



TORONTECH

VERTICAL SPLIT QUENCH TUBE FURNACE 1400°C - TT- VTF-100-1400



Vertical Split Quench Tube Furnace 1400°C – TT-VTF-100-1400 with a fluid bed delivers consistent, high-quality results. Designed to be compact, lightweight, and easy to transport, it features a split chamber that provides quick and convenient access to the tube. The standard package includes stainless steel vacuum-sealing flanges with valves and a pressure gauge.

APPLICATIONS

Vertical Split Quench Tube Furnace 1400°C – TT-VTF-100-1400

Vertical Split Quench Tube Furnace 1400°C – TT-VTF-100-1400

Vertical Split Quench Tube Furnace 1400°C – TT-VTF-100-1400

- **Advanced Ceramic Materials** – Enables high-temperature sintering, densification, and rapid quenching of ceramic materials. Ensures excellent thermal resistance, durability, and mechanical strength for both research and industrial-scale applications.
- **Nanomaterials Research** – Provides precise and uniform thermal treatment of nanopowders, composites, and thin films. Supports R&D in nanostructured materials for electronics, catalysis, and energy storage.
- **Semiconductor Processing** – Facilitates controlled annealing, oxidation, diffusion, and quenching of semiconductor wafers. Ensures precise thermal control essential for microelectronics and optoelectronics applications.

- **Powder Metallurgy** – Supports sintering and quenching of metal powders into dense, uniform components. Widely used in prototype development, alloy research, and high-performance manufacturing.
- **Petrochemical & Chemical Research** – Suitable for catalyst activation, thermal decomposition, and high-temperature reaction studies under vacuum or controlled atmospheres. Provides reproducible results for laboratory and industrial R&D.
- **Aerospace Materials Engineering** – Enables thermal processing and rapid cooling of advanced alloys, ceramics, and composites. Ensures strength validation and thermal stability of aerospace-grade materials under extreme conditions.
- **Energy & Battery Research** – Delivers controlled heating and quenching for solid-state electrolytes, cathode/anode materials, and next-generation battery components. Ensures performance consistency and reliability in energy storage development.
- **Universities & Research Institutes** – Ideal for advanced academic research and training in materials science, chemistry, and engineering. Compact design with versatile controls supports a wide range of experiments.
- **Industrial Quality Control & Certification** – Provides ultra-high temperature testing and quenching for compliance, certification, and product validation. Meets ISO, CE, SGS, and TÜV requirements for regulated industries.

FEATURES

Furnace Shell

- Constructed from Q235 low-carbon steel, the shell features an electrostatically coated surface that resists corrosion.
- A solid, double-layer metal frame is integrated with a heat-insulated fan structure, ensuring the outer surface remains cool.
- Designed for vertical operation with a side-opening lid for easy handling.

Refractory Material

- Built with a multi-layer insulation system consisting of lightweight alumina ceramic fiber and high-quality insulation board.
- Free of asbestos, the structure minimizes heat loss and supports energy efficiency.

Heating System

- Fitted with high-performance heating elements that provide radiant heat evenly throughout the chamber—optimized for energy efficiency and long operational life.
- Heating elements are evenly positioned to ensure consistent temperature distribution.

Temperature Control Panel

- Equipped with advanced controllers designed for complex thermal processes.
- Supports up to 30 programmable segments for precise, automatic temperature control.
- Includes over-temperature and fault alarms for automatic safety protection.

Program Controller

- Designed for straightforward operation with intuitive programming.
- Allows up to 30 customizable steps for temperature profiling.
- Features integrated alarms and safety mechanisms for fault and temperature monitoring.

Electromagnetic Hanging Sample System

- The upper sealing flange includes a hook linked to an electromagnet, which is relay-controlled.

- A sealing flange at the base connects to a high-vacuum baffle valve and water or oil tank for high-temperature quenching operations.
- The 304 stainless steel sealing flange helps maintain a vacuum or controlled atmosphere within the furnace tube.
- Compatible with high-quality quartz tubes, as well as metal or alumina ceramic tubes, depending on specific operational needs.

TECHNICAL SPECIFICATIONS

Product Model	Heating zone □ mm□	Furnace Tube Size (mm)	Maximum Temperature	Working Temperature	Voltage	Power	Heating element	Temperature Control Accuracy
TT-VTF-60-1200	440	Φ60×1000	1200℃	1100℃	220V (110V is also available)	3KW	HRE	±1℃
TT-VTF-80-1200	440	Φ80×1000	1200℃	1100℃	220V (110V is also available)	4KW	HRE	±1℃
TT-VTF-100-1200	440	Φ100×1000	1200℃	1100℃	220V (110V is also available)	4KW	HRE	±1℃
TT-VTF-150-1200	500	Φ150×1200	1200℃	1100℃	380V	8KW	HRE	±1℃
TT-VTF-60-1400	300	Φ60×1000	1400℃	1350℃	220V (110V is also available)	3KW	SIC	±1℃
TT-VTF-80-1400	300	Φ80×1000	1400℃	1350℃	220V (110V is also available)	4KW	SIC	±1℃
TT-VTF-100-1400	300	Φ100×1000	1400℃	1350℃	220V (110V is also available)	5KW	SIC	±1℃
TT-VTF-60-1700	300	Φ60×1000	1700℃	1600℃	220V (110V is also available)	4KW	MoSi2	±1℃

TT-VTF-80-1700	300	Φ80×1000	1700℃	1600℃	220V (110V is also available)	5KW	MoSi2	±1℃
TT-VTF-100-1700	300	Φ100×1000	1700℃	1600℃	220V (110V is also available)	5KW	MoSi2	±1℃



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 🇨🇦

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 🇺🇸

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 🇦🇪

Phone: +971 488 19252
Email: me@torontech.com

