

## FTPlus Friction Tester to ASTM D 1894, ISO 8295 and TAPPI T549

The FTPlus is a bench mounted, single lead screw dedicated friction tester. Conforming to the requirements of ASTM D1894, ISO 8295 and TAPPI T549, the tester includes these standards as user configurable tests, with a further seven available for user custom configuration.

Three XLC load cell options are available: 10N, 50N or 100N. One optional load cell is included as standard with the tester. A friction table is mounted directly on the machine, with a full set of accessories to achieve the ASTM, ISO and TAPPI requirements.

User configurable test screens allow for final movement limits, calculation limits (relative and absolute), sled weights and dimensions.

A high-resolution encoder is used to measure the sample extension and also to provide high accuracy speed control. The crosshead is driven by a high precision servo-motor and DC servo system to achieve a wide range of speeds throughout the full load range.

The machine is microprocessor controlled and is operated from the integral control console, which enables tests to be quickly and easily set up and performed. Large, positive feedback membrane switches with tactile and audible feedback enables test parameters to be established in conjunction with the backlit 4 line liquid crystal alphanumeric display.

The machine may be programmed to perform up to 10 different tests and the statistics for each type of test are automatically calculated including static coefficient of friction, kinetic coefficient of friction, peak load and average load. Up to 600 samples can be stored in any of the test setups.

The FTPlus is a fully self-contained instrument, however an RS232 is provided to allow computer control using Lloyd Instruments NEXYGENPlus material test and data analysis software if required. The FTPlus may also be configured as a universal testing machine to perform tensile, compression, flexural and other mechanical tests up to 1kN (225lbf) with the appropriate grips and fixtures.

### Features

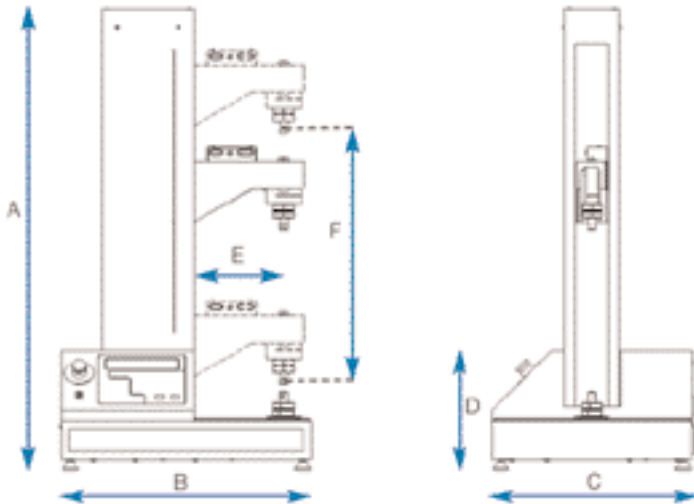
- Conforms to international standards for friction testing including ASTM, ISO and TAPPI
- Dedicated friction table supplied
- Dedicated user interface for calculating static coefficient of friction, kinetic coefficient of friction, peak and average load
- Can perform user configurable tests plus seven tests available for custom configuration
- Intuitive user interface
  - Menu driven with intelligent prompts
  - Membrane keypad with tactile feedback
  - High resolution, backlit LCD display
- Saves up to 600 test sample results
- Universal eye end
- XLC Series load cell options: 10N, 50N and 100N (Accuracy 0.5% of reading)

### Specifications

|                               |   |
|-------------------------------|---|
| Force Capacity:               | 1 kN (225 lbf) in tension and compression   |
| Crosshead Speed:              | 0.05 to 1270 mm/min (0.002 to 50 in/min)  |
| Speed Accuracy:               | ±0.1% of set speed  |
| Load Conversion:              | 16 bit ADC  |
| Load Cell Type:               | XLC   |
| Load Cell Accuracy:           | ± 0.5% of reading   |
| Load Measuring System:        | Exceeds the requirements of BS EN ISO 7500:1999, ASTM E4, DIN 51221   |
| Load Resolution:              | <0.005% of loadcell used (max)  |
| Extension Resolution:         | < 1 microns   |
| Travel:                       | 500 mm (19.69 in)   |
| Lower Grip Pin:               | 5/8 in  |
| Data Sampling Rate:           | 8 kHz   |
| Display:                      | 40 character x 4 line backlit LCD   |
| Extensometer Inputs:          | Analogue or Digital via 25 pin plug with integral amplifier   |
| Data Outputs:                 | RS232 serial data, Analogue 10V dc max (optional)   |
| Supply Voltage:               | Single phase, 100-120V or 220-250V selectable on mains input connector. Supply to be free of spikes or surges |
| Power Requirements:           | 500 W maximum   |
| Analysis Software:            | NEXYGENPlus material test and data analysis software  |
| Weight (inc. friction table): | 36.2 kg (79.8 lb)   |
| Operating Temperature:        | 5° to 35° C (40° to 95° F)  |



## Machine Dimensions



|   |                   | mm  | in   |
|---|-------------------|-----|------|
| A | Machine Height    | 913 | 35.9 |
| B | Machine Width     | 500 | 19.7 |
| C | Machine Depth     | 400 | 15.8 |
| D | Base Height       | 240 | 09.5 |
| E | Column to Eye End | 175 | 06.9 |
| F | Maximum Travel    | 500 | 19.7 |



Typical test screen

## Ordering Information - FTPlus Friction Tester

| Model  | Part No         | Description  |
|--|-----------------|--|
| <b>FTPlus Friction Tester (1 kN, 225 lbf) fitted with 10N XLC load cell</b>  |                 |  |
| FTPlus   | 01/FTLS/10N/EU  | FTPlus friction tester with EU 220V ac mains power |
| FTPlus   | 01/FTLS/10N/US  | FTPlus friction tester with US 120V ac mains power |
| FTPlus   | 01/FTLS/10N/UK  | FTPlus friction tester with UK 230V ac mains power |
| <b>FTPlus Friction Tester (1 kN, 225 lbf) fitted with 50N XLC load cell</b>  |                 |  |
| FTPlus   | 01/FTLS/50N/EU  | FTPlus friction tester with EU 220V ac mains power |
| FTPlus   | 01/FTLS/50N/US  | FTPlus friction tester with US 120V ac mains power |
| FTPlus   | 01/FTLS/50N/UK  | FTPlus friction tester with UK 230V ac Mains Power |
| <b>FTPlus Friction Tester (1 kN, 225 lbf) fitted with 100N XLC load cell</b> |                 |  |
| FTPlus   | 01/FTLS/100N/EU | FTPlus friction tester with EU 220V ac mains power |
| FTPlus   | 01/FTLS/100N/US | FTPlus friction tester with US 120V ac mains power |
| FTPlus   | 01/FTLS/100N/UK | FTPlus friction tester with UK 230V ac mains power |

## Ordering Information - Friction Table Accessory

Customers, who wish to perform friction tests on other models of Lloyd Instruments materials testing machines, can purchase our friction table separately using the part numbers below.



| Model     | Part No     | Description  |
|-----------|-------------|--|
| TG112/LF  | 01/3277/LF  | Friction table accessory for use with LFPlus test machine only   |
| TG112/LRX | 01/3277/LRX | Friction table accessory for use with LRXPlus test machine only  |
| TG112/LR  | 01/3277/LR  | Friction table accessory for use with all LRPlus Series test machines (except for the LFPlus and LRXPlus machines) |

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