SPECIFICATIONS

Thermal Analysis

TGA 4000
Thermogravimetric Analyzer

Introduction

At PerkinElmer, we're committed to the future of thermal analysis. We prove it with our new TGA 4000, which delivers the answers you need with less effort than you ever thought possible. Whether you're researching new materials or ensuring the quality of your products, the TGA 4000 delivers great results, all day and every day.

Technical Description and Specifications

TGA balance type	Top-loading balance		Easier to use and more robust than other design types
Temperature range	Ambient to 1000 ˚C		
Temperature calibration	Curie point		
Scanning rates	0.1 to 200 ˚C/min		Fast scan means provide faster experiment cycle times
Scanning temperature accuracy	±1 ˚C		10 runs using curie point reference material
Scanning temperature precision	±0.8 ˚C		
Sample temperature precision	±0.3 ˚C @ 300 ˚C	±0.5 ˚C @ 900 ˚C	
Sample to program temperature correlation	±0.5 ˚C @ 300 ˚C	±1 ˚C @ 900 ˚C	Difference between the set temperature and the actual sample temperature
Scanning baseline dynamic drift	<50 µg		50 to 1000 ˚C at 20 ˚C/min with empty sample pan

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Balance digital resolution	0.2 µg	
Balance sensitivity	1 µg	
Balance accuracy	±0.02%	10 runs using 100 mg certified reference material
Balance precision	±0.01%	
Balance capacity	1500 mg	Larger capacity than other design types
Sample pans	180 µl Ceramic 180 µl Platinum	Sample pan liners available in aluminum, tin and silver
Cooling time	1000 °C to 100 °C in under 8 mins	With chiller set to 15 °C and forced air
	1000 °C to 50 °C in under 11 mins	
Atmosphere	Static or dynamic, including nitrogen, argon, helium, carbon dioxide, air, oxygen or other inert or active gases over full temp range.	Inert furnace design allows a wide choice of gas types
Mass flow controller	Included	Monitors and changes purge gas flow rates and pressures and switches sample gases within a program. Sample purge from 0-200 mL/min
User control	Pyris™ Software	Benchmark software in thermal analysis
21 CFR Part 11 compliant	Optional	Pyris ES for laboratories subject to regulatory control
Autosampler	Optional, 45-position	For unattended operation
Dimensions	17 x 38 x 41 cm (6.7 x 15 x 16.5 in)	Lab bench footprint remains same with autosampler installed
Weight	16 kg/35.2 lbs (18.3 kg/40.3 lbs with autosampler)	
Power requirements	100-240 Volts, 50/60Hz	
Hyphenation options	Yes	Evolved gas analysis using PerkinElmer® TGA-IR and TG-MS
Certificates/Compliance/ Quality Assurance	Developed under ISO 9001. Designed and tested to be in compliance with the legal requirements for laboratory analytical instruments.	

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