

HITACHI
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High Sensitivity Differential Scanning Calorimeter

DSC7000X



 **Hitachi High-Tech Science**



DSC 7000 X

High Sensitivity Differential Scanning Calorimeter

DSC7000X Specification

Heat flow measurement method	Heat flux type
Temperature range	-150 to 725°C
DSC measurement range	±100mW
RMS noise / Sensitivity	0.05μW / 0.1μW
Scanning rate	0.01 to 100°C
Atmosphere	Air, Inert gas flow
Sample Pans	Open Pans (Al, Pt, Alumina) Low-pressure Sealed Pans (Al) High-pressure Sealed Pans (Al, Ag, steel, Au-plated Steel)
AS-3DX auto sampler	Max. 50 samples, Mechanical arm transport

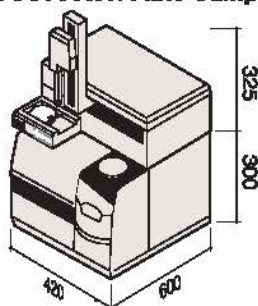
PDC-7 Specification

Temperature range	ambient to 150°C
Wavelength range	240 to 550nm
Maximum Irradiation Intensity	More than 500mW/cm ²
Irradiation intensity adjustment	0 to 100%

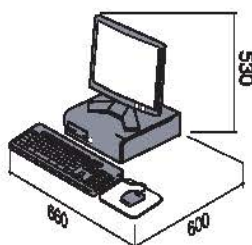
* The values of the performance to be appeared on this brochure are not guaranteed value.

Dimensions

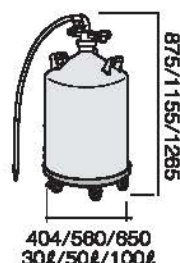
DSC7000X / Auto Sampler Unit



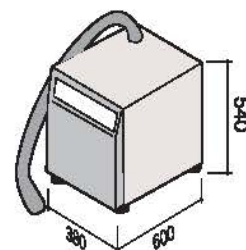
Station



Auto LN₂ Gas Cooling Unit



Electrical Cooling Unit



(Unit: mm)



Science Ring

The Hitachi High-Tech Group aims to be a global leader in the "view", "measure" and "analyze" scientific and analysis fields, maintains points of contact with customers in a wide range of disciplines and actively works to provide advanced high added value solutions.

The logo mark is centered on the "S" from "Science", which represents the form created and connected through our cooperation as a good partner to customers and society that has its roots in our technologies, and which is expressed as organic sphere encircled by a ring. It indicates our promise to society to create value through high-tech solutions that connect science and society.

⚠ Note concerning safety

In order to use the product safely, please be sure to read the operation manual first.

The data listed in this catalog are given as examples and are not guaranteed values. Some of the specifications of the products listed in this catalog may be subject to change without notification.

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TA7000 Thermal Analysis System Network

The TA7000 series provides complete solutions for the characterization of Thermal Properties. It covers all methods of Thermal Analysis including the measurement of the viscoelastic behavior. A variety of applications is supported by the environment control measurements like the evolved gas analysis (EGA), photochemical reactions and real time sample observation. Sample throughput can be increased by hard and software by the use of auto sampler, auto analysis software.

The TA7000 series meets the today's requirements completely and covers future needs.



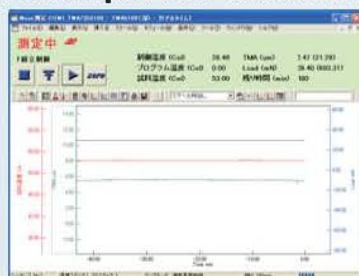
Easy & Comfort TA7000 Mobile Station

TA7000 Mobile Station Software can be installed on your Desktop PC or Notebook and realizes the same working environment as if you are in the laboratory using wired or wireless LAN. Monitor and control your measurement from the far.

The measurement status can be notified by e-mail or pop-up message on your computer or mobile phone.



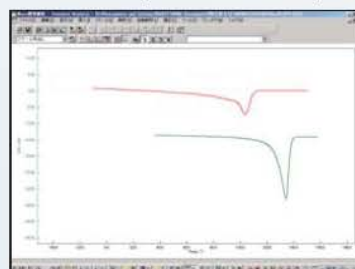
Remote operation measurement



"Start", "stop", and the condition change etc can be controlled from your PC.



Remote operation analysis



Data analysis after/during the measurement can be performed from your PC.

Options



ACU-X1
Auto LN₂ Gas Cooling Unit



ECU-PS2
Electrical Cooling Unit



GCU-150
Gas Control Unit



FM-150
Flow Meter



ESS-100
Electrical Sample Sealer



SS-M
Sample Sealer

Cooling Unit

	Temperature range	Remarks
ACU-X1 Auto LN ₂ Gas Cooling Unit	-150 to 725°C	Dewar size; 30ℓ, 50ℓ, and 100ℓ
ECU-PS2 Electrical Cooling Unit	-80 to 500°C	Power source; 115V and 220V
AAC-X1 Auto Air Cooling Unit	Ambient to 725°C	Forced air cooling (built in to main unit)

Gas Control Unit

	Temperature range	Remarks
MF1-200 Mass Flow Control Unit	1 channel / 2 channel	Program control (built in to main unit)
GCU-150 Gas Control Unit	2 channel	Precision needle valve
FM-150 Flow Meter	1 channel	Precision needle valve

Sample Sealer

	Temperature range	Remarks
ESS-100 Electrical Sample Sealer	Electrical driven seal by torque control	Open Pans Low-pressure Sealed Pans High-pressure Sealed Pans
SS-M Sample Sealer	Manually seal by lever	Open Pans Low-pressure Sealed Pans High-pressure Sealed Pans

Advanced Software

Auto Analysis Software	TM-DSC Conversion Software
Calculate the specific heat capacity from DSC measurement data.	Converts the temperature modulated DSC measurement data to the Total Heat Flow, the Heat Capacity (reversing) Component, and the Kinetics (non-reversing) Component.
Purity Analysis Software	
Calculate the sample purity using melting peak by DSC measurements.	
Kinetics Analysis Software	Heating Rate Conversion Software
Calculate the activation energy of chemical reactions from DSC measurement data.	It is thermal analysis with a prediction feature that is used to convert data measured at a certain heating rate to data with a different heating rate using Arrhenius principle. Japanese patent: 3370581, 3370592 USA patent: 6210035, 6146012
Auto Analysis Software	21 CFR part11 Support Software (option)
The analysis software starts up automatically after end of a measurement and executes the data analysis, the printout of data, and save the analysis result. In the combination with Auto Sampler, the whole process can be automated from the measurements to the printout of the analysis results.	It supports requirements, access control, electronic signature, and audit trail, in 21 CFR Part11 by FDA of USA.