



MATERIAL PROCESSING EQUIPMENTS



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.

Material Processing Equipment

Funsai, Seikei, and Oshidashi are specialized sub-brand under VBCC's material processing equipments, designed for high-precision applications. Funsai focuses on grinding, which reduces particle size and refines materials, ensuring better material uniformity and consistency. Seikei utilizes pressing, applying controlled pressure to compact and shape materials, ensuring consistent quality and strength. Oshidashi employs advanced extrusion technology to create uniform profiles, delivering reliable outputs for complex designs. These processes enhance production efficiency, improve material quality, and are essential in sectors such as ceramics, automotive, and electronics.

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



Table Of Contents

1. Multi Deck Roller Jar Mill	01
2. Planetary Ball Mill (Mono Mill)	03
3. Planetary Ball Mill (Table Top)	05
4. Single Roller Jar Mill	06
5. Table Top Jar Mill	07
6. Compression Moulding Press	08
7. Vacuum Hot Press	09
8. Vacuum Press / Laminating Press	10
9. Automatic Hydraulic Press	11
10. Manual Hydraulic Press	12
11. Mini Hot Press	13
12. Manual Extruder	14
13. Automatic Extruder	15
14. Vacuum Extruder	17

Multi-Deck Roller Jar Mill

Reliable Construction: Made from M.S. body with a powder-coated finish for durability and long-lasting use.

Multi-Tier Arrangement: Supports simultaneous operation of multiple jars to maximize efficiency.

Adjustable Rollers: Accommodates jar sizes ranging from 2" to 10" in diameter. Made with high-quality neoprene or polyurethane coating for superior resistance to wear and chemicals.

Continuous Operation: Designed for 200 hours of unmanned, continuous operation with smooth, reliable performance.

No Cross Contamination: Designed to ensure no contamination between sample batches.

Powerful Drive System: Features a sealed ball-bearing roller chain drive, allowing speeds from 30 to 300 rpm with variable frequency drive (VFD)

Feature	Details
Construction	M.S. body with powder-coated finish for durability and protection
Arrangement	Multi-Tier system for simultaneous operation
Roller Coating Options	Neoprene or Polyurethane-coated rollers for superior resistance to chemicals and wear
Motor Capacity	1.0 HP, 415V AC, 50 Hz
Speed Control	Variable speed (30–300 RPM) via VFD
Jars	Up to 4 porcelain jars, with options for Alumina, SS, Zirconia, Tungsten Carbide, and Plastic
Grinding Media	Options for SS, Zirconia, Polymer, Tungsten Carbide, and Alumina grinding balls
Timer and Programmable	Programmable forward/reverse operation with timing options from 1 minute to 200 hours
Automation	PLC control with HMI interface and touch screen for easy programming and operation monitoring
Dimensions	Approx. 1500 (L) x 500 (W) x 1000 (H) mm
Power Supply	415V AC, 50Hz
Control System	PLC, HMI, VFD for precise control over operation parameters

Optional Customization:

Tiers: Choose from Single, Two, or Three-tier configurations to suit your production needs.

Soundproofing: Available option to reduce noise levels during operation for a quieter workspace.

Roller Coating: Select from Neoprene or Polyurethane coatings for the rollers, ensuring durability and chemical resistance.

Jar Options: Available jars include Alumina, Stainless Steel (SS), Zirconia, Tungsten Carbide, Plastic, and Porcelain in sizes from 100ml to 100L.

Grinding Balls: Choose from Stainless Steel (SS), Zirconia, Polymer, Tungsten Carbide, or Alumina grinding media for optimal performance.



Multideck Two Tier Jar Mill
(Polyuruthene Rollers)



Multideck Two Tier Jar Mill
(Polyurethane)



Multideck Three Tier Jar Mill
(Neoprene)

Multi-Deck Roller Jar Mill

Automation System Highlights:

Programmable Logic Controller (PLC): Provides intelligent control and automation, allowing easy programming of operation cycles and parameters.

Human-Machine Interface (HMI): 7" touchscreen interface for intuitive operation, with control over program settings, including forward/reverse timings, speed, and total run time.

Variable Frequency Drive (VFD): Allows adjustable speeds from 30 to 300 RPM for precise grinding or mixing operations.



Multideck Three Tier Jar Mill
(Neoprene)

Applications:

The Multi-Deck Roller Pot Mill is perfect for:

- Ceramic slurry preparation
- Mineral processing
- Chemical mixing and grinding
- Paint and pigment production
- Research and development laboratories



Multideck Two Tier Jar Mill
(Soundproof Model)



Multideck Two Tier Jar Mill
(Soundproof Model)

Planetary Ball Mill (Mono Mill)

Planetary Motion for Optimal Collision Rate

The unique planetary rotation generates a high collision frequency, ensuring intensive grinding and mixing.

Ideal for applications that require ultra-fine grinding, capable of reducing particle sizes down to the nano scale.

Versatile Grinding Options

Offers a selection of jars and variable ball diameters for customizable grinding setups.

Planetary motion ensures uniform particle size distribution for optimal blending.

Robust Construction

Built with high-quality materials for both jars and balls, ensuring durability and consistent performance.

Self-lubricated belt drive system provides smooth, maintenance-free operation.

Advanced Control System

Microprocessor-controlled digital RPM for precise speed adjustments.

Programmable timer for setting specific grinding duration.

Safety and User-Friendly Operation

Equipped with input and output fuses to enhance operational safety.

Low-noise functionality for a quieter, more comfortable workspace.

Extended Operational Capability

Supports continuous operation for up to 10 hours.

Specifications

Category	Details
Grinding Jar Material Options	Tungsten Carbide (TC) or Stainless Steel (SS)
Jar Volume Options	SS: 250, 500, 750, 1000 ml TC: 250, 500 ml
Grinding Media Material Options	Tungsten Carbide (TC) or Stainless Steel (SS)
Grinding Media Ball Sizes	Variable diameters to suit application requirements
Total Number of Balls	20-100
Maximum Speed	Up to 600 RPM (Variable)
Drive Mechanism	Self-lubricated belt drive
Continuous Operation	Up to 10 hours
Grinding Method	Planetary rotation for uniform grinding



Planetary Ball Mill (Mono Mill)

Control System

Category	Details
RPM Control	Adjustable, with digital RPM display
Motor	0.5 HP, 230V, 50Hz, Variable Frequency Drive
Programmable Timer	Set grinding time as needed
Indications	RPM indicator for real-time monitoring
Safety	Input and output fuses for protection
Control Switches	Mains on/off and motor on/off
Noise Level	Minimal, for a quieter work environment

Jar and Grinding Media Options

Jar Options

Stainless Steel (SS) Jars

Available Volumes: 250 ml, 500 ml, 750 ml, 1000 ml

Suitable for general applications with medium wear resistance.



Tungsten Carbide (TC) Jars

Available Volumes: 250 ml, 500 ml

Ideal for high-wear applications and grinding of hard materials.



Planetary Ball Mill (Table Top)

Flexible Milling Modes

Supports both dry and wet milling for diverse applications.

Operates with 2 or 4 jars simultaneously for efficiency.

Wide Material Compatibility

Handles a range of materials: soft, hard, brittle, fibrous, cellulose, glass, soil, ore, chemicals, and more.

Precise Controls and Long Operation

Adjustable rotational speed (70–670 rpm).

Maximum continuous operation time: 72 hours.

Versatile Grinding Options

Offers a selection of jars and variable ball diameters for customizable grinding setups.

Planetary motion ensures uniform particle size distribution for optimal blending.

Advanced Control System

Microprocessor-controlled digital RPM for precise speed adjustments.

Programmable timer for setting specific grinding duration.

Safety and User-Friendly Operation

Equipped with input and output fuses to enhance operational safety.

Low-noise functionality for a quieter, more comfortable workspace.



Category	Details
Maximum Jar Volume	500 ml per jar
Milling Modes	Dry and Wet
Work Modes	2 or 4 jars working together
Rotational Speed	70 – 670 rpm, Adjustable
Revolution-to-Rotation Ratio	1:2
Input Granularity	<10 mm (soft materials), <3 mm (hard materials)
Output Granularity	Minimum 0.1 µm
Material Capacity	Material + balls <2/3 jar volume
Machine Weight	80 kg (without jars)
Machine Size (L×W×H)	750 × 470 × 590 mm
Voltage	220V, 50Hz / 110V, 60Hz
Grinding Jars	Stainless Steel, Zirconia, Alumina, Tungsten Carbide
Grinding Mediums	Stainless Steel Balls, Zirconia Balls, Alumina Balls, PU Balls, Tungsten Balls
Continuous Operation	Up to 72 hours

Single Roller Jar Mill

Robust Construction

M.S Body with Powder Coating: Durable and resistant to wear and corrosion.

One-Tier Design: Accommodates jars of different sizes for versatile applications.

Precision Roller Design

Rubber-Coated Rollers: Highly resistant to mechanical wear and chemical attack.

Sealed Ball Bearing Pillow Blocks: Ensures smooth and consistent rolling operation.

Smooth and Versatile Operation

Suitable for wet or dry grinding processes.

Supports continuous operation for enhanced efficiency.

Advanced Control System

Equipped with VFD speed control for adjustable operation up to 300 RPM.

Features automatic timers for precise control over grinding durations.

Compact and User-Friendly

Space-saving dimensions: 400 × 300 × 500 mm.

Includes essential safety features like emergency stop buttons.



Category	Details
Construction	M.S with powder coating
Arrangement	One-tier for different jar sizes
Roller Coating Options	Rubber-coated, wear-resistant
Roller Mounting	Sealed ball bearing pillow blocks
Dimensions	Approx. 400 × 300 × 500 mm
Power Supply	230 V, AC, 50 Hz
Motor Capacity	0.5 HP
Drive	Belt drive
Speed	Adjustable up to 300 RPM
Operation	Wet or Dry
Jars	Customer scope
Controls	Automatic for precise timing
Indicators	On/off switch, emergency button
Speed Control	Via VFD

Table top Jar Mill

Ultra-Compact Design

Space-efficient tabletop model, perfect for laboratories with limited space.

Designed for convenience without compromising on functionality.

Robust and Reliable Construction

Built with a durable M.S body with powder coating for resistance to wear and corrosion.

One-tier design accommodates jars of varying sizes for flexible applications.

Precision Roller System

Rubber-coated rollers: Provide excellent grip and are resistant to wear and chemical attack.

Mounted on sealed ball bearing pillow blocks for smooth, consistent operation.

Flexible and Efficient Operation

Handles both wet and dry grinding processes.

Operates continuously at speeds of up to 300 RPM, ensuring efficient grinding.

Energy-Efficient Motor

Equipped with a 0.25 HP motor, providing the right balance of power and energy efficiency.

Intuitive Controls for Ease of Use

Automatic timer for precise grinding duration control.

Features an on/off switch, emergency button, and VFD-based speed control for user-friendly operation.



Category	Details
Construction	M.S with powder coating
Arrangement	One-tier for different jar sizes
Roller Coating Options	Rubber-coated, wear-resistant
Roller Mounting	Sealed ball bearing pillow blocks
Power Supply	230 V, AC, 50 Hz
Motor Capacity	0.25 HP
Drive	Belt drive
Speed	Adjustable up to 300 RPM
Operation	Wet or Dry
Jars	Customer scope
Timer	Automatic for precise timing
Indicators	On/off switch, emergency button
Speed Control	Via VFD

Compression Moulding Press

Robust Fabrication:

Sturdy construction with IS 2062/IS:226-grade steel for durability and minimal deflection under load.

Advanced Control:

PLC-based control system with programmable cycles, stroke, and pressure settings.

Optimized Hydraulics:

Efficient power pack with cartridge valve manifold technology for trouble-free performance.

Safety Assured:

IP54-rated electrical panel, emergency stops, and safety interlocks for operator protection.



Parameter	100-Ton Press
Capacity	100 tonnes
Daylight	250 mm
Main Ram Stroke	250 mm
Platen Size (L x W)	400 x 400 mm
Max Working Pressure	200 Kg/cm ²
Platen Heating	Electric
Platen Temperature	Up to 400°C
Heating Capacity (Each)	6 kW
Speeds (Approx.)	Approach: 70 mm/sec, Pressing: 1.4 mm/sec, Return: 90 mm/sec
Electric Motor	5 HP, 415V, 3-phase
Oil Tank Capacity	325 liters
Control System	PLC with touch-screen HMI

Additional Models Available:

10, 30, 50, 200 and 500-ton capacity presses are also available, designed to meet your specific moulding requirements.



Vacuum Hot Press

Robust Construction: Heavy-duty metal frame with sky-blue emulsion finish.

Versatile Capacity: Offered in 10, 20, and 50-ton variants to suit diverse needs.

Advanced Automation: Fully automatic operation with PLC and VFD control.

User-Friendly Interface: 5.7" Delta HMI for seamless programming and operation.

Precision Pressing: Uni-axial compaction with programmable load control.

Customizable Design: Adjustable die and loading height for user convenience.

Safety Features: Emergency switches and limit switches ensure secure operation.

Reliable Hydraulic System: Siemens motor and hydraulic pumps for consistent performance.



Model	Max Temperature	Inner Dimensions(mm)	Volume (Liters)	Outer Dimensions	Max Power	Phase	Weight	Vacuum Level mbar (Max)	Press Capacity
VHP 1/16	1600 C	100*100*100	1L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 3/16	1600 C	150*150*250	3.375 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 5/16	1600 C	150*150*250	5.625 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 1/18	1800 C	100*100*100	1L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 3/18	1800 C	150*150*250	3.375 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 5/18	1800 C	150*150*250	5.625 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 1/20	2000 C	100*100*100	1L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 3/20	2000 C	150*150*250	3.375 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton
VHP 5/20	2000 C	100*100*100	5.625 L	800*800*1500	8 Kw	3 phase	200	10 ⁻⁴	10, 20, 50 100 & 200 Ton

Optional Add-Ons :

- Customized die sets for specific applications.
- Enhanced vacuum pumps for advanced operations.
- Remote monitoring and automation module.
- Upgradable hydraulic press capacity for specialized needs.



Vacuum Press / Laminating Press

Robust Fabrication:

Sturdy construction with IS 2062/IS:226-grade steel for durability and minimal deflection under load.

Precision Heating:

Electric-heated platens with PID temperature controllers for exact heat distribution up to 400°C.

Advanced Control:

PLC-based control system with programmable cycles, stroke, and pressure settings.

Optimized Hydraulics:

Efficient power pack with cartridge valve manifold technology for trouble-free performance.

Safety Assured:

IP54-rated electrical panel, emergency stops, and safety interlocks for operator protection.

Parameter	100-Ton Press
Capacity	100 tonnes
Daylight	250 mm
Main Ram Stroke	250 mm
Platen Size (L x W)	400 x 400 mm
Max Working Pressure	200 Kg/cm ²
Platen Heating	Electric
Platen Temperature	Up to 400°C
Heating Capacity (Each)	6 kW
Speeds (Approx.)	Approach: 70 mm/sec, Pressing: 1.4 mm/sec, Return: 90 mm/sec
Electric Motor	5 HP, 415V, 3-phase
Oil Tank Capacity	325 liters
Control System	PLC with touch-screen HMI
Vacuum Level	Upto 10 ⁻⁶ mbar
Press Capacity	10, 20, 50, 100 and 200 Ton



200 Ton Vacuum Press



200 Ton Vacuum Press



200 Ton Vacuum Press

Additional Models Available:

30, 50, and 200-ton capacity presses are also available, designed to meet your specific moulding requirements.

Automatic Hydraulic Press

Robust Construction: Heavy-duty metal frame with sky-blue emulsion finish.

Versatile Capacity: Offered in 10, 20, and 50-ton variants to suit diverse needs.

Advanced Automation: Fully automatic operation with PLC and VFD control.

User-Friendly Interface: 5.7" Delta HMI for seamless programming and operation.

Precision Pressing: Uni-axial compaction with programmable load control.

Customizable Design: Adjustable die and loading height for user convenience.

Safety Features: Emergency switches and limit switches ensure secure operation.

Reliable Hydraulic System: Siemens motor and hydraulic pumps for consistent performance.



20 - Ton Automatic Hydraulic Press



50 - Ton Automatic Hydraulic Press

Additional Options :

- 10 - Ton Variant
- 20 - Ton Variant
- 50 - Ton Variant
- 100 - Ton Variant



100 - Ton Automatic Hydraulic Press

Manual Hydraulic Press

Robust Construction: Heavy-duty metal frame with sky-blue emulsion finish.

Versatile Capacity: Offered in 10, 20, and 20-Semi Automatic ton variants to suit diverse needs.

Precision Pressing: Uni-axial compaction with programmable load control.

Customizable Design: Adjustable die and loading height for user convenience.

Safety Features: Emergency switches and limit switches ensure secure operation.

Reliable Hydraulic System: Siemens motor and hydraulic pumps for consistent performance.

Category	Specifications
Press Capacity	10 tons
Cylinder Capacity	10 tons (Hydraulic power unit)
Usage	Powder pressing
Piston Stroke	50 mm (Max)
Upper Ram	Stationary
Loading Type	Vertical up
Day Light	120 mm (distance between punch and die)
Platen Size	100 mm dia
Press Frame	2-pillar type
Pressure Gauge	Digital pressure gauge
Max Pressure	300 bars (30 MPa)
Model	Table-top
Pellet Die	Optional (available at extra cost)



10 - Ton Manual Hydraulic Press



20 - Ton Semi Automatic Hydraulic Press

Additional Options :

- 10 - Ton Variant
- 20 - Ton Variant
- 20 - Semi Automatic Ton Variant

Mini Hot Press

Compact and Efficient: Table-top model with a 2-pillar frame for easy handling and minimal space requirements.

Dual Functionality: Combines mechanical pressing with heating for versatile applications.

Advanced Temperature Control: PID microprocessor ensures precise temperature regulation.

Safety Features: Equipped with fuses, MCB protection, and clear indicators.

Customizable Pressing Capacity: Available in 10, 20 Ton Variant.

Robust Heating System: Strip heaters deliver uniform heating up to 800°C.

Category	Details
Press Capacity	10 Ton (Optional: 20T available)
Press Frame	2-pillar type, table-top model
Max Pressure	300 bars (30 MPa)
Piston Stroke	50 mm
Platen Size	100 mm diameter
Daylight Gap	120 mm
Heating Elements	Strip heaters
Working Temperature	Up to 800°C
Power Requirement	1kW, 230V AC
Temperature Control	PID-based, $\pm 1^\circ\text{C}$ accuracy
Thermocouple Type	'K' type
Safety Mechanisms	Input/output fuses, MCB protection



Optional Add-Ons :

- Pellet dies of various sizes.
- Enhanced temperature control systems with additional thermocouples.
- Custom platen sizes for specific applications.
- Extended heating capacity for advanced materials.

Manual Extruder

Compact & Portable: Ideal for small-scale production and R&D applications.

Customizable Nozzle Size: Standard nozzle size up to 25 mm, with custom sizes available as per customer requirement.

Durable Construction: Die, barrel, and piston made of high-quality stainless steel for superior strength and performance.

Stable & Long-Lasting: Mild steel support structure with powder coating for corrosion resistance.

User-Friendly: Simple manual operation for easy control and minimal maintenance.

Versatile Application: Suitable for a variety of extrusion processes including plastics, polymers, and other materials.



Feature	Details
Equipment Name	Table Top Hand Extruder
Nozzle Size	Up to 25 mm (customizable)
Construction Material	Die, Barrel & Piston: Stainless Steel
Support Structure	Mild Steel with Powder Coating
Operation Mode	Manual/Hand Operated
Size	Compact tabletop design
Weight	Lightweight, easy to transport
Power Supply	Manual operation (no electrical requirement)
Customization Options	Custom nozzle sizes, extrusion speed adjustments
Maintenance	Low maintenance, easy-to-clean components
Safety Features	Ergonomic design with overload protection



Automatic Extruder

Versatile Material Handling: Designed to process a wide range of materials such as meta materials, ceramic materials, and metal powders with adequate plasticity to pass through the die.

Piston Type Extruder: The piston-driven design ensures smooth and efficient material extrusion.

Fixed Machine Frame: Mounted in a robust mild steel (MS) frame, ensuring stability during operation.

Precise Extrusion Height: The extrusion height is set to 200mm from the base level for optimal material flow.

Single Screw Piston Movement: The machine uses a single screw model that is connected to the piston for efficient material movement through the die orifice.

Mechanized Drive: Powered by a 0.5HP motor, ensuring efficient performance.

Variable Speed Control: The extruder features a variable speed drive (VFD) for precise control over extrusion speed.

Polished Stainless Steel Barrel: The barrel is made from high-quality, well-polished stainless steel for durability and smooth operation.

Customizable Die Size: A single die, customized to the customer's requirements, is supplied with the extruder. Standard die dimensions include an inner diameter of 5.5 mm and an outer diameter of 11.5 mm.



Feature	Details
Type	Extrusion Machine for Meta Materials, Ceramic Materials and Metal Powders
Model	Piston Type Extruder
Frame	Fixed in a robust Mild Steel (MS) frame
Extrusion Height	200 mm from the base level
Working Principle	Material with suitable plasticity is loaded through the barrel, and the piston pushes it through the die orifice
Piston Movement	Single screw model connected to the piston
Drive	Mechanized drive with a 0.5 HP motor
Speed	Variable speed with VFD control
Barrel	Made from well-polished Stainless Steel
Die Size	Custom die supplied (Inner Diameter: 5.5 mm, Outer Diameter: 11.5 mm)
Power Supply	0.5 HP motor
Customization Options	Die sizes and extrusion parameters customizable based on customer needs

Automatic Extruder

Available Options:

Single Screw Model: Ideal for simpler extrusion processes, offering good control over material flow.

Twin Screw Model: Provides enhanced mixing and better handling of more complex materials for superior quality and consistency.

Piston Type Model: Suitable for applications requiring precise material pushing and high pressure for more demanding material types.



Vacuum Extruder

Versatile Material Handling: Designed to process a wide range of materials such as meta materials, ceramic materials, and metal powders with sufficient plasticity to pass through the die.

Piston Type Extruder: The piston-driven design ensures smooth and efficient material extrusion, ideal for precise and high-pressure applications.

Advanced Vacuum System: The extruder features a robust vacuum system with a minimum vacuum level of 10^{-1} Torr (rough vacuum) to enhance material quality by reducing air pockets and improving material density during extrusion.

Vacuum Pump: Dual-stage rotary vacuum pump with oil trap to ensure consistent vacuum levels and prevent contamination.

Vacuum Indication: The system includes an analog dial gauge for easy monitoring of vacuum levels during operation.

Vacuum Timer: A special timer is provided to control the vacuum system, ensuring precise timing and operation.

Fixed Machine Frame: Mounted in a durable mild steel (MS) frame for stability during operation.

Precise Extrusion Height: The extrusion height is set to 200 mm from the base level for optimal material flow.

Single Screw Piston Movement: The machine uses a single screw model connected to the piston for efficient material movement through the die orifice.

Mechanized Drive: Powered by a 0.5 HP motor, ensuring efficient performance.

Variable Speed Control: The extruder features a variable speed drive (VFD) for precise control over extrusion speed.

Polished Stainless Steel Barrel: The barrel is made from high-quality, well-polished stainless steel for durability and smooth operation.

Customizable Die Size: A single die, customized to the customer's requirements, is supplied with the extruder. Standard die dimensions include an inner diameter of 5.5 mm and outer diameter of 11.5 mm.

Improved Material Quality: The vacuum environment significantly improves the extrusion quality by reducing air entrapment, enhancing the material's density and overall consistency.



Vacuum Extruder

Feature	Details
Type	Vacuum Extrusion Machine for Meta Materials, Ceramic Materials, and Metal Powders
Model	Piston Type Extruder with Vacuum System
Frame	Fixed in a robust Mild Steel (MS) frame
Extrusion Height	200 mm from the base level
Working Principle	Material with suitable plasticity is loaded through the barrel, and the piston pushes it through the die orifice
Piston Movement	Single screw model connected to the piston
Vacuum System	Minimum vacuum level of 10^{-1} Torr (rough vacuum)
Vacuum Pump	Dual-stage rotary vacuum pump with oil trap
Vacuum Indication	Analog dial gauge for vacuum level monitoring
Vacuum Timer	Special timer provided for vacuum system control
Drive	Mechanized drive with a 0.5 HP motor
Speed	Variable speed with VFD control
Barrel	Made from well-polished Stainless Steel
Die Size	Custom die supplied (Inner Diameter: 5.5 mm, Outer Diameter: 11.5 mm)
Power Supply	0.5 HP motor
Customization Options	Die sizes and extrusion parameters customizable based on customer needs



Available Options:

Single Screw Model: Ideal for simpler extrusion processes, offering good control over material flow.

Twin Screw Model: Provides enhanced mixing and better handling of more complex materials for superior quality and consistency.

Piston Type Model: Suitable for applications requiring precise material pushing and high pressure for more demanding material types.

Vacuum System Option: Rough vacuum created by a dual-stage rotary vacuum pump (minimum 10^{-1} Torr) with an oil trap, vacuum indication via an analog dial gauge, and a vacuum timer for precise operation control.



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





VBCC High Temperature Instruments Pvt Ltd

207, 3rd link street, Nehru Nagar Industrial Estate,
Kotivakkam, Chennai - 600041

✉ sales@vbccinstruments.com

🌐 www.vbccinstruments.com

📞 9600478130 | 9600480658

