a measurable difference... Mattress Compression Tester Model: F0024

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 indentor.

The circular indentor 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.



10 - 11 Colrado Court Hallam, Victoria 3803 Australia Ph: +61 3 9708 6885 Fax: +61 3 9708 6770 Email: idm@idminstruments.com.au Web: www.idminstruments.com.au

Page 1 of 3 **ISSUE #3 - 2011**

Copyright © 2011 IDM Instruments Pty Ltd. All Rights Reserved.

Appearance & specifications listed are subject to change without notice.

Mattress Compression Tester Model: F0024

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

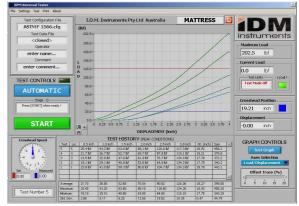
Features:

- Floor Mount operation for easy mounting of test pieces
- Easy operation
- Automatic software operation
- · Capability of testing different sized samples
- 934 ± 5cm² circular indentor foot (Ø 344mm) 13 $\frac{1}{2}$ "
- Throat between back brace and indentor: 1,056mm
- Maximum mattress height: 652mm

Computer Hardware:

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





Mattress Compression Tester sample test screen

Test Configuration File		TEST CONDITIONS				PROOF STRES
ASTM F 1566.cfg		Compression Test FAILURE CRITERIA				
				-11	Elongation (%) \$50.00	
		_	1	Alowable Load Loss (%) 20.0 Displacement Limit (inch) 5.0	-1	Linear Elastic Range
Customer		CONTROL EDIT MENU Load Limit (bf) 300.0				Start (%) \$30.00
MJ Testing		_	_	i contractory group		Stop (%) \$60.00
Description	Stag	e (Description	A	1
Mattress Test ASTM	1	8		INSTRUCTION = "Select Mattress Location"		OD ADULAVEO
Comments	2			MOVE Crosshead DOWN at 1.0 inclv/Minute		GRAPH AXES
12345	3			STOP crosshead movement at 8.0 lbf		Selection Mode
Sample Description	4			RECORD position reading		AUTORANDE
Block with 500.0 x 501.0 x 50.0	5	6		RECORD displacement reading MOVE Crosshead DOWN at 5.0 inch/Minute		riordicide
inch sides × 0.0 gm weight	7	4		STOP crossbeed power at 5.0 incly/indce		
	8	17		ANALYSE and STORE test data		
	9	9		RETURN Crosshead to HOME position		
SELECT SAMPLE						
		+	_			
Displacement Input Select						
Crosshead 🔻		+				DATA SCAN INTERV
		+	-		11	DATA GEAT MEAN
	1 2-	_	_			Time (Secs) 0.100
TEST LIMIT MARKERS		_	_			Position (inch) 0.010
Maximum Test Number 210				TEST START CONDITIONS SET		
Maximum Load (bf) \$120.0				e 1 2200.0 N 2200.0 N		gle switch to record the k
Minimum Load (bf) 20.0						gie switch to record the k type and crosshead ho
	Ho	me P	ositio	n (mm) 19.2 19.2 📕 🗾		ition for this test configura
		-	-		P00	toor in a none too toor tooringore

Sample Test Configuration Screen

10 - 11 Colrado Court Hallam, Victoria 3803 Australia Ph: +61 3 9708 6885 Fax: +61 3 9708 6770 Email: idm@idminstruments.com.au Web: www.idminstruments.com.au

Page 2 of 3 ISSUE #3 - 2011

Appearance & specifications listed are subject to change without notice. Copyright © 2011 IDM Instruments Pty Ltd. All Rights Reserved.

a measurable difference...

Mattress Compression Tester a measurable difference... Model: F0024

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 ± 0.5% of indicated value or ± 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

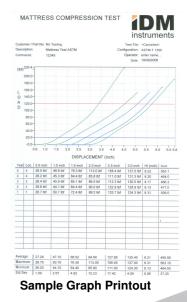
Connections:

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





Mattress Compression Tester shown with Mattress



10 - 11 Colrado Court Ph: +61 3 9708 6885 Fax: +61 3 9708 6770 Email: idm@idminstruments.com.au Web: www.idminstruments.com.au

Appearance & specifications listed are subject to change without notice. Copyright © 2011 IDM Instruments Pty Ltd. All Rights Reserved.

Dimensions:

• H: 1.912mm

• W: 700mm

• D: 2,196mm

Weight: 450kg

Page 3 of 3 **ISSUE #3 - 2011**