



INDUSTRIAL FURNACE - TT-IF-36-1200

The Industrial Furnace – TT-IF-36-1200 is a manual-door furnace capable of reaching a maximum temperature of 1200°C. It is specifically designed for heat treatment applications such as quenching, tempering, normalizing, and annealing of metal materials. In addition, it is well-suited for the sintering of non-metallic ceramic components, making it a versatile solution for a variety of thermal processing needs. This model is particularly ideal for small-scale production and pilot testing in both laboratories and industrial environments.

With a compact chamber size of 300 × 400 × 300 mm and a capacity of 36 liters, the TT-IF-36-1200 provides reliable thermal performance for precise material processing. It operates at a continuous working temperature of 1100°C and is powered by a 380V/12 kW system. High-quality HRE heating elements ensure durability and consistent heat distribution, while an N-type thermocouple delivers accurate temperature measurement with a precision of $\pm 1^{\circ}\text{C}$.

APPLICATIONS

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- **Metallurgical Heat Treatment** – Supports critical processes such as quenching, tempering, normalizing, and annealing of metallic components, ensuring durability, strength, and precise microstructural properties.

- **Ceramic and Non-Metallic Sintering** – Suitable for the sintering of ceramic parts, composites, and other non-metallic materials, enabling reliable densification and stability at high temperatures.
- **Research and Development** – Ideal for laboratory and pilot-scale experiments in universities, research institutes, and R&D departments, providing consistent thermal performance for innovative material studies.
- **Small-Scale Production** – Perfect for industrial workshops and small-batch manufacturing environments where accuracy, efficiency, and repeatability are essential.
- **Material Science Studies** – Widely used for controlled thermal testing of new alloys, composites, and functional materials, supporting advanced material research and performance validation.
- **Quality Control and Certification** – Enables precise thermal treatment required for product validation, compliance testing, and certification according to international standards such as ISO, CE, SGS, and TÜV.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel, the shell features an electrostatically resistant, anti-corrosive finish.
- The durable metal frame ensures structural integrity and maintains a low external temperature.
- A side-opening door with a fixed left hinge allows for easy operation.

Refractory

- Designed with multi-layer thermal insulation, including a double-layer lining of lightweight refractory bricks.
- The structure is tightly stacked and interlocked, ensuring strength, low heat loss, and efficient energy use—completely asbestos-free.

Heating System

- High-quality HRE spiral resistance wire elements are wound on ceramic support tubes, delivering efficient radiant heat and long-lasting performance.
- Three-sided heating (left, right, and bottom) ensures even temperature distribution.
- A silicon carbide base plate shields the bottom elements, offering strong mechanical support, excellent thermal conductivity, and horizontal load-bearing capacity.

Temperature Control Panel

- PID control with SCR output provides precise temperature regulation.
- Equipped with an international standard N-type nickel-chromium-silicon thermocouple, supporting a wide range up to 1300°C.
- A built-in safety switch cuts power when the door is opened.

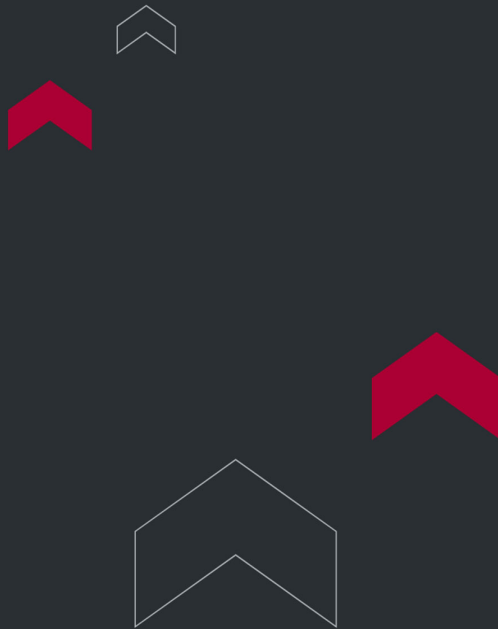
Program Controller

- Advanced control system supports complex thermal processes.
- Intuitive interface allows for easy and flexible programming.
- Capable of running 4 curves with 8 segments each.
- Includes over-temperature and system fault alarms with automatic protection.
- Optional manual air intake and automatic exhaust lid available.
- Rapid cooling system (optional) enables controlled cooling when internal temperature drops below 400°C.

TECHNICAL SPECIFICATIONS

Model	TT-IF-45-1200	TT-IF-64-1200	TT-IF-80-1200	TT-IF-96-1200	TT-IF-100-1200	TT-IF-150-1200	TT-IF-200-1200
Chamber Size (W xD xH□ mm	300 x500x300	400 x400x400	400x500x400	400x600x400	400 x530x460	450 x530x590	500 x530x720
Rated Temperature	1200℃						
Work Temperature	1100℃						
Voltage	380V/12KW	380V/15KW	380V/16KW	380V/18KW	380V/18KW	380V/24KW	380V/27KW
Heating Element	HRE Alloy Resistance Wire						
Chamber Materials	Polycrystalline inorganic alumina ceramic fiber material prepared made by wet vacuum filtration						
Temp control Accracy	±1℃						
Thermcouple	N Type Thermcouple						
Temperature Controller	Intelligent microcomputer PID temperature control instrument, SCR/SSR control, PID parameter self-tuning function .Programmable 4 groups program curves with each program curve with 8 segments totally 32 segments for program heating, program heat preservation, program cooling						
Heating Rate	1-15℃/min can be adjustable						
Furnace Structure	Furnace temperature control integrated structure						
Equipment Protection	Modular control with sound and light alarm signal sending out for over temperature and thermocouple broken 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						

Furnace Shell	High-quality cold-rolled steel plate with CNC machine tool processing, then it will have the process of welding, grinding, polishing, phosphating, pickling, surface electrostatic spraying plastic powder
Quality Certificate	ISO9001 CE SGS TUV
Standard Device	1□ Furnace Main Body : 1 set 2□ Temperature Controller : 1 pc 3□ Power Line : 3 meters 4□ Thermcouple : 1 pc 5□ Operation manual □ 1 pc 6 Crucible Tong □ 1 pc 7□ High Temperature Gloves : 1 pair



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