



TORONTECH



## MUFFLE FURNACE TT- MF-12-1200

Benchtop Muffle Furnace TT-MF-12-1200 is designed for high-temperature heat treatment processes such as sintering and heating of advanced materials, including metals, ceramics, nanomaterials, and semiconductors.

## APPLICATIONS

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Muffle Furnace TT-MF-12-1200

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- **Advanced Materials Engineering** - Delivers high-temperature processing for metals, ceramics, nanomaterials, and semiconductors. Ensures precision-controlled sintering, annealing, and thermal modification for advanced R&D.
- **Metallurgical Testing & Alloy Development** - Supports heat treatment, oxidation resistance evaluation, and phase transformation analysis. Provides reproducible and traceable results for metallurgical laboratories.
- **Ceramics & Glass Processing** - Ideal for ceramic sintering, glaze evaluation, and controlled glass heating. Maintains structural integrity and stable high-temperature conditions throughout the process.
- **Semiconductor & Electronics Manufacturing** - Enables thermal oxidation, annealing, and diffusion processes for electronic materials and wafers. Guarantees precise temperature control aligned with industry quality benchmarks.

- **Chemical & Catalysis Research** - Suitable for catalyst activation, pyrolysis, and high-temperature chemical reaction studies. Programmable thermal curves allow researchers to execute complex process cycles with accuracy.
- **Energy & Battery Material Research** - Facilitates thermal processing of cathode and anode materials for lithium-ion, solid-state, and next-generation batteries. Provides uniform heating critical for energy materials R&D.
- **Academic & Institutional Laboratories** - Widely used in universities and research institutes for physics, chemistry, and materials science experiments. Offers reliability, ease of operation, and robust safety features for educational settings.
- **Industrial Quality Control & Compliance Testing** - Provides consistent thermal testing for product certification, inspection, and quality assurance. Compliant with ISO, CE, SGS, and TÜV standards for regulated industries.

## FEATURES

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### Furnace Shell

1. Constructed from Q235 low-carbon steel with an electrostatic-resistant, corrosion-resistant surface.
2. Reinforced metal frame design helps maintain a low exterior temperature.
3. Side-opening furnace door swings to the right for easy access and operation.

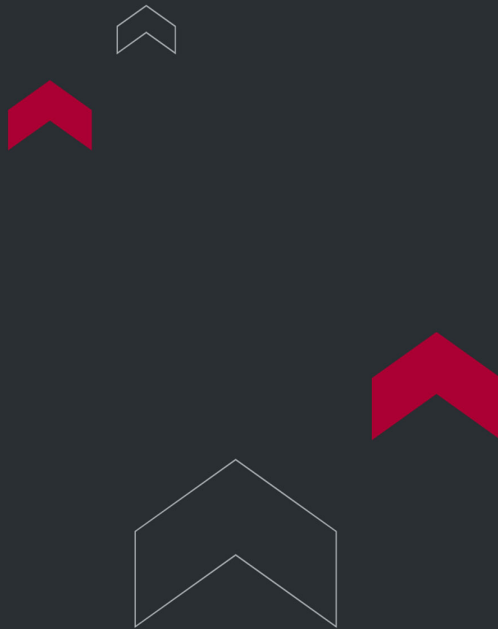
### Refractory Material

Multi-layer insulation features lightweight alumina ceramic fiber and a high-grade insulation board backing. The design is asbestos-free, minimizes heat loss, and supports energy efficiency.

### Heating System







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