

Benchtop Stainless Steel Vacuum Glove Box For Laboratory Use

Item Number: ST02



Introduction

Engineered for advanced research, this benchtop stainless steel vacuum glove box provides an anaerobic and anhydrous environment for battery R&D, chemical synthesis, and sensitive material handling with dual antechamber options, superior sealing, and integrated laboratory electrical power access.

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Application	Description	Key Benefit
Lithium-Ion and Solid-State Battery Assembly	Encapsulation, coin/pouch cell stacking, electrolyte filling, and lithium metal handling in pure inert conditions.	Eliminates electrolyte hydrolysis and passivation of alkali metal anodes for reliable cell performance.
Organometallic and Pyrophoric Synthesis	Handling of air-sensitive catalysts, Grignard reagents, metal hydrides, and moisture-reactive coordination complexes.	Prevents spontaneous ignition and reagent degradation, ensuring reaction reproducibility and user safety.
Perovskite and Optoelectronic Fabrication	Deposition, spin-coating, and annealing of halide perovskite precursors and organic semiconductor materials.	Halts moisture-induced crystal phase degradation, delivering high-efficiency optoelectronic thin films.
Powder Metallurgy and Sintering Preparation	Handling, weighing, and compacting of ultrafine metallic powders and titanium or zirconium alloys prior to sintering.	Avoids interstitial oxygen pickup, ensuring superior mechanical toughness and purity in finished sintered parts.
Semiconductor and Nanomaterial Packaging	Hermetic sealing, quantum dot handling, and microelectronic substrate preparation under controlled inert gas atmospheres.	Minimizes defect states caused by surface oxidation, preserving electrical conductivity and optical purity.
Nuclear and Specialized Isotope Handling	Isolated physical manipulation and containment of radioisotopes, stable tracers, and hazardous analytical samples.	Provides robust physical containment and clean sample management to prevent atmospheric environmental release.

Specification Parameter	ST02-1	ST02-2	ST02-3
Main Chamber Dimensions (W × D × H)	600 × 450 × 500 mm	800 × 600 × 700 mm	1200 × 700 × 900 mm
Main Antechamber Dimensions	Φ200 × 270 mm	Φ280 × 350 mm	Φ340 × 400 mm
Secondary Small Antechamber Dimensions	Not Applicable	Not Applicable	Φ120 × 160 mm
Internal Shelving / Rack	None	1 Tier with Sliding Tray	1 Tier with Sliding Tray
Glove Port Diameter	Φ145 mm	Φ200 mm	Φ200 mm
Observation Window Dimensions	520 × 250 mm	700 × 320 mm	1100 × 380 mm
Side Square Maintenance Door	Not Applicable	400 × 400 mm	400 × 400 mm
Equipment Net Weight	120 kg	230 kg	330 kg
Internal Utility Interface	Multi-Port Electrical Socket	Multi-Port Electrical Socket	Multi-Port Electrical Socket
Chamber Construction Material	Corrosion-Resistant Stainless Steel	Corrosion-Resistant Stainless Steel	Corrosion-Resistant Stainless Steel
Glove Material	Sealed Latex Glove Set	Sealed Latex Glove Set	Sealed Latex Glove Set

Vacuum Pump Model	ST02-VP2	ST02-VP4
Pumping Speed	2 L/s	4 L/s

Vacuum Pump Model	ST02-VP2	ST02-VP4
Inlet Port Diameter	Φ30 mm	Φ30 mm
Oil Capacity	0.8 L	1.0 L
Pump Dimensions (L × W × H)	480 × 120 × 250 mm	520 × 140 × 250 mm
Motor Power	0.37 kW	0.55 kW
Electrical Supply	220 V / 380 V	220 V / 380 V
Gross / Net Weight	22 kg / 20 kg	21 kg / 20 kg
Operating Mechanism	Rotary Vane with Spring-Loaded Sliding Blades	Rotary Vane with Spring-Loaded Sliding Blades