

Suggested ordering specification for TGA THERMAX 400

Thermo Fisher Scientific, Process Instruments, Newington, USA

General

The thermogravimetric analysis system is used to study the weight change behavior of chemical compounds, metals and ceramics in various gaseous environments from room temperature to 1500 °C.

Balance

A digital recording microbalance:

- Capacity of 1.5 grams
- Weighting range of ± 150 mg with 0.1 μ g readability (sensitivity)
- Continuous visual digital microgram display
- Full range zeroing
- Bake-out temperature of 125 °C
- Weighing unit capable of vacuum to 5×10^{-5} torr
- Pressure relief valve
- Corrosion resistant gold anodized beam
- Heat shield
- Fan for cooling
- Preformed extension wires

Furnace

- Maximum temperature of 1500 °C
- Motorized assembly for easy sample access
- Temperature repeatability to ± 3 °C
- Heating rates from 0.1 to 100 °C/min
- External furnace
- Visual display of temperature

Reaction chamber

- Patented corrosive-resistant design
- Alumina reactor tube
- Alumina baffle
- Sample size of 20 mm diameter and a height of 50 mm
- Vacuum to 5×10^{-5} torr (with optional vacuum accessory and pumping system)
- Automatic, programmable gas switching of 4 reaction gases (with optional CRGC)

Computer and data acquisition

- Pentium 100 MHz personal computer with 32 MB RAM and 1 GB hard drive
- 1.44 MB 3.5" floppy drive, CD-ROM, and VGA/SVGA monitor
- 1 serial RS-232 ports and 1 parallel port
- mouse is required
- Windows NT 4.0 or higher

Software

- Continuous monitoring and display in real-time of the weight, time and temperature
- Run continuously for as long as there is free hard disk space
- Method defined heating and cooling
- Program as many ramps and isothermal segments as you wish in one run
- Switch gases and control flow rates with the optional Thermo Scientific switching accessory
- Substitution weighing
- First derivative
- Peak integration on derivative data
- Data smoothing
- Weight percent
- Residue percentage
- Addition and subtraction of one data file from another
- Scaling of data
- Click and drag zooming
- Conversion of data for export to standard spreadsheet
- Annotation on the curve
- Importing ASCII data from other programs
- Log information about the file
- GLP (Good Laboratory Practice) tracking and reporting of data modification on print-outs
- Windows NT 32 bit software
- Written in Microsoft Visual C++ using MFC (Microsoft Foundation Class)
- Designed according to Windows Graphical User Interface Guidelines

- On-line context sensitive help
- Microsoft Office style floating tool-bars
- Compatible with Thermo Scientific DOS TGA data files
- Multiple data windows can be opened

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