TPS 2200

Economical Standardized Thermal Constants Analyser

The Hot Disk TPS 2200 is an affordable, scaled-down standardized instrument in the system portfolio of Hot Disk AB. This general-purpose R&D instrument is designed for precision analysis of thermal transport properties - including thermal conductivity, thermal diffusivity and specific heat capacity. The TPS 2200 covers a significant span of materials of various geometries and dimensions, including solids, pastes and liquids. While not as versatile as the flagship TPS 2500 S, it meets ISO Standard 22007-2 just like its more powerful sibling. The restrictions compared to the TPS 2500 S chiefly regard sample size, measurement time and maximum thermal conductivity tackled.
The TPS 2200 is however an excellent option for measurements of larger bodies of extruded polymers, building- and insulation materials, sheet metals, laminated samples etc. It should also be noted that the TPS 2200 betters the performance of the more modest TPS 1500, in being able to tackle many high-conductivity samples and medium- to high-viscosity liquids. Equally, the TPS 2200 features an expanded measurement range as well as improved accuracy in comparison to the lesser TPS 500 S.

A selection of optional measurement modules allows the TPS 2200 to be used in several specialized applications, from precise testing of isotropic materials (Isotropic module) to measurements of slab samples (Slab module); anisotropic samples or layered structures (Anisotropic module); thin films or

coatings (Thin Film module); and extremely light and low-conducting materials (Low-density/Highly-insulating module); also featured is direct testing of specific heat capacity of bulk samples (Cp module) – all important applications in e.g. the electronics, automotive, aerospace, nuclear and chemical industries.

Specifications

Thermal Conductivity	0.01 to 500 W/m/K.
Thermal Diffusivity	0.1 to 300 mm^2/s.
Specific Heat Capacity	Up to 5 MJ/m^3K.
Measurement Time	2.5 to 1280 seconds.
Reproducibility	Typically better than 1 %.
Accuracy	Better than 5 %.
Temperature Range	-50 °C to 750 °C.
Core Instrument	Ambient.
With Furnace	Ambient to 750 °C.
With Circulator	-35 °C to 200 °C.
Power Requirements	Adjusted to the line voltage in the country of use.
Smallest Sample Dimensions	2 mm × 8 mm diameter or square for bulk testing. 0.1 mm × 15 mm diameter or square for slab testing.
Sensor Types Available	Kapton sensors: 7577, 5465, 5501, 8563, 4922, 5599. Mica sensors: 5465, 5082, 4921, 4922, 5599. Teflon sensors: 7577, 5465, 5501
Meets ISO Standard 22007-2.	

Key Features

Sensors: The TPS 2200 employs a wide variety of Hot Disk sensors. With sensor radius from 2 mm up to 30 mm the instrument is suitable for all kinds of materials and applications.
Temperature Control: Automatic Temperature series measurements (Isothermal Steps) are readily performed using either an optional external Furnace or a temperature-controlled Circulating Bath. These external devices can be directly controlled through the Hot Disk Thermal Analyser software to ensure ease of use.
Everything to get you started: The basic TPS 2200 system includes everything to get you started making measurements, including installation and on-site training. The instrumentation includes: Hot Disk TPS 2200 Instrument; Isotropic software module; a Sensor; Stainless Steel Verification Samples and Room-Temperature Sample Holder.
Optional Software Modules: In addition to the standard ISOTROPIC, optional measurement modules for SLAB, THIN FILM, ANISOTROPIC, SPECIFIC HEAT CAPACITY and LOW-DENSITY, HIGHLY-INSULATING SAMPLES are available.