



UNIQUE PRODUCTS FROM ONE SOURCE

# xrTGA RANGE THERMOGRAVIMETRIC ANALYSER

# A NEW ERA IN THERMOGRAVIMETRIC ANALYSIS

Built with industrial users and large-scale scientific facilities in mind, the XRF Scientific automated macro thermogravimetric analyser (TGA) is a high-throughput solution for a wide range of thermal analysis applications. Our TGA system is based on 30 years' experience developing precise heating and weighing solutions for applications across the full spectrum of science and industry.

Thermogravimetry sets the standard for thermal decomposition testing for parameters as varied as moisture, volatiles, ash, fixed-carbon, and Loss on Ignition (LOI) content. Our TGA analyser leverages proprietary heating and weighing systems to continuously monitor sample mass changes over time as a function of temperature. User-defined thermal programs can be easily established using an intuitive touchscreen interface, enabling customers to establish different thermogravimetric profiles depending on their materials/phenomena of interest.

Our brand-new TGA adds value to high-throughput workflows with an increased sample capacity and greater temperature capabilities without a significant uptick in cost.

## Key Features

- 30 position carousel for larger throughput
- Higher maximum temperature range up to 1100°C
- Highly automated and user-friendly interface
- Fast heating and cooling cycle times
- Fully integrated PC without the need for an external unit

## Application Types

- Minerals: iron ore mining / steel production, coal, bauxite
- Food: flours, pasta, chocolate
- Construction materials: cement, limestone/lime
- Materials: plastics, alumina, gypsum, agricultural materials, ceramics, pharmaceutical materials

## Complying with Standardised methods

- Moisture and ash determination in flour – AOAC 925.10 & AOAC 923.03
- Ash content in thermoplastics – ASTM D5630-94
- Loss on ignition in solid combustion residues – D7348-08
- Loss on mass in alumina – AS 2879.1-2000
- Loss on ignition in cement – ISO 29581-2:2010 / ASTM C 114
- Moisture and loss on ignition in iron ore – ISO 3087:2011 and ISO/TR 18230:2015
- Various AOAC, ASTM, ISO and DIN methods
- And more ...

## KEY FEATURES



### Large Sample Carousel

Our large carousel of 30 sample positions plus 1 reference position allows for high throughput in busy laboratories, whilst maintaining a highly efficient heating chamber

### Integrated Ventilation System

Active ventilation keeps the laboratory free from toxic vapours/odours and further improves the cooling process

### Atmosphere Control

Integrated software-controlled gas switching for experiments requiring inert or reactive atmospheres



### Fast Heating and Cooling Cycles

We understand your laboratory processing time is valuable and you want the results fast. Innovative design features ensure heating and cooling cycle times are quick and accurate, with noticeable improvements over other machines available on the market.

### Robust and Safe Design

We have applied decades of knowledge in furnace safety into the TGA. The instrument meets stringent CE standards for external touch temperatures and required safety features. The TGA is built to withstand the harshest laboratory environments, with maximum uptime requirements



### User Friendly Interface

Our PC is built into the TGA, which ensures an external unit doesn't clutter your bench space. A large touch screen interface is fitted, or alternatively plugin in a keyboard and mouse. Results can be accessed remotely for processing

# TECHNICAL SPECIFICATIONS

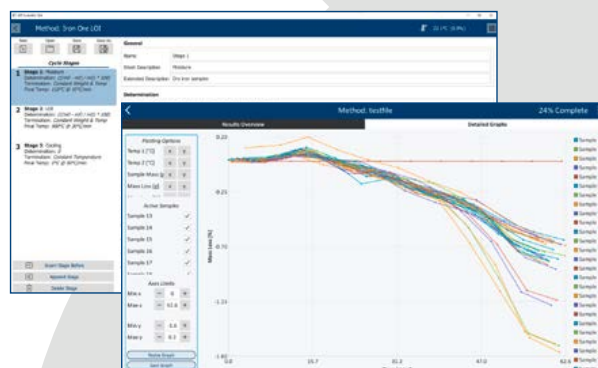
Instrument Specifications	xrTGA 1100
Capacity	30 sample positions plus 1 reference position
Sample weight capacity	0.1–10g
Weighing precision	±1%
Resolution	0.1mg
Temperature range	RT to 1100°C
Temperature accuracy	±1°C
Temperature precision	±1°C at 105°C and ±2°C at all other ranges
Heating rate	1°C/min to 55°C/min
Furnace cooling	Forced air and multi-height lid opening for faster cool down
Gas flow rate	0l/min up to 40l/min
Power requirements	230V, 50/60Hz, max. 32A
Dimensions (WxPxH)	850 x 755 x 675mm H 1100mm with open lid
Weight	165kg
Safety and certification	CE marking Operator safety hand switch points for lid closing Integrated ventilation system Over temperature protection safety circuit
Accessories for xrTGA 1100	Product Ordering Codes
Crucible 16ml Al2O3	5100201
Lid Al2O3 to suit Crucible code 5100201	5100202
Platinum Crucible 15ml, Pt, 15g	5100205
Platinum Crucible Liner, Pt, 8g	5100206
Crucible 30 position tray	5100207
Stainless steel tongs for removing lids	5100208

We reserve the right to change the design or specification of our products without notice. Some of the information contained in this brochure is general in nature and customers should check that it is applicable to their individual circumstances.



# xrTGA ANALYSIS SOFTWARE

The xrTGA software include a comprehensive set of relevant tools available for parameter settings, diagnostics, real-time data analysis as well as data processing. Analysis software can be accessed on the instrument directly or via a Windows desktop version. Features of the software include LIMS communication, remote access and convenient data export CSV, XML, Excel®.



## ONGOING SUPPORT

The purchase of an XRF Scientific TGA is the beginning of a relationship where we provide access to a range of support and technical services to meet your sample preparation and analysis needs.

Whether you are new or an experienced user we have a range of services to increase the productivity and throughput of your application.

- Technical advice on difficult sample preparation and analysis issues
- On-site support and preventative maintenance programs
- Advice on appropriate selection of flux and standards
- Organization of platinum remake processes

Please see our website for details of our representatives in your area: [www.xrfscientific.com](http://www.xrfscientific.com)

## THE COMPLETE SOLUTION



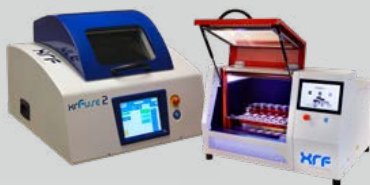
### Flux

We are the world's pre-eminent manufacturer of flux. We can provide standard borate fluxes or custom solutions to meet your specific needs.



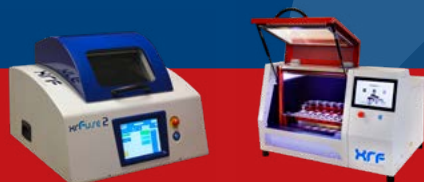
### Labware

We manufacture labware for all our fusion instruments in house. We can also provide a remake service for the transfer from other labware designs.



### Fusion machines

We manufacture fully automated electric or gas operated fusion machines. Safe, easy and reliable to operate and suitable for various numbers of samples handled per day.



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