

# Mattress Compression Tester

Model: F0024

*a measurable difference...*

**IDM**<sup>®</sup>  
instruments

The Mattress Compression Tester is used to evaluate a degree of firmness common within the mattress and foam industries, either in the laboratory, or on the production line.

This universal measurement of firmness and hardness is based on a physical property called the indentation force deflection (IFD) and is calculated by determining the force required to deflect the test piece a percentage of its original thickness using a circular indenter.

The circular indenter foot applies a force, while also recording the degree of indentation. To compare test results, test pieces must be of the same size and thickness. The whole article may be used if moulded shapes are being tested.

## Software Package:

The Mattress Compression Tester offers a variety of software features that allows programming of parameters, operational control and real-time display of the on-going test. This software package allows the operator to conduct a wide range of tests with an almost limitless array of test parameters and displayed test information when used with a compatible PC. The PC based control system uses the Universal Tester program developed by IDM Instruments Pty Ltd.

The Test Configuration is prepared for each test sample type. This procedure is fully automated. The test scripts as well as the operating parameters are entered in the Configuration Panel to run a test. Values including the test type, sample piece, sample size, standard reference and many more values can all be entered and also saved to be retrieved at a later stage.

The Software Program for the Mattress Compression Tester is automatic. Once the Test Configuration menu has been programmed, "Start" button is pressed, initiating the test. The results of the test are displayed on the PC in real time. They can then be saved and/or printed for later use.





### Applications:

- Mattresses
- Flexible cellular polyurethane
- Car seats
- Bike seats
- Furniture
- Chairs

### Software Features:

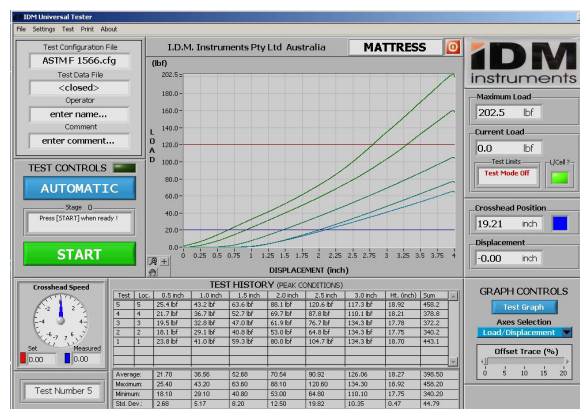
- Data Sampling is adjustable from 1-200,000Hz
- Position or Load control
- Test parameters displayed with graph simultaneously
- Real time graphic display of data
- Overlay display of data curve possible during test
- Selectable graphical display presentation
- ISO and ASTM Test Methods programmable
- Data can be sent to Excel
- Other test methods can be programmed by the operator
- Out of range stop
- Cyclic testing with data recording during cycle
- Auto return after a test is selected
- Calibration File to calibrate the instrument
- Statistical analysis
- Printable Reports
- Windows based software

### Features:

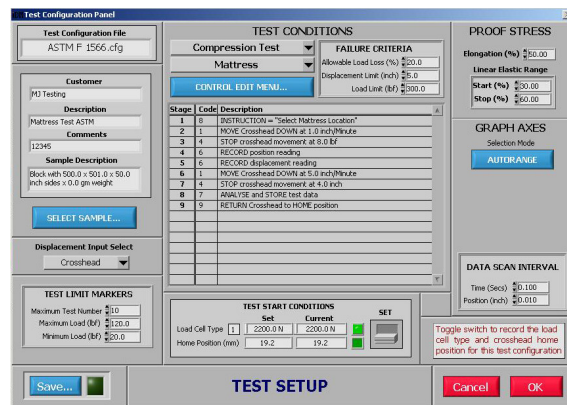
- Floor Mount operation for easy mounting of test pieces
- Easy operation
- Automatic software operation
- Capability of testing different sized samples
- 934 ± 5cm<sup>2</sup> circular indenter foot (Ø 344mm) - 13 1/2 "
- Throat between back brace and indenter: 1,056mm
- Maximum mattress height: 652mm

### Computer Hardware:

- The latest computer hardware and a 17" Flat Screen Monitor.



**Mattress Compression Tester sample test screen**



**Sample Test Configuration Screen**

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### Specifications:

- Loading System — closed loop micro computer, which drives a ball screw and nut for its vertical movement
- Maximum Capacity: 0-2450N (250kg)
- Travel (mm) approx.: 1000mm x 0.1mm
- Speed (mm/min) 0.05 to 500 mm/min
- Speed Accuracy better than +0.2%
- Return Speed (mm/min) 500mm/min
- Load Measurement Accuracy  $\pm 0.5\%$  of indicated value or  $\pm 0.1\%$  of full scale
- Load auto-zeroing, load cell discrimination
- Safety function for overloading provided at test
- Max. Stroke Limiter upper/lower — 2 points

### Benefits:

- Easy to use
- Fast results
- Accurate

### Options:

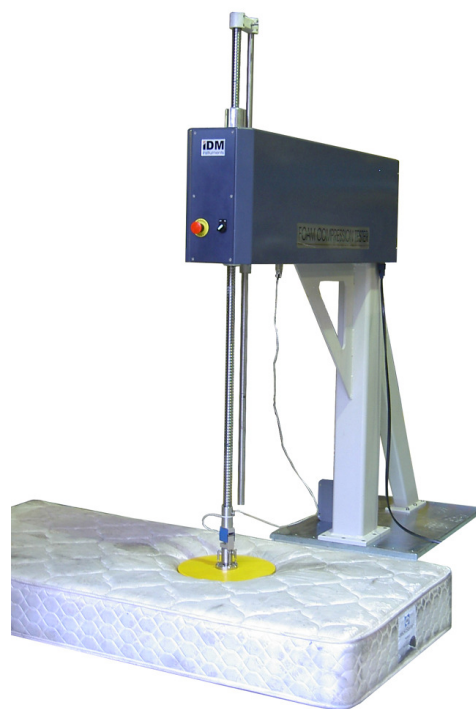
- Load Cells
- Custom Platen Fixtures
- Platen: 8"

### Standards:

- AS 2281
- AS 2282.8
- ASTM F1566
- ASTM D3574 -- Test B
- ISO 3386:1984
- ISO 2439
- BS EN 1957:2000
- GB 10807
- JIS K 6400

### Connections:

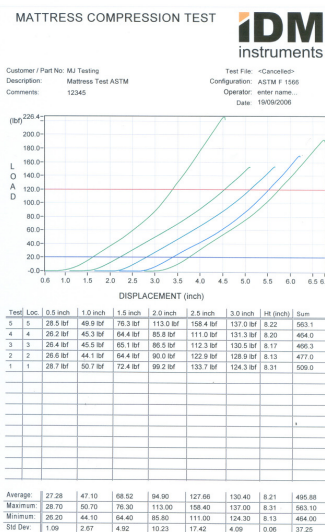
- **Electrical:** 220/240 VAC @ 50 HZ or 110 VAC @ 60 HZ  
(please specify when ordering)



**Mattress Compression Tester shown with Mattress**

### Dimensions:

- **H:** 1,912mm
- **W:** 700mm
- **D:** 2,196mm
- **Weight:** 450kg



**Sample Graph Printout**