Thermogravimetric Analyzer - TGA Thermal Analysis Instrument - RT to 1550°C, 0.1 µg Resolution

Model **MSTGA-1550SWISS** | Brand **Master Science**









The Master Science Thermogravimetric Analyzer records how the mass of a sample changes as it is heated, held or cooled under a controlled atmosphere. This version works from room temperature up to 1550°C with heating rates from 0.1 to 100°C/min.

KEY HIGHLIGHTS

- High temperature reach
- Fine mass detection
- Flexible methods
- Controlled atmosphere
- Fast turnaround

AT A GLANCE

RT to 1550°C TEMPERATURE RANGE	**0.01 mg to 3 g, extendable to 50 g** BALANCE MEASURING RANGE
0.01°C TEMPERATURE RESOLUTION	**±0.1°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

A micro-thermal balance with 0.1 µg resolution sits apart from the heat and vibration sources, and the Master Science Thermogravimetric Analyzer is run either from its 7-inch touch screen or from a computer over USB.

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

High temperature reach
: the Master Science Thermogravimetric Analyzer runs up to 1550°C.

Fine mass detection
: 0.1 µg balance resolution.

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

Controlled atmosphere
: built-in flow meter with two-way gas switching.

Fast turnaround
: air cooling shortens the wait between runs.

Technical Specifications

GENERAL

General	Specifications of the Master Science Thermogravimetric Analyzer are listed below.
Brand	Master Science
Model Number	MSTGA-1550SWISS
SKU	MSTGA-1550SWISS
Temperature Range	**RT to 1550°C**
Temperature Resolution	0.01°C
Temperature Fluctuation	±0.1°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	**0.01 mg to 3 g, extendable to 50 g**
Precision	0.01 mg
Balance Resolution	0.1 µg
Constant Temperature Time	Program control, 0 to 300 min, extendable to 72 h
Atmosphere Device	Built-in gas flow meter with two-way gas switching and flow control
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 RT, with air cooling device
Crucible Type	Ceramic crucible, aluminium crucible

DISPLAY & DATA

Display	7-inch full-colour touch LCD
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

POWER	
Power Supply	AC 220/110 V, 50/60 Hz
Vibration from pumps and power units	: these parts sit outside the main unit.

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	: a water thermostatic device isolates the weighing system.
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
- Power supply and circulation cooling are separated from the main unit to limit heat and vibration reaching the micro-thermal balance
- Top-opening design for easy operation
- Water thermostatic device isolates the chassis and balance from furnace heat
- Furnace body can be replaced to suit requirements

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