



ROTARY TUBE FURNACE 1200°C -TT- RTF-40-1200

Rotary Tube Furnace 1200°C -TT-RTF-40-1200 features an integrated heating system, an automatic rotation mechanism, and a tilt-adjustable furnace body. The tube rotates 360° with adjustable speed, providing a consistent temperature distribution. The furnace body can be tilted up to 15°, allowing for convenient loading and unloading of materials.

APPLICATIONS

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- **Advanced Ceramic Materials** – Enables rotational sintering and uniform heat treatment of ceramics. The rotary mechanism ensures homogeneous microstructure, improved density, and enhanced thermal resistance for industrial and academic applications.
- **Nanomaterials Research** – Provides precise and consistent thermal processing for nanostructures and advanced composites. The 360° rotation promotes uniform particle exposure, making it ideal for catalyst preparation, coating processes, and energy-related nanomaterials.

- **Semiconductor Materials** – Facilitates annealing, diffusion, and oxidation of semiconductor wafers and powders under controlled atmospheres. The rotation and tilt features improve processing uniformity, essential for microelectronics and optoelectronics development.
- **Powder Metallurgy** – Ideal for sintering, reduction, and alloying of metallic powders. The rotating tube enhances mixing and densification, enabling the production of uniform components and advanced alloys.
- **Petrochemical & Chemical Laboratories** – Supports catalyst activation, pyrolysis, thermal decomposition, and reaction mechanism studies. The rotary system ensures reproducible results and enhanced reaction kinetics under vacuum or controlled atmosphere.
- **Aerospace Materials Engineering** – Enables processing of advanced alloys, ceramics, and composites used in aerospace. The tilt-adjustable design provides flexible handling of materials while maintaining thermal stability at elevated temperatures.
- **Energy & Battery Research** – Provides optimized heat treatment for lithium-ion battery cathodes, solid-state electrolytes, and fuel cell materials. Rotary motion ensures homogeneity and high reproducibility in energy materials research.
- **Universities & Research Institutes** – Widely used in academic laboratories for teaching, research, and advanced experiments in materials science, chemistry, and physics. Offers versatile programming, safety features, and reliable operation.
- **Industrial Quality Control & Certification** – Supports product validation, thermal stability testing, and compliance verification. Its programmable control and precise temperature accuracy meet ISO, CE, SGS, and TÜV standards.

FEATURES

Furnace Shell

- The shell is constructed from Q235 low-carbon steel and features an electrostatically resistant, corrosion-resistant surface.
- Its solid double-layer metal frame is combined with an insulated fan structure, helping to maintain a low external surface temperature.
- Designed for horizontal operation, the furnace includes a top-opening structure for easy access.

Refractory Material

- The furnace uses a multi-layer insulation system made from lightweight alumina ceramic fiber and a high-quality insulation board backing. It contains no asbestos, offering low heat loss and reduced energy consumption.

Heating System

- Premium HRE spiral resistance wire heating elements are securely embedded along the interior surface, providing radiant heat inside the chamber. This setup ensures energy efficiency and extended service life.
- Circular resistance wire heating ensures even temperature distribution throughout the furnace.

Temperature Control Panel

- Equipped with advanced controllers to handle complex thermal processes.
- Supports up to 30 programmable segments for automated temperature profiling.
- Includes over-temperature and fault alarms with built-in safety protection.

Rotary System

- The furnace tube features a gear-driven electric rotation mechanism, allowing 360° rotation at speeds between 12-20 rpm for even heat distribution.

- The furnace body is electrically tiltable, with adjustable angles to enable smooth material loading and unloading.
- Comes with a 304 stainless steel sealing flange to create a vacuum or controlled atmosphere inside the tube.
- Compatible with high-quality quartz tubes, as well as metal or alumina ceramic tubes, to suit various operational needs.

TECHNICAL SPECIFICATIONS

Model	Heating zone	Tube size (mm)	Max temp	Working temp	Voltage	Power	Heating element	Accuracy
TT-RTF-40-1200	440	Φ40×1200	1200°C	1100°C	220V (110V is also available)	2KW	HRE	±1°C
TT-RTF-60-1200	440	Φ60×1200	1200°C	1100°C	220V (110V is also available)	3KW	HRE	±1°C
TT-RTF-80-1200	440	Φ80×1200	1200°C	1100°C	220V (110V is also available)	4KW	HRE	±1°C
TT-RTF-100-1200	440	Φ100×1200	1200°C	1100°C	220V (110V is also available)	4KW	HRE	±1°C
TT-RTF-120-1200	600	Φ120×1200	1200°C	1100°C	220V (110V is also available)	7KW	HRE	±1°C
TT-RTF-150-1200	600	Φ150×1200	1200°C	1100°C	380V	8KW	HRE	±1°C
TT-RTF-60-1400	300	Φ60×1000	1400°C	1350°C	220V (110V is also available)	3KW	SIC	±1°C
TT-RTF-80-1400	300	Φ80×1000	1400°C	1350°C	220V (110V is also available)	4KW	SIC	±1°C
TT-RTF-60-1700	300	Φ60×1000	1700°C	1600°C	220V (110V is also available)	4KW	MoSi2	±1°C
TT-RTF-80-1700	300	Φ80×1000	1700°C	1600°C	220V (110V is also available)	5KW	MoSi2	±1°C



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