

# FORCE SHRINKAGE TESTER

## LH-610 FST



FST, Force Shrinkage Tester measures the Shrinkage % and Shrinkage Force on the yarn simultaneously. The system is a closed unit, which maintains a controlled atmosphere as the test is progressing.

The system uses a high temperature heater to measure in Shrinkage % and Shrinkage Force. The heaters can be individually programmed up to 300°C to run tests independent of each other. (Optional High Temp Heaters up to 450°C)

The FST is equipped with 2 clamps. Different clamp designs are available to accommodate yarn types from tire cords to elastomeric yarns.

The standard load cell is 200g. Also available are load cells from 10g to 2000 g, depending on the yarn type to be tested.

FST Software automates all calculations for Shrinkage Force and Shrinkage % based on temperature and time parameters. In addition, built in temperature ramp feature allows the user to test the yarn against increasing temperature levels. This feature allows the operator to predict optimum temperature settings for run ability of individual yarns packages.

The test process is automated. A yarn sample is clamped and the test button is activated. Automatically the yarn is inserted into the closed heater chamber for testing. The software plots the shrinkage % or shrinkage force data in real time. Statistical analysis is made at the end of each test.

### FEATURES

- Automated testing system for simultaneous measurement of Shrinkage % and Shrinkage Force of the yarn
- Complies with ASTM D4974, ASTM D5591, EN 13844
- Enclosed system that maintains a draft-free environment during test
- Dual, non-contact heaters individually programmable to run tests under constant or temperature ramp mode with 5 settings from ambient to 300°C (Optional High Temp Heaters up to 450°C)
- 10g, 200g or 2000g load cell available to meet the required force measurement precision
- Light duty or heavy duty clamp designs available to provide non-slip grip for different yarn types from elastomeric yarns to tire cords
- Friction free pulley to measure the Shrinkage % with  $\pm 0.1\%$  precision
- Five programmable temperature settings allow temperature ramp and soak interval
- Windows based, easy-to-use software features

## WINDOWS™-BASED AND EASY TO USE

Provides statistical analysis for Shrinkage force and Shrinkage % readings at the end of each test.

Real-time display of

- Shrinkage % against Temperature
- Shrinkage % against Time
- Shrinkage Force against Temperature
- Shrinkage Force against Time

Statistical Analysis include Average, CV% and Standard Deviation for Shrinkage % and Shrinkage Force. Stores the test results for future reference and ability to export the data to Excel.

## AVAILABLE OPTIONS

- Cooling option to reduce the waiting time after temperature ramp tests
- Heavy duty clamps for industrial yarn testing
- 2000g load cell for industrial yarn
- High Temp Heater up to 450°C

## END USERS

Fiber producers, yarn manufacturers, package dyers, tire cord manufacturers, elastomeric yarn producers and monofilament yarn producers

## MODELS

LH 610 Force Shrinkage Tester

Heater Specifications Ambient to 300°C, High Temp Option Ambient to 450°C

Air 70 psi Instrument Quality

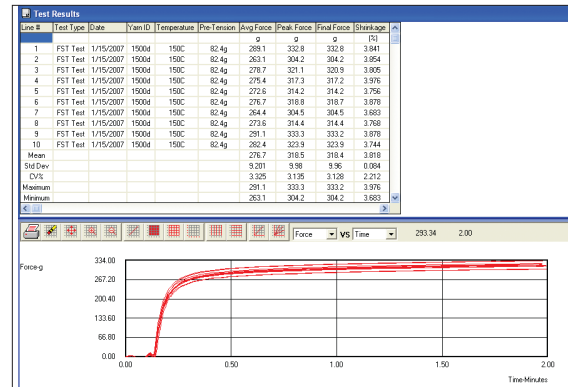
Power 110V/60Hz or 220V/50Hz

Power Consumption 770 watts

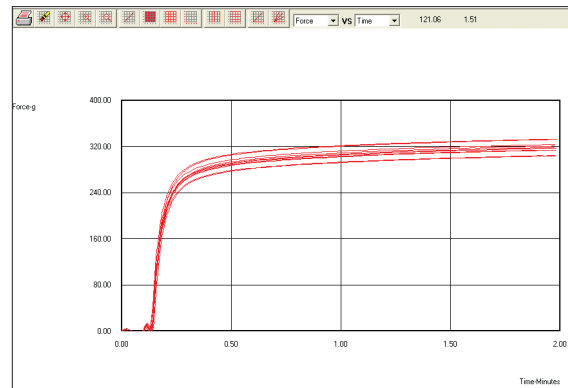
Dimensions 86 cm x 64cm x 30cm (34 in x 25 in x 12 inches)

Weight 81 kg (179 lbs)

*\*All specifications are subject to change.*



**FST user interface shows the statistical data and real-time Force or Shrinkage % readings**



**Force or Shrinkage Results can be plotted against Time or Temperature**

## PRODUCT TYPES

Nylon, polyester, polypropylene, tire cord, sewing thread and others.

Contact us today for more information on any Lawson-Hemphill product!

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