



INDUSTRIAL FURNACE - TT-IF-64-1000A

The Industrial Furnace TT-IF-64-1000A is an advanced air circulation furnace engineered for reliable and consistent thermal processing. Equipped with a high-performance thermal circulation fan and a stainless steel deflector inside the chamber, it ensures uniform temperature distribution during every heating cycle. With a maximum operating temperature of 1000°C and a continuous working temperature of 850°C, this furnace is well-suited for a variety of heat treatment applications, including quenching, tempering, and annealing of metal components.

Its 64-liter chamber capacity and $\pm 1^{\circ}\text{C}$ temperature precision make it ideal for demanding industrial processes, particularly in fields such as metal molding, high-speed steel processing, machining, tooling, and construction material manufacturing. Powered by alloy resistance wire (HRE) heating elements and an N-type thermocouple, the TT-IF-64-1000A combines efficiency, accuracy, and durability to deliver consistent results in both production and research environments.

APPLICATIONS

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- **Metal Heat Treatment** – Provides precise and uniform heating for quenching, tempering, and annealing of metal components. Ensures consistent mechanical properties in steel, alloys, and tooling applications.
- **Metal Molding & Tooling** – Supports heat treatment of molds, dies, and precision tools, delivering durability and hardness required in machining and high-speed steel industries.

- **Construction Materials Processing** – Suitable for thermal processing of structural and construction-related metal components. Guarantees strength, reliability, and long-term performance.
- **Machining & High-Speed Steel** – Enables controlled heat treatment cycles for high-speed cutting tools, ensuring wear resistance, toughness, and dimensional stability.
- **Research & Development** – Ideal for laboratory-scale studies and pilot testing of heat treatment processes. Offers flexibility with programmable temperature control for experimental setups.
- **Industrial Quality Control** – Used for process validation, performance testing, and certification of metal materials. Delivers accurate, reproducible results conforming with ISO, CE, SGS, and TÜV standards.
- **Air Debinding Applications** – Effectively manages the removal of binders from metal or ceramic green parts with controlled air circulation and safe exhaust venting, minimizing combustible atmosphere risks.

FEATURES

- The air circulation furnace supports heating up to 850°C.
- Based on the size and weight of the load, structural options include a manual axial door, automatic lifting door, bottom-loading design, double-door configuration, and other custom setups.
- The chamber lining is available in ceramic fiber modules or mullite brick ceramic materials.
- A high-performance thermal circulation fan is mounted on top of the furnace to deliver strong airflow for optimal heat distribution.

- Stainless steel deflectors on both sides of the chamber help direct hot air circulation, promoting consistent temperature throughout the chamber.
- Stainless steel racks or dividers can be added to segment the furnace space, allowing for multi-level heat treatment.
- During air-based debinding, exhaust gases are diluted with fresh air and safely vented, reducing the risk of a combustible atmosphere inside the furnace.

Program Controller

- Equipped with advanced controllers capable of handling complex process demands
- User-friendly interface with flexible programming
- Supports up to 30 programmable segments in a single heating curve
- Built-in over-temperature protection and fault alarms for safety
- Optional features include manual air intake and automatic exhaust venting
- Rapid cooling control system (optional) enables quick cooling down to 400°C

TECHNICAL SPECIFICATIONS

Model	TT-IF-96-1000	TT-IF-288-1000	TT-IF-640-1000	TT-IF-1200-1000	TT-IF-2160-1000
Chamber size □ W xD xH□ mm	400 x600x400	600 x800x600	800x1000x800	1000x1200x1000	1200 x1500x1200
Max temp.	850°C				
Working temp.	800°C				
Voltage	380V/18KW	380V/30KW	380V/45KW	380V/80KW	380V/150KW
Heating element	High quality alloy resistance wire (HRE)				
Temp precision	±1°C				

Thermocouple	N type thermocouple
Temp. controller	Intelligent microcomputer PID temperature controller, SCR/SSR control, PID parameter self-tuning function; programmable 30 segments, program heating, heat preservation and cooling
Equipment protection	Modular control, sound and light alarm signal will be sent out for over temperature and broken thermocouple in the working process, and the protection action will be completed automatically
Safety protection	The equipment is equipped with a circuit breaker, which will automatically pop open in case of short circuit leakage, which can protect the safety of equipment and operators
Quality Certification	ISO9001 CE SGS TUV
Standard packing	1. furnace body 2. Temperature controller 3. power cable 3 meters 4. Thermocouple 1 pc 5. operation manual 6. one pair of crucible tongs 7. one pair of high temperature gloves



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