

ADVANCED STATIC AND DYNAMIC FRICTION TESTER

The **Advanced Static and Dynamic Friction Tester** brings together accurate load cell measurement with advanced microprocessor technology to give the most accurate, user friendly Friction Tester system to be designed by Ray-Ran. Frictional properties of plastic film and other materials are accurately calculated with specified test conditions selected such as test sled weight, test velocity and temperature making this apparatus ideal for all types of flexible packaging, foils, paper, board, rubber, linoleum, textiles and leather.

Accurate and repeatable test results for Static and Dynamic Friction co-efficient values, with normal separating loads of up to 1 kg, are easily determined for any combination of materials using a standard test sled or specific peel attachment.

To calculate the static friction, the apparatus records the peak friction value at the precise moment that movement occurs after which, the dynamic friction is immediately observed. To measure this peak friction value, the advanced microprocessor continually monitors the output signals of the load cell. Load cell readings are taken beyond the peak load in order to confirm that the slope of the load curve is reducing. When the static frictional value has been determined by the microprocessor the dynamic friction is measured twenty times during the selected travel distance. The result given is the average of these twenty readings. However, by displaying the results graphically on a computer, each of the twenty

readings can be inspected to examine any variation in the test results over the selected travel distance.

The large on board liquid crystal display (LCD) provides simple on screen instruction and using the alpha/numeric membrane keypad test parameters such as user names, material reference numbers and batch numbers are entered and stored in operator lists for future recall and results presentation. Testing parameters such as test velocity, sled weight and settling time are also entered to give the required testing conditions. If Temperature is important to your testing requirement then the Static and Dynamic Friction Tester can be supplied with an optional heated bed. After each test has been conducted the results are displayed on the LCD giving the static and dynamic co-efficient as well as the test load result in grams. Batch statistics are automatically updated after each test and results are shown in graphical and tabular format for analysis when downloaded to



the supplied PC software. For quality control purposes the Static & Dynamic Friction Tester can be set with High and Low limits which are clearly defined when test results are downloaded showing the user instantly if the material is a pass or fail.

The apparatus is supplied as standard with Ray-Ran's **Techni-Test** Windows based PC software for connection to the apparatus via an RS232 or Ethernet connection. Test results can be printed directly from the **Techni-Test software** or can be saved and exported as .CSV files which can be opened with Microsoft Excel in tabular form which can be manipulated to your specific requirements such as preparing a graphical presentation or copying the results to a Word document for a report presentation if required. If the apparatus is connected to the PC via the Ethernet connector over a LAN network then the RS232 can be used for connection to an optional thermal printer for direct printout by the operator.

TECHNICAL SPECIFICATION

- Advanced dedicated microprocessor control,
- Touch membrane keypad
- Easy to read liquid crystal display,
- Sequence logic menu auto prompt selection
- RS232 interface connector
- Ethernet Interface connector for LAN Networking
- Tabular and graphical statistical analysis
- Temperature display
- Variable speed sled velocity up to 1800 mm/minute,
- Test travel distance up to 350mm
- 1 kg load cell
- Sleds to ASTM or ISO test standard supplied
- 180 peel attachment
- Sample cut out template
- Calibration kit included
- Available in either 220-240v 50hz or 110v 60hz
- Fully traceable certificate of calibration,
- Product user manual,
- CE mark of conformity.
- 1 year return to base warranty

TESTING FEATURES

- Operator list
- Material reference list
- Batch ref with data input
- Selectable test type
- Variable sled weight option
- Variable sled velocity option
- Variable test travel distance
- Variable sample settling time
- User defined High and low limits
- Load cell pre-load indicator
- Temperature selector (heated bed option)
- Conforms to: ISO8295, ASTM D1894

OPTIONAL ANCILLARIES

- Heated bed option
- Freezer bed option
- Larger load cells
- Sleds to customer's requirements
- Thermal Printer

WEIGHTS & DIMENSIONS: RR/FT

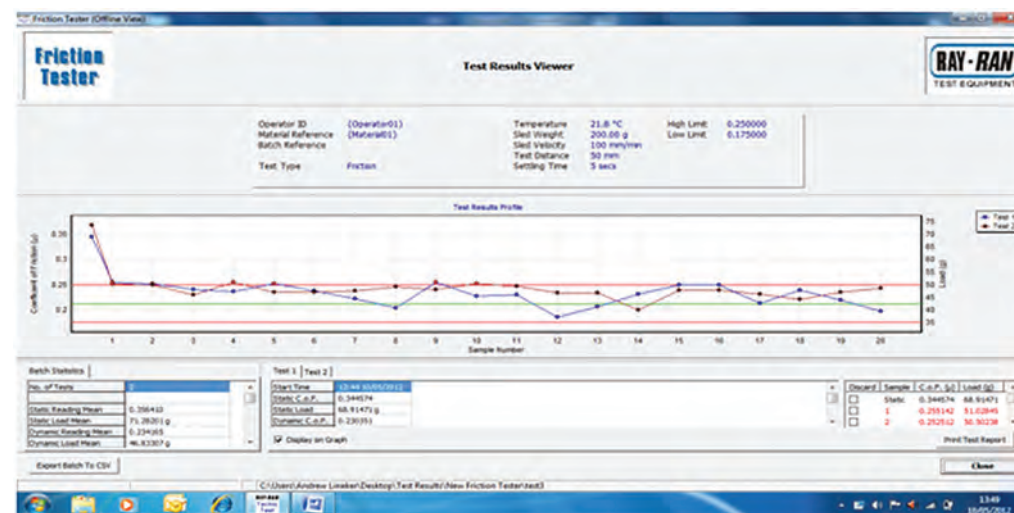
Net Weight (kg)	24
Width (cm)	67
Depth (cm)	40
Height (cm)	37

FRICTION ANALYSIS WITH TECHNI-TEST

Techni-Test is an easy to use software package supplied with the **Advanced Static & Dynamic Friction Tester** which allows user defined test data to automatically download to the apparatus for report information and for the operator to analyse all aspects of the friction test.

From the graph, each load cell reading is clearly identified giving accurate frictional data analysis of the materials under test. Multiple tests are clearly visible on the graph for results comparison within the batch and are highlighted in different colours for viewing. Placing the cursor over each plotted point the frictional value can be read on the screen. For internal

Quality Control procedures, at a glance high and low limits are clearly displayed on the graph in red on showing instantly if the material is a pass or fail. Tabular results are shown as Test1, Test 2, etc and can be seen by selecting the appropriate tab for a test. Test reports can be printed from the main screen when each test has been completed by highlighting the specific test tab and selecting the **Print Test Report** dialogue box to print the report. Batch statistics such as **Mean** and **Co-efficient of Variation** (COV) are also displayed and are updated after each test result is downloaded.



In Test Results Viewer mode users have the ability to upload saved results from previous test for Material Comparison, Data Manipulation or File Export. Abnormal results that could be caused by static or dust are clearly identified and can be removed from the test data bringing the batch statistics into a normal range ensuring that the test procedure does not have to be repeated saving time and material. Exporting the results file in Viewer Mode is simple. The Export file format is .CSV and can be opened with Microsoft Excel.