

## UNIVERSAL TESTING MACHINES Digital Micro-processed

### “DMD” Series (20 & 50 KN) Digital Micro-processed

Applicable standards: UNE – ISO – DIN – ASTM – AFNOR – UNI...



CAPACITIES: 20 or 50 KN

- Tension, compression, flexure, shear.....
- Micro-processed Digital Display
- Accuracy better than 1 %
- Equipped with an electronic load cell (tension / compression) of high accuracy, placed on the mobile crosshead.
- Fast positioning of the mobile crosshead
- Automatic overload protection (up to 150 %)
- Quality Control equipment with a big rugged
- High accuracy
- easy to use and low cost

#### OPTIONS:

##### 1/ **MetroTEST** or **GESLAB** - Software Systems

Through a PC and **MetroTEST** Software + **MultiTEST Pack**, it is possible capture quickly and reliability the results of the tests (TENSILE / COMPRESSION & FLEXURAL). Later it is possible to make statistical calculations



##### 2/ “Kit PDA-TensileTEST – Machine CONTROL - CAPTURE and Data TRANSFER to a PC



**WITHOUT HUMAN ERRORS !**  
Traceability according to ISO 9000

- PDA +Microsoft Windows Mobile f/Pocket PC 2003 operative system or later
- Serial interface, (cable control) or bluetooth (wireless)
- Test software **PDA-MultiTest** Developer by Metrotec
- **MetroTEST** and **GESLAB** systems compatible
- Real time numerical data display
- With automatic calculations of:
  - Tensile and Compression Breaking Strength
  - Maximum breaking stress in MPa (introducing the sample size)
  - Elongation / Deflection breaking - Tension / Compression / Flexural
  - Change Units SI / Metric / Imperial (N – Kg – lb / mm & inches)

### GENERAL INFORMATION:

New generation of UNIVERSAL TESTING MACHINES series DMD, it is possible to make routine tests and also development and research works, in several materials as: metals, rigid plastics, composites, wires, adhesives, cables, textiles, ceramics and so on, fulfilling the International standards: UNE, ISO, DIN, ASTM, AFNOR, UNI,.....

The UNIVERSAL TESTING MACHINES can be **optionally** automatically controlled in closed loop by an efficient P.C. that allows to AUTOMATICALLY make tests, through the modular **METROTEST** SOFTWARE for control and data input in **WINDOWS'2000 – XP**

There is available a wide range of testing accessories: grips, extensometers, thermal test chambers, flexion device, special devices.

### ¡ Ask for your needs in Quality Control !

The **DIGITAL UNIVERSAL TESTING MACHINES “Series DMD”**, consist of: a robust frame, where the test frame is placed.

The test frame has two spindles with balls re-circulation with protectors, of low friction coefficient and two guide-columns, of rectified and chromed steel.

In the mobile crosshead there is placed a tension-compression load cell, to which it will be fitted the used test tools (the tools are not included)

All these elements are supersized admitted overloads up to the 150 % of the nominal value without modifying its accuracy or its functioning. All these facts make the frame to have a very high strength, so a proper functioning during an intensive work is guaranteed.

It has a stroke upper and lower limits system that can be adjusted by the user. In the inside of the base the transmission elements are included, the transformer, regulation electronics, servomotor.

### GENERAL FEATURES:

**Easy to read back liquid crystal display for strength and extensions**

**Reading of: tests results, averages, and standard deviations**

**Pre-load of test start can be selected and it is of automatic application**

**Mobile upper crosshead**

**Variable test speed (see table)**

**Movable crosshead positioning at the desired speed range**

**Automatic auto-reverse to the initial test position at the maximum speed**

**Electronic over-load protection**

**Robust equipment, easy t use and precision**

### OPTIONAL :

**COMPUTERIZATION** - the machines series DMD can be controlled in closed loop, through **PC+ METROTEST SOFTWARE** , which allows to operate AUTOMATICALLY when tests are made, by means of a complete control software and by input data (operative in Spanish, English, French and German language to choose).

### HOMOLOGATED CALIBRATION CERTIFICATE

Every equipment is calibrated with E.N.A.C. homologate equipments (National Accreditation entity). We supply the corresponding calibration certificate with the standard ISO 7500 / 1 .

## GENERAL TECHNICAL FEATURES:

### CONTROL UNIT:

- Microprocessor Control
- Alphanumeric liquid crystal display
- Control keys for going up, down, stop, zeros of strength / extension and test mode
- Indication of :Real test values, average and standard deviation
- Sample breaking level (falling strength % at the end of the test)
- Maintenance of Tension & Compression strength peaks
- Selection of strength and deformation units
- Indication of: operating status, test direction and alarms on the display
- External control mode by P.C.
- Automatic recognition of the load cell
- Interface Series RS- 232

### STRENGTH MEASUREMENT:

- Range from 2% to 100% - Accuracy < 1 % of the applied strength
- Load resolution : 25.000 points
- Typical range of strength sampling : 50 times/second
- Digital load tare 20% with the load cell in its maximum capacity
- Units to be selected in the digital display : Newton, Kilogram and Pounds
- Load cell protection system
- Programmable pre-load
- High speed A/S of 16 bit converter

### EXTENSION MEASUREMENT (DEFORMATION):

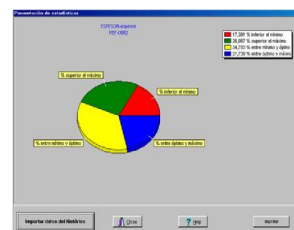
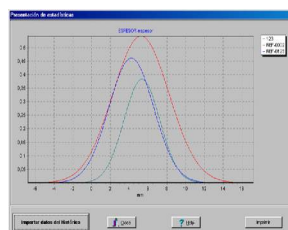
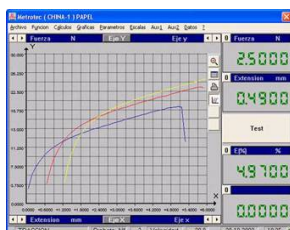
- Direct measurement from the operation spindles
- Unique measurement range (1 scale)
- Reading resolution : 0.01 mm
- Auto-reverse accuracy, better than 0.05 mm
- Units to be selected : millimetres and inches
- Programmable extension limits

### SPEED CONTROL:

- Prefixed speed resolution : 0.1 mm / minute
- Speed accuracy : < 1%
- Pre-load speed adjustable depending on the range (see table)
- Power protection system
- Operation by four quadrant motor

### OPTIONAL (DIGITAL U.T.M. series "DMD" computerization)

All the Microprocessed digital U.T.M. models are fitted with RS- 232 and can be controlled by means of a **PC and MetroTEST SOFTWARE** developed by METROTEC.



The software is set up very easily:

1 basic program **METROTEST**

PACK of Tests MULTITEST or different standard modules specific for each kind of test

**IMPORTANT:** for the correct set up of the software it is necessary to define:

The kind of tests to be made

The materials and samples to be tested

The standard to be fulfilled

The particular specifications

**NOTE:** besides the wide range of standard modules, the METROTEC software department can develop specially made program for specific applications.

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CODE Model	3589 DMD / 20	3590 DMD / 50
Strength - Metric Range – S.I.	2000 Kg 20 kN	5000 Kg 50 kN
Strength Resolution	100 g.f. 1 N	250 g.f. 2,5 N
Extension Resolution	0,01 mm	0,01 mm
Movable crosshead Stroke	1000 mm	1000 mm
Standard separation between columns(*)	430 mm	430 mm
Standard Speed	0 – 500 mm / min.	0 – 500 mm / min.
Standard supply	220 V Single-phase 50 / 60 Hz	220 V Single-phase 50 / 60 Hz
Approx. power	800 W	1000 W
FRAME SIZES		
- Height	1700 mm	1700 mm
- Width	1075 mm	1075 mm
- Deep	550 mm	550 mm
Approx. Net Weight	550 Kg	550 Kg