



α -1200V Vacuum Glovebox



Vacuum Atmospheres Glovebox

Vacuum models of gloveboxes are complete standalone systems integrated with entire functional components. A vacuum can be produced in the glovebox chamber so that the purging process is much faster. They are able to create an inert environment with less than 1 ppm of H_2O and O_2 . The systems are modulated with antechambers, removable windows, adjustable trays, lighting units, adjustable shelves, and gloves, which meet most of the operational needs in the glovebox. The systems are made of welded stainless steel and are equipped with highest-quality components. We also provide optional components to meet your special requirements. The Vacuum models include a series of glovebox chamber lengths including 800, 1000, 1200, 1500, and 1800 mm. We also take custom-built orders according to your needs.

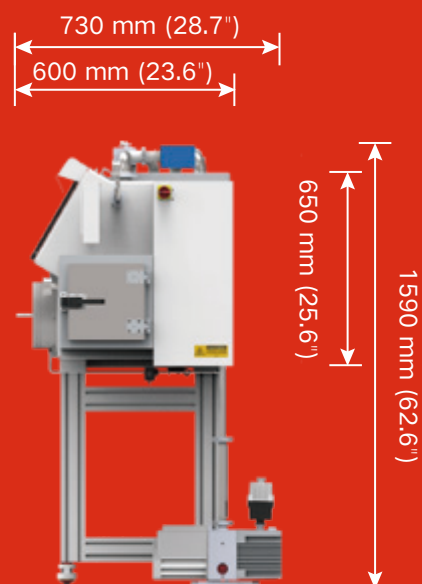
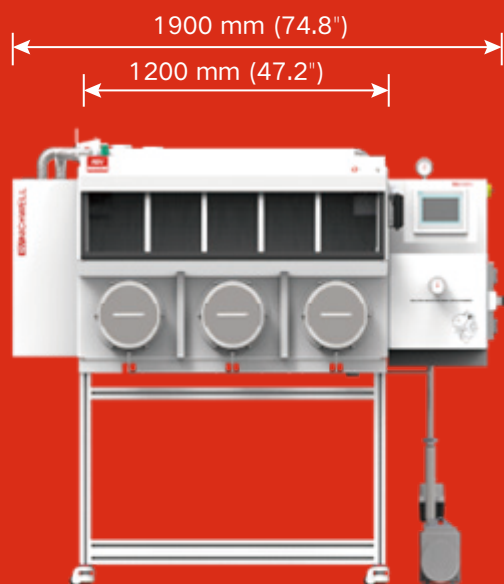
KEY FEATURES

Glovebox with all-welded stainless steel design
All stainless steel pipework
Removable front window as an entry for large equipment
Purifier regeneration frequency once per year
Automatic antechamber control
Vacuum pump
Oxygen Analyzer / Moisture Analyzer
Auto purge function
User friendly and simple operation: Color LCD touch panel and PLC controller
Energy-Save mode, automatically reducing power consumption by up to 90% during idle periods
Automatic regenerable H₂O/O₂ purifier
Attainable purity O₂<1 ppm, H₂O<1 ppm (dew point also available for moisture reading)
Industry leading low leak rate of <0.05 Vol%/hour at -10 mbar condition
Stainless steel encapsulated blower with frequency converter
Circulation capacity more than 80 m³/h (47 cfm) at ΔP = 60 mbar (60 Hz)
Compatible with world-wide voltage standards
Integrated high vacuum feedthroughs
Conform to CE
One year limited warranty, and lifetime technical support

MAIN APPLICATIONS

Create oxygen-free and moisture-free environment for organometallic chemistry, organic synthesis, hydrophilic chemical handling, medical devices, electronic component handling, lithium battery handling, solar cell assembly, hemoglobin and metabolic research, catalyst handling, medicine synthesis, nuclear industry, membrane of organic EL preparation, etc.





Package List

Part Description	Quantity	Part Image
Quick Clamp KF 25	3 pcs	
Bellows Metal KF 25	1 pcs	
Glovebox Glove	3 pcs	
Oxygen Analyzer	1 pcs	
Moisture Analyzer	1 pcs	
Oil Mist Filter	1 pcs	
RV-12 Vacuum Pump	1 pcs	

Configuration Options

	Acrylic	Mini	Vacuum	Standard
25.6" 650 mm		Customizable	Customizable	Customizable
31.5" 800 mm	Customizable			Customizable
39.4" 1000 mm	Customizable			Customizable
47.3" 1200 mm	Customizable			
59.1" 1500 mm				
70.8" 1800 mm	Customizable			
94.5" 2400 mm	Customizable	Customizable	Customizable	

α-1200V Vacuum Glove Box With Auto Purging System

External Structure			
Chamber Capacity		Approximately 16.6 cu. Ft (0.47 m³)	
Overall Dimensions		74.8" L x 28.7" W x 62.6" H, 1900 mm (L) x 730 mm (W) x1590 mm (H)	
Overall Weight		814 lbs (370 kg)	
Electrical Voltage		• 230 VAC/50-60 Hz, 10 A • 115 VAC/50-60 Hz, 20 A • 100 VAC/50-60 Hz, 20 A	
Glovebox Chamber			
Description	Material	Stainless steel 304, 5 mm in thicknes, Glovebox vacuum ≤-1 bar	
	Internal Dimensions	47.2" L x 23.6" W x 25.6" H, 1200 mm (L) x 600 mm (W) x 650 mm (H)	
Inclined Front Window	Material	Acrylic, 15 mm in thickness, Lexan (polycarbonate) 10 mm in thickness upon request	
	Dimensions	46.1" L x 15" W, 1170 mm (L) x 380 mm (W)	
Glove Ports	Tekaform	8.6"(220 mm) in diameter, O-ring sealed	
	Dimensions	Hard aluminum alloy or polyaldehyde upon request	
Gloves	Material	Butyl rubber	
	Thickness	0.4 mm (standard) 0.8 mm upon request	
HEPA Filters		Inlet and outlet filters eliminate particles with the size >0.3 μm	
Lighting		Fluorescent lamp, front-ceiling mounted	

Leakage Rate		Typically <0.05 vol%/hr at -10 mbar, • By oxygen leak decay test method according to ISO 10648-2: 1994 • By pressure change test method according to ISO 25412		
Gas Purification System				
Description		- Automated removal of H₂O and O₂ - Single column, automated column regeneration; dual purification columns (optional) - Closed stainless steel loop for gas recirculation and purification		
Operating Gas	Working gas	Nitrogen, Argon, or Helium (purity >99.999%)		
	Regeneration gas	Mixture of H ₂ (5-10%) and working gas		
Vacuum Pump 	Description	Rotary vane pump, installed with oil mist filter, oil circulator, and automatic gas ballast control; dual-stage. or dry pump upon request		
	Pumping rate	7.0 cfm (12 m ³ /h)		
	Ultimate vacuum	< 2 x 10 ⁻³ mbar		
Circulation Unit	Blower	Integrated blower, oil-free, highly efficient		
	Flow Rate	47 cfm (80 m ³ /h)		
Valves		Electro-pneumatic DN40		
Leakage Rate		Typically <0.05 vol%/hr at -10 mbar, • By oxygen leak decay test method according to ISO 10648-2: 1994 • By pressure change test method according to ISO 25412		
Antechamber				
Main Antechamber	Material	Stainless steel 304; 6.0 mm in thickness		
	Internal Dimensions	15.7" L x 9.8" W x 9.8" H, 400 mm (L) x 250 mm (W) x 250 mm (H)		
	Vacuum	1 x 10 ⁻² mbar		

Purging System			
Function		By setting up the purging time and pressure, the system automatically purges the chamber O ₂ level, timer or manually controlled	
Analyzers			
O₂-Analyzer 	Dimensions	8" L x 3.1" W x 2.4" H, 205 mm (L) x 80 mm (W) x 60 mm (H)	
	Measurement Range	0 to 1000 ppm	
	Other Analyzer	GE oxy.IQ™ Oxygen Transmitter upon request	
H₂O-Analyzer 	Dimensions	8" L x 3.1" W x 2.4" H, 205 mm (L) x 80 mm (W) x 60 mm (H)	
	Measurement Range	0 to 500 ppm	
	Other Analyzer	GE VeriDri™ Dew-Point Transmitter	
Solvent Purification System			
Description	Column Material	Stainless steel 304; 3.0 mm in thickness	
	Inside Dimensions	8.6"(Φ) x 17.7"(L), 220 mm (Φ) x 450 mm (L)	
	Packing Material	High-quality activated carbon	
Optional Components			
Vacuum feedthrough with two valves		Special design to KF40 joint, you can lead the water or gas into the box	
Electrochemical signal feedthrough (4 or 8 pins)		Stainless steel 1.4301	
Freezer	Location	Integrated on the side panel of the glovebox	
	Inside Dimensions	16.6" L x 10.5" W x 6.4" D, 420 mm L x 266 mm W x 162 mm D	
	Capacity	18 L or 32 L, 5 shelves with adjustable height	
	Minimum Temperature	-35 °C	

Microscope with CCD Camera Systems	Equipment for microscopic analysis of glovebox contents, video-assisted motion can be customized upon request
Cold Well with Cover	Different capabilities of cold wells for low-temperature storage and low-temperature reaction manipulations
Dual Purification Columns	More efficient to remove oxygen and moisture
Organic Solvent Absorber	Regenerable, more efficient to purify organic solvent
Cooling Fan	Accelerate the gas flow in the glovebox chamber
Heating Element	Installed in main antechamber; Maximum 200 °C; Temperature control ± 1 °C.
Other Information	
Compliance	UL . ISO9001. CE
Warranty	• One year limited warranty, with lifetime support • Rusting or damage due to improper storage condition or maintenance are not covered by this warranty • consumable items including gloves and oxygen sensors are not covered by this warranty
Application Notes & Warnings	• The interconnections between the glovebox chamber and the gas purification system must be unimpeded during the purification cycles • The use of corrosive gases is prohibited because they will damage the water and oxygen sensors • Regularly perform regeneration of gas purification columns to maintain the optimum purification efficiency • The O₂ removing rate is highly dependent on the type of purging gas used. To obtain faster chamber purging, Nitrogen is preferred to Argon due to its lighter molecular mass • Corrosive liquid (such as LiPF₆ solution) must be sealed in a container inside the glovebox. Otherwise, liquid vapor may condense and corrode the steel chamber and/or purification pipelines

Order Information

α	*	1	2	3	4	Description
Vacuum Glovebox	800					Dimensions 31.5" L × 23.6" W × 25.6" H
	1000					Dimensions 39.4" L × 23.6" W × 25.6" H
	1200					Dimensions 47.2" L × 23.6" W × 25.6" H
	1500					Dimensions 59.1" L × 23.6" W × 25.6" H
	1800					Dimensions 70.9" L × 23.6" W × 25.6" H
Structure configuration		V				One Glovebox
		S				Split Glovebox
		D				Double Sided Glovebox
Function option			P			Purging System
			G			Gas Purification System, H ₂ O、O ₂ ≤1ppm
			O			Solvent purification system
Other function options			A5			Square Antechamber 15.7" L × 9.8" W × 9.8" H
Antechamber					FW	Openable Front Window

* The chamber length number is basically required, while 1, 2, 3, or 4 are optional depending on the specific needs by users. Please contact us if special requirements are needed.

Example of ordering numbers:

- (1) α -1000VPGO, indicates a single glovebox with 1000 mm in chamber length, integrated with an auto-purging system, a water/oxygen purification system, and a square transitional tank.
- (2) α -1500VPG-A5, indicates a split duplex glovebox with single-side access to the glovebox chamber and 1500 mm in chamber length, integrated with an auto-purging system, a water/oxygen purification system, and a square transition Antechamber.

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