

Model no. H3003-0056

## DSC MEASURING DEVICE FOR OIT MEASUREMENTS

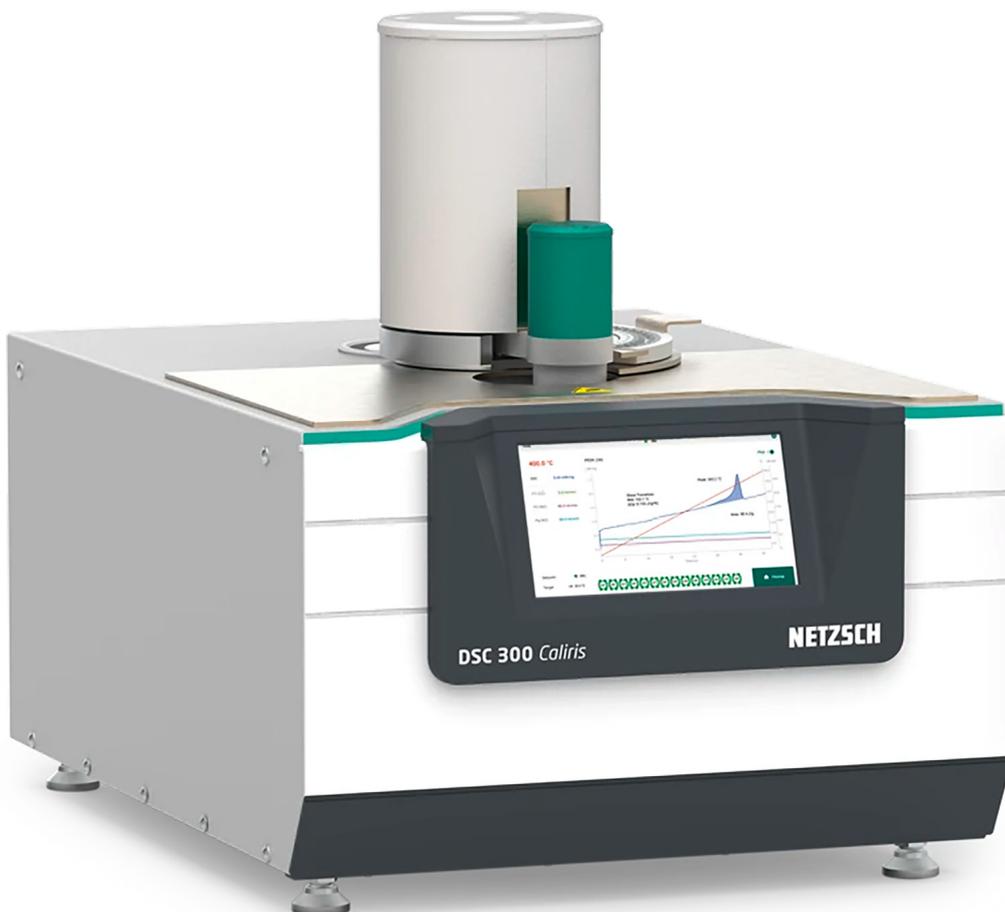
ISO 11357-6

ASTM E 793

ASTM D 3895

ASTM D 3418

DIN 51007



The device operates according to the heat flow principle. In this method, a sample and a reference are subjected to a controlled temperature program (heating, cooling or isothermal). A crucible containing the sample is placed together with a (usually empty) reference crucible on the sensor in the measuring cell (oven) of the DSC system. The sample and reference are subjected to the same controlled temperature programme and the same atmosphere. Due to the heat capacity of the sample, the reference temperature rises slightly faster than the sample temperature. The two temperature curves run parallel at a constant heating rate until a reaction occurs in the sample. At time point  $t_1$ , the

sample begins to melt. During the melting process, the sample temperature remains constant while the reference temperature continues to rise linearly. Once the melting process is complete, the sample temperature rises linearly again at time  $t_2$ . The measured properties are the sample temperature and the temperature difference between the sample and the reference. The heat flow difference between the sample and the reference, which corresponds to the calorific changes of the sample, is determined from the raw data signals.

**Perfect measurement conditions, even in less than perfect environments**

The gas-tight measuring cell provides a defined atmosphere for precise measurements. The gas flow is regulated by three solenoid valves that can be switched on and off by a program. Mass flow controllers are optionally available, which are particularly advantageous for measuring oxidation induction time/temperature (OIT/OOT). In addition, the gas-tight cell ensures that the DSC system is not affected by moisture from the environment. This is particularly advantageous in regions with high humidity, as condensation problems are reduced to a minimum.

**Outstanding performance**

The monolithic DSC sensor withstands harsh environmental conditions and offers optimum resolution. The laser-welded sensor discs and thermocouple wires ensure high sensitivity and robustness. In the event of unwanted contamination of the cell or sensor, the temperature range up to 600 °C allows for easy cleaning by burning out the contaminants. In addition, handy plug-in connectors ensure quick and easy installation of the various cooling systems.

**Compact design for more space in the laboratory**

The compact design of the device with cooling accessories is an excellent choice when space is limited. It is perfect for at-line measurements in the laboratory, but can also be used easily in a production environment for QA/QC purposes.

**Standard features**

- Calibration set
  - PC including software
- Operation via PC
  - CE conformity

**Options**

- Sample preparation set

**Version**  
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Temperature range	°C	-170 to 600
Temperature accuracy	K	± 0.1 (indium)
Heating/cooling rate	K/min	0.001 to 100
Enthalpy accuracy	%	± 0.1 for indium
Enthalpy accuracy	%	< 1 for adamantane, indium, zinc < 2 for most materials
Cooling device options	°C	-Compressed air cooling (RT to 600) - IC40 (-40 up to 600) - IC70 (-70 up to 600) - LN cooling, automatically controlled (-170 to 600)
Gas atmosphere		Inert, oxidising, static and dynamic
Gas control		Including switch for 3 gases
Permissible ambient temperature	°C	+5 to +30
Permissible relative humidity		Max. 70 % Non-condensing
Voltage data		100-240 V -15%/+10% 50-60Hz 0.2A