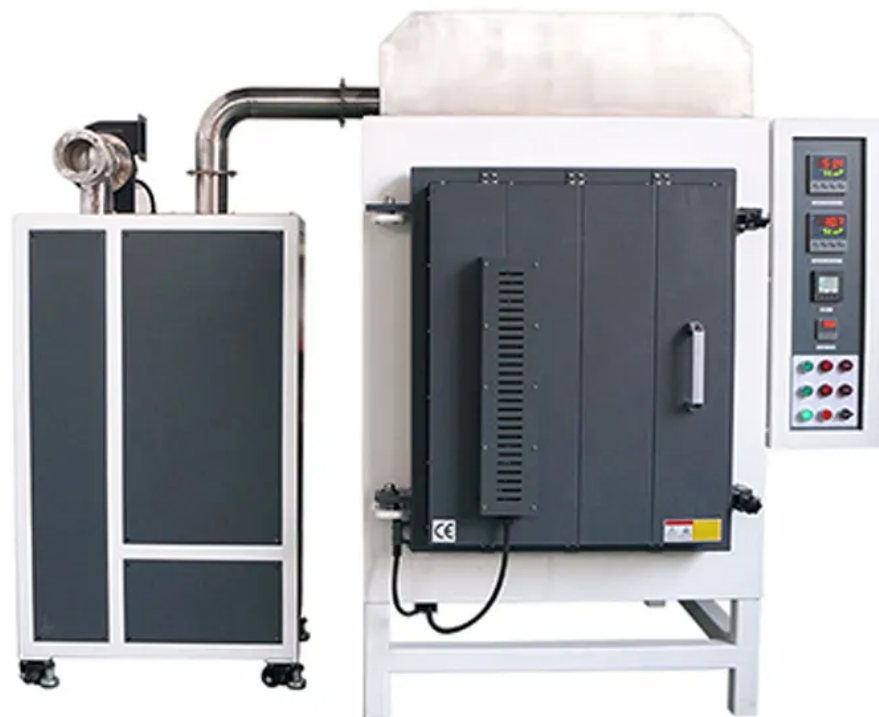




TORONTECH



1200°C MANUAL DOOR BOX FURNACE 150 L

The 1200°C Manual Door Box Furnace 150 L engineered for precision heat treatment applications. Designed with a manual door system, it supports processes such as quenching, tempering, normalizing, and annealing of metal materials. In addition, it is well-suited for sintering non-metallic ceramic materials, making it an excellent choice for small-batch production and pilot testing in both laboratory and industrial environments.

This model features a generous 150-liter chamber capacity, delivering flexibility for a wide range of thermal processes. It operates reliably at a continuous working temperature of 1100°C and can reach a maximum temperature of 1200°C. Powered by a 380V supply, the furnace is equipped with premium HRE heating elements that ensure efficient, uniform heating and long-lasting performance.

For precise process control, the TT-IF-150-1200A is fitted with an N-type thermocouple and a high-accuracy temperature control system with $\pm 1^{\circ}\text{C}$ precision. This combination guarantees consistent results, excellent repeatability, and dependable operation, even under demanding conditions.

APPLICATIONS

- **Metallurgical Heat Treatment** - Enables quenching, tempering, normalizing, and annealing of various steel and alloy components. Ensures mechanical strength, hardness, and durability for industrial applications.
- **Ceramic Sintering** - Supports sintering of non-metallic ceramic materials at high temperatures, providing excellent density, thermal stability, and structural integrity.
- **Tool and Die Manufacturing** - Ideal for heat treatment of molds, dies, and cutting tools, enhancing wear resistance and extending service life.

- **Automotive & Aerospace Components** - Provides controlled thermal processing of engine parts, turbine blades, and structural alloys, ensuring safety, reliability, and compliance with industry standards.
- **Research & Development** - Facilitates experimental studies and pilot-scale production in laboratories. Offers precise temperature control for developing new materials and heat treatment processes.
- **Small Batch Production** - Suitable for low-volume manufacturing environments that require high-quality heat treatment with repeatable performance.
- **Industrial Quality Control** - Used in product testing and certification processes to verify material performance under heat treatment cycles. Supports compliance with ISO, CE, SGS, and TÜV standards.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatic, corrosion-resistant finish
- Reinforced metal frame ensures durability and maintains low surface temperatures
- Side-opening door design with fixed left hinge for easy operation

Refractory

- Multi-layer thermal insulation design
- Double-layer lightweight refractory brick lining, tightly stacked and interlocked for strength
- Asbestos-free design with low heat loss and reduced energy consumption

Heating System

- Premium HRE spiral resistance wire heating elements, mounted on ceramic support tubes, allow free radiant heating inside the chamber—efficient and long-lasting
- Three-sided heating (left, right, and bottom) ensures excellent temperature uniformity
- Silicon carbide base plate protects bottom heating elements, offering strong mechanical support, good thermal conductivity, and horizontal load-bearing capability

Temperature Control Panel

- PID control with SCR output for precise temperature regulation
- N-type nickel-chromium-silicon thermocouple (0–1300°C), built to international standards for extended use
- Safety power cutoff switch activated by furnace door opening

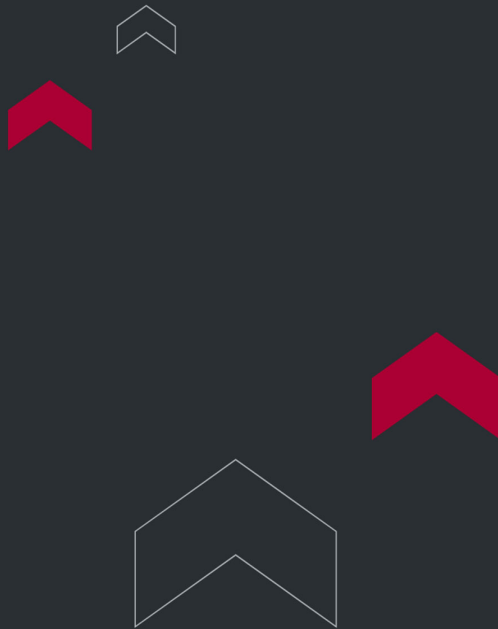
Program Controller

- Advanced controller supports complex heat treatment cycles
- Intuitive interface allows easy, flexible programming
- Up to 30 programmable segments for single temperature curve execution
- Built-in over-temperature and fault alarms with automatic safety functions
- Optional manual air intake and automated exhaust vent (clamshell type)
- Optional rapid cooling system for controlled cooling below 400°C within the furnace

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℃	1100℃	380V	15KW	HRE	±1℃
TT-IF-96-1200	400×600×400	96L	1200℃	1100℃	380V	18KW	HRE	±1℃
TT-IF-100-1200	400×530×460	100L	1200℃	1100℃	380V	18KW	HRE	±1℃
TT-IF-150-1200	450×530×590	150L	1200℃	1100℃	380V	24KW	HRE	±1℃
TT-IF-200-1200	500×530×720	200L	1200℃	1100℃	380V	27KW	HRE	±1℃
TT-IF-300-1200	550×700×780	300L	1200℃	1100℃	380V	45KW	HRE	±1℃
TT-IF-450-1200	600×750×1000	450L	1200℃	1100℃	380V	50KW	HRE	±1℃
TT-IF-660-1200	600×1100×1000	660L	1200℃	1100℃	380V	60KW	HRE	±1℃
TT-IF-1000-1200	800×1000×1250	1000L	1200℃	1100℃	380V	80KW	HRE	±1℃
TT-IF-1500-1200	900×1200×1400	1500L	1200℃	1100℃	380V	95KW	HRE	±1℃



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