APPLICATIONS

With its wide temperature range (-170 °C to 700 °C) the DSC131 evo can meet a wide range of applications, especially when dealing with polymers and plastics (characterization, quality control) as well as with organic and pharmaceutical compounds (polymorphism, purity, thermal stability), with inorganic substances (dehydratation, transition, decomposition), with metals (transition)... from the raw to transformed materials.

As a teaching tool the DSC131 evo offers a unique blend of performance, ease of use and robustness to allow the training of students in the thermodynamic principles of phase change (fusion, crystallization, evaporation), transition (glass transition, order-disorder transition), reaction kinetics (polymerization, decomposition), or heat capacity.

Stay connected to our most recent updates and developments concerning DSC131 evo by checking its dedicated product page at ***www.setaram.com****.*

A huge database is also available in the application library area of our website.

SPECIFICATIONS

Temperature range	Ambient to 700 °C
With cooling accessories	-170 °C to 500 °C (Liquid Nitrogen Accessory) -70 °C to 400 °C (Cryothermostat)
Programmable temperature scanning rate (heating and cooling)	0.01 to 100 °C.min-1
Cooling time	12 min (500 °C to 100 °C) Air 5 min (100 °C to 0 °C) Cryothermostat 6 min (200 °C to 25 °C) Liquid Nitrogen Accessory 12 min (25 °C to -100 °C) Liquid Nitrogen Accessory
RMS Noise (200°C)	1.5 µW
Resolution	0.8 µW
Time constant	3 s
Gases	included gas switch from gas A to gas B
Crucibles	30 µl, 100 µl aluminum, alumina, incoloy, etc.
Pressure (non controlled)	High pressure crucible (up to 500 bar / 7255 psi at 600 °C)
Weight	37.4 kg (82.5 lbs)
Dimensions (Height / Width / Depth)	40 / 53 / 58 cm (15.7 / 20.9 / 22.8 in)
Power requirements	230 V - 50/60 Hz

Option : AKTS Thermokinetics software for comprehensive investigation of reaction or decomposition AKTS

CONTACTS

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DSC131 evo

Differential Scanning Calorimetry
From -170 °C to 700 °C
by Setaram

SETARAM Instrumentation

A trademark of KEP Technologies group

DSC131 evo

For testing, QC and academic thermal analysis laboratories. An instrument designed from the ground up to be robust, high performance and above all user friendly featuring market leading intuitive calisto software and low operating costs.

HIGHLIGHTS include:

- **Robustness:** the DSC131 evo features a highly robust sensor that, if needed, can readily be changed by the user in less than 30 minutes. No other DSC offers such flexibility.
- **Ease of operation:** dedicated market leading CALISTO software that is not only intuitive but powerful enough to perform every typical experiment and data treatment.
- **Flexible and powerful:** from -170 °C to 700 °C, with rapid heating and cooling performance.
- **Large range of crucibles:** in addition to the regular 30 µl crucibles, crucibles with a capacity of 100 µl are used for analyzing heterogeneous samples or for optimizing Cp (heat capacity) measurements.
- **High Pressure Crucibles:** The High Pressure crucibles deliver unmatched High Pressure resistance (up to 500 bar / 7 250 psi, 600 °C) while the DSC sensor itself remains at atmospheric pressure.

SENSOR

The DSC131 evo transducer has been designed using plate-shaped DSC rod technology and is constructed from chromel-constantan.

It is arranged in a small volume, resistor furnace with low thermal inertia to enable high heating and cooling rates for high-speed experiments.

The furnace temperature is highly uniform which is key to its high quality data as well ensuring accurate measurement of the sample temperature during thermal events.

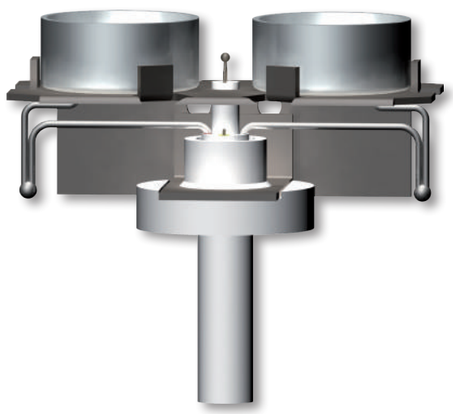
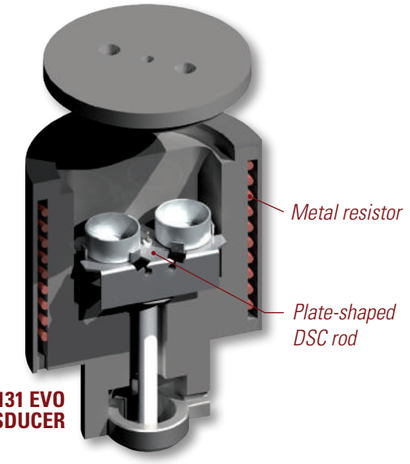


PLATE-SHAPED DSC ROD

The DSC131 evo transducer also displays good sensitivity over the whole temperature range (-170 °C to 700 °C).

As well as accurately measuring the thermal events, the DSC131 evo transducer ensures accurate measurement of the sample temperature during transformations.



DSC131 EVO TRANSDUCER

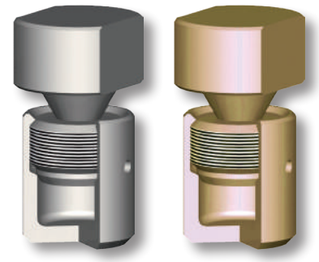
CRUCIBLES

Regular crucibles

We offer a range of crucibles designed to ensure good thermal transfer between the sample and the sensor - Alumina, Aluminum (30 and 100 µl).

High pressure crucibles

Incoloy (30 µl) for high pressure capability: the High Pressure Incoloy crucibles deliver unmatched High Pressure capability (up to 500 bar / 7 250 psi, 600 °C) while the DSC sensor itself remains at atmospheric pressure.



SUBAMBIENT COOLING SYSTEMS

For subambient temperatures, two types of cooling devices are available :

Liquid nitrogen (LN_2) cooling accessories

- **Manually operated cooling accessory:** its temperature of operation is from -170 °C to 500 °C and it is a highly robust and cost effective solution to low temperature control.
- **An automated liquid nitrogen cooling accessory with automatic refilling from a 35L tank:** operations from -170 °C to 400 °C.

A cryothermostat cooling device for intermediate temperature ranges :

- -70 °C to +200 °C under a flow of Helium
- -50 °C to +400 °C under a flow of Argon, Nitrogen or dry Air.

See DSC131 evo application notes