



CONTROLLED ATMOSPHERE FURNACE TT-AF-18-1400

1400°C chamber atmosphere furnace features a flange-sealed body for reliable performance. During heat treatment, protective gases such as nitrogen, argon, or oxygen can be introduced for processing carbon, metal, and biomass materials. It is also suitable for sintering ternary lithium battery materials.

APPLICATIONS

- **Medium-High Temperature Processing:** Primary use for controlled heat treatment, annealing, and sintering of materials, featuring a maximum temperature of 1400°C.
- **Lithium Battery and Carbon Materials:** Optimized for the sintering of ternary lithium battery materials and the processing of other components (carbon, metal, biomass) requiring stable thermal cycles up to 1350°C continuous operation.
- **Precise Atmosphere Management:** Features a flange-sealed chamber for reliable processing under protective inert (N₂, Ar) or reactive (O₂) gases, and includes pre-evacuation vacuum capability up to 20,000Pa.
- **Complex Process R&D and Production:** Supports sophisticated, multi-stage processing requirements with a program controller capable of executing up to 30 segments for customized thermal curves.
- **Scalable Industrial Use:** The robust design is suitable for continuous factory production, with chamber volume options available up to 1000L in the series.

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FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatically resistant, anti-corrosion surface.
- Durable tank shell design with a low external surface temperature.
- Flange-sealed furnace door with manual screw compression and side-opening design for easier operation.

Refractory Material

- Multi-layer insulation made of lightweight alumina ceramic fiber and premium insulation boards, providing effective thermal shielding. The material is asbestos-free, minimizing heat loss and reducing energy consumption.

Heating System

- High-quality heating elements are securely installed on both sides of the chamber, delivering free-radiation heating with energy efficiency and long service life.
- Dual-sided (left and right) heating elements ensure excellent temperature uniformity inside the furnace.

Temperature Control Panel

- PID controller with SSR control mode for precise temperature regulation.
- International standard thermocouple designed for extended service life.
- Chamber capacity options up to 1000L, suitable for factory-scale production.

Program Controller

- Advanced controller supports complex process requirements.
- User-friendly interface with flexible programming.
- Programmable with up to 30 segments per curve.
- Over-temperature and fault alarm with automatic safety protection.

Vacuum Atmosphere Function

- Chamber includes adjustable air inlet and outlet ports, allowing the introduction of protective gases.
- Equipped with a high-performance rotary vane vacuum pump capable of achieving 20,000 Pa vacuum.
- Optional gas circuit control unit with 1-3 adjustable flow meters available.

TECHNICAL SPECIFICATIONS

Product Model	Chamber Size □ mm□	Volume	Max Temp	Work Temp	Voltage	Power	Heating Element	Controller Accuracy
TT-AF-8-1200	200×300×120	8L	1200°C	1100°C	220V (110V is also available)	3KW	HRE	±1°C
TT-AF-12-1200	200×300×200	12L	1200°C	1100°C	220V (110V is also available)	4KW	HRE	±1°C
TT-AF-18-1200	250×300×250	18L	1200°C	1100°C	220V (110V is also available)	6KW	HRE	±1°C
TT-AF-30-1200	300×500×200	30L	1200°C	1100°C	380V	7.5KW	HRE	±1°C
TT-AF-8-1400	200×200×200	8L	1400°C	1350°C	220V (110V is also available)	5KW	SIC	±1°C
TT-AF-12-1400	200×300×200	12L	1400°C	1350°C	220V (110V is also available)	5KW	SIC	±1°C
TT-AF-18-1400	250×300×250	18L	1400°C	1350°C	220V (110V is also available)	6KW	SIC	±1°C
TT-AF-36-1400	300×400×300	36L	1400°C	1350°C	380V	12KW	SIC	±1°C
TT-AF-45-1400	300×500×300	45L	1400°C	1350°C	380V	14KW	SIC	±1°C
TT-AF-8-1700	200×200×200	8L	1700°C	1600°C	220V (110V is also available)	5KW	MoSi2	±1°C

TT-AF-12-1700	200×300×200	12L	1700°C	1600°C	220V (110V is also available)	6KW	MoSi2	±1°C
TT-AF-20-1700	250×320×250	20L	1700°C	1600°C	380V	7KW	MoSi2	±1°C
TT-AF-36-1700	300×400×300	36L	1700°C	1600°C	380V	13KW	MoSi2	±1°C



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