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.

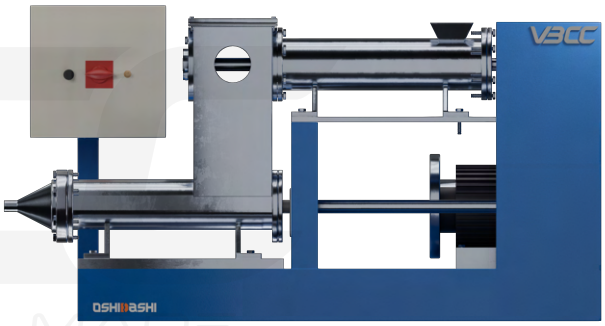
Mechanized Drive: Powered by a 0.5 HP motor, ensuring efficient performance.

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.