



Global Thermogravimetric Analysis Market Research Report 2026

【行业】:其他 【报告编码】:178200648663889

【出版时间】:1911-11-28 【订购热线】:+86 180 2246 3983

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【报告价格】: ¥0.00 中文电子版
¥0.00 英文电子版
¥0.00 中文+英文电子版

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The global Thermogravimetric Analysis market was valued at US\$ 162 million in 2025 and is anticipated to reach US\$ 211 million by 2032, at a CAGR of 4.0% from 2026 to 2032.

The 2025 U.S. tariff policies introduce profound uncertainty into the global economic landscape. This report critically examines the implications of recent tariff adjustments and international strategic countermeasures on Thermogravimetric Analysis competitive dynamics, regional economic interdependencies, and supply chain reconfigurations.

In 2025, global Thermogravimetric Analysis sales reached approximately 4,910 Units, with an average global market price of around 32.91 K USD per Unit.

A Thermogravimetric Analysis (TGA) is a high-precision analytical instrument designed to monitor the mass changes of a material as a function of temperature or time under a controlled atmosphere. The core principle involves using an ultra-microbalance to detect mass loss or gain resulting from physical or chemical phenomena such as decomposition, oxidation, reduction, adsorption, or desorption. As a fundamental tool for material characterization, TGA is extensively utilized to determine thermal stability, compositional analysis, moisture/volatile content, and degradation kinetics.

The TGA supply chain begins upstream with high-precision sensors (notably microbalances), specialized furnace components, mass flow controllers, and sophisticated analytical software. Midstream consists of instrument manufacturers focusing on system integration, calibration, and assembly. Downstream applications span petrochemicals, advanced materials R&D, pharmaceuticals, aerospace, and environmental monitoring. The industry operates on a "Core R&D + Modular Customization" production model. Due to high technical barriers, global leaders maintain gross margins between 50% and 70%, while high-end domestic players typically range from

40% to 55%, with premiums driven by sensor accuracy and software intelligence.

Market Development Opportunities & Main Driving Factors

Against the backdrop of the global energy transition and the race for advanced materials, TGA is entering an unprecedented "golden age" of growth. According to brokerage reports on the scientific instrument sector, the R&D of new energy battery materials is currently the most potent driver: thermal stability testing for solid-state batteries and purity analysis for conductive agents like carbon nanotubes have directly surged procurement demand for ultra-sensitive TGAs. Furthermore, as major global economies push toward carbon neutrality, research into biomass energy conversion and Carbon Capture, Utilization, and Storage (CCUS) materials has opened a vast "blue ocean" market. Persistent government policies favoring "domestic substitution" are also encouraging large research institutes and state-owned enterprises to prioritize high-end TGA systems with independent intellectual property rights.

Market Challenges, Risks, & Restraints

Despite robust demand, the industry faces dual challenges: core supply chain stability and technical bottlenecks. Annual reports indicate that high-end microbalances and corrosion-resistant furnace materials remain highly dependent on a few multinational suppliers, posing non-negligible risks of geopolitical supply chain disruptions. Technologically, as downstream clients demand more In-situ analysis and hyphenated techniques (e.g., TGA-FTIR-GCMS), single-function TGAs struggle to meet high-end research needs, and sustained R&D investment places higher pressure on corporate cash flow. Simultaneously, global economic volatility may lead academic and commercial labs to trim fixed-asset budgets, potentially prolonging sales cycles and increasing inventory turnover risks.

Downstream Demand Trends

Downstream demand is rapidly evolving toward "Intelligence" and "Multidimensionality." In the pharmaceutical industry, under the pressure of rising pharmacopeia standards, there is a stringent requirement for automated sampling and regulatory compliance software to ensure data integrity. In the chemical and polymer sectors, demand has shifted from basic quality control to deep kinetic modeling; high-end, customized TGAs capable of simulating extreme industrial environments (high pressure, corrosive atmospheres) are becoming market favorites. Additionally, automated systems integrated with AI algorithms are becoming a standard trend. CEOs and marketing managers should focus on enhancing customer stickiness through a combination of "instrument + service + digital solutions" to satisfy the urgent need of end-users to shorten R&D cycles and reduce labor costs.

This report delivers a comprehensive overview of the global Thermogravimetric Analysis market, with both quantitative and qualitative analyses, to help readers develop growth strategies, assess the competitive landscape, evaluate their position in the current market, and make informed business decisions regarding Thermogravimetric Analysis. The Thermogravimetric Analysis market size, estimates, and forecasts are provided in terms of output/shipments (Units) and revenue (US\$ millions), with 2025 as the base year and historical and forecast data for 2021–2032.

The report segments the global Thermogravimetric Analysis market comprehensively. Regional market sizes by Type, by Application, by Instrument Structure, and by company are also provided. For deeper insight, the report profiles the competitive landscape, key competitors, and their respective market rankings, and discusses technological trends and new product developments.

This report will assist Thermogravimetric Analysis manufacturers, new entrants, and companies across the industry value chain with information on revenues, production, and average prices for the overall market and its sub-segments, by company, by Type, by Application, and by region.

Market Segmentation

By Company

TA Instruments (Waters)

Mettler-Toledo

NETZSCH

PerkinElmer

Shimadzu

Hitachi High-Tech

Linseis

SETARAM (KEP Technologies)

LECO Corporation

ELTRA (VERDER)

Rigaku

Sundy

Beijing Henven

Nanjing Dazhan Testing Instrument

Beijing JWGB Sci & Tech

Nanjing Huicheng Instrument
SCINCO
Precisa (Techcomp)
Shanghai HESON
Shanghai Jiahang Instruments
Beijing Jingyi Gaoke Instrument
Beijing Beiguang Hongyuan Instrument
FLSmith
Navas Instruments
Torontech
Sylab (Orbit Technologies)
Segment by Type
 General-Pressure TGA Analyzer
 High-Pressure TGA Analyzer
Segment by Instrument Structure
 Suspension Type
 Top-loading Type
 Horizontal Type
Segment by Measurement Principle
 Isothermal Thermogravimetry
 Dynamic Thermogravimetry
 Quasi-static Thermogravimetry
Segment by Automation Level
 Manual
 Autosampler
by Application
 Academic & Research
 Chemical & Petrochemical
 Pharma & Biotech
 Food & Beverages
 Energy & Batteries
 Others
Production by Region
 North America
 Europe
 China
 Japan
Consumption by Region
 North America
 U.S.
 Canada
 Asia-Pacific
 China
 Japan
 South Korea
 China Taiwan
 Southeast Asia
 India
 Australia
 Rest of Asia
 Europe
 Germany
 France
 U.K.
 Italy
 Russia
 Rest of Europe
 Latin America, Middle East & Africa
 Mexico
 Brazil

Turkey

GCC Countries

Egypt

Chapter Outline

Chapter 1: Defines the scope of the report and presents an executive summary of market segments (by Type, by Application, by Instrument Structure, etc.), including the size of each segment and its future growth potential. It offers a high-level view of the current market and its likely evolution in the short, medium, and long term.

Chapter 2: Provides a detailed analysis of the competitive landscape for Thermogravimetric Analysis manufacturers, including prices, production, value-based market shares, latest development plans, and information on mergers and acquisitions.

Chapter 3: Examines Thermogravimetric Analysis production/output and value by region and country, providing a quantitative assessment of market size and growth potential for each region over the next six years.

Chapter 4: Analyzes Thermogravimetric Analysis consumption at the regional and country levels. It quantifies market size and growth potential for each region and its key countries, and outlines market development, outlook, addressable space, and national production.

Chapter 5: Analyzes market segments by Type, covering the size and growth potential of each segment to help readers identify “blue ocean” opportunities.

Chapter 6: Analyzes market segments by Application, covering the size and growth potential of each segment to help readers identify “blue ocean” opportunities in downstream markets.

Chapter 7: Profiles key players, detailing the fundamentals of major companies, including product production/output, value, price, gross margin, product portfolio/introductions, and recent developments.

Chapter 8: Reviews the industry value chain, including upstream and downstream segments.

Chapter 9: Discusses market dynamics and recent developments, including drivers, restraints, challenges and risks for manufacturers, U.S. Tariffs and relevant policy analysis.

Chapter 10: Summarizes the key findings and conclusions of the report.