DSC-500JL
TGA-1000/1300
TMA-1000

Thermal Analysis

YUKE

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DSC-500JL

DIFFERENTIAL SCANNING CALORIMETER WITH A REFRIGERATION COOLING SYSTEM

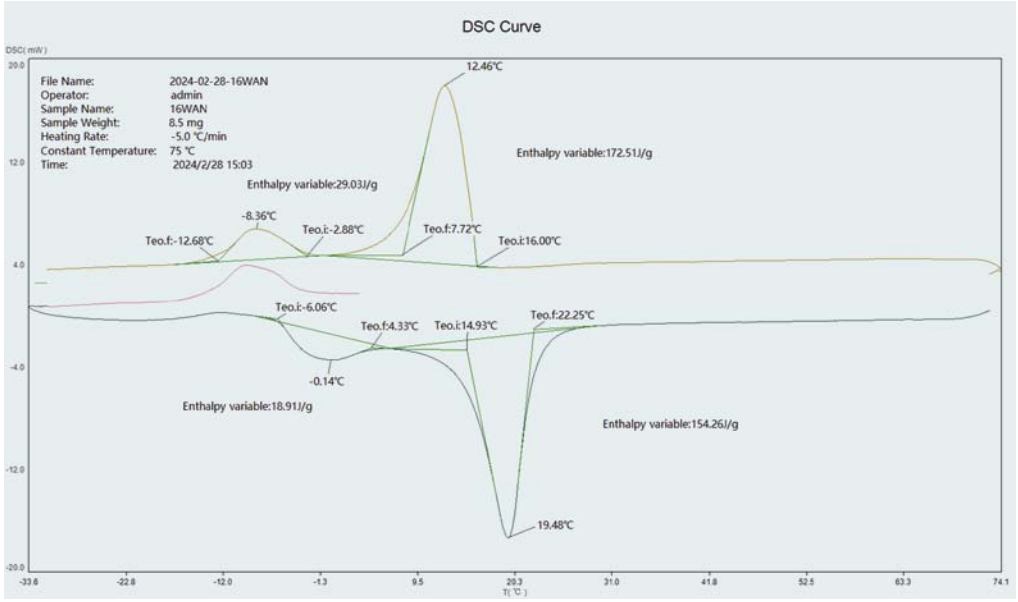
The differential scanning calorimeter IMC DSC-500JL is designed for the study and determination of thermal properties.
material properties

It can be used to determine the thermal parameters of physical processes (melting and crystallization, evaporation and sublimation, polymorphism, Curie temperature,

glass transition temperature, heat capacity, and chemical processes (dehydration, thermal decomposition, oxidation, polymerization, and curing).

Differential scanning calorimetry is widely used in medicine, chemical engineering,

polymer science, metallurgy, biology, mineralogy, forensic science, and other fields.



Technical specifications	DSC-500JL	DSC-500B	DSC-500L	DSC-750L	DSC-500W	DSC-800	DSC-1100	DSC-1400
DSC range, MW	0 ~ 200	0 ~ 200	0 ~ 200	0 ~ 200	0 ~ 200	0 ~ 200	0 ~ 200	0 ~ 200
Range Temperature, °C	-45 ~ +500	Room ~+500	-150 ~ +500	-150 ~ +7250	10 -+500	Room ~+800	Room ~+1100	Room ~+1400
Heating rate, °C/min	0,1 ~ 50	0,1 ~ 50	0,1 ~ 30	0,1 ~ 50	0,1 ~ 50	0,1 ~ 50	0,1 ~ 50	0,1 ~ 50
Speed Cooling, °C/min	1 ~ 5 (<30° C),1 ~ 10 (≥ 30°C)	—	1 ~ 30	1 ~ 30	20-50	—	—	—
Resolution temperature, °C	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Temperature measurement accuracy, °C	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
Temperature Repeatability, °C	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
DSC accuracy,%	2	2	2	2	2	2	3	3
DSC resolution, mW	0,001	0,001	0,001	0,001	0,001	0,001	0,001	0,001
Temperature control modes	Heating, isothermal holding, cooling, Cyclic program (full-program automatic control)							
Atmospheric control	Mass gas flow meter with automatic switching between two gases							
Cooling device	Refrigerator type	Airborne	Liquid nitrogen	Liquid nitrogen	Liquid thermostat	Airborne	Airborne	Airborne
Display mode	24-bit color 7-inch LED touch display							
Interface of transmitted data	Standard USB interface							
Calibration	Standard models feature both manual and one-button automatic calibration, allowing users to independently calibrate the device.							
Working voltage, V	220 In alternating current, 50 Hz / 60 Hz							

The DSC measures the relationship between temperature and heat flux, which relates to the internal heat transfer of materials.

It has a wide range of applications, particularly in research and development, operational testing, and material quality control. These include material melting, glass transition temperature, crystallization and cold crystallization, phase transition, thermal stability, curing/sintering, oxidation period, corrosion, and so on.

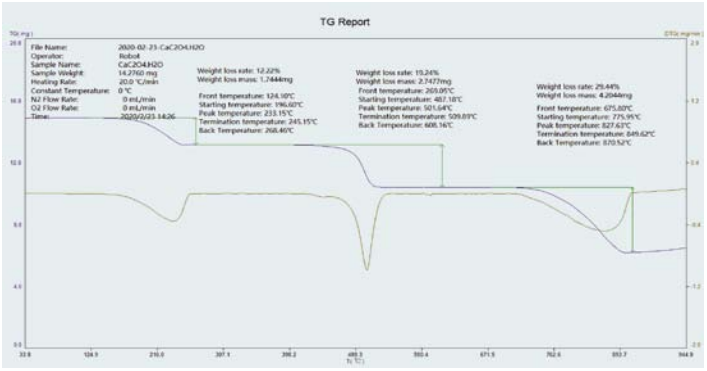
Advantages of Differential Scanning Calorimeter

- A completely new furnace design with the best resolution and resolution capability, along with the most stable base line in its segment.
- A dual-temperature probe to ensure high repeatability in sample temperature measurement.
- The software is compatible with all computer brands and supports most operating systems, including Windows XP, Windows 7, Windows 8, Windows 10, and others.
- 7-inch LCD touchscreen display.
- A wide temperature range from-150°C to +1400°C meets most research requirements.
- A digital gas mass flow meter that precisely monitors the flow of purge gas, with data recorded in a database.
- Control can be performed either through the built-in display or via the control station.
- A well-developed after-sales service system.

TGA-1000 / 1300

Thermogravimetric Analyzer

Thermogravimetric analysis (TGA) measures weight changes of samples during heating, constant-temperature processes, or cooling to assess thermal stability and material composition. This technique is widely used in R& D, process optimization, and quality control for plastics, rubber, coatings, pharmaceuticals, catalysts, inorganic materials, metals, and composite materials.



Advantages of Thermogravimetric Analyzers

- Built-in optical top balances with precision down to the millionth, ensuring high stability and repeatability.
- The design of the weighing chamber and furnace casing ensures complete airtightness, enabling the connection of external instruments for exhaust gas analysis (IR spectrometer, mass spectrometer).
- The calibration temperature is set at the Curie point, which ensures the highest accuracy compared to other TGA calibration methods.
- Built-in digital mass flow meter with automatic and rapid gas flow switching.
- The sound alert indicating the completion of the experiment
- 7-inch touch-sensitive LCD display
- Temperature compensation of the base line
- A well-developed after-sales service system.

Technical specifications	TGA-1000	TGA-1300
Tg range, mg	0 ~ 1000	0 ~ 1000
Tissue Glycation Resolution, μg	0,1	0,1
Accuracy of TG, μg	±2	±2
Temperature range, °C	From the room to +1000	From the room to +1300
Heating rate, °C/min	0,1 - 50	0,1 - 50
Permission to Temperature, °C	0,01	0,01
Accuracy of temperature readings, °C	±0.1	±0.1
Reproductivity Temperature indication, °C	±0.1	±0.1
Atmosphere of furnace	Inert Oxidation System with Automatic Speed Control	
Display	24-bit color, 7-inch, touchscreen	
Power supply	AC220V 50Hz/60Hz	

TMA-1000

Thermomechanical Analyzer

Technical characteristics	TMA-1000
TMA range	± 2500 μm
Temperature range	The room temperature - 1000 °C.
Heating rate	1 ~ 20 °C per minute
Permission to Temperature	0.01 °C
Temperature accuracy	0.1 °C
Repetition By temperature	0.1 °C
Accuracy according to TMA	2 %
TMA approval	0.1 μm
Control mode Temperature	Heating, constant temperature, cooling, and cyclic temperature loads
Atmospheric control	The rotary flowmeter automatically switches between two gases.
Gas pressure	0.2 MPa
Gas consumption	20 ~ 200 ml/min
Display mode	24-bit color 7-inch LED touch display
Interface of transmitted data	USB interface with corresponding software
Calibration	Equipped with a standard calibrator featuring one-button calibration function
Working power supply	220 In alternating current, 50 Hz / 60 Hz

The TMA-1000 thermomechanical analyzer is a high-tech device that measures the deformation of solid samples under load while temperature is controlled. It can measure thermal expansion coefficient, shrinkage, melting temperature, ductility, and other material properties. This method is widely used in testing materials such as metals, ceramics, glass, polymers, and low-molecular-weight organic compounds in laboratories, research institutes, universities, and industrial/mining enterprises.

The advantages of Yuke (Infrared Microscopy and Spectroscopy) analyzers

- The lightweight and compact stove features low heat capacity, high heating and cooling speeds, and modern electronics enable precise temperature control.
- The process of sample installation is completely intuitive.
- Equipped with various working probes for precise measurement of different physical deformation parameters.
- The device is compact, features an automatic oven lift, and is easy to use.