



LAB EQUIPMENTS



JIKKEN





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.

Jikken

Jikken is a dedicated sub-brand under VBCC, offering a comprehensive range of high-performance laboratory equipment for scientific research and industrial applications. Specializing in precision instruments such as spin coaters, dip coaters, spray pyrolysis systems, cold spinners, and glove boxes, Jikken is designed to support advanced material synthesis and coating processes. These tools ensure accuracy, reliability, and flexibility, allowing researchers to maintain stringent control over experimental conditions. With cutting-edge technology and a commitment to innovation, Jikken empowers laboratories to achieve superior results in thin film deposition, surface engineering, and nanotechnology research.

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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Spray Pyrolysis

(SPY - 400)

Robust Construction: High-quality M.S. body and angle structure with powder coat finish.

Double Deck Design: Optimized space with top for equipment and bottom for a shelf model.

Advanced Viewing: Acrylic door allows for operation monitoring without compromising insulation.

Efficient Heating System: APM grade Kanthal heating elements with a maximum working temperature of 400°C.

Precise Spraying: Peristaltic pump with adjustable spray rates from 1 ml to 65 ml/min.

Customizable Drive System: Stepper motor controller with three directional movements (manual and automatic).

Accurate Control System: PID temperature programmer with K-type thermocouple and non-contact sensors.

Integrated Safety Features: Pressure relief valve, safety valves, and automatic pressure switch included.

User-Friendly Interface: PLC-based automation with HMI screen for easy operation.

Complete Setup: Includes a laptop and software for enhanced functionality.

Component	Specification
Shell Size	700 x 700 x 900 mm
Shell Construction	M.S. Body & Angle structure, powder coated
Door Construction	Acrylic door (top), Metal door with glass (bottom)
Suction Fan	0.25 HP
Heating Power	2 kW, Single phase/AC
Max Working Temp.	400°C (surface temperature of hot plate)
Work Area	200 x 200 mm
Pump Type	Peristaltic pump, 24V PMDC motor
Pressure	Up to 2 Kg/Sq.Cm
Spray Rate	1 ml to 65 ml/min
Tubing Size	1 mm or 3 mm ID
Nozzle	Glass Gun (1 mm dia)
Drive System	Stepper motor, 3 directional movements
Temperature Control	TaiE PID programmer, ±1°C accuracy
Air Compressor	0.25 HP, Adjustable working pressure 1.5 bar
Air Tank Capacity	10 liters
Air Delivery	25 CFM
Accessories	Laptop and Software included



Spin Coating System

(SC - Basic)

Robust Construction: M.S. body with angle structure, designed for durability and stability.

High Speed Range: Adjustable speeds from 100 to 6,000 RPM for versatile applications.

Precision Accuracy: Speed accuracy within $\pm 1\%$ across the entire range ensures reliable results.

User-Friendly Interface: LCD console with programmable options for RPM, acceleration, deceleration, and dwell time.

Advanced Control Options: Touch screen HMI for intuitive operation.

Teflon Coated Bowl: Ensures easy cleaning and prevents contamination.

Compact Design: 200 mm (8 inch) diameter bowl size suitable for various substrates.

Corrosion-Resistant Sample Holder: Provides reliable support for samples during processing.

Efficient Control System: Operated via a variable frequency drive for smooth performance.

Effective Vacuum System: Rotary vacuum pump maintaining a vacuum level of 760 mm mercury.



Component	Specification
Shell Construction	M.S. Body & Angle structure, powder coated
Speed Range	Adjustable 100 – 6,000 RPM
Speed Accuracy	Less than $\pm 1\%$ error across full range
Display	LCD console (programmable)
Control Options	Keypad (Touch Screen HMI)
Working Chamber (Bowl)	Teflon coated bowl and cover
Bowl Size	200 mm (8 inch) diameter
Substrate Holder	Circular holder, 25 mm diameter
Sample Holding Chuck	Corrosion-resistant metal
Control System	Variable frequency drive
Control Switches	Mains on, Drive on, Vacuum pump on
Motor	0.5 HP, 3 phase
Drive	Belt drive
Vacuum Level	760 mm mercury
Vacuum Pump	Rotary vacuum pump

Spin Coating System

(SC - Xtreme)

Superior Construction: Robust M.S. body and angle structure, finished with durable powder coating.

Extended Speed Range: Adjustable speeds from 100 to 10,000 RPM, accommodating diverse application needs.

Precision Performance: Speed accuracy within $\pm 1\%$ across the full range ensures consistent results.

Advanced User Interface: LCD console with programmable settings for RPM, acceleration, deceleration, and dwell time.

Intuitive Control Options: Touch screen HMI for easy navigation and operation.

Teflon Coated Working Chamber: Facilitates easy cleaning and prevents contamination during processes.

Versatile Bowl Size: 200 mm (8 inch) diameter bowl designed for various substrates.

Durable Sample Holder: Circular holder with a 25 mm diameter made from corrosion-resistant materials.

Efficient Drive System: Operated via a variable frequency drive for smooth and efficient performance.

Reliable Vacuum System: Rotary vacuum pump achieving a vacuum level of 760 mm mercury for optimal conditions.



Component	Specification
Shell Construction	M.S. Body & Angle structure, powder coated
Speed Range	Adjustable 100 – 10,000 RPM
Speed Accuracy	Less than $\pm 1\%$ error across full range
Display	LCD console (programmable)
Control Options	Keypad (Touch Screen HMI)
Working Chamber (Bowl)	Teflon coated bowl and cover
Bowl Size	200 mm (8 inch) diameter
Substrate Holder	Circular holder, 25 mm diameter
Sample Holding Chuck	Corrosion-resistant metal
Control System	Variable frequency drive
Control Switches	Mains on, Drive on, Vacuum pump on
Motor	0.5 HP, 3 phase
Drive	Belt drive
Vacuum Level	760 mm mercury
Vacuum Pump	Rotary vacuum pump

Dip Coating

(DC 150 - Premium)

Robust Construction: M.S. body with angle structure, featuring proper stiffeners and a high-quality powder coat finish for durability.

Precision Actuation: Stepper motor provides accurate and repeatable movement for reliable coating results.

Lead Screw Drive Mechanism: Ensures smooth and controlled movement during the dipping process.

Programmable Speed Control: Offers flexibility to adjust drawing speeds for various applications.

Intuitive Control Interface: Touch screen HMI allows for easy operation and monitoring.

Versatile Stroke Length: Maximum stroke length of 150 mm accommodates a wide range of substrates.

Adjustable Drawing Speeds: Minimum speed of 0.1 mm/sec to a maximum of 60 mm/sec for precise control.

Standard Power Input: Operates on 230V AC, 50Hz, suitable for most laboratory environments.

Software Capability

User-Friendly Interface: Window-based software designed for easy navigation and control.

Real-Time Monitoring: Displays current dipper position and completed dip cycles for enhanced process oversight.

Customizable Operations:

- Dipping speed
- Lifting speed
- Waiting interval (bottom)
- Drying interval (top)
- Number of dipping sequences

Component	Specification
Instrument Name	Premium Dip Coating System
Shell Construction	M.S. Body & Angle structure, powder coated
Actuator	Stepper Motor
Drive Mechanism	Lead Screw
Speed Control	Programmable
Control Options	Touch Screen HMI
Power Input	230V, 50Hz
Stroke Length Max	150 mm
Drawing Speed Min	0.1 mm/sec
Drawing Speed Max	60 mm/sec
Supply Voltage	230V AC



Glove Box System (Basic)

Modular Design: Flexible and customizable to meet various needs.

Compact Size: External dimensions of 750 x 600 x 550 mm; internal dimensions of 740 x 590 x 550 mm.

Safety Glass: 300 x 400 mm polycarbonate front glass for visibility and protection.

Durable Construction: Stainless steel shell with powder coating for corrosion resistance.

Scratch-Resistant Interior: Brushed, anti-corrosive finish for easy cleaning.

Adjustable Shelving: Three height-adjustable SS 304 shelves.

Glove Ports: Two ports for easy material handling with 6" neoprene or butyl gloves.

Chemical-Resistant Window: Inclined panel for enhanced visibility.

Fluorescent Lighting: Bright interior lighting for clear visibility.

Custom Gas Options: Working gas specifications based on customer needs.



Vacuum System

THE TAILOR MADE

Rotary Vacuum Pump: Effective evacuation, achieving a rough vacuum of 760 Hg.

Vacuum Gauge: Analogue compound gauge for monitoring levels.

Antechamber: Cylindrical design (200 mm D x 300 mm L) for material transfer.

Feed Through: Three KF 40 flanges for additional access.



Control System

Solenoid Valves: Two for gas inlet and outlet control.

Foot Switch: For easy pressure adjustments.

PLC Control: Integrated system for seamless operation.



Glove Box System (Basic)

Component	Specification
Design	Modular design
Outside Dimensions	750 x 600 x 550 mm
Inside Dimensions	740 x 590 x 550 mm
Front Glass	Safety polycarbonate (300 x 400 mm)
Shell Construction	Stainless steel with powder coating
Interior Finish	Brushed, anti-corrosive
Shelves	3 adjustable SS 304 shelves
Glove Ports	2 numbers
Vacuum Pump	Rotary vacuum pump
Vacuum Level	Rough vacuum 760 Hg
PLC	PLC controlled operating system



Models

Model	No.of.Ports	Volume (L)	Dimensions
GBB 2/0.8	2	864 L	1200x900x800
GBB 3/1.2	3	1264 L	1800x900x800
GBB 4/1.8	4	1867 L	2400x900x800
GBB 4B/0.8	4	864 L	1200x900x800
GBB 6/1.2	6	1264 L	1800x900x800
GBB 8/1.8	8	1867 L	2400x900x800



Glove Box System

(Premium)

Modular Design: Flexible configuration to suit various laboratory needs.

Spacious Dimensions: Main box size of 1200 x 900 x 800 mm for ample workspace.

Safety Glass Front: Made from durable safety polycarbonate for enhanced visibility.

Durable Shell Construction: Stainless steel body with a powder-coated finish for superior corrosion resistance.

Scratch-Resistant Interior: Brushed, anti-corrosive coating ensures easy maintenance and longevity.

Height-Adjustable Shelves: Three stainless steel (SS 304) shelves for versatile storage options.

Glove Ports: Two glove ports with 6" neoprene or butyl gloves for secure handling of materials.

Chemical-Resistant Window: Inclined design for improved visibility and durability against chemicals.

Efficient Lighting: Fluorescent lighting system for optimal illumination.

Customizable Gas Options: Working gas specifications tailored to customer requirements.

Robust Vacuum System: Equipped with a rotary vacuum pump, achieving a rough vacuum of 760 Hz.

Advanced Control System: PLC-controlled operating system for seamless operation, complemented by foot switch control.



Antechamber and Vacuum Features

Cylindrical Antechambers: Two antechambers (300 D x 400 L mm and 150 D x 250 L mm) for effective material transfer.

Analogue Vacuum Gauge: Compound gauge for precise monitoring of vacuum levels.

Feed Through Options: Three KF 40 flanges for additional access.



Glove Box System

(Premium)

Gas Purification System

User-Friendly Operation: Touch screen interface for convenient access to the glove box.

Versatile Control: PLC manual and automatic control capabilities.

Power Supply: 220V/50Hz for reliable operation.

Working Gases: Supports nitrogen, argon, and helium.

Airtight Functionality: Capable of dewatering and deoxygenating materials.

High-Quality Materials: Container made from SUS304 stainless steel and DN40 pipeline.

Impressive Circulation Capacity: 90 m³/h for efficient gas flow.

Effective Purification: Copper catalyst (6 kg) and molecular sieve (6 kg) for optimal removal of contaminants.

Moisture and Oxygen Index: Maintains levels below 10 ppm.

Valves: Main valve (DN40KF) and electric angle valve for precise control.



Component	Specification
Design	Modular design
Main Box Size	1200 x 900 x 800 mm
Front Glass	Safety polycarbonate
Shell Construction	Stainless steel with powder coating
Interior Finish	Brushed, anti-corrosive
Shelves	3 adjustable SS 304 shelves
Glove Ports	2 numbers
Gloves	6" neoprene or butyl gloves
Lighting	Fluorescent lighting system
Vacuum Pump	Rotary vacuum pump
Vacuum Level	Rough vacuum 760 Hg
PLC	PLC controlled operating system
Humidity Sensor	Imported humidity sensor

Models

Model	No.of.Ports	Volume (L)	Dimensions
GBP 2/0.8	2	864 L	1200x900x800
GBP 3/1.2	3	1264 L	1800x900x800
GBP 4/1.8	4	1867 L	2400x900x800
GBP 4B/0.8	4	864 L	1200x900x800
GBP 6/1.2	6	1264 L	1800x900x800
GBP 8/1.8	8	1867 L	2400x900x800



Electro Spinner (Fiber Forming Chamber)

(EC - 0.2/12000)

Equipment Name: Fibre Forming Chamber for ceramic fibre preparation.

Drying Chamber: 0.8 m diameter, 300 mm height with a glass window for monitoring.

Construction: Heat-resistant SS 316 with air circulation for uniform drying.

Dimensions: External size of 1.0 m diameter x 800 mm height.

Temperature Range: Ambient to 300° C.

Nozzle Sizes: Includes 0.2 mm and 0.3 mm nozzles.

Liquid Inlet: Digitalized liquid feed system for precise control.

Nozzle Capacity: 50 ml cup with orifices for consistent delivery.

Heating: Kanthal heating element with fiber insulation.

Motor: 0.5 HP for efficient operation.

Spindle Speed: 2000-12000 RPM at the nozzle.

Air Blower: Integrated heater and air blower for optimal drying.

View Port: Accessible view port on the top.



Component	Specification
Equipment Name	Fibre Forming Chamber
Drying Chamber Size	0.8 m diameter, 300 mm height
Construction Material	Heat-resistant SS 316
External Dimensions	1.0 m diameter x 800 mm height
Temperature Range	RT to 300° C
Nozzle Sizes	0.2 mm and 0.3 mm
Liquid Feed System	Digitalized for precision
Nozzle Capacity	50 ml cup with orifices
Heating Element	Kanthal with fiber insulation
Motor Power	0.5 HP
Spindle Speed	2000-12000 RPM
Air Blower	Integrated heater and air blower
View Port	Top-side accessible



Spray Pyrolysis
(SPY - 400)



Spin Coating System
(SC - Basic)



Spin Coating System
(SC - Xtreme)



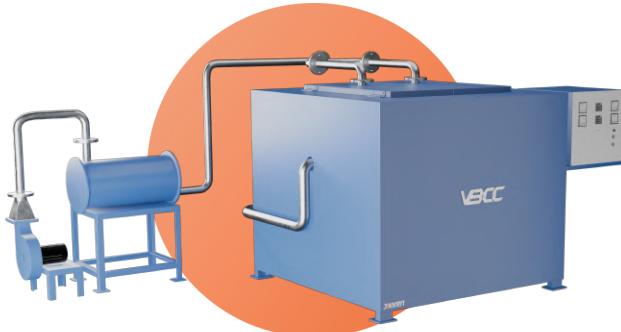
Dip Coating
(DC 150 - Premium)



Glove Box System
(Basic)



Glove Box System
(Premium)



Electro Spinner (Fiber Forming Chamber)
(EC 0.2/12000)

TESTIMONIALS

“Units operate satisfactorily, VB Ceramic Consultants service enabled our research project's success.”



Department of Ceramic Technology, Anna University,
on multiple Units working effectively

“The Custom Hot Press met our needs, stayed efficient throughout and we're very delighted with it.”



Centre for Nanotechnology Research, VIT University.
on the Custom Made Hot Press

“No Company in India, except VB Ceramic Consultants, took this challenging task to succession ”



Vikram Sarabhai Space Centre
on building Microwave Hybrid Furnace

“Extremely pleased with supercritical reactors and post-sale service from VB Ceramic Consultants team.”



CSIR-CECRI
on Custom made Supercritical Reactors

Our Prestigious Clients





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