



INDUSTRIAL FURNACE - TT-IF-96-1000

TT-IF-96-1000 air circulation furnace features a thermal circulation fan and a stainless steel deflector within the working chamber, ensuring consistent temperature distribution throughout the heating process. It is well-suited for heat treatment applications such as quenching, tempering, and annealing of metal components. This furnace is ideal for use in industries including metal molding, high-speed steel processing, machining, metal tool production, and metal construction materials.

APPLICATIONS

Industrial Furnace – TT-IF-96-1000

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- **Metal Heat Treatment** – Optimized for quenching, tempering, and annealing processes, ensuring consistent mechanical properties in metal parts with precise thermal control.
- **Metal Molding & Tooling** – Suitable for heat treatment of molds, dies, and tools. Enhances durability and performance in metal-forming applications.
- **High-Speed Steel Processing** – Provides uniform heating for cutting tools and high-strength steels, extending their service life and maintaining precision in industrial operations.
- **Machining & Component Manufacturing** – Supports stable heat treatment cycles for precision-machined components, improving dimensional accuracy and structural integrity.

- **Construction Materials Industry** – Applied for processing structural metal parts and components used in construction, ensuring strength and long-term reliability.
- **Air Debinding Applications** – Safely manages binder removal through controlled air dilution and exhaust, minimizing the risk of combustion during thermal processing.
- **Research & Development** – With a 96L chamber and programmable 30-step temperature curves, it is ideal for laboratory-scale testing, pilot studies, and materials innovation projects.
- **Quality Control & Certification** – Provides accurate and repeatable heat treatment cycles for product validation, performance testing, and certification in compliance with ISO, CE, SGS, and TÜV standards.

FEATURES

This air circulation furnace reaches temperatures up to 850°C. Depending on the size and weight of the loaded materials, the furnace structure can be customized with options such as a manual axial door, automatic lifting door, bottom-loading design, double-door setup, and other configurations.

The chamber lining can be built with either ceramic fiber modules or mullite brick materials. A high-flow thermal circulation fan is mounted on top of the furnace, delivering optimal air distribution through forced circulation. Stainless steel deflectors are positioned on both sides of the chamber to guide airflow and ensure a more uniform temperature field.

Optional stainless steel racks or partitions allow for the division of the chamber space to support layered heat treatment of products. During air debinding, fresh air dilutes the exhaust gases before they are released, effectively reducing the risk of explosive conditions within the chamber.

Program Controller Features

- Advanced control systems designed to meet complex process needs
- User-friendly interface with flexible programming
- Supports up to 30 programmable segments per heating curve
- Built-in over-temperature and fault alarms with automatic safety protection
- Optional manual air intake and automatic top exhaust
- Optional rapid cooling system for accelerated cooling when chamber temperature is above 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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