

# Suggested ordering specification for TGA VERSATHERM HM

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 1100 °C.

## Balance

A digital recording microbalance:

- Capacity of 100 grams
- Weighting range of  $\pm 10$  g with 1 $\mu$ g readability (sensitivity)
- Continuous visual digital microgram display
- Full range zeroing
- Bake-out temperature of 125 °C
- Weighing unit capable of vacuum to  $5 \times 10^{-5}$  torr
- Pressure relief valve
- Corrosion resistant gold anodized beam
- Heat shield
- Fan for cooling
- Preformed extension wires

## Furnace

- Maximum temperature of 1100 °C
- Motorized assembly for easy sample access
- Sample view port
- Temperature repeatability to  $\pm 3$  °C
- Heating rates from 0.1 to 100 °C/min
- External furnace
- Visual display of temperature

## Reaction chamber

- Patented corrosive-resistant design
- Quartz reactor tube
- Quartz baffle
- Sample size of 30 mm diameter and a height of 50 mm
- Vacuum to  $5 \times 10^{-5}$  torr
- Automatic, programmable gas switching and mixing of 2 reaction gases

## Computer and data acquisition

- Minimum: Pentium 100 MHz personal computer with 32 MB RAM and 1 GB hard drive
- 1.44 MB 3.5" floppy drive, CD-ROM, and SVGA monitor
- 1 serial RS-232 port
- Windows NT 4.0 or Windows 2000 or greater

## 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 toolbars
- Compatible with Thermo Scientific DOS TGA data files
- Multiple data windows can be opened

**Thermo Fisher Scientific  
Process Instruments**

**International/Germany**  
Dieselstr. 4,  
76227 Karlsruhe  
Tel. +49(0)721 40 94-444  
info.mc.de@thermofisher.com

**Benelux**  
Tel. +31 (0) 76 5 87 98 88  
info.mc.nl@thermofisher.com

**China**  
Tel. +86 (21) 68 65 45 88  
info.mc.china@thermofisher.com

**France**  
Tel. +33 (0) 1 60 92 48 00  
info.mc.fr@thermofisher.com

**India**  
Tel. +91 (22) 27 78 11 06  
info.mc.in@thermofisher.com

**United Kingdom**  
Tel. +44 (0) 1785 81 36 48  
info.mc.uk@thermofisher.com

**USA**  
Tel. 603 436 9444  
info.mc.us@thermofisher.com

**[www.thermo.com/mc](http://www.thermo.com/mc)**

C228\_14.08.2008

© 2007/08 Thermo Fisher Scientific.  
All rights reserved. This document is  
for informational purposes only and is  
subject to change without notice.