rate of Elongation (CRE) has been used for its operation. The instrument can be used to test wide range of textile products for its tensile characteristics with test parameters like test length and test speed etc. that can be chosen to the user's requirement.



Clamps designed exclusively for testing yarn and lea are provided along with the instrument. The top clamp - a fixed one, is fixed rigidly to a beam type load cell. The load cell and the top clamp assembly is designed so as to avoid independent deflections.
An automatic yarn laying arm with its picker makes a vertical motion and aids in picking & laying the yarn in the clamps using pneumatics.

Yarn & End Product



Strength is one important parameter in deciding the quality of a product, may it be for any type of end use - either in yarn or fabric form. Apart from the Primary measured parameters, strength and its variation gives an overall indication of the quality characteristics of the product.

Quality characteristics can be broadly categorized into two groups - Fabric appeal and Durability. Unevenness and objectionable faults which are the prime qualities affecting the fabric appeal are in turn the basic reasons for strength and its variation which affects the end use product's durability.

Configuration

- Testing Unit for measuring Tensile Properties (Yarn, Lea and Fabric)
- PC and Printer
- Automatic Yarn Changer
- Creel
- Lea & Fabric Testing Accessories
- Table (***TensoMaxx5*** only)

Automatic Yarn Changer

A Creel with 20 pegs for package holding aligned vertically along with 20 tensioners in line is provided along with the instrument. This is to provide uniform unwinding condition and reduced yarn structural deformation during automatic yarn testing in particular. The pegs are removable to accommodate large size packages.