

# TECHINCAL DETAILS

## OF

### ***dig*STRENGTH I Nx (For Single Yarns)** ***(Digital Tensile Strength Tester for Yarns)***

#### 1. INTRODUCTION

Tensile property of textile yarns is a prime important parameter in determining the suitability for any particular application. It is therefore of utmost importance to determine these characteristics accurately. Paramount ***dig*STRENGTH I Nx** (for single yarn) is suitable equipment to determine this property. It works on Constant Rate of Elongation (CRE) principle.

#### 2. EQUIPMENT

PARAMOUNT ***dig*STRENGTH I Nx (For Single Yarns)** is ergonomically designed equipment, which works on the Constant Rate of Elongation (CRE) principle. The equipment main body is completely made of mild steel with two clamps to hold yarns. The upper clamp is movable & the lower clamp is stationary. The upper clamp or jaw is made to move at a preset speed with the help of Geared Motor and Lead Screw arrangement. Speed can be selected 75 mm per minuet and 300 mm per minute manually by changing the belt. The load exerted on the movable jaw is sensed by load cell attached with upper clamp, which directly indicates the load digitally in kgf in the display in the control panel. The result of elongation is indicated directly on the calibrated scale with the help of a sharp pointer.

The test, which is conducted on this unit, is that of breaking strength & elongation of yarns. The equipment has an in-built provision for safety arrangement; it has a provision to prevent over travel of the moving jaw. It has an in-built line filter arrangement to check any fluctuations in power supply so that it does not have any effect on the result generated, thereby giving accurate result. The Frame of the Tester is fabricated from heavy Mild Steel sections to give the required rigidity and strength.

The exclusive feature of ***dig*STRENGTH I Nx (For Single Yarns)** is its Control Panel which houses all the controls and is very user friendly and easy to operate due to its convenient location.

The Equipment is finished in special P.U. Blue & Orange Paint the other parts are made with mild steel with best quality chrome plating to give a Corrosion resistant Long life finish.



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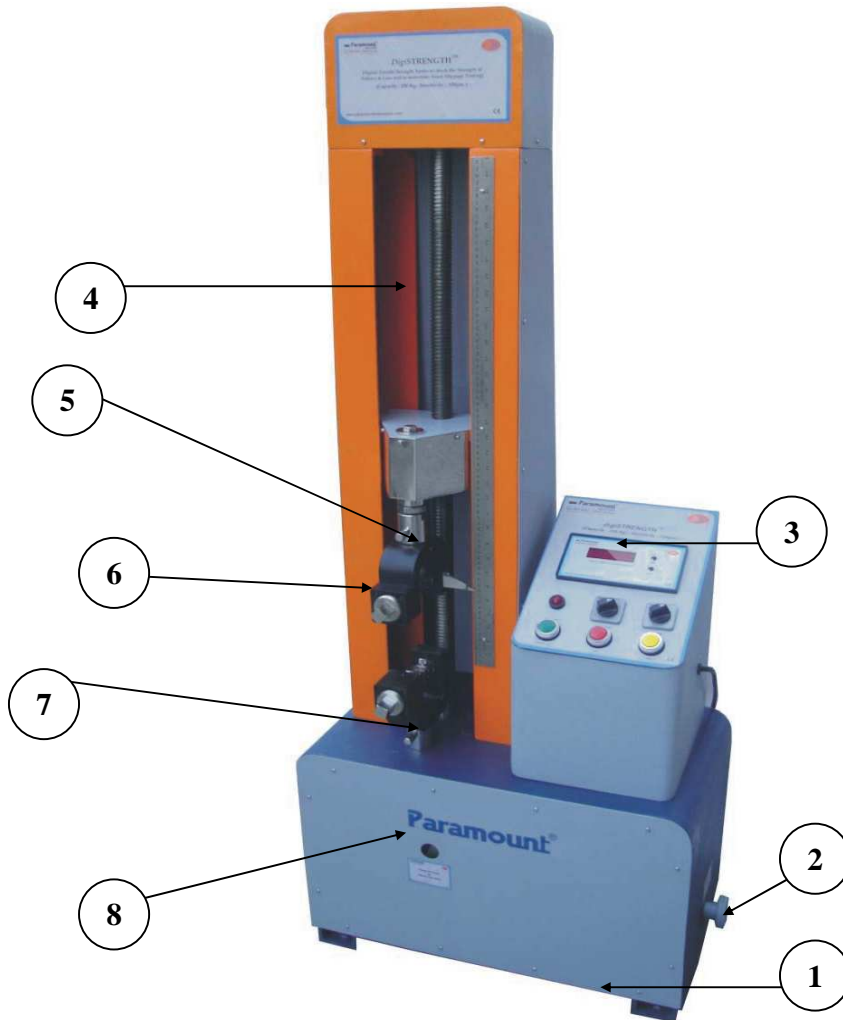


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### 3. Details of the Main Unit of *digi*STRENGTH I Nx



1. Base of the Unit.
2. Speed knob (To change the speed by changing the belt).
3. User friendly Control Panel.
4. Fine Square Thread Lead Screw.
5. Upper Jaw Holding Bush.
6. Jaw for Single Yarn Strength & Elongation.
7. Lower Jaw Holding Bush.
8. Provision for Manual Operation.



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#### 4. Details of the Accessories Supplied with *digiSTRENGTH I Nx*



**Main Unit**



**Jaw for Single Yarn Strength & Elongation**



**S. Steel Pins for fixing**



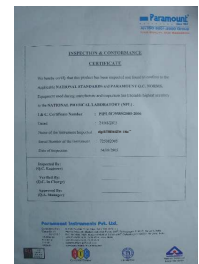
**Fine Scissors**



**Handle for Manual Operation**



**This User's Manual**



**Calibration Certificate**

Unpack your *digiSTRENGTH I Nx* and ensure that you have the Following units :

- |   |   |                        |
|---|---|------------------------|
| 1. Main Unit with Digital Controls            | : | 01 No.                 |
| 2. Jaws for Single Yarn Strength & Elongation | : | 01 Set (Set of 2 Nos). |
| 3. Stainless Steel Pins for fixing the Jaws   | : | 01 Set (Set of 2 Nos). |
| 4. Handle for Manual Operation                | : | 01 No.                 |
| 5. Fine Scissors                              | : | 01 No.                 |



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6. Calibration Certificate (Traceable to NPL) : 01 No.  
 7. Inspection and Conformance Certificate : 01 No.

## 5. SALIENT FEATURES

- Specially designed equipment to determine tensile strength of single yarns.
- Maximum capacity 10Kg with 1gms accuracy, works on CRE principle.
- Control panel with peak & zero setting option.
- Maximum jaw separation 850mm & minimum jaw separation 100mm.
- Smooth precision engineered components for excellent performance.
- Special handle is provided to adjust the jaw separation distance.
- Complete with all accessories including jaws.
- Supplied with inspection & calibration certificates.

## 6. TECHNICAL DETAILS OF *digi*STRENGTH I Nx

### DIMENSIONS

Capacity of the Tester	: 0 - 10 Kg.
Sensitivity	: 1 gms.
Speed of Machine	: 75 mm / Minutes 300 mm / Minutes
Minimum jaw separation	: 100 mm
Maximum jaw separation	: 850 mm
Motor	: ½ HP, Single Phase, 230 + 10% AC Supply.
Load measurement	: Digital display indicates the max. Load exerted on the load exerted on the load cell during the test with peak value & zero setting switch.
Elongation Measurement	: Calibrated Stainless Steel scale with sharp pointer indicating continuous elongation.
Movement Controls	: Push switch for LOAD, UNLOAD and STOP



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Over Load Protection	Function. : Micro switches for over-travel protection.
Dimensions of the unit	: 700(L) x 390(W) x 1650(H) mm 27.5(L) x 15.5(W) x 65(H) Inch
Net Weight of the unit	: 189 Kg (416 lbs)

## 7. RELATED STANDARD

ASTM D 2256-02

**NOTE :** *With our constant endeavour to improve & excel, we reserve the right to alter the specification or modify the appearance without notice.*



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