Thermogravimetric Analyzer - TGA Thermal Gravimetric Instrument - RT to 1150°C, 0.1-100°C/min

Model **MSTGA-1150SWISS** | Brand **Master Science**







The Master Science Thermogravimetric Analyzer tracks the mass of a sample while it is heated, held at temperature or cooled, giving TG and DTG curves for material studies. This version covers room temperature to 1150°C with heating rates between 0.1 and 100°C/min.

KEY HIGHLIGHTS

- Covers most polymer and inorganic work
- Fine mass detection
- Stable furnace temperature
- Ready for coupled analysis
- Flexible methods

AT A GLANCE

RT to 1150°C TEMPERATURE RANGE	**Maximum 3 g, with an option to expand to 50 g** BALANCE MEASURING RANGE
0.01°C TEMPERATURE RESOLUTION	**±0.01°C** TEMPERATURE FLUCTUATION

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

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Overview

The furnace of the Master Science Thermogravimetric Analyzer is double insulated for better linearity, and a tail gas outlet lets the instrument be coupled to infrared equipment. Operation is from the 7-inch touch screen or from a computer through two-way USB communication.

To record heat flow and mass change in one run, see the Master Science synchronous thermal analyzer.

The Master Science Thermogravimetric Analyzer supports research and development, process optimisation and quality control for:

Key Benefits

Covers most polymer and inorganic work
: the Master Science Thermogravimetric Analyzer reaches 1150°C.

Fine mass detection
: 0.1 µg balance resolution.

Stable furnace temperature
: fluctuation of ±0.01°C.

Ready for coupled analysis
: tail gas output port.

Flexible methods
: five-section programs of ramps and holds.

Technical Specifications

GENERAL

General	Specifications of the Master Science Thermogravimetric Analyzer are listed below.
Brand	Master Science
Model Number	MSTGA-1150SWISS
SKU	MSTGA-1150SWISS
Temperature Range	**RT to 1150°C**
Temperature Resolution	0.01°C
Temperature Fluctuation	±0.01°C
Heating Rate	0.1 to 100°C/min
Temperature Control Mode	PID control: heating, constant temperature and cooling
Program Control	Multi-stage temperature rise and constant temperature; five sections can be set at once
Balance Measuring Range	**Maximum 3 g, with an option to expand to 50 g**
Precision	0.01 mg
Balance Resolution	0.1 µg
Constant Temperature Time	Arbitrary setting
Atmosphere Device	Built-in gas flow meter and gas flow control device
Gas Path	Multi-stage automatic switching without manual adjustment
Curve Scanning	Heating scan and cooling scan
Test Maps	Five test maps can be opened together for comparison
Cooling Time	≤15 min from 1000°C to room temperature, with air cooling device
Crucible Type	Ceramic crucible, aluminium crucible
Power Supply	AC 220/110 V, 50/60 Hz

DISPLAY & DATA

Display	7-inch large-screen LCD (full-colour touch screen)
Software	Automatic TG curve recording and data processing; TG/DTG, mass and percentage coordinates switchable; automatic scaling of the plot
Data Interface	Standard USB interface with dedicated software

DIMENSIONS & WEIGHT

External Dimensions	531 x 463.5 x 416 mm
Net Weight	26 kg

COMMON PROBLEMS THIS ANALYZER SOLVES

Common Problems This Analyzer Solves	Thermogravimetric work is easily disturbed; this design tackles the usual causes.
Furnace heat disturbs the balance	: the main unit isolates the weighing system from the furnace.
Evolved gases cannot be studied further	: a tail gas port allows connection to infrared equipment.
Manual gas changes interrupt a run	: the gas path switches automatically in programmed stages.
Long waits between samples	: air cooling brings the furnace back down quickly.

Applications

- **Plastics and rubber**
- **Coatings**
- **Pharmaceuticals**
- **Catalysts**
- **Inorganic and metal materials**
- **Composite materials**

Structure

- Furnace heating element of nickel-chromium wire in double-row winding, reducing interference and improving high-temperature resistance
- Alloy-wire tray sensor resistant to high temperature, oxidation and corrosion
- Optional water circulation cooling power supply, with the cooling part separated from the main unit to limit heat and vibration reaching the micro-thermal balance
- Tail gas output port makes it easy to connect infrared equipment
- Main unit isolates the chassis and micro-thermal balance from furnace heat
- Double-insulated furnace body for better linearity
- Five test maps can be opened together for comparative analysis
- Gas path supports multi-stage automatic switching without manual adjustment

Controller and Software

- ARM processor for fast sampling and processing
- Four-way sampling AD collects the TG signal and temperature signal
- PID heating control with multi-stage heating and constant temperature
- Two-way USB communication allows parameter setting, start and stop from the computer
- 7-inch full-colour 24-bit touch screen; TG calibration can be done on the screen

Standard Accessories Included

- Standard substance

Optional Accessories

- Water circulation cooling power supply