Multiplelabs
Turnkey Laboratories Solutions

Analytical®
Technologies Limited

DSC-TGA-3550

Synchronous Thermal Analyzer

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

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

Synchronous thermal analysis combines thermogravimetric analysis (TG) with differential thermal analysis (DTA) or differential scanning calorimetry (DSC). By using the same sample in the same measurement, TG and DTA or DSC information can be obtained synchronously.Thermogravimetric analysis (TG, TGA) is the process of observing the changes in the mass of a sample with temperature or time during heating, constant temperature, or cooling,with the aim of studying the thermal stability and composition of the material. Widely used in research and development, process optimization, and quality monitoring in various fields such as plastics, rubber,coatings, pharmaceuticals, catalysts, inorganic materials, metal materials, and composite materials.Synchronous thermal analysis combines thermogravimetric analysis (TG) with differential thermal analysis (DTA) or differential scanning calorimetry (DSC). By using the same sample in the same measurement, TG and DTA or DSC information can be obtained synchr-onously.

Instrument usage:

Measure and study the following characteristics of materials:
DSC/DTA：Melting,crystallization,phase transition,reaction temperature and reaction heat, combustion heat, specific heat
TG ： Calculation of thermal stability, decomposition, oxidation-reduction, adsorption desorption, free water and crystalline water content, composition ratio, etc.

Features:

1. Built in imported quality weighing balance,with internal calibration and temperature compensation functions,can quickly respond to quality changes,and has better accuracy and repeatability;
2. The instrument has a built-in quality level guidance function,and changes in sample position within the scale range do not affect the quality results;
3. The internal balance room is equipped with a constant temperature water bath device to ensure constant temperature, greatly improving the stability of weighing;
4. The instrument can perform experiments on sample weight gain or loss,such as the adsorption and decomposition processes of the sample;
5. The closed ceramic insulation furnace body structure greatly improves signal sen-sitivity and resolution, and can obtain a more stable baseline;
6. Modular design of furnace body, more flexible mobility, and easier maintenance;
7. The furnace is designed with a dual gas path blowing structure inside, which can better ensure the airtightness of the experimental process;

8. The interior of the furnace is designed with a capillary water circulation refrigeration structure, which wraps around the furnace and is used for cooling the furnace;
9. The furnace body can reserve experimental exhaust gas treatment interfaces according to customer needs, which can be used for secondary analysis of experimental exhaust gas;
10. The sensor bracket is designed with imported materials and equipped with K-type or E- type sensors that can be switched freely through software. The sensor type can be flexibly selected for different testing scenarios,especially suitable for phase transition and vitrification experiments on polymer materials;
11. The sampling frequency of the sensor signal can be set between 0.05-10Hz,making the experimental method more flexible and the data more controllable;
12. The design concept of dual temperature sensors allows for simultaneous testing of both the internal temperature of the furnace and the sample temperature;
13. The fully temperature control system adopts an optimized dynamic PID algorithm, which greatly avoids the shortcomings of traditional PID algorithms and improves the robustness of dual-mode temperature control;
14. It has two experimental modes, FTC and STC, which can be set for more friendly and flexible temperature control, meeting the needs of different application scenarios and experiments. The temperature control during the experimental process is more accurate, the analysis of sensor signals is more efficient,and the experimental effect is accurately controlled;
15. The 12 level program temperature control setting makes the experimental methods more diversified, and the equipment has a cyclic scanning function,with a maximum of 9999 cyclic scanning times set and data automatically saved;
16. The lower and upper computers of the equipment system have multi-point temperature correction functions,which meet the needs of different experimental scenarios and improve the accuracy of temperature testing;
17. The instrument is equipped with an imported high-frequency core control processor, which has faster processing speed and more efficient control;
18. Independent atmosphere control can be achieved through software intelligent settings, and the instrument automatically switches the gas path system, resulting in higher experimental efficiency;
19. The equipment system can conduct experiments on materials related to heating, cooling, and isothermal processes;

20. Adopting a 7-inch 24 bit full-color LCD touch screen, the instrument's status and data are displayed in real-time;
21. The instrument adopts USB bidirectional communication,software intelligent design, baseline deduction function, automatic issuance of experimental reports, automatic plotting of experimental processes, and intelligent processing of various data, such as glass transition temperature,oxidation induction period,melting point and crystallization of substances.

Technical Parameter:

Temperature range	Room temperature～1550℃
Temperature resolution	0.01℃
Temperature fluctuations	±0.01℃
Heating rate	0.1～100℃/min
Measurement range of balance	0.01mg-5g
Quality resolution	0.01mg
DSC range	0～±2000 mW
DSC sensitivity	0.001 mW
Constant temperature time	0～500min（Any setting）
Cooling time	30min（1000℃…100℃）
Toggle rate	16.6Hz
Sample Rate	0.05～10Hz Programmable settings
Sensor type	K-type and E-type can be switched freely (K-type standard, E-type optional)
Experimental mode	FTC and STC modes can be set arbitrarily
Experimental type	Weight loss, weight gain (adsorption)
Program temperature control	Flexible setting of 12 stage temperature control throughout the entire stage
Temperature control	Heating, constant temperature, cooling
Number of scans	The number of cyclic scans can be set up to 9999 times, and the data is automatically saved
Instrument calibration	Both the lower computer and the upper computer have multi-point temperature correction function
Display mode	24 bit color 7-inch LCD touch screen display
Atmosphere control	Two atmospheres can be freely set, and the instrument automatically switches

Parameter standards	Equipped with standard substances, users can correct the temperature themselves
Power supply	AC220V/50Hz

Instrument configuration:

STA Host	1
Power line	1
Experimental software USB Drive	1
Data line	1
Crucible	100pcs
Water pump	2
Water pump adapter	2
Multi functional wrench	1
Tweezers	1
Fuse	5
PU trachea	2
Silicone water pipe	4
Scoops	1
Certificate of conformity, warranty card, instruction manual	1

Note: The required equipment for your company includes a computer,nitrogen cylinder, oxygen cylinder, and accompanying pressure reducing gauge

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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 Maintenace 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

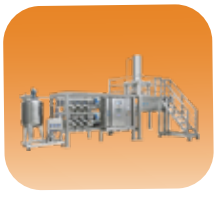
DAC Column

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:

1. Research & Innovation **Scientist's awards & International Conferance visit sponsership / 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

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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.

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