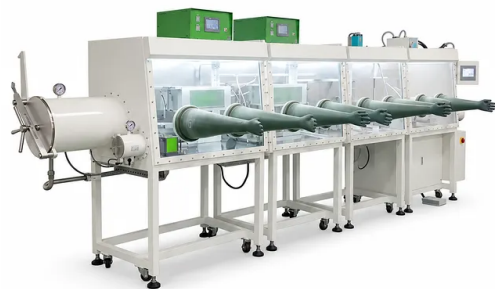


Four Station Side By Side Single Sided Operation Inert Gas Glove Box Workstation

Item Number: ST08



Introduction

Engineered for battery R&D and air-sensitive synthesis, this four-station single-sided inert gas glove box maintains sub-1 ppm moisture and oxygen purity, featuring automated PLC controls, dual-sided pass-through antechambers, and regenerable gas purification.

[Learn More](#)

Application	Description	Key Benefit
Solid-State & Lithium Battery Assembly	Continuous electrode stacking, electrolyte filling, pouch/cylindrical cell sealing, and material formulation under inert argon or nitrogen.	Eliminates moisture-induced electrolyte degradation (HF formation) and lithium oxidation with continuous < 1 ppm H ₂ O and O ₂ protection.
Organometallic & Catalyst Synthesis	Handling pyrophoric reagents, Grignard reagents, metal alkyls, and transition-metal catalysts across multiple synthesis steps.	Prevents spontaneous ignition and unwanted reagent quenching while capturing corrosive solvent vapors in the oversized trap.
Perovskite & OLED Photovoltaic Fabrication	Spin-coating, thermal annealing, precision pressing, and encapsulation of organic and hybrid halide semiconductor materials.	Delivers pristine film morphologies and prevents phase degradation caused by trace ambient humidity and oxygen.
Nuclear & Radioactive Isotope Processing	Isolation, containment, and hermetic packaging of specialized isotopes and actinide compounds requiring certified leak-tight boundaries.	Minimizes contamination risks via a certified ultra-low leak rate (≤ 0.05 vol%/h) and 0.3 μm dual HEPA particulate filtration.
Additive Manufacturing Powder Handling	Sieving, mixing, loading, and recovery of reactive spherical titanium, aluminum, and nickel superalloy powders for 3D printing.	Prevents surface oxide layer growth and hazardous dust deflagration during multi-operator bulk powder handling.
Specialty Metallurgy & Laser Welding	Joining reactive and refractory metals (titanium, zirconium, tantalum) requiring an active gas-purged workspace.	Provides broad working space for welding fixtures and motion stages with continuous high-flow gas recirculating purification.

Specification Category	Parameter	Engineering Metric / Configuration (ST08)
System Model	Item Reference	ST08
Purification Performance	Moisture Concentration (H ₂ O)	< 1 ppm (at 20°C, 1 atm, 99.999% inert gas feed)
	Oxygen Concentration (O ₂)	< 1 ppm (at 20°C, 1 atm, 99.999% inert gas feed)
	Overall Leak Rate	≤ 0.05 vol%/h
Main Chamber Body	Internal Dimensions (L × D × H)	4880 mm × 750 mm × 900 mm
	Construction Material	304 Stainless Steel, 3.0 mm sheet thickness, acid-resistant
	Internal & External Finish	Internal: Brushed Stainless Steel; External: White Polyurethane Powder-Coated
	Operator Configuration	4 Workstations, Single-Sided In-Line Operation
	Viewing Windows	4 × Inclined 8.0 mm Tempered Safety Glass with Scratch-Resistant Protective Film
	Glove Ports	Machined High-Strength Hard Aluminum Alloy, Dual O-Ring Hermetic Seal
	Glove Specifications	North Safety Butyl Rubber (USA), 0.4 mm Thickness, 8" Port Diameter, 32" Length
	Gas Filtration	Dual 0.3 μm Particulate Filters (1 Gas Inlet, 1 Gas Outlet)
	Shelving & Illumination	Adjustable 304 Stainless Steel Shelving; 4 × High-Intensity LED Light Bars

Specification Category	Parameter	Engineering Metric / Configuration (ST08)
Dual Large Antechambers	Feedthrough Ports	16 × DN40 KF Spare Feedthroughs; 2 × Internal Power Supply Cords (220V)
	Quantity & Location	2 Units (One Mounted on Left Side, One Mounted on Right Side)
	Dimensions	Diameter: 360 mm, Length: 600 mm
	Construction Material	304 Stainless Steel (Internal: Polished Finish; External: White Painted)
Dual Small Antechambers	Door Design & Tray	10 mm Anodized Aluminum Vertical-Lift Doors with Counterbalanced Lift; 304 SS Sliding Tray
	Evacuation & Control	Touchscreen-Controlled Solenoid Valves with Analog Pressure Gauge Display
	Quantity & Location	2 Units (One Mounted on Left Side, One Mounted on Right Side)
	Dimensions	Diameter: 150 mm, Length: 300 mm (100 mm Chamber Ingress)
Gas Purification System	Construction Material	304 Stainless Steel (Internal: Brushed Finish; External: White Painted)
	Door Design & Operation	Dual Compression Clamping Doors with Internal Sliding Tray; Manual Ball Valve Control
	Purification Column Design	Single-Column Fully Enclosed Stainless Steel Housing
	Purification Reactants	Copper Catalyst: 9.0 kg (BASF/Bayer); Molecular Sieve: 9.0 kg (BASF/Bayer)
Solvent Trap System	Capacity Metrics	Oxygen Removal: 100 Liters; Moisture Adsorption: 4.0 kg
	Gas Circulation Blower	Integrated DARGANG Blower (Taiwan), Flow Rate: 145 m³/h
	Working Compatible Gases	Nitrogen (N₂), Argon (Ar), Helium (He)
	Column Regeneration	Automated PLC-Programmed Cycle; Mix Gas: Working Gas + 5%–10% H₂
Vacuum System	Solvent Absorber Dimensions	Diameter: 238 mm, Height: 407 mm
	Trap Construction	3.0 mm 304 Stainless Steel, Mounted Directly In-Line on Circulation Loop
Sensing & Instrumentation	Vacuum Pump Model	Edwards RV12 Rotary Vane Vacuum Pump (UK)
	Pumping Speed & Limit Vacuum	12 m³/h Displacement; Ultimate Vacuum: ≤ 2.0 × 10 ⁻¹ Pa
	Accessories & Integration	Integral Oil Mist Filter, Gas Ballast Control, Automated PLC Start/Stop Integration
Control & Hardware	Oxygen Analyzer	VTI (USA), Zirconia (ZrO₂) Sensor, Range: 0–1000 ppm (Immune to Air-Shock)
	Moisture Analyzer	VTI (USA), P₂O₅ Platinum Electrode Sensor, Range: 0–500 ppm (Cleanable/Regenerable)
	Pressure Sensor	Halstrup (Germany) Sensor; Programmable Control: ±10 mbar; Fail-Safe Trip: ±12 mbar
	Vacuum & Pressure Gauges	WIKA (Germany) Precision Mechanical Analog Gauges
Control & Hardware	Main Controller	Siemens PLC with Smart 700 Full-Color Touchscreen Interface
	Pneumatic & Angle Valves	Bürkert (Germany) Solenoid Valves; Legris (France) Push-to-Connect Fittings
	Main Angle Valves	DN40 KF Electro-Pneumatic Angle Valves; Custom MIKROUNA Integrated Valve Manifold
	Ergonomic Foot Switch	Heavy-Duty Dual-Pedal Switch for Chamber Pressure Ramp-Up / Evacuation Adjustment
Control & Hardware	System Stand & Mobility	Structural Steel Base Stand with Heavy-Duty Leveling Footpads and Swivel Casters