

Tensomaxx™ Technical Data*

Basic Installation

- Testing unit for measuring tensile properties (Yarn and Lea)
- PC, Printer and Table
- Automatic Yarn changer
- Creel with provision for 20 cops/cones

Additional Options

- Fabric Testing Accessories

Application Range

Material

- Cotton, Polyester, Viscose, Acrylic and blends

Breaking Force

- Single and 2 Ply Yarn (upto 30 kgf)
- Lea (Upto 94 kgf)
- Woven Fabric Strips (upto 94 kgf)

Breaking Elongation

- Upto 400% for 150 mm test length
- Upto 60% for 500 mm test length

Testing Conditions

Test Feature

- Automatic testing upto 1000 tests (between and within sample)
- Automatic Rolling - off arrangement within cop/cone
- Automatic Clamping pressure

Test Speed (Recommended)

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

Test Length (Recommended)

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

Calibration

- Calibration using standard weights (50, 100, 200, 500 and 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

Ambient Condition

- Relative Humidity : $65 \pm 2\%$
- Temperature : $21 \pm 1^\circ\text{C}$ ($70 \pm 2^\circ\text{F}$)
($27 \pm 1^\circ\text{C}$ ($80 \pm 2^\circ\text{F}$) for Tropical Conditions)

Power Consumption

- Single Phase 2 KVA; On-line UPS

Compressed Air Consumption

- $26\text{m}^3/\text{hr}$ at $6-7\text{ kg/cm}^2$

* Subject to change without notice

Tensomaxx™ Single Yarn Strength Tester



Premier Presence



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Tensomaxx™

Tensile Tester for Yarn, Lea and Fabric

PREMIER Tensomaxx, the automatic tensile testing equipment provides critical knowledge on important Tensile properties. Among the typical end use of Yarn, each industry viz., Knitting, Weaving, Sewing thread application demands specific tensile properties

The tensile properties measured also provide a basis for optimisation of the process parameters by identifying deviations apart from helping in selection of Raw material suitable for expected end use. Breaking force and elongation are the most widely used tensile properties for assessing the quality of a Fibre, Yarn and Fabric, though other parameters such as co-efficient of variation of force and elongation, work done, modulus, etc., are useful for specific application and end use requirements

PREMIER Tensomaxx Configuration:

- Testing unit for measuring Tensile properties (Yarn and Lea)
- PC, Printer and Table
- Automatic Yarn Changer
- Creel

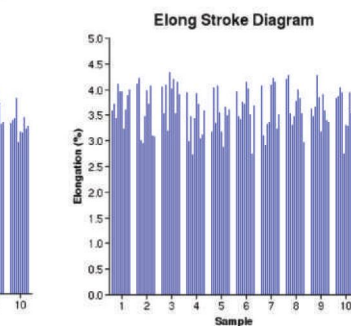
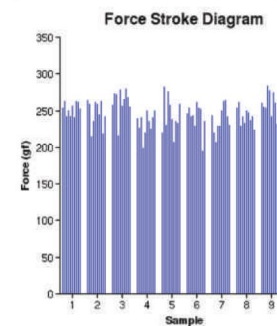
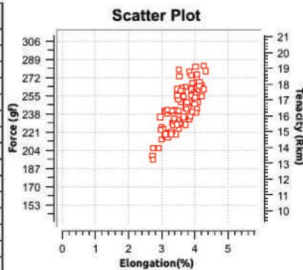
Additional Options:

- Fabric Testing Accessories

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 on the mean
- Comprehensive information viz; Breaking Force, Elongation, Tenacity, Time and Work done

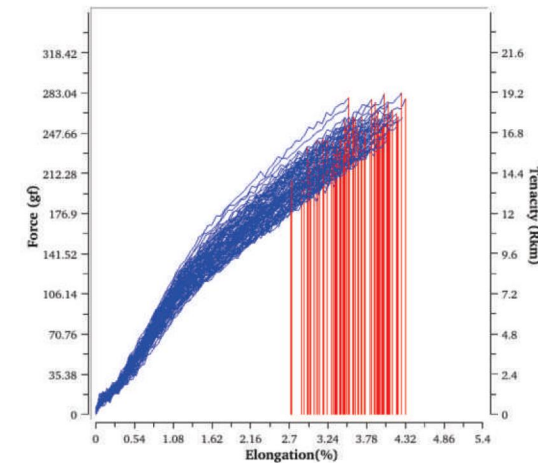
Total: 10/10 Single test(s)				
Test No	B.Force (gf)	Elong. (%)	Tenacity (Rkm)	B.Work (kg/cm)
1/10	252.10	3.74	17.08	252.8
2/10	245.60	3.57	16.84	242.0
3/10	261.90	3.89	17.74	274.8
4/10	232.00	3.39	15.72	216.2
5/10	243.30	3.49	16.48	230.7
6/10	240.80	3.63	16.31	238.5
7/10	237.10	3.59	16.06	233.7
8/10	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
Q95+/-	3.78	0.08	0.26	8.1
P5(S)	214.00	2.95	14.50	177.1
Mn	195.00	2.72	13.21	146.3
Max	283.00	4.32	19.17	320.4



Key Technology	Function	Benefit
Strength and Elongation Measurement	Constant Rate of Elongation (CRE) principle	Precise measurement of Force and Elongation
Moving Pendulum arm	Automatic Yarn laying through the top and bottom clamps	Human error is eliminated in sample feeding
Automatic Versatile Tester	Testing of Yarn, Lea and Fabric	Comprehensive Tester with automatic Yarn feeding

The Proven Single Yarn Strength Tester

Consistent quality in production is the result of controlling the weak places in the yarn. The weak places result in poor tensile strength of the yarn. The resulting deviations are promptly highlighted and their impact on mean values are also displayed for the user to judge the performance of the tested Yarn quickly

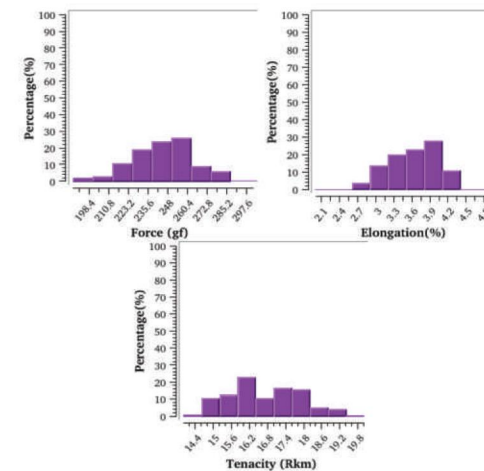
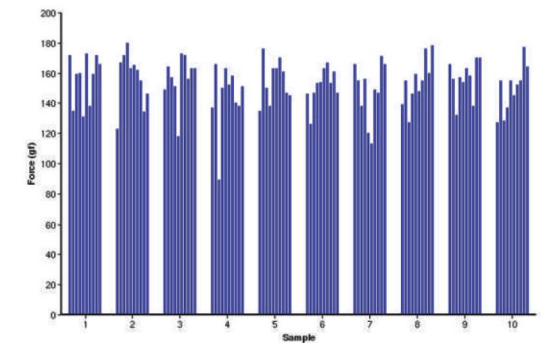


Force Elongation Curve

- 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 also be used to read off any chosen value along the curve

Stroke 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 recognised 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

