

INDUSTRIAL FURNACE - TT-IF-288-1000



TT-IF-288-1000 air circulation furnace features a thermal circulation fan and a stainless steel deflector within the chamber to ensure even heat distribution. It supports heat treatment processes such as quenching, tempering, and annealing of metal components. This model is well-suited for applications in metal molding, high-speed steel processing, machining, metal tool manufacturing, and the metal construction materials industry.

APPLICATIONS

Industrial Furnace – TT-IF-288-1000

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- **Metal Heat Treatment** – Provides reliable performance for quenching, tempering, and annealing processes. Ensures consistent thermal cycles to enhance hardness, toughness, and durability of metal components.
- **Metal Molding & Tooling** – Ideal for thermal processing of molds, dies, and precision tools. Delivers stable heat treatment results critical for machining and tool manufacturing.
- **High-Speed Steel Processing** – Supports uniform heating of cutting tools and wear-resistant parts, improving strength and extending service life in demanding industrial operations.
- **Construction Materials Industry** – Enables the treatment of structural and construction-related metal parts. Ensures long-term reliability and compliance with performance standards.

- **Machining & Component Manufacturing** – Suitable for precision parts requiring controlled thermal cycles. Enhances dimensional stability and surface integrity in complex metal products.
- **Air Debinding Applications** – Effectively handles binder removal in air with built-in exhaust and airflow systems. Maintains a safe, non-explosive environment during debinding processes.
- **Research & Development** – Supports advanced material studies and pilot-scale production in laboratories. Its programmable controller allows flexible process customization and repeatability.
- **Quality Control & Certification** – Applied in testing and validation of metals and alloys. Delivers accurate, reproducible results compliant with ISO, CE, SGS, and TÜV standards.

FEATURES

- The air circulation furnace supports heating up to 850°C.
- Depending on the size and weight of the materials, the structure can be customized with options such as a manual swing door, automatic lifting door, bottom-loading design, double-door configuration, and other furnace types.
- The chamber can be built with either ceramic fiber modules or mullite brick ceramics, based on application needs.
- A thermal circulation fan is mounted on the top of the furnace, delivering high airflow for optimal heat distribution.
- Stainless steel deflectors on both sides of the chamber enhance airflow and ensure a more uniform temperature throughout.
- Stainless steel racks or dividers can be added to section the furnace chamber, enabling multi-layered heat treatment.
- During debinding in air, waste gases are diluted with fresh air and safely discharged, reducing the risk of an explosive environment inside the furnace.

Program Controller

- Equipped with advanced controls to meet demanding process requirements
- User-friendly interface with flexible programming
- Supports 30 programmable segments for a single temperature curve
- Features over-temperature and system fault alarms with automatic safety shutoff
- Optional manual air intake and automatic exhaust via clamshell mechanism
- Optional rapid cooling system allows fast cooling down to 400°C within the furnace

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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