



DENKIRO

ECONOMY RANGE OF LABORATORY FURNACES



DENKIRO



About Us

With over two decades of expertise, VBCC High Temperature Instruments Pvt. Ltd., previously known as VB Ceramic Consultants, is India's leading manufacturer of Furnaces, Analytical Instruments, Laboratory Equipment, and Material Processing Equipment. Established in 2002, our unwavering commitment to excellence has earned the trust of diverse clientele, including prestigious universities, research organizations, and thriving industries.

At VBCC, our dedicated team delivers comprehensive solutions across the industry spectrum, offering superior products and essential technical expertise through tailored turnkey solutions. With over 22 years of experience, we have installed more than 15,000 products and serve over 500 esteemed clients.

Mission

- Deliver innovative and High-Quality Furnaces, Analytical Instruments, Laboratory Equipment, and Material Processing Equipment.
- Exceed customer expectations through excellence in engineering and unparalleled technical expertise.
- Provide dedicated customer service and tailored turnkey solutions.
- Support the diverse needs of clients, fostering advancements in research, industry, and education.

Vision

- Be the global leader in high-temperature instrument manufacturing.
- Maintain an unwavering commitment to quality, innovation, and customer satisfaction.
- Continuously expand technological capabilities and product offerings, setting new industry standards.
- Contribute to the success of clients and the advancement of science and industry worldwide through sustainable practices and continuous improvement.



The “Tailor Made” Promise

At VBCC, we understand that each client has unique requirements that may extend beyond our standardized product offerings. Our "Tailor-Made" promise ensures that we customize our designs to meet your specific needs. Whether it involves modifying existing products or creating entirely new solutions, our team of experts works closely with you to understand your challenges and deliver equipment that perfectly aligns with your operational goals. With a focus on flexibility and innovation, we provide bespoke solutions that enhance efficiency, precision, and performance, ensuring your complete satisfaction and success.

Denkiro

Denkiro is the dedicated sub-brand for electric furnaces under VBCC, embodying precision, efficiency, and innovation in thermal processing. Denkiro electric furnaces are designed to meet the high demands of various industries, offering reliable performance and cutting-edge technology. With a focus on energy efficiency, superior temperature control, and customizable features, Denkiro furnaces are ideal for applications ranging from research labs to industrial-scale operations. By combining advanced materials with smart design, Denkiro ensures optimal results, helping customers achieve their goals in metallurgy, ceramics, and beyond.

Our Team

Welcome to VBCC High Temperature Instruments!

Our leadership, CEO Naveen and Dr. V. Viswabaskaran, brings over 32 years of combined expertise in the field, expertly blending experience with cutting-edge innovation. Our skilled team, including specialists in Ceramic, Mechanical, and Electrical Engineering, creatively tackles challenges, ensuring excellence in high-temperature equipment. We are committed to innovation, strong client relationships, and customer satisfaction. Join us as we advance the technology of high-temperature instruments and innovate to make a significant impact.



NAVEEN VISWABASKARAN
CEO & Managing Director



DR.V.VISWABASKARAN
CTO & Director



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Box Furnace / Muffle Furnace



Compact Design: Space-saving dimensions ranging from 150 x 150 x 150 mm to 300 x 300 x 300 mm, offering versatility to accommodate various sample sizes and quantities.

High-Quality Construction: Double-wall construction with MS body and angle structure ensures durability and stability, while the powder coat painting enhances aesthetics and corrosion resistance.

Efficient Heat Retention: Stainless steel door with sophisticated insulation system minimizes heat loss, equipped with a chain mechanism for smooth and reliable operation.

Front-Loading Convenience: Horizontal front-loading design facilitates easy loading and unloading of samples, optimizing workflow efficiency.

High-Performance Heating Elements: Employs APM Kanthal heating elements, providing reliable heating performance up to 1200°C for continuous operation. Designed to accommodate different heating element materials such as silicon carbide for 1400°C and Super Kanthal from 1600°C.

Precise Temperature Control: TAIE microprocessor-based PID- 18*8=144 Segments offers precise temperature regulation with an accuracy of ±1°C, ensuring optimal process control.

Rapid Heating/Cooling: Capable of achieving heating/cooling rates from 1 to 10°C per minute, enabling quick ramp-up and cooldown times for efficient processing.

User-Friendly Interface: Intuitive control switches for mains and output, along with digital temperature display and ammeters, provide easy operation and monitoring.

Reliable Temperature Sensing: 'K' type thermocouples (Chromel/Alumel) ensure accurate temperature measurement, essential for consistent results.

Safe Operation: Equipped with input and output fuses for added safety, ensuring protection against electrical faults.

Adaptable Power Requirements: Single-phase operation at 230V AC with a maximum power requirement of 4 kW, offering flexibility in power supply arrangements.

Customizable Heating: Allows for precise control of the heating process through phase angle-controlled thyristors imported from SEMIKRON, Italy, ensuring stable and efficient power management.

Wide Temperature Range: Capable of operating at a maximum temperature of 1800°C, ideal for a variety of heat treatment and material testing applications.

Versatile Applications: Suitable for a range of industrial and laboratory applications, including annealing, sintering, and material research, offering reliable performance and consistent results.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimension	Max Power	Phase	Weight
BF 3/12	1200 C	150*150*150	3.375 L	550*550*800	4 Kw	1 phase	100
BF 5/12	1200 C	150*150*200	4.5 L	550*550*800	4 Kw	1 phase	100
BF 8/12	1200 C	200*200*200	8 L	550*550*800	4 Kw	3 phase	120
BF 12/12	1200 C	200*200*300	12 L	600*600*900	4 Kw	3 phase	120
BF 27/12	1200 C	300*300*300	27 L	700*700*900	4 Kw	3 phase	150
BF 3/14	1400 C	150*150*150	3.375 L	550*550*800	4 Kw	1 phase	100
BF 6/14	1400 C	150*150*200	4.5 L	550*550*800	4 Kw	1 phase	100
BF 8/14	1400 C	200*200*200	8 L	550*550*800	4 Kw	3 phase	120
BF 12/14	1400 C	200*200*300	12 L	600*600*900	6 Kw	3 phase	120
BF 27/14	1400 C	300*300*300	27 L	700*700*900	8 Kw	3 phase	150
BF 3/16	1600 C	150*150*150	3.375 L	550*550*800	4 Kw	2 phase	150
BF 5/16	1600 C	150*150*200	4.5 L	550*550*800	4 Kw	2 phase	150
BF 8/16	1600 C	200*200*200	8 L	550*550*800	4 Kw	3 phase	175
BF 12/16	1600 C	200*200*300	12 L	600*600*900	6 Kw	3 phase	200
BF 27/16	1600 C	300*300*300	27 L	700*700*900	8 Kw	3 phase	200
BF 3/17	1700 C	150*150*150	3.375 L	550*550*800	4 Kw	2 phase	150
BF 5/17	1700 C	150*150*200	4.5 L	550*550*800	4 Kw	2 phase	150
BF 8/17	1700 C	200*200*200	8 L	550*550*800	4 Kw	3 phase	175
BF 12/17	1700 C	200*200*300	12 L	600*600*900	6 Kw	3 phase	200
BF 27/17	1700 C	300*300*300	27 L	700*700*900	8 Kw	3 phase	200

Box Type Vacuum Furnace



Robust Shell Construction: Engineered with a double-wall MS body and MS angle structure, the furnace boasts dimensions will be according to Customer Requirement offering ample space for thermal processing tasks.

Advanced Door Design: Featuring a stainless steel door with proper insulation and a chain mechanism for smooth operation, the furnace minimizes heat loss, ensuring efficient thermal processing.

Integrated Control Panel: The control panel is conveniently integrated into the furnace, providing easy access to temperature and process controls for seamless operation.

Efficient Insulation: High alumina bricks and mechanically pressed blend ceramic fiber insulation ensure superior heat retention and uniform thermal distribution throughout the chamber.

Vacuum Chamber: Equipped with a vacuum chamber measuring 210 mm (L) x 210 mm (B) x 150 mm (H), constructed with special alloy material to withstand vacuum conditions.

Precise Vacuum Control: Achieve vacuum levels as low as 10-1 mbar at room temperature with the included vacuum attachment, ensuring optimal processing conditions for sensitive materials.

Controlled Atmosphere Fittings: Stainless steel (SS310) fittings with water cooling arrangement and Whiton 'o' rings enable precise control over the atmosphere within the chamber, ideal for purging multiple gases.

Advanced Heating System: Utilizing APM grade Kanthal heating elements, the furnace operates on single-phase power (230V/AC), delivering up to 4 kW of power for temperatures up to 500°C.

Temperature Control: Equipped with a TAIE microprocessor-based PID programmer- 18*8=144 Segments and digital temperature controller, coupled with 'K' type thermocouples for precise temperature control with an accuracy of ±1°C.

Integrated Safety Features: The furnace includes input and output fuses, ensuring safe and reliable operation during thermal processing.

Vacuum Pump: A Thosniwal vacuum pump with a capacity of 120 liters and vacuum levels of 10-1 mbar, monitored via an analog gauge, ensures efficient vacuum operation.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimension	Max Power	Phase	Weight
BVF 3/10	1000 C	150*150*150	3.375 L	600*600*1400	4 Kw	2 phase	50
BVF 5/10	1000 C	150*150*250	5.625 L	600*600*1400	4 Kw	2 phase	50
BVF 3/12	1200 C	150*150*150	3.375 L	600*600*1400	4 Kw	2 phase	50
BVF 5/12	1200 C	150*150*250	5.625 L	600*600*1400	4 Kw	2 phase	50
Graphite Furnace							
GF 1/16	1600 C	100*100*100	1 L	800 *800 *1500	8 Kw	3 phase	200
GF 3/16	1600 C	150*150*250	3.375 L	800 *800 *1500	8 Kw	3 phase	200
GF 5/16	1600 C	150*150*250	5.625 L	800 *800 *1500	8 Kw	3 phase	200
GF 1/18	1800 C	100*100*100	1 L	800 *800 *1500	8 Kw	3 phase	200
GF 3/18	1800 C	150*150*250	3.375 L	800 *800 *1500	8 Kw	3 phase	200
GF 5/18	1800 C	150*150*250	5.625 L	800 *800 *1500	8 Kw	3 phase	200
GF- 1/20	2000 C	100*100*100	1 L	800 *800 *1500	8 Kw	3 phase	200
GF- 3/20	2000 C	150*150*250	3.375 L	800 *800 *1500	8 Kw	3 phase	200
GF- 5/20	2000 C	100*100*100	5.625 L	800 *800 *1500	8 Kw	3 phase	200

Raising Hearth Furnace



Versatile Bottom Loading Design: This raising hearth furnace features a bottom loading design, ideal for ease of use and efficient sample loading and unloading.

Robust Construction: The furnace is built with a high-quality mild steel body and structure, ensuring durability and longevity, even under high-temperature operations.

High-Temperature Capability: Capable of reaching a Upto maximum temperature of 1700°C, making it suitable for a wide range of high-temperature applications.

Efficient Heating System: Features APM Kanthal heating elements, delivering reliable heating performance up to 1200°C for continuous operation. For 1400 degree it is Silicon Carbide, and from 1600 degree or more than that it is Super Kanthal.

Precision Temperature Control: Features an imported TAIE PID- 18*8=144 Segments microprocessor-based digital temperature controller programmable heating profiles.

Efficient Insulation: The double-wall structure and advanced insulation materials maintain skin temperatures just above ambient, enhancing safety and energy efficiency.

Automated Operations: Fully automated raising, lowering, and tilting mechanisms powered by motorized systems for seamless operation.

Reliable Power Control: Phase angle controlled thyristor drive with current feedback ensures accurate power management and stable furnace operation.

Separate Control Panel: A dedicated control panel with digital ammeters and multiple indicators for easy monitoring and operation.

Safety Features: Equipped with comprehensive safety features including input/output fuses and robust mechanical construction to ensure safe and reliable performance.

Enhanced User Safety: The furnace's design includes sophisticated door mechanisms and high-quality insulation to minimize heat loss and maintain a safe operating environment for users.

Energy Efficiency: With advanced insulation and efficient heating elements, the furnace ensures optimal energy consumption, reducing operational costs.

Flexible Temperature Range: The furnace offers a wide working temperature range up to 1600°C, making it suitable for various industrial applications including material testing, heat treatment, and research.

Superior Thermal Stability: The use of high-grade materials and precise temperature control systems ensures consistent thermal stability and repeatable results in high-temperature processes.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimension	Max Power	Phase	Weight
RHF 3/12	1200 C	150*150*150	3.375 L	550*550*1400	4 Kw	1 phase	75
RHF 5/12	1200 C	150*150*200	4.5 L	550*550*1400	4 Kw	1 phase	75
RHF 8/12	1200 C	200*200*200	8 L	550*550*1400	4 Kw	3 phase	75
RHF 12/12	1200 C	200*200*300	12 L	600*600*1400	6 Kw	3 phase	105
RHF 27/12	1200 C	300*300*300	27 L	700*700*1400	8 Kw	3 phase	135
RHF 3/14	1400 C	150*150*150	3.375 L	550*550*1400	4 Kw	1 phase	75
RHF 5/14	1400 C	150*150*200	4.5 L	550*550*1400	4 Kw	1 phase	75
RHF 8/14	1400 C	200*200*200	8 L	550*550*1400	4 Kw	3 phase	75
RHF 12/14	1400 C	200*200*300	12 L	600*600*1400	6 Kw	3 phase	105
RHF 27/14	1400 C	300*300*300	27 L	700*700*1400	8 Kw	3 phase	135
RHF 3/16	1600 C	150*150*150	3.375 L	550*550*1400	4 Kw	2 phase	75
RHF 5/16	1600 C	150*150*200	4.5 L	550*550*1400	4 Kw	2 phase	75
RHF 8/16	1600 C	200*200*200	8 L	550*550*1400	4 Kw	3 phase	75
RHF 12/16	1600 C	200*200*300	12 L	600*600*1400	6 Kw	3 phase	105
RHF 27/16	1600 C	300*300*300	27 L	700*700*1400	8 Kw	3 phase	135
RHF 3/17	1700 C	150*150*150	3.375 L	550*550*1400	4 Kw	2 phase	75
RHF 5/17	1700 C	150*150*200	4.5 L	550*550*1400	4 Kw	2 phase	75
RHF 8/17	1700 C	200*200*200	8 L	550*550*1400	4 Kw	3 phase	75
RHF 12/17	1700 C	200*200*300	12 L	600*600*1400	6 Kw	3 phase	105
RHF 27/17	1700 C	300*300*300	27 L	700*700*1400	8 Kw	3 phase	135

Thermal Cycling Furnace



Extreme Temperature Capability: The Thermal Cycle furnace is engineered to reach temperatures up to 1600 degrees Celsius, empowering precise thermal cycling and material processing in demanding applications.

Versatile Single Chamber Design: Dimensions according to customer requirement, the single chamber configuration offers versatility for a wide range of heating and processing tasks.

Versatile Single Chamber Design: Featuring a sophisticated TAIE PID-18*8=144 Segments programmer and digital temperature controller, the Thermal Cycle ensures precise temperature regulation with an accuracy of 1°C, even at extreme temperatures.

Robust Construction: Crafted with a double-wall MS body and angle structure, fortified with proper stiffeners and powder coat painting, the Thermal Cycle guarantees durability and sustained performance under high-temperature conditions.

Efficient Insulation: Utilizing high-quality alumina bricks and mechanically pressed fiber blanket insulation, this furnace maintains uniform temperatures and minimizes heat loss, ensuring consistent and reliable operation during thermal cycling.

Enhanced Door Design: Equipped with a stainless steel door featuring proper insulation to mitigate heat loss, the Thermal Cycle ensures energy efficiency and stable operation throughout the thermal cycling process.

Convenient Sample Loading: The furnace accommodates sample loading with ease, utilizing a sample holder placed at the bottom of the furnace door, fully lined with mullite blocks for effortless loading and unloading.

Integrated Compressor: With an inbuilt compressor boasting a maximum pressure of 6kg/cm², the Thermal Cycle supports pneumatic cylinders for smooth and reliable door movement during thermal cycling operations.

PLC-Based Automation: Leveraging PLC-based operation, the Thermal Cycle offers automated control and seamless integration with other system components, enabling precise control and monitoring even under extreme temperature conditions.

High-Performance Heating Elements: Incorporating eight solid-type silicon carbide heating elements imported from ISQUARED R, USA, the Thermal Cycle delivers efficient heating up to 1600 degrees Celsius, crucial for high-temperature thermal cycling processes.

Flexible Power Requirements: Operating on 415V AC with a total power of 4kW, the Thermal Cycle ensures ample power supply to maintain high temperatures consistently and reliably.

Intuitive Control Panel: The control panel features indicators for ammeter, mains, and output, along with control switches, offering intuitive operation and control over the thermal cycling process.

Streamlined Process Automation: Through PLC integration with Omron/Fuji or equivalent HMI, the Thermal Cycle enables streamlined process automation and control, enhancing efficiency and productivity in thermal cycling applications.

Robust PLC Configuration: With 8 input and output points featuring photo-coupler insulation, the PLC ensures reliable operation and data transmission, critical for maintaining process stability during thermal cycling.

User-Friendly Interface: The 7" wide HMI boasts a TFT color display, touch screen operation, and RS-232C communication, providing a user-friendly interface for easy monitoring and control.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
TCF 6/16	1600 C	200*200*150	6 L	600*600*600	4 Kw	1 Phase	100

Multiple stations can be arranged according to customer requirements

Tubular Furnace



High-Temperature Performance: Engineered to withstand temperatures ranging from up to 1800°C, catering to a wide range of high-temperature applications.

Robust Shell Construction: Crafted with MS body and angles, fortified with stiffeners, ensuring structural integrity and longevity even under extreme conditions.

Precise Gas Control: Equipped with two rotameters for accurate gas purging, allowing precise control over the atmosphere within the furnace chamber.

Durable Tubular Material: Utilizes recrystallized alumina tubing with zero porosity, capable of withstanding temperatures up to 1800°C, ensuring durability and reliability.

Versatile End Flanges: End flanges feature stainless steel or aluminium fittings with water cooling arrangement and O-ring seals, suitable for vacuum and multi-gas purging applications.

Efficient Heating System: Features APM Kanthal heating elements delivering reliable heating performance up to 1200°C for continuous operation. For 1400 degree it is Silicon Carbide, and from 1600 degree or more than that it is Super Kanthal.

Advanced Temperature Control: Incorporates TAIE PID- 18*8=144 Segments programmer and K-type thermocouple for precise temperature control with an accuracy of ±1°C, ensuring consistent results.

Flexible Power Control: Utilizes phase angle-controlled thyristors for efficient power regulation, enhancing temperature stability and control.

Comprehensive Indications: Includes ammeter, mains indicator, and output indicator for easy monitoring of furnace operation and performance.

Convenient Control Switches: User-friendly control switches for mains and output enable easy operation and adjustment of furnace settings.

Enhanced Safety Features: Equipped with input and output fuses for enhanced safety during operation, protecting both the equipment and the user.

Wide Heating Range: Offers a heating rate from 10°C to 100°C, providing flexibility for various heating processes and experimental conditions.

Model	Max Temperature	Tube	ID*OD*L	Hot Zone length (mm)	Outer Dimension	Max Power	Phase	Weight
TF 55/200/12	1200 C	Quartz	55*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 65/200/12	1200 C	Quartz	65*70*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 75/200/12	1200 C	Quartz	75*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 50/200/12	1200 C	Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 60/200/12	1200 C	Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 70/200/12	1200 C	Alumina	70*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 50/200/14	1400 C	Recrystalline Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 60/200/14	1400 C	Recrystalline Alumina	60*70*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 70/200/14	1400 C	Recrystalline Alumina	70*80*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 80/200/14	1400 C	Recrystalline Alumina	80*90*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 50/200/16	1600 C	Recrystalline Alumina	50*60*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 60/200/16	1600 C	Recrystalline Alumina	60*70*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 70/200/16	1600 C	Recrystalline Alumina	70*80*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 80/200/16	1600 C	Recrystalline Alumina	80*90*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 50/200/17	1700 C	Recrystalline Alumina	50*60*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 60/200/17	1700 C	Recrystalline Alumina	60*70*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 70/200/17	1700 C	Recrystalline Alumina	70*80*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 80/200/17	1700 C	Recrystalline Alumina	80*90*1000	200	650 x 650 x1000	6 Kw	2 phase	100

Tilttable Tubular Furnace

(Variant Under Tubular Furnace)



Versatile Tilting Capability: Designed with a tiltable mechanism, allowing precise control over the inclination angle of the furnace chamber, enhancing flexibility in sample processing.

Compact and Space-Saving Design: Utilizes a tiltable structure optimizing space utilization in the laboratory or industrial setting.

Tailored Useful Volume: Offers a useful volume of 60 mm (ID) x 200 mm (L), providing ample space for accommodating various sample sizes and configurations.

Durable Construction: Crafted with MS body and angle structures, reinforced with stiffeners, ensuring robustness and stability during tilting operations.

Precise Gas Control System: Equipped with two rotameters for precise gas purging, facilitating control over the atmosphere within the tiltable furnace chamber.

High-Temperature Tubular Material: Utilizes recrystallized alumina tubing with zero porosity, capable of withstanding temperatures up to 1800°C, ensuring durability and reliability.

Advanced End Flanges: Features stainless steel or aluminum fittings with water cooling arrangement and O-ring seals, suitable for vacuum and multi-gas purging applications, even in tilted positions.

Reliable Heating System: Employs APM Kanthal heating elements, providing reliable heating performance up to 1200°C for continuous operation, even when tilted. Designed to accommodate different heating element materials such as silicon carbide for 1400°C and super Kanthal from 1600°C.

Advanced Temperature Control: Incorporates a TAIE PID- 18*8=144 Segments programmer and K-type thermocouple for precise temperature control with an accuracy of 1°C, ensuring consistent results during tilting.

Flexible Power Regulation: Utilizes phase angle-controlled thyristors for efficient power regulation, maintaining temperature stability and control, even during tilting.

User-Friendly Interface: Equipped with intuitive control switches for mains and output, facilitating easy operation and adjustment of furnace settings, even when tilted.

Enhanced Safety Features: Includes input and output fuses for enhanced safety during operation, ensuring protection for both the equipment and the user, even during tilting maneuvers.

Model	Max Temperature	Tube	ID*OD*L	Hot Zone length (mm)	Outer Dimension	Max Power	Phase	Weight
TF 55/200/12	1200 C	Quartz	55*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 65/200/12	1200 C	Quartz	65*70*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 75/200/12	1200 C	Quartz	75*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
TF 50/200/12	1200 C	Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 60/200/12	1200 C	Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 70/200/12	1200 C	Alumina	70*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
TF 50/200/14	1400 C	Recrystalline Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 60/200/14	1400 C	Recrystalline Alumina	60*70*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 70/200/14	1400 C	Recrystalline Alumina	70*80*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 80/200/14	1400 C	Recrystalline Alumina	80*90*1000	200	550 x 550 x 1000	4 Kw	2 phase	60
TF 50/200/16	1600 C	Recrystalline Alumina	50*60*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 60/200/16	1600 C	Recrystalline Alumina	60*70*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 70/200/16	1600 C	Recrystalline Alumina	70*80*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 80/200/16	1600 C	Recrystalline Alumina	80*90*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 50/200/17	1700 C	Recrystalline Alumina	50*60*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 60/200/17	1700 C	Recrystalline Alumina	60*70*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 70/200/17	1700 C	Recrystalline Alumina	70*80*1000	200	650 x 650 x1000	6 Kw	2 phase	100
TF 80/200/17	1700 C	Recrystalline Alumina	80*90*1000	200	650 x 650 x1000	6 Kw	2 phase	100

Rotary Tubular Furnace



Temperature Uniformity: Equipped with strategically placed heating elements to achieve exceptional uniformity of $\pm 5^\circ\text{C}$ across the entire working zone, critical for consistent results.

Robust Construction: Stainless steel body and angle structure with stiffeners ensure durability and stability, while powder coat painting enhances aesthetics and corrosion resistance.

Precise Temperature Control: TAIE microprocessor-based PID controller- $18 \times 8 = 144$ Segments offers precise temperature regulation with an accuracy of $\pm 1^\circ\text{C}$, maintaining optimal conditions for your process.

Efficient Heating System: Features APM Kanthal heating element, delivering reliable heating performance up to 1200°C for continuous operation. For 1400 degree it is Silicon Carbide, and from 1600 degree or more than that it is Super Kanthal. We customise according to the requirement

Versatile Operation: Suitable for a wide temperature range from 1200°C to 1800°C , accommodating various industrial applications with flexibility and reliability.

Safety Features: Incorporates phase angle controlled thyristor for power control, ensuring safe and stable operation, complemented by ammeter and indicator lights for real-time monitoring.

Integrated Control Panel: Features an inbuilt control panel box for convenience, reducing footprint and simplifying installation.

Adaptable Design: Customizable internal dimensions (ID and OD) to suit specific customer requirements, offering tailored solutions for diverse applications.

Reliable Temperature Sensing: Pt-Rh13%/Pt 'R' type thermocouples with alumina beads ensure accurate temperature measurement, crucial for precise process control.

Seamless Integration: Compatible with various gas control systems, featuring stainless steel fittings with water cooling arrangement and O-ring seals for controlled atmosphere applications.

User-Friendly Interface: Intuitive control switches for mains and output, along with digital temperature display, facilitate easy operation and monitoring.

Enhanced Safety Measures: Equipped with overcurrent protection via a 32A MCB (Miniature Circuit Breaker) for added safety during operation.

Efficient Material Handling: Includes conical material feeding assembly and exhaust system with cyclone separators at both ends, ensuring smooth material flow and effective exhaust management.

Programmable Rotary Motion: Powered by a 1 HP gear motor with variable frequency drive (VFD), offering programmable speed control (1-10 RPM) for precise rotation as per process requirements.

Model	Max Temperature	Tube Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
RTF 4/70/12	1200 C	70 ID X 80 OD x1000	4 L	600*600*2000	6 Kw	3 Phase	100
RTF 8/100/12	1200 C	100 ID X110 OD x1000	8 L	700*700*3000	12 Kw	3 Phase	150
RTF 172/270/12	1200 C	270 ID X 280 OD x 3000	172 L	1000*1000*4000	24 kw	3 Phase	250

Two or Three zone Furnace



Advanced Three-Zone Design: Engineered with three independent heating zones, providing precise temperature control and versatility for diverse heating profiles.

Optimized Shell Size: Compact shell size maximizing laboratory space utilization while accommodating ample sample volume.

Durable Construction: Built with robust MS body and angle structures, reinforced with stiffeners, ensuring stability and durability for long-term operation.

High-Temperature Tubular Material: Utilizes 99.9% alumina tubes capable of withstanding temperatures up to 1800°C, ensuring durability and reliability under extreme conditions.

Precise Gas Control: Equipped with stainless steel fittings and O-ring seals for controlled atmosphere operations, facilitating vacuum and multi-gas purging.

Advanced Heating System: Employs molybdenum disilicide rods (Super Kanthal-1800°C) in U-shape configuration for each zone, providing rapid and uniform heating up to 1800°C.

Flexible Power Requirements: Operates on 415V, 2-phase, 15A with power isolation transformer, delivering approximately 50V / 200A AC to each element.

Customizable Temperature Control: Features TAIE PID- 18*8=144 Segments programmers with R-type thermocouples for precise temperature control and $\pm 1^\circ\text{C}$ accuracy.

Comprehensive Temperature Monitoring: Includes hand-held thermometers with indicators for easy sample temperature measurement and control.

Efficient Vacuum System: Achieves a vacuum level of 760Hg with a rotary-type vacuum pump, ensuring reliable evacuation for precise processing.

Gas Purging Arrangement: Utilizes SS 304 pipelines and standard valves for gas flow control, complemented by rotameters or Mass Flow Controller for accurate gas purging.

Enhanced Cooling System: Equipped with a 50-liter water chilling unit with automatic temperature control, ensuring optimal cooling for vacuum and purging processes.

Convenient Mobility: Designed with wheel-mounted water chilling plant for easy equipment relocation and independent control switches for enhanced flexibility.

Reliable Performance: Engineered for continuous operation at high temperatures, delivering consistent and reproducible results for various research and industrial applications.

Two or Three zone Furnace

Two Zone Furnace

Model	Max Temperature	Tube	ID*OD*L	Hot Zone length (mm)	Outer Dimension	Max Power	Phase	Weight
ZZTF 55/200/12	1200 C	Quartz	55*60*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	50
ZZTF 65/200/12	1200 C	Quartz	65*70*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	50
ZZTF 75/200/12	1200 C	Quartz	75*80*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	50
ZZTF 50/200/12	1200 C	Alumina	50*60*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 60/200/12	1200 C	Alumina	50*60*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 70/200/12	1200 C	Alumina	70*80*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 50/400/14	1400 C	Recrystalline Alumina	50*60*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 60/400/14	1400 C	Recrystalline Alumina	60*70*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 70/400/14	1400 C	Recrystalline Alumina	70*80*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 80/400/14	1400 C	Recrystalline Alumina	80*90*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	60
ZZTF 50/400/16	1600 C	Recrystalline Alumina	50*60*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	100
ZZTF 60/400/16	1600 C	Recrystalline Alumina	60*70*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	100
ZZTF 70/400/16	1600 C	Recrystalline Alumina	70*80*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	100
ZZTF 80/400/16	1600 C	Recrystalline Alumina	80*90*1000	200 , 200	650 x 550 x 1000	6 Kw	2 phase	100
ZZTF 50/400/17	1700 C	Recrystalline Alumina	50*60*1000	200 , 200	650 x 550 x 1000	8 Kw	2 phase	100
ZZTF 60/400/17	1700 C	Recrystalline Alumina	60*70*1000	200 , 200	650 x 550 x 1000	8 Kw	2 phase	100
ZZTF 70/400/17	1700 C	Recrystalline Alumina	70*80*1000	200 , 200	650 x 550 x 1000	8 Kw	2 phase	100
ZZTF 80/400/17	1700 C	Recrystalline Alumina	80*90*1000	200 , 200	650 x 550 x 1000	8 Kw	2 phase	100

Three Zone Furnace

Model	Max Temperature	Tube	ID*OD*L	Hot Zone length (mm)	Outer Dimension	Max Power	Phase	Weight
3ZTF 55/600/12	1200 C	Quartz	55*60*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	50
3ZTF 65/600/12	1200 C	Quartz	65*70*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	50
3ZTF 75/600/12	1200 C	Quartz	75*80*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	50
3ZTF 50/600/12	1200 C	Alumina	50*60*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	60
3ZTF 60/600/12	1200 C	Alumina	50*60*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	60
3ZTF 70/600/12	1200 C	Alumina	70*80*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	2 phase	60
3ZTF 50/600/14	1400 C	Recrystalline Alumina	50*60*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	60
3ZTF 60/600/14	1400 C	Recrystalline Alumina	60*70*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	60
3ZTF 70/600/14	1400 C	Recrystalline Alumina	70*80*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	60
3ZTF 80/600/14	1400 C	Recrystalline Alumina	80*90*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	60
3ZTF 50/600/16	1600 C	Recrystalline Alumina	50*60*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	100
3ZTF 60/600/16	1600 C	Recrystalline Alumina	60*70*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	100
3ZTF 70/600/16	1600 C	Recrystalline Alumina	70*80*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	100
3ZTF 80/600/16	1600 C	Recrystalline Alumina	80*90*1000	200 , 200, 200	750 x 550 x 1000	6 Kw	3 phase	100
3ZTF 50/600/17	1700 C	Recrystalline Alumina	50*60*1000	200 , 200, 200	750 x 550 x 1000	8 Kw	3 phase	100
3ZTF 60/600/17	1700 C	Recrystalline Alumina	60*70*1000	200 , 200, 200	750 x 550 x 1000	8 Kw	3 phase	100
3ZTF 70/600/17	1700 C	Recrystalline Alumina	70*80*1000	200 , 200, 200	750 x 550 x 1000	8 Kw	3 phase	100
3ZTF 80/600/17	1700 C	Recrystalline Alumina	80*90*1000	200 , 200, 200	750 x 550 x 1000	8 Kw	3 phase	100

Chemical Vapour Deposition



Extreme Temperature Capability: Engineered to withstand temperatures ranging from up to 1700°C, ideal for high-temperature applications requiring precision and reliability.

Versatile Heating Solutions: Employs advanced heating elements capable of reaching and maintaining temperatures within the specified range, ensuring uniform heat distribution.

Customizable Temperature Profiles: Offers precise control over temperature gradients, allowing users to tailor heating profiles to specific process requirements.

Optimized Insulation: Utilizes high-grade insulation materials to minimize heat loss and ensure efficient energy utilization even at extreme temperatures.

Enhanced Material Stability: Designed to maintain structural integrity and material stability under harsh thermal conditions, enabling consistent performance over extended periods.

Advanced Temperature Control: Equipped with sophisticated temperature control systems with high accuracy and stability, ensuring precise regulation within the target temperature range.

Tailored Process Parameters: Provides flexibility in adjusting process parameters such as heating rate and dwell time, optimizing performance for diverse applications.

Rapid Heating Response: Delivers rapid heating response times, allowing for quick ramp-up to desired temperatures and minimizing downtime between processes.

Superior Heat Transfer: Facilitates efficient heat transfer mechanisms, promoting uniform heating across the entire furnace chamber for homogeneous processing.

Robust Construction: Built with durable materials and reinforced structures to withstand thermal stresses and maintain integrity under extreme operating conditions.

Continuous Operation Capability: Designed for continuous operation at elevated temperatures, ensuring sustained productivity and reliability in demanding industrial environments.

Precise Temperature Monitoring: Features advanced temperature sensing technology for real-time monitoring and feedback control, maintaining tight temperature tolerances.

Chemical Vapour Deposition

CVD/1200	Economy	Tubular Furnace + 2 Rotometer + Rotary Vacuum pump
	Premium	Tubular Furnace + 3 Mass Flow Controller+ Rotary vacuum pump + Diffusion Pump
CVD/1400	Economy	Tubular Furnace + 2 Rotometer + Rotary Vacuum pump
	Premium	Tubular Furnace + 3 Mass Flow Controller+ Rotary vacuum pump + Diffusion Pump
CVD/1600	Economy	Tubular Furnace + 2 Rotometer + Rotary Vacuum pump
	Premium	Tubular Furnace + 3 Mass Flow Controller+ Rotary vacuum pump + Diffusion Pump
CVD/1700	Economy	Tubular Furnace + 2 Rotometer + Rotary Vacuum pump
	Premium	Tubular Furnace + 3 Mass Flow Controller+ Rotary vacuum pump + Diffusion Pump

Horizontal cum Vertical Furnace



Compact Design: Horizontal cum vertical tubular furnace with shell size according to customer requirement

High-Temperature Capability: Capable of reaching temperatures up to 1800°C, ideal for processes requiring high heat.

Robust Construction: Constructed with MS body and angle structure, featuring proper stiffeners and neat powder coat painting for durability and corrosion resistance.

Premium Tubular Material: Working tube made of recrystallized alumina (99.8%), offering zero porosity and withstanding temperatures up to 1800°C, ensuring long-term durability and reliability.

Precise Temperature Control: Equipped with a TAIE PID- 18*8=144 Segments, along with K-type thermocouples for accurate temperature monitoring and control.

Efficient Heating System: Depending on the degree the heating elements provide reliable and uniform heating, with a hot zone length of minimum 230mm, facilitating precise temperature control.

Versatile Operation: Suitable for both single-phase AC operation, with a power requirement of 4 kW, catering to a wide range of industrial heating applications.

Fast Heating Rate: Offers a heating rate of 10°C to 100°C, allowing for rapid temperature ramp-up and efficient processing.

User-Friendly Interface: Features digital temperature and output indicators, along with control switches for mains and output, ensuring ease of operation and monitoring.

Safety Features: Includes input and output fuses for enhanced safety during operation, providing protection against electrical faults.

Reliable Power Control: Utilizes phase angle-controlled thyristors imported from SEMIKRON, Italy, ensuring stable and efficient power management.

Gas Purging Capability: Equipped with two rotometers for gas purging, facilitating controlled atmosphere processes.

Easy Installation: Requires a 32A MCB (single phase with neutral), ensuring compatibility with standard electrical setups and easy installation.

Wide Range of Applications: Suitable for various heat treatment processes, research, and development applications, offering versatility, reliability, and precise temperature control.

Employs APM Kanthal heating elements , providing reliable heating performance up to 1200°C for continuous operation, even when tilted. Designed to accommodate different heating element materials such as silicon carbide for 1400°C and super Kanthal from 1600°C

Model	Max Temperature	Tube	ID*OD*L	Hot Zone length (mm)	Outer Dimension	Max Power	Phase	Weight
HTF 55/200/12	1200 C	Quartz	55*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
HTF 65/200/12	1200 C	Quartz	65*70*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
HTF 75/200/12	1200 C	Quartz	75*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	50
HTF 50/200/12	1200 C	Alumina	50*60*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
HTF 60/200/12	1200 C	Alumina	60*70*1000	200	550 x 550 x 1000	4 Kw	1 phase	60
HTF 70/200/12	1200 C	Alumina	70*80*1000	200	550 x 550 x 1000	4 Kw	1 phase	60

Roller Hearth Furnace



Compact Design: The furnace's compact dimensions make it ideal for laboratory environments, offering efficient use of space.

Ideal for Tile and Allied Industries: Specifically designed to test the firing characteristics of body, glaze, stains, and frits, this furnace is perfect for tile manufacturers and related industries.

High-Quality Construction: Fabricated with high-quality mild steel and reinforced with M.S. Angle's structure, ensuring durability and long-term use.

Safe Operation: The furnace is designed to maintain skin temperatures just above ambient, ensuring a safe working environment.

Durable Rollers: Equipped with high alumina rollers, offering high durability and resistance to high temperatures.

Efficient Drive System: The furnace includes a suitable motor with a chain drive, ensuring smooth and reliable roller operation.

Advanced Heating Elements: Utilizes Super Kanthal APM heating elements, known for their high temperature stability and longevity.

High Power Efficiency: Operates on a single phase/AC with a power rating of 4 kW, making it energy-efficient.

High Temperature Capability: Capable of reaching maximum temperatures of up to 1200°C, suitable for various high-temperature testing applications.

Precision Temperature Control: Features a TAIE PID- 18*8=144 Segments programmer cum digital temperature indicator, allowing precise temperature management.

Accurate Temperature Sensing: Equipped with a Pt+Rh13%/Pt – R type thermocouple for accurate temperature measurement.

Model	Max Temperature	Length in meters	Hot zone length	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
ROF 2/14	1400 C	2 meters	200 W X 50 H	600*600*2000MM	4 Kw	3 Phase	75
ROF 4/14	1400 C	4 meters	250 x 50	600*600*4000	6 kw	3 Phase	100
ROF 8/14	1400 C	8 meters	250 x 50	700*700*8000	8 kw	3 Phase	200
ROF 10/14	1400 C	10 meters	250 x 50	700*700*10000	15 Kw	3 Phase	300
ROF 25/14	1400 C	25 meters	600 x 50	1000*1000*25000	36 Kw	3 Phase	520

Aluminium Stir Casting



Advanced Crucible Furnace Design: Features an automatic melt casting system, ensuring efficient and precise operations for high-quality aluminium castings.

Robust and Durable Construction: Made with thick gauge mild steel and reinforced with M.S. angles, the furnace is powder-coated for durability and long-lasting performance.

Superior Insulation and Heating: Equipped with ceramic fiber insulation and advanced Kanthal heating elements, the furnace achieves a maximum temperature of 1100°C, maintaining a working temperature of 800°C with ease.

High-Precision Temperature Control: The control panel includes a TAIE PID-18*8=144 Segments programmer and digital temperature controller, providing accuracy within 1°C for precise thermal management.

Efficient Power Management: Operates on a single-phase 230V AC supply with a power rating of 5 kW, and is designed to work seamlessly with a customer-provided 32 A MCB.

Innovative Melt Discharge System: Features an automatic open/close mechanism at the crucible's bottom, operated via pneumatic control for smooth and controlled melt discharge.

State-of-the-Art Stirring Mechanism: A high-speed stirrer, capable of 300 to 500 RPM, ensures thorough mixing.

Premium Quality Crucible: Constructed from INCONEL alloy, the crucible includes a water-cooled top flange to maintain optimal conditions and support vacuum and gas purging processes.

Precision Die Casting: Includes a grey cast iron steel mould with a vacuum connection, designed to shape the melt efficiently and enhance casting quality.

Automated and Pneumatic Die Casting: The machine is equipped with a mini compressor and air tank, facilitating an automatic die casting process with pneumatic assistance for improved operational efficiency.

Enhanced Operational Safety: Equipped with comprehensive safety features including input and output fuses, ensuring safe and reliable operation throughout the casting process.

Model	Max Temperature	Inner Dimensions (mm)	Weight of Aluminium	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
AL STR 2/10	1000 C	160*300MM	2 Kgs	500*500*1400MM	4 Kw	1 Phase	80
AL STR 5/10	1000 C	250*300	5 Kgs	600*600*1400	6 kw	3 Phase	75
AL STR 25/10	1000 C	350*500	25 Kgs	1000*1000*1400	24 Kw	3 Phase	100

Magnesium Stir Casting



Innovative Crucible Design: Features a crucible furnace with an automatic melt flushing system, ensuring efficient and controlled melt discharge through a pneumatic mechanism.

Durable Construction: Built with thick gauge mild steel sheets and MS angle structures, enhanced with stiffeners and powder-coated painting for long-lasting durability.

Advanced Heating Elements: Equipped with advanced powder metallurgical grade Kanthal heating elements, providing reliable and consistent heating up to 1100°C.

Precise Temperature Control: Integrated with a TAIE PID- 18*8=144 Segments programmable temperature controller and K type thermocouples, ensuring accurate temperature management with 1°C precision.

Efficient Power Management: Operates on a three-phase AC system with a power rating of 6 kW, controlled through phase angle thyristors for optimal performance.

Comprehensive Control Panel: Features a separate control panel box with ammeter, mains, and output indicators, along with switches for mains, furnace, and melt discharge operations.

High-Quality Crucible: Made from Inconel alloy, the crucible is designed for a controlled atmosphere with stainless steel ports for vacuum and gas flow, and water-cooled top flange for enhanced performance.

Integrated Vacuum and Cooling Systems: Comes with a VALUE rotary vacuum pump, and a water chilling unit with a 50-liter capacity and automatic temperature control, ensuring optimal operating conditions.



Model	Max Temperature	Inner Dimensions (mm)	Weight of Aluminium	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
MG STR 2/10	1000 C	160*300MM	2 Kgs	500*500*700MM	4 Kw	1 Phase	80
MG STR 5/10	1000 C	250*300	5 Kgs	600*600*1400	6 Kw	3 Phase	100
MG STR 25/10	1000 C	350*500	25 Kgs	1000*1000*1400	24 Kw	3 Phase	140

Bio Mass Pyrolysis



Precision Engineering: Meticulously crafted with MS body and angles, fortified with stiffeners for enhanced durability.

Robust Tubular Design: Built with INCONEL tubing, ensuring reliability and longevity under high-temperature conditions.

Advanced End Flanges: Stainless steel fittings equipped with water cooling and Whiton 'O' rings for seamless control over atmospheric conditions.

Efficient Heating System: Employs APM Kanthal heating elements for rapid and uniform heating up to 1200°C, ensuring consistent performance.

Precise Temperature Control: Equipped with a TAIE PID- 18*8=144 Segments programmer and K-type thermocouple, maintaining temperatures within ±1°C accuracy.

User-Friendly Interface: Intuitive control switches and digital indicators provide ease of operation and monitoring.

Safety Features: Integrated safety measures including input and output fuses for peace of mind during operation.

Enhanced Automation: Manual control system with a 0.25 HP geared motor for streamlined operations.

Material Handling: Stainless steel material feeder and collector with motorized screw feeder, optimizing efficiency and ease of use.

Condensing Unit: Features dual SS 304/BOROSIL condensers for efficient conversion and collection of by-products.

Water Chilling System: Equipped with a high-capacity chiller unit for maintaining optimal temperatures during operation, enhancing performance and longevity.

Mobility and Convenience: Wheel-mounted design for easy relocation and independent control switches for enhanced flexibility.

Reliable Performance: Designed for continuous operation with precise temperature monitoring and control, ensuring consistent and reliable results.

Model	Max Temperature	Bio Mass Material	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
BMP 2/10	1000 C	1 Kg	2 L	600*600*800MM	6 Kw	3 Phase	50
BMP10/10	1000 C	5 Kg	10 L	600*600*800	10 Kw	3 Phase	75
BMP20/10	1000 C	10 Kg	20 L	800*800*1000	18 Kw	3 Phase	100
BMP 50/10	1000 C	25 Kg	50 L	1000*1000*1500	36 Kw	3 Phase	200

Microwave Furnace (Essential)



High-Temperature Capability: Achieves up to 1600°C, ideal for various advanced material research applications.

Compact and Durable Design: Outer shell size of approximately 500 x 500 x 1200 mm with a sturdy stainless steel (316 grade) main chamber for enhanced durability and longevity.

Sophisticated Heating System: Powered by four magnetrons, each operating at 2.45GHz with a power rating of 1.1kW, providing consistent and controlled heating.

Continuous Operation: Features a dual-set magnetron system with automatic timer switching, ensuring uninterrupted operation.

Precise Temperature Control: Equipped with Eurotherm (Model 3216) Microprocessor-based PID programmer for accurate temperature management.

Non-Contact Temperature Sensing: Incorporates an imported non-contact infrared sensor for precise temperature readings.

Efficient Cooling Mechanism: Includes a water chilling unit with a 50-liter tank capacity and automatic temperature control, ensuring effective cooling of magnetrons.

User-Friendly Operation: Single-phase AC operation with simple control switches for ease of use.

Sample Flexibility: Suitable for samples less than 50 mm in all dimensions, with a susceptor cavity size of approximately 75 x 75 x 75 mm.

Rapid Heating Rates: Programmable heating rates ranging from 10 to 25°C per minute, providing flexibility for different experimental needs.

Safety Features: Equipped with input and output fuses to protect the equipment and ensure safe operation.

Mobile and Convenient: The water chilling plant is designed with wheels for easy mobility, enhancing laboratory flexibility.

Optional Computerization: Can be upgraded to computerized control for enhanced precision and automation, available at an additional cost.

Comprehensive Control Panel: Comes with a coupled control panel box, integrating all necessary control mechanisms for efficient furnace management.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
MFE 0.5/15	1500 C	75*75*75MM	0.42 L	600*600*1400MM	4 Kw	3 Phase	100

Microwave Furnace (Deluxe)



Extreme Temperature Capability: The Thermal Cycle furnace is engineered to reach temperatures up to 1600 degrees Celsius, empowering precise thermal cycling and material processing in demanding applications.

Versatile Single Chamber Design: Dimensions according to customer requirement, the single chamber configuration offers versatility for a wide range of heating and processing tasks.

Advanced Temperature Control: Featuring a sophisticated TAIE PID-18*8=144 Segments programmer and digital temperature controller, the Thermal Cycle ensures precise temperature regulation with an accuracy of $\pm 1^\circ\text{C}$, even at extreme temperatures.

Robust Construction: Crafted with a double-wall MS body and angle structure, fortified with proper stiffeners and powder coat painting, the Thermal Cycle guarantees durability and sustained performance under high-temperature conditions.

Efficient Insulation: Utilizing high-quality alumina bricks and mechanically pressed fiber blanket insulation, this furnace maintains uniform temperatures and minimizes heat loss, ensuring consistent and reliable operation during thermal cycling.

Enhanced Door Design: Equipped with a stainless steel door featuring proper insulation to mitigate heat loss, the Thermal Cycle ensures energy efficiency and stable operation throughout the thermal cycling process.

Convenient Sample Loading: The furnace accommodates sample loading with ease, utilizing a sample holder placed at the bottom of the furnace door, fully lined with mullite blocks for effortless loading and unloading.

Integrated Compressor: With an inbuilt compressor boasting a maximum pressure of 6kg/cm², the Thermal Cycle supports pneumatic cylinders for smooth and reliable door movement during thermal cycling operations.

PLC-Based Automation: Leveraging PLC-based operation, the Thermal Cycle offers automated control and seamless integration with other system components, enabling precise control and monitoring even under extreme temperature conditions.

High-Performance Heating Elements: Incorporating eight solid-type silicon carbide heating elements imported from ISQUARED R, USA, the Thermal Cycle delivers efficient heating up to 1600 degrees Celsius, crucial for high-temperature thermal cycling processes.

Flexible Power Requirements: Operating on 415V AC with a total power of 4kW, the Thermal Cycle ensures ample power supply to maintain high temperatures consistently and reliably.

Intuitive Control Panel: The control panel features indicators for ammeter, mains, and output, along with control switches, offering intuitive operation and control over the thermal cycling process.

Streamlined Process Automation: Through PLC integration with Omron/Fuji or equivalent HMI, the Thermal Cycle enables streamlined process automation and control, enhancing efficiency and productivity in thermal cycling applications.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
MFP 0.5/16	1600 C	75*75*75	0.42 L	700*800*1400MM	2 Kw	1 Phase	75
MFP 1/16	1600 C	100*100*100	1 L	700*800*1400MM	4 Kw	1 Phase	100
MFP 2/16	1600 C	120*120*120MM	1.728 L	700*800*1400MM	4 Kw	3 Phase	100

Microwave Furnace (Hybrid)



Cutting-Edge Hybrid Heating Technology: Experience the power of combined microwave and resistive heating, providing precise and uniform temperature control for your applications.

Versatile Heating Options: Choose between microwave heating alone, resistive heating alone, or a hybrid combination of both, tailored to your specific heating requirements.

Exceptional Temperature Capability: Achieve temperatures up to 1800°C with ease, ensuring optimal performance for a wide range of materials and processes.

Rapid Heating and Cooling Rates: Benefit from heating rates of up to 25°C per minute and a controlled cooling rate, enhancing efficiency and productivity in your operations.

Reliable Safety Features: Built-in safety interlocks ensure the protection of both the operator and the equipment, with microwave and resistive power cutoff during door opening.

Precise Temperature Control: Utilize advanced temperature control systems with dual-loop Eurotherm PID controllers and non-contact temperature sensors, ensuring accuracy within ±1°C.

Durable Construction: The furnace features a robust double-wall structure with high-quality fabrication, providing durability and stability for long-term use.

Efficient Power Management: With a combined maximum power rating of 15kW, optimize energy usage while maintaining exceptional heating performance.

User-Friendly Control Panel: Navigate operations effortlessly with a specialized control panel equipped with intuitive interfaces and comprehensive indicators.

Comprehensive Training and Support: Receive operational and maintenance training, ensuring smooth integration and maximum utilization of the furnace's capabilities.

Enhanced Uniformity of Heating: Benefit from the hybrid heating system's ability to provide even and consistent heating throughout the working hot zone, minimizing temperature variations.

Data Logging and Analysis: Record and analyze temperature, electrical power, microwave power, and time data for precise process monitoring and optimization.

Adaptable Furnace Configurations: Tailor the furnace to your specific needs with customizable options such as chamber size, heating elements, and insulation materials.

Advanced Microwave Safety Features: Ensuring operational safety, the furnace adheres to strict standards, with electromagnetic leak levels ≤ 5mW/cm² at 5cm distance, or equivalent, as per BS EN 60519-6:2002.

Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
MFH 2/17	1700 C	120*120*120MM	1.728 L	700*1350*800MM	6 Kw	3 Phase	100
MFH 8/17	1700 C	200*200*200	8 L	1000*1400*1000	6 Kw	3 Phase	200
MFH 27/17	1700 C	300*300*300	27 L	1001*1400*1000	15 Kw	3 Phase	250
MFH 125/17	1700 C	500*500*500	125 L	1500*1400*1500	36 Kw	3 Phase	400

Hot air oven

Robust Construction: Designed with a double-wall structure and a durable outer shell made of MS with a neat powder coat, ensuring longevity and reliability.

Optimal Capacity: Features a spacious inner chamber with dimensions of 450x450x450 mm, suitable for various applications requiring consistent hot air circulation.

High Temperature Range: Capable of reaching a maximum temperature of 250°C, with a working temperature range from room temperature to 200°C.

Advanced Temperature Control: Equipped with a TAIE PID- 18*8=144 Segments digital temperature controller that ensures precise temperature regulation and easy monitoring.

Efficient Power Management: Incorporates a VBCC make thyristor for power control, along with mains and output indicators for operational ease.

Enhanced Safety Features: Comes with input and output fuses to safeguard against electrical faults and ensure user safety.

Effective Heat Distribution: Includes a fan at the back side for even heat distribution throughout the inner chamber, ensuring uniform heating.

High-Quality Materials: The inner chamber and trays are constructed from stainless steel, providing excellent resistance to corrosion and easy maintenance.

Powerful Motor: Features a 0.2 HP motor at the back side, supporting the fan and ensuring efficient airflow.

Versatile Heating Elements: Equipped with heating coils on three sides of the inner chamber, providing efficient and uniform heating for a wide range of applications.

Dual Tray System: Includes two stainless steel trays, allowing for flexible placement and efficient processing of multiple items simultaneously.



Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
HAO 9/250	250 C	450*450*450	91 L	700*700*700	2 Kw	1 Phase	40
HAO 420/250	250 C	750*750*750	421.8 L	1100*1100*1000	8 Kw	3 Phase	100
HAO 1000/250	250 C	1000*1000*1000	1000 L	1400*1400*1500	20 Kw	3 Phase	140

Vacuum Oven

Sturdy Construction: Crafted with a high-quality stainless steel body and a double-wall structure, featuring a powder-coated MS panel for enhanced durability and aesthetic appeal.

Spacious Interior: Offers a generous making it suitable for various laboratory and industrial applications.

Advanced Insulation: Equipped with alumina fiber insulation to maintain skin temperatures just above ambient, ensuring safety and energy efficiency.

Precise Temperature Control: Includes a TAIE PID- 18*8=144 Segments programmable temperature indicator with an accuracy of 1°C, allowing for precise and reliable temperature management up to 300°C.

Efficient Heating System: Features heating elements strategically placed around the chamber for uniform heat distribution and optimal performance.

Vacuum Capability: Capable of achieving a minimum vacuum of 10^{-1} Torr, thanks to the dual-stage VALUE vacuum pump, ensuring effective removal of air and gases.

User-Friendly Interface: Comes with easy-to-use control switches for mains, output, and power selection, along with clear mains and output indicators.

Durable Door Design: Specially designed stainless steel door ensures a secure seal and maintains the integrity of the vacuum environment.

Convenient Tray System: Includes two stainless steel trays, providing ample space for samples and materials.

Integrated Vacuum System: Features a vacuum pump with an oil trap and an analog dial gauge for precise vacuum indication, along with a special timer for optimized vacuum operations.



Model	Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
VAO 27/250	250 C	300*300*300	27 L	500*500*600	2.5 Kw	1 Phase	80
VAO 91/250	250 C	450*450*450	91.125 L	600*600*750	6 Kw	3 Phase	125
VAO 216/250	250 C	600*600*600	216 L	900*900*1000	15 Kw	3 Phase	160

Humidity Oven



Optimized Size: Outer shell size of approximately 800(D) x 900(W) x 1500(H) mm with a triple-wall structure, providing ample space for various application while ensuring efficient insulation.

Precise Environmental Control: Offers a wide temperature range of 30°C to 100°C and humidity range of 30% RH to 95% RH, allowing for precise control over environmental conditions to meet specific requirements.

Durable Construction: Inner chamber constructed with stainless steel 304 for durability and corrosion resistance, while the outer chamber features a robust MS angle structure for added strength and stability.

Reliable Compressor: Utilizes an ISI specified Kirloskar 4-ton compressor, ensuring reliable performance and consistent operation.

Efficient Heating System: Equipped with a 4 kW water heater and heating coil provision on three sides of the inner chamber for uniform heating, facilitating optimal temperature control.

Advanced Control System: Digital temperature and humidity controller cum indicator with separate controls and sensors for precise regulation and monitoring of environmental parameters.

User-Friendly Interface: Digital temperature and humidity indicators provide easy-to-read displays, enhancing user convenience and operation.

High Accuracy: Maintains temperature accuracy within 2°C and humidity accuracy within ±4% RH after reaching steady state, ensuring reliable and consistent results.

Safety Features: Incorporates input and output fuses for enhanced safety during operation, providing protection against electrical faults.

Powerful Motor: Utilizes a 0.5 HP motor for efficient circulation of air within the chamber, ensuring uniform heat distribution and humidity control.

Ample Capacity: Features a 20-liter capacity hot water bath, facilitating steam generation and water level maintenance for extended operation.

Versatile Tray System: Includes six stainless steel 304 trays for convenient sample placement and organization, maximizing usable space within the chamber.

Over Temperature Protection: Equipped with an over-temperature controller to prevent overheating and ensure safe operation.

Easy Installation: Requires a 32A MCB three-phase neutral, ensuring compatibility with standard electrical setups while providing ample power for efficient operation.

Even Heat Distribution: Fan provided at the top side ensures even heat distribution throughout the chamber, minimizing temperature gradients and ensuring uniform conditions for samples.

Humidity upto 95%

Model	Room Temperature to Max Temperature	Inner Dimensions (mm)	Volume (in liters)	Outer Dimensions	Max Power	Electrical Phase	Weight (in kilos)
HUO 125/10	100 C	500*500*500	125 L	800*900*1000	8 Kw	3 Phase	75
HUO 420/10	100 C	750*750*750	421.8 L	1000*1000*1500	16 Kw	3 Phase	100
HUO 1000/10	100 C	1000*1000*1000	1000 L	1500*1500*2000	36 Kw	3 Phase	200



Box / Muffle
Furnace



Box Type Vacuum
Furnace



Raising Hearth
Furnace



Thermal Cycling
Furnace



Tubular
Furnace



Tilttable Tubular
Furnace



Rotary Tubular
Furnace



Two or Three Zone
Furnace



Chemical Vapour
Disposition



Horizontal cum Vertical
Furnace



Roller Hearth
Furnace



Aluminium Stir
Casting



Magnesium Stir
Casting



Bio Mass
Pyrolysis



Microwave Furnace
(Essential)



Microwave Furnace
(Deluxe)



Microwave Furnace
(Hybrid)



Hot Air
Oven



Vacuum
Oven



Humidity
Oven

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✉ sales@vbccinstruments.com

🌐 www.vbccinstruments.com

📞 9600478130 | 9600480658

