

ADVANCED FALLING DART IMPACT TESTER (RR/FDT-A1)

ADVANCED FALLING DART IMPACT TESTER A1

Utilizing on-board microprocessor technology, the Ray-Ran Microprocessor Controlled Falling Dart Impact Tester has taken falling dart testing machines to a new level. Built with operator simplicity in mind, its ease of operation and high accuracy makes it ideal for product development and quality control within production, research and development labs and teaching institutions.

The total energy that causes failure of thin flexible materials such as plastic film, paper and composite sheets to fail under specified conditions of impact from a free-falling dart has never been easier to establish. Complying with ASTM D4272, the apparatus uses photo electric cells to measure the Total Energy (joules) to break or cause failure to the sample being tested by measuring the kinetic energy lost by free falling dart.

For perfect energy readings on new samples, a quantity of film will be required to firstly establish the working range of the drop weight required as the dart must completely fall through the sample to give an energy reading during a test. This test is very simple to conduct using the Break Mass test. Once the weight to pass through the sample has been established a



SAMPLE & COMPONENT TESTING

working range of 50% of the dart weight should be good enough to produce repeatable results. If the break mass is already known, then the Break Energy test will give you your energy reading in Joules

The methods of holding the test specimen and releasing the dart are designed so that they may be accurately repeated for each test performed. Test specimens are simply clamped in the unique two-piece pneumatic clamp system which gives a constant tension across the surface area of the specimen ensuring test repeatability. A dart of a known weight is then allowed to free fall and hit the sample. To comply with the relevant test standard, a fixed dart drop height of 660mm is used and a 1 1/2" spherical stainless-steel dart with masses 0.5lb to 2.5lb is used. The dart release mechanism is pneumatically operated for easy release and requires the use of both hands to release the dart to ensure maximum operator safety. A clamp guard is also supplied to ensure the operators safety from falling and rebounding darts and a dart retrieval drawer ensures easy access to the dart after each test.

The large on-board liquid crystal display (LCD) provides simple on-screen instruction and using the alpha/numeric membrane keypad test parameters such as usernames, material reference numbers, batch numbers and dart types are entered and stored in operator lists for future recall and

results presentation. Selecting the type of test is done at the press of a button and the testing parameters such as drop height, dart weight and sample size are entered to give the required testing conditions. Batch statistics of mean, standard deviation and co-efficient of variation are automatically updated after each test and results are shown in graphical and tabular format for analysis when downloaded to the supplied Techni-Test PC software. For quality control purposes High and Low limits can be 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 a mini USB 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.

The apparatus is supplied with a floor mounted stand only.



SPECIFICATIONS (SUPPLIED AS STANDARD)

- Conforms to ASTM D4272
- Built in Microprocessor
- Floor Mounted
- Pneumatically operated
- Simple set up and operation
- Low maintenance.
- Unique constant tension sample clamping
- 2 hand safety operation for clamp and dart release
- Fixed height assembly 0.66mtrs
- Method A 1.5" Stainless Steel Tip and weight set.
- Set of 4 x 227g weights

WEIGHTS & DIMENSIONS: RR/FDT-A1

Net Weight (kg)	75
Width (cm)	53
Depth (cm)	72
Height (cm)	260
Voltage: 240V 60 Hz / 110v 50Kz	