



LIFTING BOTTOM LOADING FURNACE TT- LF-64-1700

The Lifting Bottom Loading Furnace TT-LF-64-1700, rated for temperatures up to 1700°C, is engineered for high-performance thermal processing across a wide range of applications. It is widely used in universities, research institutes, industrial laboratories, and manufacturing facilities. With its advanced design, the furnace supports research and production involving metals, ceramics, nanomaterials, and semiconductors, ensuring precise and reliable results.

In addition to industrial and research uses, this furnace is also suitable for dental applications, including zirconia crown sintering in the denture industry. Equipped with high-quality molybdenum disilicide (MoSi_2) heating elements, precise temperature control ($\pm 1^\circ\text{C}$), and a large 64L chamber, the TT-LF-64-1700 provides consistent performance for demanding material processing environments.

APPLICATIONS

- **Advanced Ceramic Materials** – Enables precise high-temperature sintering and densification of technical ceramics. Ensures excellent thermal stability, structural integrity, and mechanical strength for both industrial production and research.
- **Nanomaterials Research** – Provides uniform heating for the thermal processing of nanostructures and functional composites. Supports advanced R&D in nanomaterials for electronics, catalysis, and energy storage.
- **Semiconductor Processing** – Facilitates controlled annealing, oxidation, and diffusion of semiconductor substrates. Precise temperature management ensures repeatability in microelectronics and optoelectronics manufacturing.
- **Powder Metallurgy** – Ideal for sintering and densification of metal powders into complex, high-strength components. Widely applied in aerospace, automotive, and materials research.

- **Dental Applications** – Supports zirconia crown sintering and crystallization for dental laboratories and denture manufacturing. Delivers reliable, contamination-free firing with consistent translucency and density.
- **Energy & Battery Research** – Provides high-precision thermal treatment of advanced materials such as solid electrolytes, cathode/anode powders, and next-generation battery components.
- **Universities & Research Institutes** – Tailored for educational and scientific studies in chemistry, physics, materials science, and engineering. Offers reliable performance with flexible programming for laboratory environments.
- **Industrial Quality Control & Certification** – Suitable for product testing, compliance validation, and certification under strict regulatory standards. Conforms with ISO, CE, SGS, and TÜV quality requirements.

FEATURES

Furnace Shell

- Constructed with Q235 low-carbon steel, the shell features an electrostatic-resistant and anti-corrosion surface.
- Durable metal tank design helps maintain a low external temperature.
- The furnace door uses a flange-sealed structure with manual screw compression and a side-opening design for easier operation.

Refractory Material

- Multi-layer insulation built with lightweight alumina ceramic fiber and premium insulation boards provides effective heat shielding. The materials are asbestos-free, ensuring low heat loss and reduced energy usage.

Heating System

- High-performance resistance heating elements are installed for free-radiation heating inside the chamber, delivering energy efficiency and long operational life.
- Ring-type heating elements on all sides promote uniform temperature distribution throughout the chamber.
- Optional features include a top-mounted exhaust port and a regulated air inlet at the bottom.
- The loading container can be placed at the bottom of the furnace, allowing for two to three stacked layers depending on the model.

Temperature Control Panel

- PID controller with SSR/SCR control mode ensures precise temperature regulation.
- Uses an international-standard thermocouple with extended durability.

Program Controller

- Advanced controller supports complex thermal processes.
- User-friendly interface allows for flexible and straightforward programming.
- Capable of storing up to 30 programmable segments in a single curve.
- Built-in over-temperature and fault alarms offer automatic safety protection.

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℃



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

