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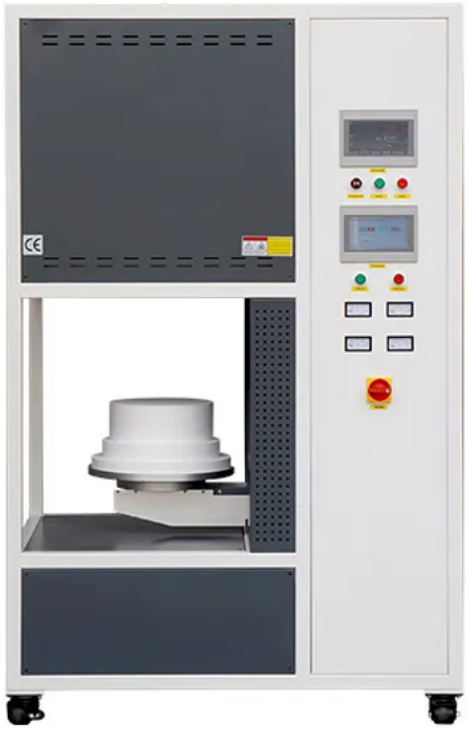

LIFTING BOTTOM LOADING FURNACE TT-LF-27-1700E

The Lifting Bottom Loading Furnace TT-LF-27-1700E is designed for high-temperature sintering of advanced materials such as electronic ceramics, magnetic materials, functional ceramics, structural ceramics, ITO targets, and composite materials. With precise temperature control and robust construction, it delivers stable and efficient performance for demanding thermal processes.

This furnace is well-suited for small-scale production in both laboratory and industrial environments. Equipped with a 27L chamber, durable $MoSi_2$ heating elements, and high accuracy of ±1°C, it ensures reliable and reproducible results for research and specialized material processing applications.

APPLICATIONS

- **Electronic Ceramics** – Enables high-temperature sintering of dielectric, piezoelectric, and ferroelectric ceramics. Ensures uniform microstructure, excellent electrical performance, and stable long-term reliability for advanced electronic devices.

- **Magnetic Materials** – Provides precise thermal treatment for ferrites and rare-earth magnets. Supports uniform densification and improved magnetic properties essential for high-performance motors, sensors, and energy applications.

- **Functional & Structural Ceramics** – Facilitates sintering of oxide and non-oxide ceramics with excellent mechanical strength, thermal resistance, and chemical stability. Ideal for aerospace, biomedical, and high-temperature engineering applications.

- **ITO Targets & Thin-Film Materials** – Optimized for sintering indium tin oxide (ITO) targets used in transparent conductive coatings. Ensures consistent density and performance critical for electronics, solar cells, and display

technologies.

- **Composite Materials** – Supports high-temperature consolidation of ceramic- and metal-based composites. Ensures uniform bonding, structural integrity, and enhanced mechanical properties for advanced research and industrial production.

- **Dental Laboratories** – Delivers precise, repeatable sintering for prosthetic teeth and advanced dental ceramics. Provides accuracy, consistency, and energy efficiency required for clinical and research dental applications.

- **Universities & Research Institutes** – Widely used in materials science, chemistry, and engineering research. Offers reliable performance, flexible programming, and robust safety features for academic and R&D environments.

- **Industrial R&D and Small-Scale Production** – Ideal for pilot production lines, quality testing, and materials certification. Ensures reproducible results with precise temperature control, meeting the needs of advanced industrial processes.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatically resistant, anti-corrosion surface.
- Durable metal tank shell design maintains a low external temperature.
- Flange-style sealed furnace door with manual screw compression and side access for easier operation.
- Bottom table rotation is powered by a servo motor and controlled via PLC for precision. Adjustable in both directions, allowing free rotation of samples at high temperatures for uniform heat distribution and even material processing.

Refractory Material

- Multi-layer insulation structure made of lightweight alumina ceramic fiber and other high-quality insulating boards. Asbestos-free, it offers low heat loss and improved energy efficiency.

Heating System

- Premium resistance heating elements provide efficient, radiant heat within the chamber, offering long service life.
- Ring-type heating elements on all sides ensure excellent temperature uniformity.
- Optional features include a furnace-top exhaust port and a regulated air inlet at the base.
- The loading container can be placed at the bottom of the furnace, supporting two or three layers of materials, depending on the furnace type.

Temperature Control Panel

- PID controller with SSR/SCR control mode for precise temperature regulation.
- Long-lasting thermocouple built to international standards.

Program Controller

- Advanced control system for complex thermal processes.
- User-friendly interface with flexible programming.
- Supports up to 30 programmable segments per heating curve.
- Includes over-temperature and fault alarms with automatic safety shutdown.

Optional Features

- Air cooling system for rapid temperature reduction to 400°C.
- Manual or automatic air inlet control units for atmosphere control during processing.

TECHNICAL SPECIFICATIONS

Model	Chamber Size（ mm ）	Volume	Max Temperature	Working Temperature	Voltage	Power	Heating Element	Temperature control accuracy
TT-LF-96-1200	400×600×400	96L	1200℃	1100℃	380V	18KW	HRE	±1℃
TT-LF-288-1200	600×800×600	288L	1200℃	1100℃	380V	30KW	HRE	±1℃
TT-LF-640-1200	800×1000×800	640L	1200℃	1100℃	380V	45KW	HRE	±1℃
TT-LF-96-1400	400×600×400	96L	1400℃	1300℃	380V	21KW	SIC	±1℃
TT-LF-288-1400	600×800×600	288L	1400℃	1300℃	380V	30KW	SIC	±1℃
TT-LF-640-1400	800×1000×800	640L	1400℃	1300℃	380V	50KW	SIC	±1℃
TT-LF-96-1700	400×600×400	96L	1700℃	1600℃	380V	25KW	MoSi2	±1℃
TT-LF-150-1700	500×600×500	150L	1700℃	1600℃	380V	35KW	MoSi2	±1℃
TT-LF-324-1700	600×900×600	324L	1700℃	1600℃	380V	60KW	MoSi2	±1℃
TT-LF-640-1700	800×1000×800	640L	1700℃	1600℃	380V	80KW	MoSi2	±1℃
TT-LF-96-1800	400×600×400	96L	1750℃	1700℃	380V	25KW	MoSi2	±1℃
TT-LF-150-1800	500×600×500	150L	1750℃	1700℃	380V	35KW	MoSi2	±1℃
TT-LF-324-1800	600×900×600	324L	1750℃	1700℃	380V	60KW	MoSi2	±1℃

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