



INDUSTRIAL FURNACE - TT-IF-1000-1200A

The TT-IF-1000-1200A is a high-capacity manual-door industrial furnace engineered for precision heat treatment applications, including quenching, tempering, normalizing, and annealing of metallic materials. It is also designed for sintering non-metallic ceramic components, making it a versatile solution for both research and production environments. With its large chamber size of 800 × 1000 × 1250 mm, this furnace is ideally suited for small-scale industrial production, pilot testing, and advanced laboratory work.

Built for reliability and accuracy, the furnace operates at a continuous working temperature of 1100°C and achieves a maximum temperature of 1200°C. It is powered by a 380V supply and utilizes high-quality HRE heating elements to ensure long service life, energy efficiency, and stable performance. Equipped with an N-type thermocouple, the TT-IF-1000-1200A delivers precise temperature measurement with an accuracy of $\pm 1^{\circ}\text{C}$, ensuring consistent and repeatable results across a wide range of heat treatment processes.

APPLICATIONS

Industrial Furnace – TT-IF-1000-1200A

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- **Metallurgical Heat Treatment** – Designed for quenching, tempering, normalizing, and annealing of steel and alloy components. Ensures uniform heating and precise temperature control for reliable metallurgical performance.
- **Ceramic Sintering** – Supports the high-temperature processing of advanced non-metallic ceramics. Provides stable thermal conditions for producing dense, durable, and high-strength ceramic components.
- **Aerospace Materials Engineering** – Enables the thermal processing and validation of high-performance alloys, ceramics, and composites used in aerospace structures. Ensures material stability and mechanical integrity under extreme conditions.
- **Automotive & Heavy Machinery** – Ideal for large-scale heat treatment of engine components, gears, and industrial parts. Delivers consistent results required for strength, wear resistance, and extended service life.
- **Energy & Power Systems** – Facilitates the development of advanced energy materials, including components for turbines, power generation systems, and solid-state battery technologies. Ensures reproducibility and high-temperature stability.
- **Universities & Research Institutes** – A valuable tool for academic and industrial R&D in materials science, metallurgy, and ceramics. Offers flexible programming and safety features suited for experimental studies.
- **Industrial Quality Control & Certification** – Provides high-temperature validation for product testing, compliance verification, and certification. Supports industries requiring adherence to ISO, CE, SGS, and TÜV standards.

FEATURES

Furnace Shell

- The shell is constructed from Q235 low-carbon steel with an electrostatically resistant, corrosion-protected surface.
- Its sturdy metal frame ensures structural integrity while maintaining a low exterior temperature.
- The furnace features a side-opening door with a fixed left hinge for convenient operation.

Refractory Lining

- The furnace uses a multi-layer insulation system with a double layer of lightweight refractory bricks. This design provides a robust structure, efficient thermal retention, and low energy consumption—free of asbestos.

Heating System

- High-grade HRE spiral resistance wire elements are mounted on ceramic support tubes, delivering efficient, radiant heat throughout the chamber for extended performance.
- Heating is distributed on three sides—left, right, and bottom—to ensure consistent temperature uniformity.
- A silicon carbide base plate shields the bottom heating element, offering strong mechanical durability, excellent thermal conductivity, and stable horizontal load support.

Temperature Control Panel

- PID control with SCR output delivers precise temperature management.
- Equipped with an international-standard N-type nickel-chromium-silicon thermocouple, supporting a temperature range of 0–1300°C and ensuring long-term reliability.
- Safety power cutoff activates automatically when the furnace door is opened.

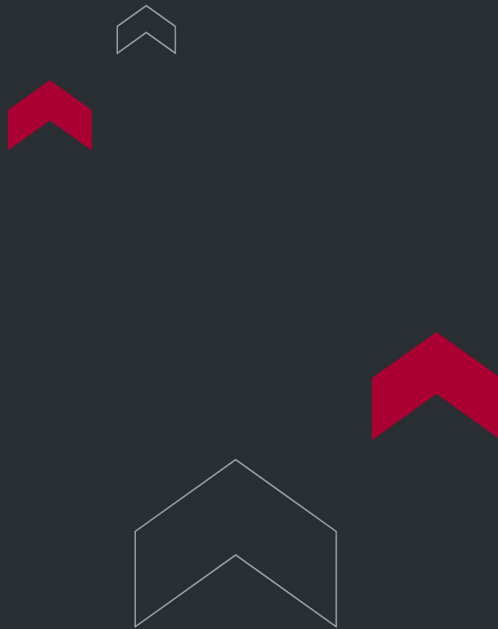
Program Controller

- Advanced controller supports a wide range of process requirements.
- User-friendly interface allows flexible, intuitive programming.
- Stores up to 30 programmable segments for a single heating curve.
- Built-in over-temperature and fault alarms with automatic safety shutoff.

- Optional features include manual air intake and automated clamshell exhaust.
- An optional rapid cooling unit enables controlled air cooling of the chamber to below 400°C.

TECHNICAL SPECIFICATIONS

Model	Chamber size□ mm□	Volume	Rated Temperature	Working temperature	Voltage	Power	Heating Element	Temp control Accracy
TT-IF-45-1200	300×500×300	45L	1200°C	1100°C	380V	12KW	HRE	±1°C
TT-IF-64-1200	400×400×400	64L	1200°C	1100°C	380V	15KW	HRE	±1°C
TT-IF-80-1200	400×500×400	80L	1200°C	1100°C	380V	15KW	HRE	±1°C
TT-IF-96-1200	400×600×400	96L	1200°C	1100°C	380V	18KW	HRE	±1°C
TT-IF-100-1200	400×530×460	100L	1200°C	1100°C	380V	18KW	HRE	±1°C
TT-IF-150-1200	450×530×590	150L	1200°C	1100°C	380V	24KW	HRE	±1°C
TT-IF-200-1200	500×530×720	200L	1200°C	1100°C	380V	27KW	HRE	±1°C
TT-IF-300-1200	550×700×780	300L	1200°C	1100°C	380V	45KW	HRE	±1°C
TT-IF-450-1200	600×750×1000	450L	1200°C	1100°C	380V	50KW	HRE	±1°C
TT-IF-660-1200	600×1100×1000	660L	1200°C	1100°C	380V	60KW	HRE	±1°C
TT-IF-1000-1200	800×1000×1250	1000L	1200°C	1100°C	380V	80KW	HRE	±1°C
TT-IF-1500-1200	900×1200×1400	1500L	1200°C	1100°C	380V	95KW	HRE	±1°C



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