Metravib

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DMA desktop series DMA25 / DMA50

DMA TESTING HAS NEVER BEEN SO SIMPLE!

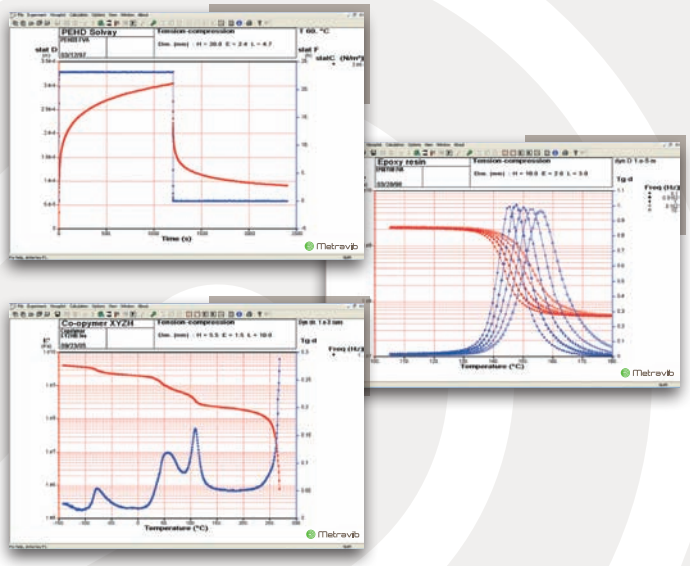
DMA 25 / DMA 50 are desktop DMA offering a high force range and outstanding flexibility from glass transition determination to immersed tests, which makes them powerful thermomechanical testing platforms.

Main assets

- High force: 25 / 50 Newtons (peak)
- Broad frequency range: from 1E-5Hz to 200 Hz
- Broad temperature range: from -150°C to 600°C
- Analysis of specimens with sizes representative of the materials structure
- High performance auto-tension mode (coupled static/dynamic control) for film and 3-points bending modes
- Thermal chamber with window
- Reversible frame
- Specimens immersion possible with all test modes at no extra cost
- Easy to use
- Can be used with a single power line connection
- Low price

Main uses

- DMA, TMA, simultaneous DMA/TMA tests with DYNATEST software
- Determination of glass and secondary transitions
- Particularly well suited to polymers and composites
- Analysis of films and specimens with small stiffnesses
- Tests on materials immersed in a liquid
- R&D / Quality control
- Education / Lab work



Precise

With optimal metrological solutions, innovating dynamic and static control algorithms, **DMA 25 / DMA 50** guarantee an accurate control of all parameters influencing measurement quality.

High force

DMA 25 / DMA 50 include a dedicated electrodynamic actuator (ACOEM), specifically designed to meet DMA requirements.
This gives **DMA 25 / DMA 50** a great flexibility regarding the material's change of mechanical behavior versus temperature, and the capacity to analyze specimens with sizes that are representative of materials structure, for either dynamic tests or static tests (creep, TMA).

Ergonomics

The motorized opening/closing thermal chamber allows large clearance and free access to the specimen, as well as very comfortable handling conditions for the operator.

Versatile and flexible

Flexible operating modes allow routine DMA and TMA tests, as well as the definition of specific tests combining multiple parameter settings.
Depending on the test configuration, the position of the mechanical frame can be easily reversed.
For tests requiring the specimen to be immersed in liquid, this function is particularly effective, since it allows to use all the available specimen-holders, regardless of the test mode without requiring the purchase of expensive additional accessories.

Suited to each material

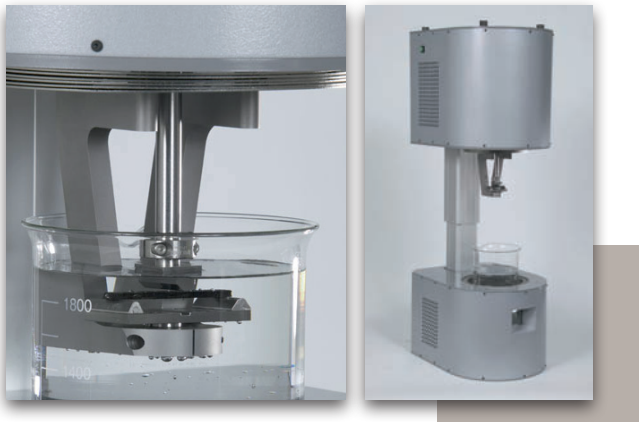
A range of 8 specimen holders allows different excitation types (tension, compression, bending and shear) for a great variety of materials of very diverse shapes: fibers, films, plates, cylinders, pasty materials, etc.

Customizable and upgradeable

DMA 25 / **DMA 50** allow configuring an additional channel to facilitate analysis coupled with the DMA test: temperature, hygrometry, oxygen, gas atmosphere, etc. **DMA 25** can be upgraded into **DMA 50**, if larger force capabilities are required.

Easy and cost-effective

DMA 25 / **DMA 50** are cost-attractive platforms for thermal and mechanical characterization. They can be used in any room equipped with a single electrical outlet. For subambient working conditions, **DMA 25** / **DMA 50** can be coupled to either a cryogenic source, or an air chiller.
DMA 25 / **DMA 50**'s productivity is enhanced by automatic test sequencing capabilities of DYNATEST software.



Composite material tested in a solvent bath.

Main specifications

Frequency range	1E-5 Hz to 200 Hz
Dynamic force (max) DMA 25	50N peak to peak
Dynamic force (max) DMA 50	100N peak to peak
Dynamic force (max - option) DMA 25	100N peak to peak
Dynamic displacement (max)	6 mm peak to peak
Temperature range	room to 500°C
Temperature range (option 1)	min. -150°C
Temperature range (option 2)	max. 600°C
Hygrometry control (option)	
Modulus (Pa)	1E3 to 3E12
Tan delta resolution	0.00001
Materials	Elastomers, thermoplastic polymers, thermosets, composites, biomaterials, foods...
Excitation modes and specimen holders	Tension / compression / shear / 3 points bending/single-dual cantilever for rigid & soft materials Shear for pasty materials & curing follow-up Indentation set
Installation and connections	Height x Width x Depth: 1 000 mm x 300 mm x 400 mm Weight: 40 kg Power: 230 Volts single phase

The present caracteristics are subject to change without notice. COM2008 - September- 2012 - A