



TORONTECH



MUFFLE FURNACE TT- MF-36-1400

Laboratory Muffle Furnace TT-MF-36-1400 is designed for high-temperature heat treatment processes such as sintering advanced materials, including metals, ceramics, nanomaterials, and semiconductors.

APPLICATIONS

Muffle Furnace TT-MF-36-1400

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- **Advanced Materials Research & Development** – Designed for high-temperature sintering, annealing, and heat treatment of advanced materials including ceramics, metals, nanomaterials, and semiconductors. Dual-sided SiC heating elements and uniform chamber design ensure reliable results for research and product development.
- **Electronics & Semiconductor Manufacturing** – Enables precise thermal processing of wafers, coatings, and semiconductor components. Equipped with an S-type platinum-rhodium thermocouple and PID-SSR control, it ensures stable heating conditions for microelectronics research and production testing.

- **Chemical & Petrochemical Laboratories** – Facilitates calcination, catalyst preparation, and thermal decomposition of specialty chemicals. Its 30-segment programmable controller supports complex heating profiles, making it ideal for laboratory R&D and batch-quality control in chemical industries.
- **Academic & Institutional Research** – Widely adopted in universities and research centers for studies in chemistry, solid-state physics, and materials science. Offers accurate temperature control and flexible programming, supporting both educational training and advanced research projects.
- **Aerospace & Metallurgical Engineering** – Provides high-temperature treatment for alloys, ceramics, and composites used in aerospace and metallurgical industries. Ensures consistent performance for oxidation resistance testing, structural stability evaluations, and phase transformation studies.
- **Pharmaceutical & Biotechnology Research** – Supports calcination, ashing, and controlled decomposition of pharmaceutical compounds and intermediates. Delivers precise and reproducible results in compliance with international research standards.
- **Environmental & Geological Testing Centers** – Ideal for mineral analysis, soil ashing, and geological sample preparation. Offers reliable and consistent high-temperature performance for environmental monitoring and geoscience investigations.
- **Independent Certification & Testing Agencies** – Provides secure and audit-ready thermal processing with built-in safety systems, fault alarms, and internationally recognized certifications (ISO, CE, SGS, TUV). Ensures compliance and reliability for third-party verification and quality assurance testing.

FEATURES

Furnace Shell

1. Constructed from Q235 low-carbon steel, the shell features a corrosion-resistant, electrostatically coated surface.
2. Its durable double-layer metal frame helps maintain a low external temperature.
3. The side-opening door swings to the right, offering easy and safe access.

Refractory Material

1. The furnace uses a multi-layer insulation system made of lightweight alumina ceramic fiber and high-quality insulation boards.
2. Free from asbestos, this design ensures minimal heat loss and reduced energy consumption.

Heating System

1. Premium silicon carbide (SiC) heating elements are securely mounted on both sides of the chamber, allowing efficient radiant heat transfer for energy savings and consistent performance.
2. Dual-side heating ensures even temperature distribution throughout the chamber.
3. A silicon carbide bottom plate shields the lower heating element, offering strong load-bearing capacity, excellent thermal conductivity, and mechanical strength.

Temperature Control Panel

1. Features PID and SSR control for accurate temperature regulation.
2. Equipped with an S-type platinum-rhodium thermocouple with a wide measurement range of 0–1600°C and extended lifespan.
3. A built-in safety switch cuts power when the door is opened.

Program Controller

1. Designed to support advanced thermal processing needs
2. Easy-to-use interface with flexible programming options
3. Supports up to 30 segments in a single heating profile

Furnace structure	Furnace temperature control integrated structure
Equipment protection	Modular control, sound and light alarm signal will be sent out for over temperature and broken coupler in the working process, and the protection action will be completed automatically
Safety protection	The equipment is equipped with a circuit breaker, which will automatically pop open in case of short circuit leakage, which can protect the safety of equipment and operators
Quality certificate	ISO9001 CE SGS TUV
Optional	1. Optional exhaust chimney for evacuation of volatile substances 2. Optional corundum crucible, furnace floor, shed board and other kiln furniture 3. Optional material recorder for online recording of temperature curves



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