



TORONTECH



LIFTING BOTTOM FURNACE TT-LF-64- 1700

The Lifting Bottom Furnace TT-LF-64-1700 is designed to operate at temperatures up to 1700°C, making it an excellent solution for advanced thermal processing. It is widely used in universities, research institutions, industrial laboratories, and manufacturing facilities. This furnace is suitable for applications involving metals, ceramics, nanomaterials, and semiconductors.

In addition to research and industrial use, the TT-LF-64-1700 is also well-suited for dental applications, particularly zirconia crown sintering in the denture industry. With its robust design, precise temperature control, and advanced heating system, it ensures consistent and reliable performance across a wide range of material processing needs.

APPLICATIONS

- **Advanced Ceramic Materials** – Enables precise sintering and densification of advanced ceramics, delivering excellent thermal resistance, structural integrity, and mechanical strength for industrial and research applications.
- **Nanomaterials Research** – Provides uniform, high-precision thermal treatment for nanostructures and composite materials. Supports R&D in functional nanomaterials applied in electronics, catalysis, and energy storage.
- **Semiconductor Materials** – Facilitates diffusion, annealing, and oxidation processes for semiconductor substrates at ultra-high temperatures. Ensures precise control critical for microelectronics and optoelectronics manufacturing.
- **Powder Metallurgy** – Supports high-temperature sintering of metal powders into dense, complex-shaped components. Widely used for producing advanced alloys and structural parts in both research and production.
- **Dental Applications** – Specially suited for zirconia crown sintering and crystallization in dental laboratories and clinics. Guarantees contamination-free processing and consistent translucency for high-quality prosthetics.

- **Aerospace Materials Engineering** – Enables testing, validation, and processing of high-performance alloys, ceramics, and composites for aerospace use. Ensures thermal stability and strength reliability under extreme conditions.
- **Energy & Battery Research** – Provides stable thermal treatment for solid-state electrolytes, lithium-ion battery components, and next-generation energy storage materials. Ensures reproducibility and reliability in energy R&D.
- **Universities & Research Institutes** – Ideal for advanced studies in physics, chemistry, materials science, and engineering. Offers robust programming flexibility, dependable performance, and integrated safety systems for academic labs.
- **Industrial Quality Control & Certification** – Delivers high-temperature testing capabilities for product validation, compliance checks, and certification processes. Meets international standards including ISO, CE, SGS, and TÜV.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatic, corrosion-resistant finish.
- Durable steel tank structure designed to maintain a low external surface temperature.
- Side-opening furnace door with a flanged sealing system and manual screw lock for easier operation.

Refractory Material

- Multi-layer insulation design using lightweight alumina ceramic fiber and premium heat-shielding boards. Free of asbestos, offering low heat loss and reduced energy consumption.

Heating System

- High-performance resistance heating elements installed for radiant heat transfer within the chamber—efficient, energy-saving, and built for longevity.
- Surround-style ring heating ensures even temperature distribution across all sides of the furnace.
- Optional features include a top-mounted exhaust port and a bottom air inlet with flow control.
- The bottom-loading design allows for stacking multiple layers of materials—two or three layers depending on furnace type.

Temperature Control Panel

- Equipped with a PID controller using SSR/SCR mode for accurate temperature regulation.
- Uses an international-standard thermocouple designed for long-term use.

Program Controller

- Advanced controls tailored for complex thermal processes.
- Intuitive interface with flexible programming capabilities.
- Supports up to 30 programmable segments per profile.
- Built-in over-temperature and fault alarms with automatic safety shutdown.

TECHNICAL SPECIFICATIONS

Product Model	Chamber Size mm	Volume	Max Temperature	Working Temperature	Voltage	Power	Heating Element	Temperature control accuracy
TT-LF-120-1200	Φ120×120	2L	1200°C	1100°C	220V (110V is also available)	2KW	HRE	±1°C
TT-LF-150-1200	Φ150×150	3L	1200°C	1100°C	220V (110V is also available)	3KW	HRE	±1°C

TT-LF-200-1200	Φ200×200	6L	1200℃	1100℃	220V (110V is also available)	4KW	HRE	±1℃
TT-LF-300-1200	Φ300×300	20L	1200℃	1100℃	380V	6KW	HRE	±1℃
TT-LF-120-1400	Φ120×120	2L	1400℃	1350℃	220V (110V is also available)	3KW	SIC	±1℃
TT-LF-150-1400	Φ150×150	3L	1400℃	1350℃	220V (110V is also available)	4KW	SIC	±1℃
TT-LF-200-1400	Φ200×200	6L	1400℃	1350℃	220V (110V is also available)	5KW	SIC	±1℃
TT-LF-300-1400	Φ300×300	20L	1400℃	1350℃	380V	6KW	SIC	±1℃
TT-LF-120-1700	Φ120×120	2L	1700℃	1600℃	220V (110V is also available)	3KW	MoSi2	±1℃
TT-LF-150-1700	Φ150×150	3L	1700℃	1600℃	220V (110V is also available)	4KW	MoSi2	±1℃
TT-LF-200-1700	Φ200×200	6L	1700℃	1600℃	220V (110V is also available)	4KW	MoSi2	±1℃
TT-LF-300-1700	Φ300×300	20L	1700℃	1600℃	380V	8KW	MoSi2	±1℃



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