

DSC-3300

Differential Scanning Calorimeter



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

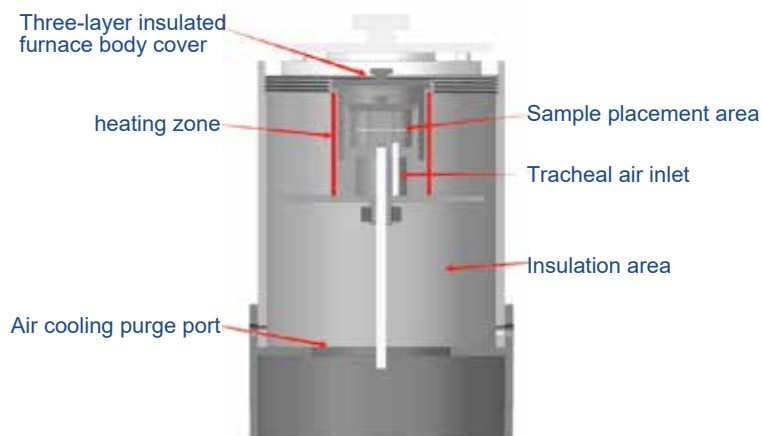
www.analyticalgroup.net

The DSC-3300 represents the highest-precision model in the company's DSC series; its sensor utilizes imported E-type material, offering high accuracy, high sensitivity, and excellent repeatability. The signal acquisition circuit incorporates shielding protection, providing strong anti-interference capabilities, as well as exceptional baseline stability and repeatability.

The DSC-3300 Differential Scanning Calorimeter is capable of performing a wide range of tests, including glass transition temperature, phase transition temperature, melting point, heat capacity, curing temperature, product stability, and oxidation induction period. It is well-suited for research in numerous fields such as pipe materials, polymers, chemical engineering, food science, and medical applications; it serves universities, enterprises, as well as third-party metrology and quality inspection institutions, offering extensive application scope that meets the testing requirements of various industries.

Feature :

- Industrial-grade 7-inch touchscreen with rich information display capabilities
- The new furnace body structure features an improved baseline and higher precision. The heating process employs indirect conduction, which ensures superior uniformity and stability, reduces pulse radiation, and outperforms traditional heating modes.
- USB communication interface offers high versatility, ensures reliable and uninterrupted communication, and supports self-recovery connection functionality.
- Automatically switches between two air flow paths with fast switching speed and a short stabilization time; additionally, it incorporates an extra protective gas input channel.
- The software is simple and easy to use.
- Ultra-high sensitivity and precision: 0.001 mW, 0.001°C
- Excellent technical specifications, superior performance, high cost-effectiveness, and wide range of applications.

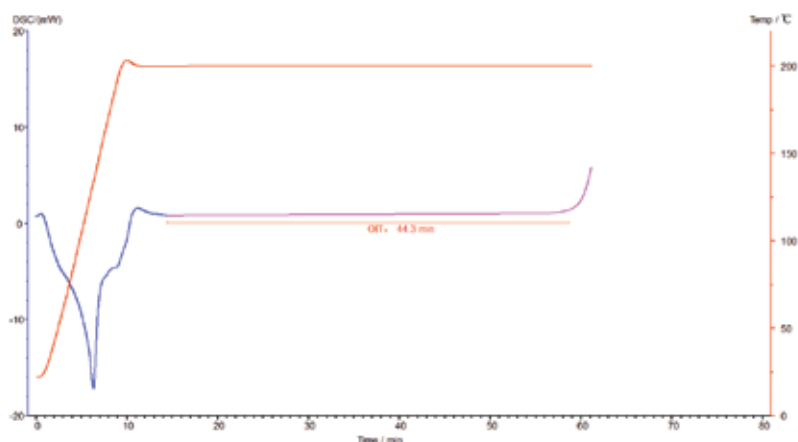


Boiler Body Structural Diagram

Test Graph:

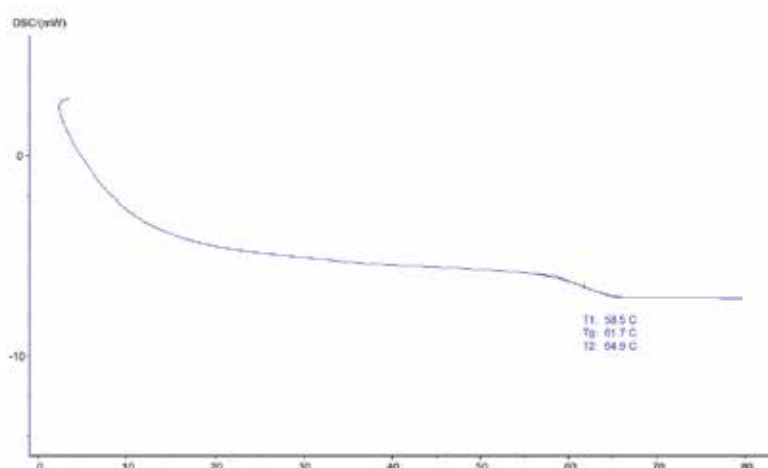
1. Oxidation period testing for PE, PPR, and other pipe materials:

The oxidation induction time (OIT) is determined using a DSC (Differential Scanning Calorimeter). The sample is typically heated under an argon atmosphere to a specified temperature and held at that temperature; then, the atmosphere is switched to oxygen. After a certain period, the material begins to oxidize and releases heat. This heat release is detected by a sensor, and through software analysis, the oxidation induction time (OIT) is obtained. The length of the oxidation induction time serves as a parameter reflecting the oxidation resistance of the material; it is therefore highly significant. Typically, this parameter must be measured for underground plastic pipelines.



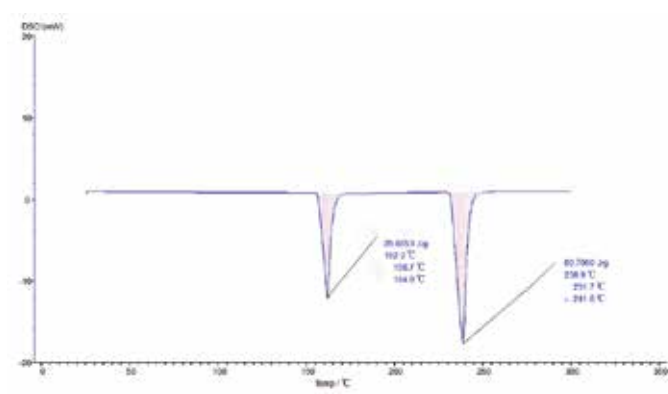
2. Glass transition temperature testing of resins and other materials:

For amorphous polymers, the process in which a polymer transitions from an elastomeric state to a glassy state upon cooling, or transitions from a glassy state to an elastomeric state upon heating, is referred to as the glass transition; the temperature at which this glass transition occurs is known as the glass transition temperature. For crystalline polymers, the glass transition refers to the transition of their amorphous region from an elastomeric state to a glassy state (or vice versa). Consequently, the glass transition is a ubiquitous phenomenon in polymers. However, the glass transition phenomenon is not limited to polymers; some small-molecule compounds also exhibit a glass transition.



3. Material melting point and enthalpy of fusion tests (thermal stability tests)

The melting point is the temperature at which a solid transitions from its solid state to a liquid state; for mixtures composed of multiple components, multiple peaks will also be observed in the thermal analysis; the determination of enthalpy values is also applicable for the analysis of crystallinity.



5. Specific heat capacity testing

Specific heat testing applications; the software supports specific heat capacity values at various temperatures.

Technical Specifications:

1. **Temperature range:** Room temperature – 600 °C
2. **Temperature resolution:** 0.001 °C
3. **Temperature accuracy:** $\pm 0.01^{\circ}\text{C}$
4. **Heating rate:** 0.1–100 °C/min
5. **Constant temperature setting:** Customizable
6. **Curved scan:** heating scan, constant-temperature scan, cooling scan, fully automatic program-controlled operation
7. **DSC range:** 0– ± 600 mW
8. **DSC resolution:** 0.01 μW
9. **DSC sensitivity:** 0.001 mW
10. **Power supply:** AC 220V/50Hz or custom;
11. **Atmosphere control gases:** nitrogen, oxygen (programmable settings/automatic switching)
12. **Gas flow rate:** 0–200 mL/min

HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufaturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

Our Products & Technologies



LCMS



Automated Prep-Flash
Chromatography system



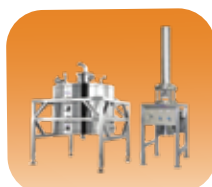
Maldi TOF



Optima Gas
Chromatograph



Flash
Chromatograph



DAC
Column



GCMS
3068



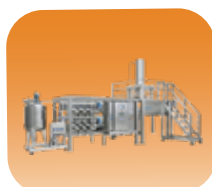
UHPLC



HPTLC



Ion Chromatograph



Production
HPLC



HPLC



Column



DLS



Water purification
system

▶▶▶ Regulatory compliances



▶▶▶ Corporate Social Responsibility

ANALYTICAL FOUNDATION is a Nonprofit Organization (NGO) for the purpose of:



Analytical Foundation

1. Research & Innovation **Scientist's awards & International Conference visit sponsorship / QC Professional Awards:** Quality life is possible by innovation only and the innovation is possible by research only, hence **ANALYTICAL FOUNDATION** is committed to identify such personallities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research /testing/ publication at info@analyticalfoundation.org

2. Improving quality of life by offering **YOGA Training courses, Work shops / Seminars** etc.

3. **ANALYTICAL FOUNDATION** aims to DETOXIFY human minds, souls and body by means of Yoga, Meditation, Ayurveda, Naturecure, Health Care, Ara, Events, Camps etc.

▶▶ A portion of profit of **ANALYTICAL GROUP** Company's goes into **ANALYTICAL FOUNDATION** for the aboce noble cause.

▶▶▶ Reach us @



 **Analytical**®
Technologies Limited

Subsidiaries



Note : Company reserves rights to add/delete/modify the contents / technical specifications of the catalogue without prior notice

HPLC Solutions

MultipleLabs

Infinite Multiplelabs LLP

Analytical Bio-Med

Analytical Foundation (Trust)

Corporate & Regd. Office:
Analytical House, # E67 & E68,
Ravi Park, Vasna Road, Baroda,
Gujarat 390 015. INDIA

T: +91 265 2253620
+91 265 2252839
+91 265 2252370
F: +91 265 2254395

E :- info@analyticalgroup.net
info@hplctechnologies.com
info@multiplelabs.com

W:- www.analyticalgroup.net
www.hplctechnologies.com
www.multiplelabs.com

Sales & Support Offices:
across the country :
Distributors & Channel
partners World Wide
USA| UK| Australia| Dubai| Malaysia