

BMC-BI Falling Dart Impact Tester

Falling dart impact tester is designed and manufactured according to Chinese state standard GB 9639 and ASTM D 1709. It is applicable in energy test that causes plastic films and foils to fail under specified conditions of impact of a free-falling dart. This energy is expressed in terms of the weight of the dart falling from a specified height which would result in 50% failure of specimens tested.

1. Characteristics

- .Compatible with state and international standards.
- .Novelty mechanical model, considerate design.
- .Two test methods integration: A & B.
- .Special lighting design, easy to observe.
- .Micro-computer processes test results.
- .Intelligent test enhances test efficiency.
- .Pneumatic clamping and releasing decrease test time and errors.
- .Test procedure requires no manual drawing and mark, data and parameters are displayed by LCD.
- .System identifies, calculates test data automatically, and requires no manual intervention.
- .Test stops automatically, results are displayed by multifold units, micro-printer prints results.

2. Test Principle

At the beginning of the test, choose a test method, and estimate an initial mass and Δm . Test, if the first specimen is failure, decrease the mass of the falling dart by decreasing poise of Δm . If the first specimen is not failure, add the mass of the falling dart by increasing poise of Δm . Test as the same. In brief, increase or decrease the Δm according to whether the former specimen is failure or not. After 20 specimens, calculate the total number of failure specimens N. If N equals to 10, test over. If N is less than 10, add specimen and continue to test until N is equal to 10. If N is more than 10, add specimen and continue the test until the number of non-failure specimen is 10. Then calculate the test results according to special formula.

3. Operation demo

Power on -- choose test method -- estimate initial impact mass and Δm -- increase or decrease the Δm according to impact result -- system calculates automatically -- estimate automatically whether the result is satisfactory -- display test results -- print test results -- test over

4. Technical data

Test method: A&B (optional)

Test range: method A: 50~2000g method B: 300~2000g

Accuracy: 0.1g (0.1J)

Test condition: 23 °C 50%RH (standard)

Specimen clamping: pneumatic

Specimen size: >150mm x 150mm

Power: AC 220V 50Hz / 60Hz

Net weight: 70kg

Dimension: method A: 500(L) mm x 450(B) mm x 1320(H) mm

method B: 500(L) mm x 450(B) mm x 2160(H) mm

5. Standard configuration

Method A

6. Optional configuration

Method B, software, communication cable

Note: Users provide test gas for themselves.

7. Standard

ASTM D1709、JIS K7124、GB 9639

