

BOGIE HEARTH FURNACE TT-BHF-455- 1400



The 1400°C Bogie Hearth Furnace – TT-BHF-455-1400 is engineered for sintering large materials or supporting small-scale production with reliable, consistent results. Constructed using high-performance furnace components and advanced assembly techniques, it delivers stable temperature control up to 1200°C, with a maximum working temperature of 1300°C. A smart, automated trolley system ensures smooth material handling and uniform heat treatment, making it suitable for continuous operation in research or production environments.

This furnace is ideal for processing advanced materials such as metals, ceramics, nanomaterials, and semiconductors. It operates on 380V/30 kW and uses durable silicon carbide (SiC) rods as heating elements. Temperature is monitored with an N-type thermocouple, providing $\pm 1^{\circ}\text{C}$ precision for reproducible and reliable thermal processing.

Model No.	TT-BHF-455-1400
Chamber Volume	455L
Continuous Temperature	1200°C
Max Temperature	1300°C
Voltage	380V/30kw
Heating Element	Silicon Carbide Rods(SiC)
Temperature Precision	$\pm 1^{\circ}\text{C}$
Thermocouple	N type

APPLICATIONS

- **Advanced Ceramic Materials** – Enables high-temperature sintering and densification of ceramics, ensuring excellent structural integrity, thermal resistance, and mechanical strength for both industrial production and research

applications.

- **Nanomaterials Research** – Provides precise, uniform thermal processing for nanostructured materials and advanced composites. Supports R&D in functional nanomaterials for electronics, catalysis, and energy storage applications.
- **Semiconductor Materials** – Facilitates annealing, diffusion, and oxidation of semiconductor substrates at ultra-high temperatures. Ensures precise temperature control critical for microelectronics, optoelectronics, and device development.
- **Powder Metallurgy** – Supports high-temperature sintering of metal powders into dense, uniform components. Widely used for producing complex geometries and advanced alloys in both laboratory research and industrial manufacturing environments.
- **Petrochemical & Chemical Laboratories** – Suitable for catalyst activation, thermal decomposition, and reaction mechanism studies requiring temperatures up to 1400°C. Delivers reproducible and accurate results for chemical R&D processes.
- **Aerospace Materials Engineering** – Enables testing and processing of high-performance alloys, ceramics, and composites used in aerospace applications. Ensures thermal stability, mechanical strength, and quality verification under extreme operating conditions.
- **Energy & Battery Research** – Provides thermal treatment for solid-state electrolytes, lithium-ion battery electrodes, and next-generation energy storage systems. Guarantees high-temperature stability and uniform thermal processing in energy materials research.

- **Universities & Research Institutes** – Ideal for advanced studies in physics, chemistry, materials science, and engineering. Offers versatile programming, consistent performance, and robust safety features for academic laboratories.
- **Industrial Quality Control & Certification** – Delivers ultra-high temperature testing for product validation, compliance verification, and certification. Conforms with ISO, CE, SGS, and TÜV standards to meet regulatory requirements across industries.

FEATURES

- The furnace features a multi-layer insulation system using lightweight refractory bricks or ceramic fiber linings with a durable structure, high-strength assembly, and no asbestos content. This design minimizes heat loss and reduces energy consumption.
- Heating is applied from three sides—left, right, and bottom—to ensure even temperature distribution throughout the chamber.
- A silicon carbide bottom plate reinforces the base, providing strong mechanical support, excellent thermal conductivity, and reliable horizontal load-bearing capability.

The bottom-mounted trolley moves smoothly without impact, while materials are loaded from below on a movable workbench.
- The system can be customized to meet specific process requirements.

It includes an advanced control system for accurate temperature regulation.
An automatic flip-type exhaust port at the top allows for effective material debinding.
A circulation fan mounted on the furnace top helps maintain uniform temperature across the chamber.
- A rapid cooling unit is available for controlled cooling down to 400°C, along with optional manual or automatic air intake control modules.

TECHNICAL SPECIFICATIONS

Model	Chamber size□ mm□	Volume	Max temp.	Working temp.	Voltage	Power	Heating element	Temp precision
TT-BHF-96-1200	400×600×400	96L	1200℃	1100℃	380V	18KW	HRE	±1℃
TT-BHF-288-1200	600×800×600	288L	1200℃	1100℃	380V	30KW	HRE	±1℃
TT-BHF-640-1200	800×1000×800	640L	1200℃	1100℃	380V	45KW	HRE	±1℃
TT-BHF-1200-1200	1000×1200×1000	1200L	1200℃	1100℃	380V	80KW	HRE	±1℃
TT-BHF-2160-1200	1200×1500×1200	2160L	1200℃	1100℃	380V	150KW	HRE	±1℃
TT-BHF-96-1400	400×600×400	96L	1400℃	1300℃	380V	21KW	SIC	±1℃
TT-BHF-288-1400	600×800×600	288L	1400℃	1300℃	380V	30KW	SIC	±1℃
TT-BHF-640-1400	800×1000×800	640L	1400℃	1300℃	380V	50KW	SIC	±1℃
TT-BHF-1200-1400	1000×1200×1000	1200L	1400℃	1300℃	380V	100KW	SIC	±1℃
TT-BHF-2160-1400	1200×1500×1200	2160L	1400℃	1300℃	380V	200KW	SIC	±1℃
TT-BHF-96-1700	400×600×400	96L	1700℃	1600℃	380V	25KW	MoSi2	±1℃
TT-BHF-288-1700	600×800×600	288L	1700℃	1600℃	380V	50KW	MoSi2	±1℃
TT-BHF-640-1700	800×1000×800	640L	1700℃	1600℃	380V	80KW	MoSi2	±1℃
TT-BHF-1200-1700	1000×1200×1000	1200L	1700℃	1600℃	380V	150KW	MoSi2	±1℃
TT-BHF-2160-1700	1200×1500×1200	2160L	1700℃	1600℃	380V	300kw	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

