

Product Specification Sheet – TTDMA

- **Detachable Dynamic Measuring Head**
Allows system to be used in any orientation or configured with other analytical instrumentation e.g. FTIR, optical devices or X-ray equipment
- **-190°C to 600°C standard temperature range**
- **Controlled heating & cooling***
-15°C/min to 20°C/min.
Isothermal operation



- **Dramatic cooling capability***
Only 1 litre of LN2 is required to cool the DMA to -100°C six times from one charge
Each cooling cycle taking less than 3 minutes
-190°C takes just 7 minutes and uses well below 1 litre of LN2**

*requires optional 1 litre or 35 litre cryo accessory.
**requires LN2 dewar to have reached optimum internal pressure (typically 10 minutes)

- **10⁻³ to 10³ Hz frequency range** (sample dependant), with 1mHz resolution
- **Frequencies or Strain (isothermal operation) – number per experiment unlimited**
Selected by number of frequencies per decade in either log or linear mode
- **Titanium clamp parts**
Low mass and rugged, resulting in improved heating/ cooling performance
- **Standard Geometries;**

Geometry	Max Dimensions	Free Length	Defined	+Unlimited
Single Cantilever	28mm x 13mm	1mm – 17.5mm	18	Yes
Dual Cantilever	55mm x 13mm	1mm – 17.5mm	18	Yes
3 Point Bending	55mm x 13mm	20mm – 45mm	6	Yes
Tension	30mm x 13mm	0 – 20mm	7	Yes
Compression	10mm x 12mm	0 – 12mm	-	Yes

- **Improved drive train**
No stepper motor, low compliance, no air bearing provides highly reliability electronics which result in reduced maintenance. The Lowest drive mass of any DMA means reduced inertia, which significantly improves high frequency measurements
- **Stiffness Range 2 x 10² to 1 x 10⁸ N/m**
- **Modulus Range 10³ to 10¹⁶ Pa (theoretical)**
- **Modulus resolution 0.0001Pa**
- **Tan delta resolution 0.00001**
- **Displacement resolution 10nm**
- **Displacement (Strain) Range 0 to +/- 1mm** (sample permitting).
- **Force**
Range.....+/- 10N
Minimum.....0.00025N
Resolution0.00025N

- **Colour LCD touch screen with clear instrument status display**
- **Instrument pre calibrated.**
No day to day calibration required. Instant operation on 'switch on'.
Annual calibration checks are sufficient for most users.
- **Triton Laboratory[®] Multitasking Software platform**
Allows any other Triton Laboratory product to be multi-tasked on same PC.
Simultaneous operation of Humidity and Immersion accessories
Software compatible with Microsoft™ Vista or XP
Purge Gas via 6mm Ports
Cryogenic Liquid via 6mm Ports
- **Optional optical windows and ports** available. Note that temperature range may be compromised with certain configurations
- **Optional Humidity accessory** available allowing measurement of materials up to 85°C to 85% RH at lower temperatures
- **Optional Immersion accessory** available for testing materials in non flammable liquids - available for all geometries
- **Optional 1 litre cryo (without auto cryo).** For manual cooling to start temperature. Note that this unit is capable of providing limited controlled cooling or heating.
Typical cooling performance with 1 litre Cryo:
Ambient (25°C) to -100°C takes less than 3 minutes and uses less than 200ml of LN2
1 litre of LN2 can typically cool down from Ambient to -100°C six times from one filling.
Ambient to -190°C *typically* takes 7 minutes.
- **Optional 35 litre auto cryo configuration.** For controlled cooling or heating or isothermal sub ambient operation.
- **Optional Powder pockets.** Allows powdered materials to be examined
- **Optional Sealable Liquids holders.** Good for studying powdered materials to be examined
- **Optional identiPol as Sample Preparation Rig for thermoplastic pellets.** Requires following 2 items as well;
- **Optional identiPol Clamp for holding identiPol sample holders described below**
- **Optional patented metal sample holder for thermoplastic samples,** enabling fast and accurate temperature scans (20°C/min)
Polymer granules are melted into the holder and can then be analysed in the DMA. Requires optional identiPol

Instrument Weight

13 Kg

Instrument Footprint

240mm deep x 420mm wide x 360mm height

Connections

Electrical – 100-120VAC / 230VAC 50/60Hz

Interface – USB

Conformance

Low Voltage Directive 73/23/EEC as amended in 93/68/EEC

EN6101-1:2001

EMC Directive 2004/108/EC

EN61326-1:2006

The company reserves the right to change the specification- E&O.E