TORONTECH

HIGH TEMPERATURE LIFTING FURNACE TT-LF-300-1700

High Temperature Lifting Furnace TT-LF-300-1700, with a maximum temperature of 1700°C, is specifically designed for use in universities, research centers, manufacturing facilities, and industrial laboratories. It supports a wide range of applications involving advanced materials such as metals, ceramics, nanomaterials, and semiconductors. Additionally, it is well-suited for dental sintering processes in the denture industry.

APPLICATIONS

- **Advanced Ceramic Materials** – Enables high-temperature sintering and densification of structural, functional, and electronic ceramics. Ensures superior mechanical strength, thermal resistance, and reliability for both industrial and academic use.
- **Nanomaterials Research** – Provides uniform and precise thermal processing for nanostructures and composite materials. Supports R&D in advanced nanomaterials applied to catalysis, energy storage, and electronics.
- **Semiconductor Processing** – Facilitates thermal treatments such as annealing, oxidation, and diffusion for semiconductor substrates. Delivers exceptional temperature accuracy critical for microelectronics, optoelectronics, and photovoltaic device fabrication.
- **Metallurgy & Powder Metallurgy** – Supports sintering of powdered metals and advanced alloys into dense, uniform components. Ideal for aerospace, automotive, and specialty alloy production, as well as metallurgical research.
- **Dental Laboratories** – Designed for sintering dental ceramics and prosthetic applications. Provides precision and consistency required in dental research and clinical production environments.

- **Universities & Research Institutes** – Well-suited for advanced studies in chemistry, physics, materials science, and engineering. Offers programmable controls, safety features, and reliable operation tailored for academic and institutional laboratories.

- **Industrial R&D & Quality Control** – Delivers consistent results for pilot production, certification testing, and compliance verification. Meets the demanding requirements of regulated industries with robust performance and accuracy.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel, the shell features an electrostatically resistant and corrosion-resistant surface.
- Durable tank-style shell design ensures a low external surface temperature for safe handling.
- The furnace door features a flanged sealing structure with manual screw compression and a side-opening design for easier operation.

Refractory Material

- The multi-layer insulation system consists of lightweight alumina ceramic fiber and other premium-grade thermal insulation boards. It contains no asbestos, ensures minimal heat loss, and supports reduced energy consumption.

Heating System

- Equipped with high-quality resistance heating elements for efficient, radiation-based heating within the furnace chamber. Designed for energy efficiency and extended service life.
- Surrounding ring-style heating elements ensure uniform temperature distribution throughout the furnace.

- Optional features include a top exhaust port and a regulated air inlet at the base.
- A loading container can be placed at the furnace bottom, with configurations allowing for two or three layers of material, depending on the furnace model.

Temperature Control Panel

- Features a PID temperature controller with SSR/SCR control mode for precise thermal regulation.
- Includes an international-standard thermocouple known for reliability and long operational life.

Program Controller

- Advanced control system designed for complex thermal processes.
- User-friendly interface with flexible programming capabilities.
- Supports up to 30 programmable segments per cycle.
- Integrated over-temperature protection and fault alarm system for enhanced safety.

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℃	1100℃	220V (110V is also available)	2KW	HRE	±1℃
TT-LF-150-1200	Φ150×150	3L	1200℃	1100℃	220V (110V is also available)	3KW	HRE	±1℃
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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