



TORONTECH

TGA THERMOGRAVIMETRIC ANALYZER - TORONTGA™



Thermogravimetric analysis (TG, TGA) measures changes in a sample's mass as it is heated, held at a constant temperature, or cooled. This technique helps determine a material's thermal stability and composition.

It is widely used in R&D, process optimization, and quality control across various industries, including plastics, rubber, coatings, pharmaceuticals, catalysts, inorganic substances, metals, and composites.

APPLICATIONS



Applications

TGA Thermogravimetric Analyzer - ToronTGA

TGA Thermogravimetric Analyzer - ToronTGA Measure and Study The Following Properties Of The Material

Thermal Stability	Decomposition Process
Adsorption And Desorption	Oxidation And Reduction
Quantitative Analysis of Ingredients	Effects of Additives and Fillers
Moisture And Volatile Matter	Reaction Kinetics

FEATURES

Performance Advantages

The redesigned furnace structure features a top-opening cover, making sample placement and testing more convenient. Heating is achieved through a dual-row coil of precious metal alloy wire, offering excellent heat resistance and reduced signal interference.

The tray sensor is crafted from a precious metal alloy disc, providing strong resistance to high temperatures, oxidation, and corrosion. The TGA Thermogravimetric Analyzer - ToronTGA includes an automatic dual-gas flow switch for faster transitions and reduced stabilization time, along with an additional input for protective gas.

Temperature control is managed through a multi-stage PID algorithm, allowing for both staged heating and consistent temperature holding. The Thermogravimetric Analyzer - ToronTGA supports dual-mode operation via the instrument interface or connected computer for enhanced experimental efficiency.

The included software enables precise tracking of material changes during thermal analysis, with spectrum collection for data interpretation. A 7-inch color touchscreen offers an intuitive interface with clear, comprehensive display of operational data.

To minimize thermal and vibration impact on the microbalance, the power supply, heat dissipation unit, and main system are designed as separate modules.

TGA Thermogravimetric Analyzer - ToronTGA

New Furnace Design

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Color Touch Screen

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Two-way Gas Automatic Switching

TECHNICAL SPECIFICATIONS

Technical Parameters	ToronTGA™ -101	ToronTGA™ -103	ToronTGA™ -105
Temperature Range	Room temperature□ 1250℃	Room temperature□ 1350℃	Room temperature□ 1550℃
Temperature Resolution	0.01℃	0.01℃	0.01℃
Temperature Fluctuation	±0.1℃	±0.1℃	±0.1℃
Heating Rate	0.1□ 100℃/min	0.1□ 100℃/min	0.1□ 100℃/min
Temperature Control Method	PID temperature control, heating and constant temperature		
Balance Measurement Range	0.01mg□ 3g, can be expanded to 30g		
Sensitivity	0.01mg	0.01mg	0.01mg
Voltage	AC220V/50Hz (110V is also available)		
Constant Temperature Time	Arbitrary setting		
Atmosphere Device	Built-in gas flow meter, including two-way gas switching and flow control		
Software	Intelligent software automatically records TG curves for data processing, TG/DTG, mass, and percentage coordinates can be switched arbitrarily		
Data Interface	Standard USB interface		
Test Range	Thermal stability, decomposition process, adsorption and desorption, oxidation and reduction, etc.		
Is it Customizable	Customizable		
Software	Supporting software, free update and upgrade		
Optional	Computer		

Technical Parameters	ToronTGA™ -101	ToronTGA™ -103	ToronTGA™ -105
Accessories	Accessory box, one standard substance		Accessory box, one set of standard material, tablet press
Instrument photos	Basic model image	Upgrade model image	Advanced model image

Software and Accessories

Variety of crucibles are available, including ceramic crucibles, aluminum crucibles, and crucibles with lids.

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Accessory Box, Tablet Press, Various Crucibles, Optional Computer

Thermogravimetric Test Spectrum

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Test Conditions

At a heating rate of 10 °C/min, the sample showed a -93.20% weight loss (green curve).

At 20 °C/min, the weight loss was -93.12% (red curve).

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Test Conditions

Two experiments were conducted. The first showed a weight loss of -98.45%, and the second -97.79%. The results demonstrate excellent repeatability.

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Test Conditions

At a heating rate of 10 °C/min, the sample exhibited a -97.37% weight loss.

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Test Conditions

A sample of approximately 10 mg, tested at a heating rate of 10 °C/min, showed a weight loss of -86.14%.

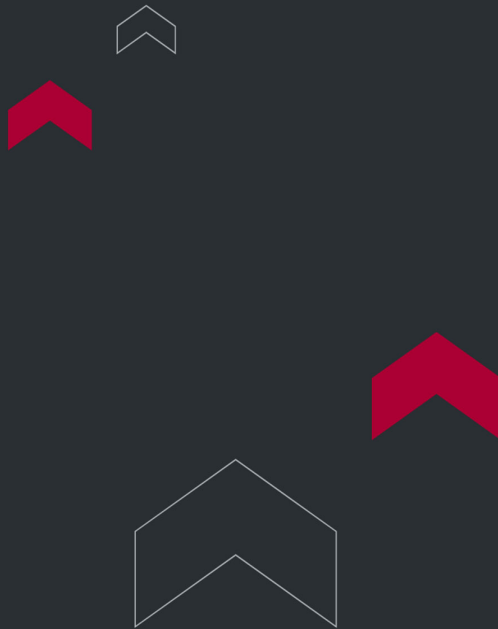
Furnace Bracket

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Software Screenshots

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Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

