



ATMOSPHERE FURNACE TT-AF-45-1200

1200°C chamber atmosphere furnace features a durable flange-sealed design for reliable operation. It supports heat treatment with protective gases such as nitrogen, argon, or oxygen, making it suitable for carbon, metal, and biomass materials. The system is also designed for lithium battery ternary material sintering.

Model No.	TT-AF-45-1200
Inner Dimension (WxDxH MM)	300x500x300
Continuous Temperature	1100°C
Max Temperature	1200°C
Voltage	220V/3kw (110V is also available)
Heating Element	High Quality Alloy Resistance Wire (HRE)
Temperature Precision	±1°C
Thermocouple	N type

APPLICATIONS

- **Large-Volume Batch Processing:** Ideal for heat treatment, annealing, and materials processing in larger batches, featuring a 300 x 500 x 300mm chamber (45 L capacity).
- **Lithium Battery and Carbon Materials:** Effective for sintering ternary lithium battery materials and processing other components (carbon, metal, biomass) that require stable thermal cycles up to 1100°C continuous operation.
- **Precise Atmosphere Management:** Utilizes a flange-sealed chamber to reliably process samples under controlled atmospheres (N2, Ar, O2) or pre-evacuation vacuum, achieving up to 20,000Pa.
- **Complex Process Control:** Supports advanced, multi-stage processing requirements with a program controller capable of executing up to 30 segments for customized thermal curves.

- **Versatile R&D and Production:** Offers a spacious and precise platform suitable for pilot runs and scalable production, with larger chamber options available up to 1000L.

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FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatic, anti-corrosion finish
- Sturdy steel tank structure ensures low surface temperature
- Flange-sealed furnace door with manual screw compression and side-opening design for easier operation

Refractory Material

- Multi-layer insulation using lightweight alumina ceramic fiber and premium insulation boards
- Asbestos-free construction with low heat loss and reduced energy consumption

Heating System

- High-quality heating elements securely mounted on both sides for safe, efficient heat distribution
- Free-radiation heating within the chamber for energy savings and long service life
- Dual-side placement ensures excellent temperature uniformity

Temperature Control Panel

- PID with SSR control mode for accurate temperature regulation
- International-standard thermocouple for durability and reliability
- Chamber sizes available up to 1000L, suitable for industrial-scale production

Program Controller

- Advanced controller to meet complex process requirements
- Simple operation with flexible programming options
- Supports up to 30 programmable segments for a single heating curve
- Over-temperature and fault alarms with automatic safety protection

Vacuum Atmosphere Function

- Chamber includes adjustable air inlet and outlet ports for protective gas input
- High-performance rotary vane vacuum pump achieves up to 20,000 Pa vacuum level
- Optional gas control unit with 1-3 adjustable float meters for precise atmosphere regulation

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℃	1100℃	220V (110V is also available)	3KW	HRE	±1℃
TT-AF-12-1200	200×300×200	12L	1200℃	1100℃	220V (110V is also available)	4KW	HRE	±1℃
TT-AF-18-1200	250×300×250	18L	1200℃	1100℃	220V (110V is also available)	6KW	HRE	±1℃

TT-AF-30-1200	300×500×200	30L	1200℃	1100℃	380V	7.5KW	HRE	±1℃
TT-AF-8-1400	200×200×200	8L	1400℃	1350℃	220V (110V is also available)	5KW	SIC	±1℃
TT-AF-12-1400	200×300×200	12L	1400℃	1350℃	220V (110V is also available)	5KW	SIC	±1℃
TT-AF-18-1400	250×300×250	18L	1400℃	1350℃	220V (110V is also available)	6KW	SIC	±1℃
TT-AF-36-1400	300×400×300	36L	1400℃	1350℃	380V	12KW	SIC	±1℃
TT-AF-45-1400	300×500×300	45L	1400℃	1350℃	380V	14KW	SIC	±1℃
TT-AF-8-1700	200×200×200	8L	1700℃	1600℃	220V (110V is also available)	5KW	MoSi2	±1℃
TT-AF-12-1700	200×300×200	12L	1700℃	1600℃	220V (110V is also available)	6KW	MoSi2	±1℃
TT-AF-20-1700	250×320×250	20L	1700℃	1600℃	380V	7KW	MoSi2	±1℃
TT-AF-36-1700	300×400×300	36L	1700℃	1600℃	380V	13KW	MoSi2	±1℃



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