



TORONTECH



ATMOSPHERE FURNACE TT-AF-64-1700

1700°C chamber atmosphere furnace is built with a flange-sealed body for reliable operation. 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.

Model No.	TT-AF-64-1700
Inner Dimension (WxDxH MM)	400x400x400
Continuous Temperature	1600°C
Max Temperature	1700°C
Voltage	380V/18kw
Heating Element	Molybdenum Disilicide(MoSi2)heater
Temperature Precision	±1°C
Thermocouple	B type

APPLICATIONS

- **Pilot-Scale Production:** Ideal for larger-volume sintering, annealing, and heat treatment processes, featuring a substantial 400 x 400 x 400 mm chamber (64L capacity) suitable for pilot runs or industrial research.
- **Ultra-High Temperature Processing:** Designed for advanced material synthesis, including precursors for ternary lithium-ion batteries, ceramics, metals, and carbon-based materials, maintaining a continuous operating temperature of 1600°C.

- **Controlled Atmosphere Synthesis:** Utilizes a flange-sealed chamber to reliably process materials under protective gas environments (N₂, Ar, O₂) or a low vacuum, achieving up to 20,000 Pa for precise environmental control.
- **Complex Heat Treatment:** Supports sophisticated processing requirements via its advanced program controller, which allows for setting up to 30 segments for repeatable, multi-stage temperature ramps and holds.

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FEATURES

Furnace Shell

- Constructed with Q235 low-carbon steel for strength and durability, featuring an electrostatic-resistant, anti-corrosion surface.
- Robust tank design ensures a low external surface temperature.
- Door with flange-sealed structure and manual screw compression, side-opening design for easier operation.

Refractory Material

- Multi-layer insulation system made of lightweight alumina ceramic fiber and premium insulation boards. Free from asbestos, it delivers excellent heat shielding, minimizes heat loss, and reduces energy consumption.

Heating System

- High-quality heating elements are securely mounted on both sides, providing efficient free-radiation heating with long service life.
- Dual-side heating (left and right) ensures excellent temperature uniformity throughout the chamber.

Temperature Control Panel

- PID with SSR control mode for precise and stable temperature regulation.
- Equipped with an international-standard thermocouple for extended durability.
- Chamber capacities available up to 1000L, ideal for production environments.

Program Controller

- Advanced controllers support complex processing requirements.
- User-friendly interface with flexible programming.
- Programmable with up to 30 segments for a single curve.
- Built-in over-temperature and fault alarms with automatic safety protection.

Vacuum Atmosphere Function

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

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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