

TESTING INSTRUMENTS FOR  
*A MEASURABLE DIFFERENCE...*

**IDM**  
instruments

# MATTRESS COMPRESSION TESTER

MODEL: IDM-F0013-M1



## INTRODUCTION

Complying with relevant standards, the Foam Compression Tester is used to evaluate a degree of firmness common within the foam and furniture 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.

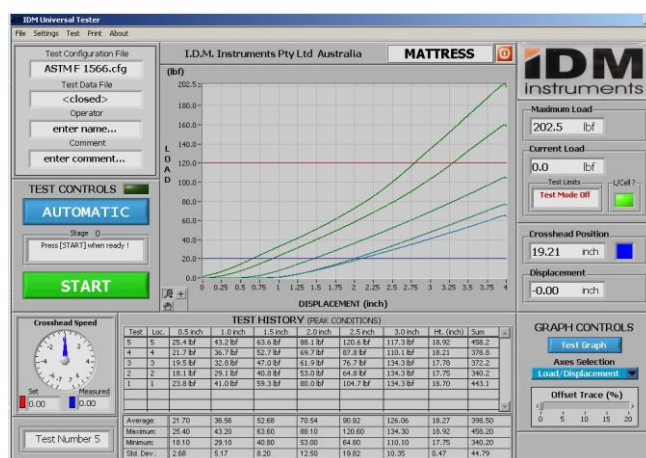
## TEST RESULTS & SOFTWARE FEATURES

The Foam 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 Foam 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.

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
- Selectable graphical display presentation
- Data can be sent to Excel
- Out of range stop
- Auto return after a test is selected
- Calibration File to calibrate the instrument
- Statistical analysis
- Printable Reports
- Windows based software
- Overlay display of data curve possible during test
- ISO and ASTM Test Methods programmable
- Other test methods programmable by the operator
- Cyclic testing with data recording during cycle



Sample Test Screen



Sample Test Procedure

## FEATURES

- Large Support Table allowing any test width
- Easy operation
- Capability of testing different sized samples
- 322 ± 2cm<sup>2</sup> circular indenter foot (8" Ø)
- Computer Hardware and 19" flat screen monitor

## APPLICATIONS

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

## STANDARDS

- AS 2281
- AS 2282.8
- ASTM F1566
- ASTM D3574 -Test B
- ISO 3386:1984
- ISO 2439
- GB 10807
- JIS K 6400
- ISO 3386-1

## SPECIFICATIONS

<b>Model</b>	<b>IDM-F0013-M1</b>	
<b>Loading Systems</b>	Closed loop micro computer, which drives a ball screw and nut for its vertical movement	
<b>Maximum Capacity</b>	0-2224N	
<b>Travel Approx.</b>	750mm x 0.1mm	
<b>Speed</b>	0.05 to 500 mm/min	
<b>Return Speed</b>	500mm/min	
<b>Load Measurement Accuracy</b>	± 0.5% of indicated value or ± 0.1% of full scale	
<b>Speed Accuracy</b>	0.5% F.S.	
<b>Load auto-zeroing</b>	load cell discrimination	
<b>Max. Stroke Limiter</b>	upper/lower — 2 points	
<b>Safety function</b>	safety overloading provided at test	
<b>Electrical Connections</b>	220/240 VAC @ 50 HZ or 110 VAC @ 60 HZ (please specify when ordering)	
<b>Working Environment</b>	<ul style="list-style-type: none"> <li>• Operating Temperature: -10°C to 55°C (with no condensation or icing)</li> <li>• Operating Humidity: 25% to 65%</li> <li>• Storage Temperature: -25°C to 65°C (with no condensation or icing)</li> </ul>	
<b>Dimensions</b>	<b>Instrument</b> D: 2925 mm W: 1100 mm H: 2500 mm Weight: 245 kg	<b>Packaged</b> D: 1300 mm W: 1900 mm H: 2070 mm Weight: 850 kg

## OPTIONAL ITEMS

- IDM-F0013-OP1 - Fixed Platen (8" diameter) ASTM D3574 (Optional)
- IDM-F0013-OP2 - Swivel Platen (8" diameter) ASTM D3574 (Optional)
- IDM-F0013-OP3 - Fixed Platen (13 ½" diameter) ASTM F1566 (Optional)
- IDM-F0013-OP4 - Swivel Platen (13 ½" diameter) ASTM F1566 (Optional)
- IDM-F0013-OP5 - Swivel Platen (355mm Diameter) BS EN 1957 (Optional)
- IDM-F0013-OP6 - Foam Test Base Plate (Optional)
- IDM-F0013-OP7 - Larger Capacity 5KN
- IDM-F0013-OP8 - Swivel Platen - 390 x 390mm - ISO 3386-1



## WORKING ENVIRONMENT

- Temperature: -10°C to 40°C
- Humidity: 25% to 85%

## WARRANTY AND CALIBRATION SERVICES

- **1 year Warranty**
- Our **Preventive Maintenance and Calibration (PM&C) program** has been designed to make the maintenance and calibration of your valuable testing equipment more cost effective by preventing breakdowns and downtime by regular calibration, service and replacement of defective parts. Talk to us about this today.