


Instrument title	Dynamic Mechanical Analyzer – DMA/SDTA861e
Photo	
Technical details	<p>Temperature range: -150°C* ... 500°C (*under control cooling) Peak force: 12 N, 18 N or 40 N Peak strain: ±1.6 mm Hardness of specimen: 10⁸ N/m Minimal force: 0.005 N Frequency range: 0.001 ... 1000 Hz Maximal specimens size: 100 mm** (**for 3-point bending)</p>
Application	<p>Dynamic mechanical analysis (DMA) is used to measure the mechanical and viscoelastic properties of materials as a function of temperature, time and frequency when they are subjected to a periodic stress. The types of materials that can be analyzed with this technique include thermoplastics, thermosets, composites, elastomers, ceramics and metals.</p> <p>The following effects and properties that can be investigated with DMA: viscoelastic behavior relaxation behavior, glass transition, mechanical modulus, damping behavior, softening, viscous flow, crystallization and melting, phase separations, gelation, changes in morphology, composition of blends, filler activity, material faults, curing reactions, cross-linking reactions, vulcanization systems.</p> <p>The DMA/SDTA861e has six different deformation modes: shear, 3-point bending, dual cantilever, single cantilever, tension, compression.</p>