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[Technical Specifications]

NEXTA DMA200

Dynamic Mechanical Analyzer:

Max. Force	±20N
Force amplitude resolution	$5E^{-6}$N or better
Force resolution at static meas.	$4E^{-5}$N or better
Sinusoidal Oscillation (Dynamic meas.)	Sequential measurements Max. 20 freq. within 0.01 ~ 200 Hz
Synthesis Oscillation (Dynamic meas.)	5 freq. x1, x2, x4, x10, x20 for basic freq. among 0.01 ~ 10Hz
Stress control and strain control (Static meas.)	
Immersion measurement	(optional)
Integrated sample observation RealView®	(optional)

Temperature range specification:

RT to 600°C	Compressed air
-100 to 600°C	Electrical gas cooling
-150 to 600°C	Auto LN2 gas cooling
Program speed	0.01 to 20 °C/min
Ramp mode Max. step count	100, hold time; 10000 min
Step mode Input step width	0.01 °C
Temperature accuracy	117 ± 3 °C
*Tg temperature with PMMA sample for tension measurement (optional)	

Measurement mode & dynamic range:

Elasticity reproducibility	69.1±2.0GPa(Tension) and 192±6GPa(Dual-cantilever bending)
Tanδ Measurement range	0.0012 ~ 9.9999
Tanδ Resolution	Within 0.000001
Tension (as standard)	E: 10^5 ~ 10^{12} Pa
Dual-cantilever bending	E: 10^5 ~ 10^{12} Pa
Single-cantilever bending	E: 10^5 ~ 10^{12} Pa
3-point bending	E: $10^{6.5}$ ~ $10^{13.5}$ Pa
Shear	G: 10^3 ~ 10^9 Pa
Film shear	G: 10^4 ~ 10^{10} Pa
Compression	E: 10^5 ~ 10^9 Pa
Spring fixed tension	E: 10^5 ~ 10^9 Pa
E: Elastic Modulus/ G: Shear Modulus	

Dimensions, weight and power:

- Main Body W 440 mm x D 630 mm x H 757 mm, 86.5 kg.
- 100-110 V ±10 % 12A, or 220-240 V ±10 % 6A, 50/60 Hz.

(excludes PC, options and accessories).

Gas specification:

Gas type	Air (dry), N_2, O_2, Ar, He (Recommend: dew point below -70 °C)
Gas flow rate	300ml/min
Gas pressure	0.1MPa or less

Sample dimensions:

Tension (1 or 2 points fixture)	- Sample L 25 ~ 55 mm (including chuck unit) - Effective L: 5 ~35 mm, Max. T: 3 mm, Max. W: 10 mm
Dual-cantilever bending / Single-cantilever bending	- Sample length (dual) 50 ± 2 mm (including chuck unit) - Effective (dual) L: 20 mm, Max. T: 5 mm, Max. W: 16 mm - Sample length (single) 25 ± 2 mm (including chuck unit) - Effective (single) L: 10 mm, Max. T: 5 mm, Max. W: 16 mm
3-point bending	- Sample L 35 to 55mm (including chuck unit) - Effective L: 30, 40 ,50 mm, Max. T: 5 mm, Max. W: 16 mm
Shear	Max. cross-section dimension: 10 x 10 mm, Max. T: 6 mm
Film shear Sample L 50, 40 mm (including chuck unit)	Effective L: 20, 10 mm, Max. T: 1 mm, Max. W: 15 mm
Compression	Max. L: 15 mm, Max. cross-section ϕ: 15 mm
Spring fixed tension	Max. L: 45 mm, Max. T: 0.5 mm, Max. W: 10 mm
L: Length, T: Thickness, W: Width	

Software:

- Software for NEXTA
- License-free standard analysis
- All the advanced analysis included as standard:
  - Master curve (DMA)
  - Activation Energy (DMA)
  - Composition Material data (DMA)
  - Auto Analysis