



ATMOSPHERE FURNACE TT-AF-180-1200Q

1200°C chamber atmosphere furnace features a flange-sealed structure for reliable performance. During heat treatment, protective gases such as nitrogen, argon, or oxygen can be introduced to process carbon, metal, and biomass materials. It is also suitable for sintering ternary lithium battery materials.

Model No.	TT-AF-180-1200Q
Inner Dimension (WxDxH MM)	180L
Continuous Temperature	1100°C
Max Temperature	1200°C
Voltage	380V/30kw
Heating Element	HRE heater
Temperature Precision	±1°C
Thermocouple	B type

APPLICATIONS

- **Advanced Material Synthesis:** Primary application is the high-temperature treatment and sintering of advanced materials, including precursors for ternary lithium-ion batteries, carbon components, metals, and biomass.
- **Precise Atmosphere Control:** Utilizes a flange-sealed chamber to facilitate processing under inert (N2, Ar) or reactive (O2) gas environments, achieving vacuum levels up to 20,000 Pa.
- **Complex Thermal Profiling:** Equipped with an advanced programmable controller capable of executing up to 30 heating segments for reliable, repeatable, multi-stage processing requirements.
- **High Uniformity & Precision:** Delivers stable thermal conditions up to 1200 degrees C with plus or minus 1 degree C precision, ensuring superior temperature uniformity for sensitive materials processing.

- **Operational Safety & Efficiency:** Features an asbestos-free, multi-layer ceramic fiber insulation system for low heat loss and is constructed with a low-surface-temperature shell and integrated safety alarms.
- **Scalability:** The robust, durable design is suitable for both high-volume industrial production and smaller research demands, with chamber capacity options up to 1000 L.

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FEATURES

Furnace Shell

- Constructed with Q235 low-carbon steel, featuring an electrostatic-resistant and anti-corrosion surface.
- Durable metal tank design with low external surface temperature.
- Flange-sealed furnace door with manual screw compression and side opening for convenient operation.

Refractory Material

- Multi-layer insulation system made of lightweight alumina ceramic fiber and premium insulation boards.

- Asbestos-free design ensures low heat loss and reduced energy consumption.

Heating System

- High-performance heating elements securely installed on both sides of the chamber for efficient, uniform heat distribution.
- Free-radiation heating provides energy savings, high efficiency, and extended service life.

Temperature Control Panel

- PID control with SSR output for precise temperature management.
- Long-lasting thermocouple meeting international standards.
- Chamber capacity options up to 1000L, suitable for industrial-scale production.

Program Controller

- Advanced controller designed for complex processing requirements.
- User-friendly operation with flexible programming.
- Supports up to 30 programmable segments for single-curve processes.
- Equipped with over-temperature and fault alarms with automatic safety protection.

Vacuum Atmosphere Function

- Adjustable air inlet and outlet ports for introducing protective gases.
- High-performance rotary vane vacuum pump capable of achieving 20,000 Pa vacuum level.
- Optional air circuit control unit 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
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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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