



# **HYDROGEN REDUCTION BOX ATMOSPHERE FURNACE TT-AF-64- 1200**

1200°C chamber atmosphere furnace features 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-64-1200                            |
| Inner Dimension (WxDxH MM) | 400x400x400                              |
| 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

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- **Pilot-Scale Batch Processing:** Ideal for general heat treatment, annealing, and materials processing in larger batches, utilizing a generous 400 x 400 x 400mm chamber (64L 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:** Features a **flange-sealed chamber** to reliably process samples under controlled atmospheres (N2, Ar, O2) or pre-evacuation vacuum, achieving up to 20,000 Pa.

- **Complex Process R&D:** Supports sophisticated, multi-stage processing requirements with a program controller capable of executing up to 30 segments for customized thermal curves.
- **Cost-Effective Industrial Option:** Designed for efficiency and durability, offering large-volume capacity and reliable operation using High Quality Alloy Resistance Wire (HRE), suitable for production environments.

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## FEATURES

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### Furnace Shell

- Constructed from Q235 low-carbon steel with an electrostatically resistant, anti-corrosion surface.
- Sturdy metal tank design ensures 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. The design is asbestos-free, minimizing heat loss and energy consumption.

### Heating System

- High-quality heating elements installed securely on both sides of the chamber, delivering free-radiation heating for high efficiency and long service life.
- Dual-side configuration (left and right) ensures excellent temperature uniformity.

### Temperature Control Panel

- PID with SSR control mode for precise temperature regulation.
- International-standard thermocouple with extended service life.
- Chamber volume available up to 1000L, suitable for factory production.

### Program Controller

- Advanced controller for complex process requirements.
- User-friendly interface with flexible programming.
- Supports up to 30 programmable segments for a single curve.
- Over-temperature and fault alarms with automatic safety protection.

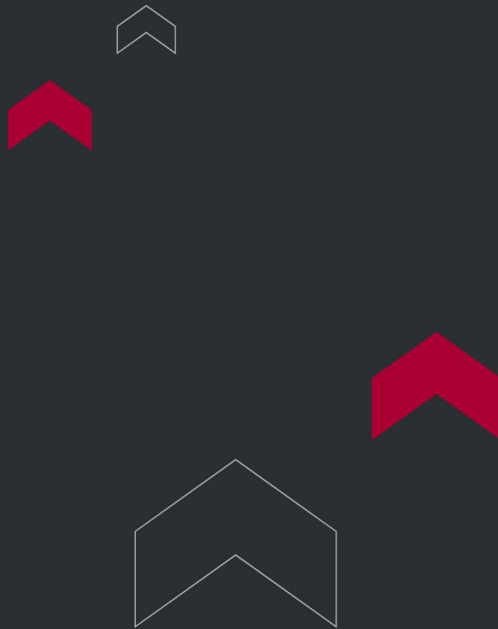
### Vacuum Atmosphere Function

- Adjustable air inlet and outlet ports allow protective gas flow.
- High-performance rotary vane vacuum pump achieves up to 20,000 Pa vacuum level.
- Optional gas circuit control unit with 1–3 adjustable 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°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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