



Instrument
Specialists
Incorporated

Thermogravimetric Analyzer TGA

Description

The TGA Thermogravimetric Analyzer measures weight changes as a function of temperature or time. The system allows for multiple heating, cooling, and isothermal segments to be linked together to achieve a complex profile. Automatic gas switching is also supported during the temperature program. The vertical hangdown design offers stable and smooth weight readings to be recorded during the experiment. The TGA's small mass furnace responds quickly to changes in the temperature profile and cools down quickly for fast turn around between experiments.

Typical analyses for a TGA include percent weight loss, onset temperature calculations and residual weight. The TGA utilizes the advanced easy to use Infinity Pro Windows software. The acquisition program sets up the experiment and plots the real time data. The Analysis program performs all calculations and provides hard copy outputs.

TGA is commonly used to determine characteristics of materials such as polymers, to determine degradation temperatures, absorbed moisture content of materials, the level of inorganic and organic components in materials, decomposition points of explosives, and solvent residues.



Difference

Our TGA utilizes a small micro furnace with a very small swept volume. This allows for rapid heating rates and excellent atmosphere control. The dual purge system allows for quick gas switching and is plumbed in full stainless to keep Oxygen out of the system. A variety of TGA pans gives the user a choice of sizes and materials to best suit the materials being tested. The proprietary micro balance is very stable and has excellent precision making for smooth high resolution weight results. With a 24 bit Analog to Digital converter, all temperature and weight readings are ultra precise.

The TGA is fully controlled by our *Infinity Pro* Windows based software and real time plots show what is happening during the experiment. Background operation allows for multiple analyzers to be run at the same time and data analysis to be performed at anytime.

Both TGA units excel in performance making them a valuable tool in the lab. Both require very low maintenance and are quickly calibrated by the operator.

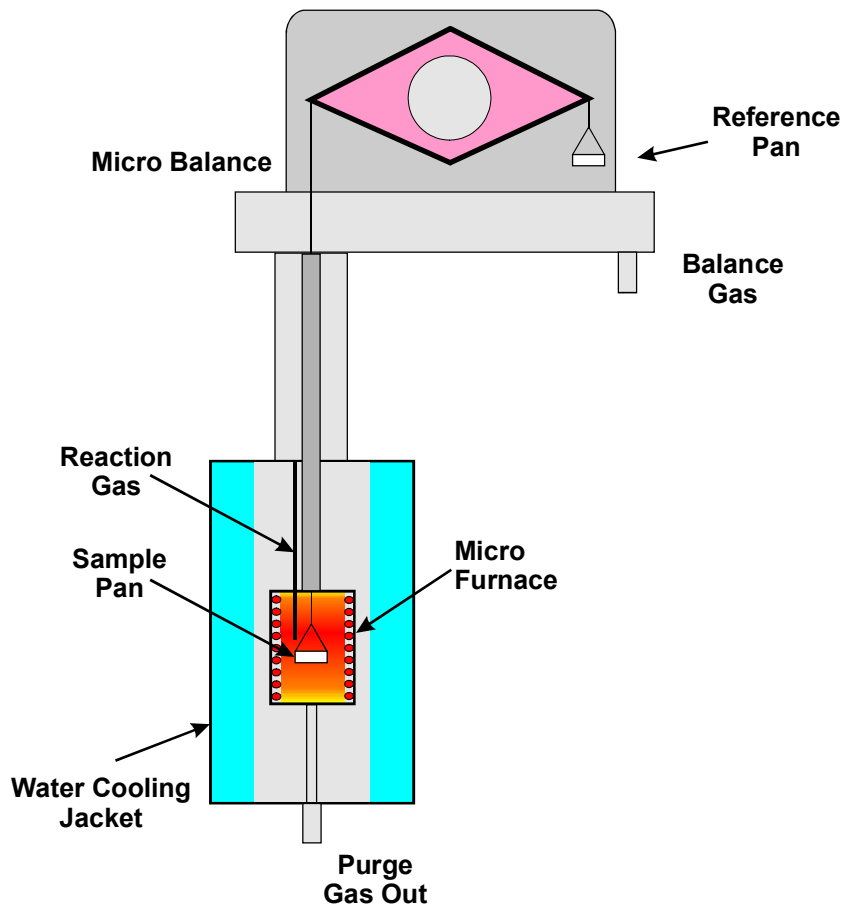
Thermogravimetric Analysis

Uses for TGA

Thermal Stability
Pyrolysis
Oxidation
Dehydration
Decomposition
Kinetics
Combustion
Moisture
Residue or ash
Research
Quality Control

Materials

Thermoplastics
Thermosets
Elastomers
Polymers
Rubbers
Phenolics
Cosmetics
Foods
Pharmaceuticals
Chemicals
Petrochemicals
Coals and other fuels
Explosives
Coatings
Catalysts
Waxes
Asphalts
Ceramics



TGA 1000 Specifications

Windows XP, 7 & 10

Temperature Range: Ambient to 1000C

Programmed Rate: 0.1 - 300C/min

Temperature Segments: 10

Weight Range: 400mg

Resolutions: .1ug

Thermocouple: Type K

Furnace: Nichrome

TGA 1500 Specifications

Windows XP, 7 & 10

Temperature Range: Ambient to 1500C

Programmed Rate: 0.1 - 60C/min

Temperature Segments: 10

Weight Range: 400mg

Resolutions: .1ug

Thermocouple: Type R

Furnace: Platinum Rhodium

Features

- Simplicity of Operation
- Ultra high resolution
- Dual purge system
- Motor driven furnace
- Easy sample loading
- Water cooled furnace
- Fast sample turn around
- Auto tare feature built in
- Corrosion resistant system
- Evolved gas analysis option

Options

- Automatic Gas Switching Accessories
- Step ISO Software
- Heated Transfer Line and Controllers for EGA
- Multiple Module Operation
- Water Heat Exchanger
- Water cooled furnace

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