α-1500U Standard Glovebox



Standard Vacuum Atmospheres Glovebox

Standard models of gloveboxes are complete standalone systems integrated with entire functional components. They are able to create an inert environment with less than 1 ppm of H_2O and O_2. The systems are modulated with ante-chambers, 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 high-est-quality components. We also provide optional components to meet your special requirements. The standard models include a series of glovebox chamber lengths including 1200, 1500, 1800, and 2400 mm. We also take custom-built orders according to your needs.

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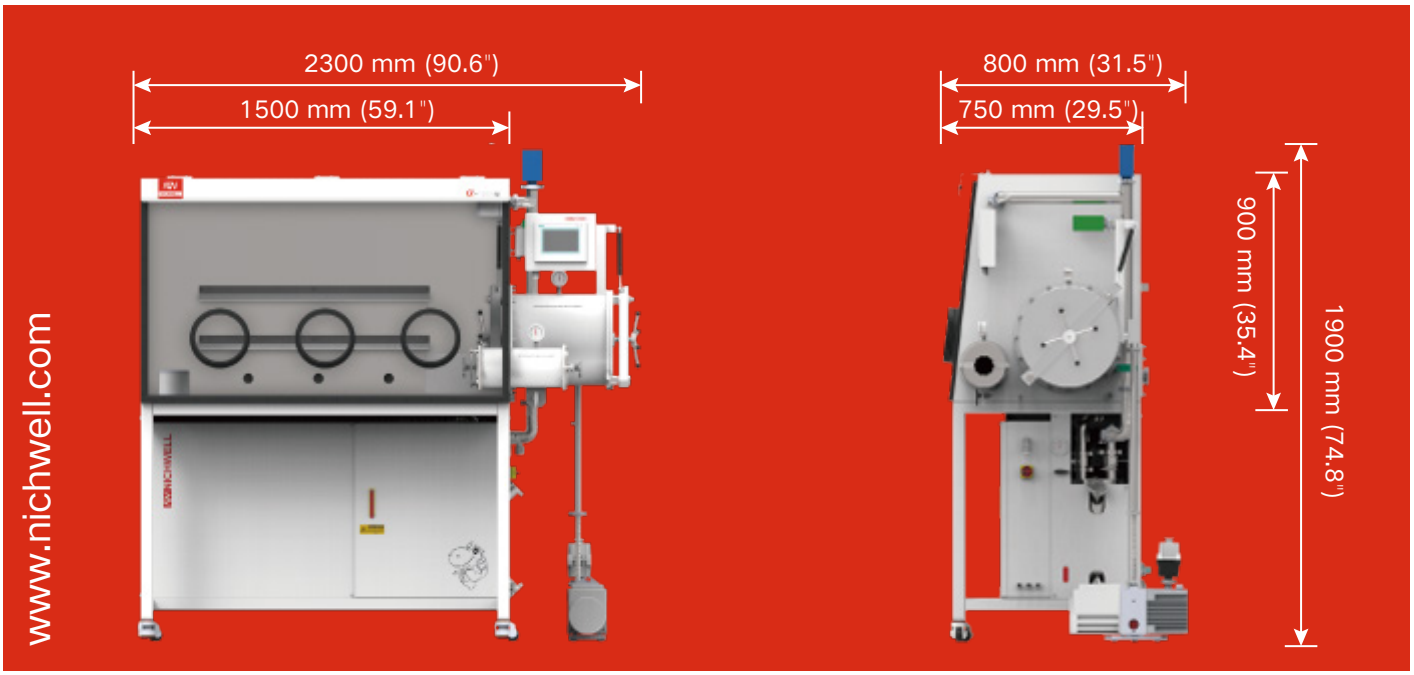
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KEY FEATURES

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
Mini antechamber
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 H_2O/O_2 purifier
Attainable purity O_2<1 ppm , H_2O<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 84 m^3/h (50 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	
RV12 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	

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α-1500U Inert Vacuum Controlled Atmospheres Glovebox

External Structure			
Chamber Capacity	Approximately 35.3 cu. F.t (1 m^3)		
Overall Dimensions	90.6" L x 31.5" W x 74.8" H, 2300 mm (L) x 800 mm (W) x 1900 mm (H)		
Overall Weight	1056 lbs (480 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, 3.0 mm in thicknes	
	Internal Dimensions	59.1" L x 29.5" W x 35.4" H, 1500 mm (L) x 750 mm (W) x 900 mm (H)	
Inclined Front Window	Material	Tempered glass, 8.0 mm in thickness, Lexan (polycarbonate) 10 mm in thickness upon request	
	Dimensions	56.5" L x 33" W, 1435 mm (L) x 840 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 H_2O and O_2 • 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; 3.0 mm in thickness
	Internal Dimensions	14"(Φ) x 23.6"(L), 360 mm (Φ) x 600 mm (L)
	Vacuum	1 x 10^{-2} mbar

Mini Antechamber 	Material	Stainless steel 304; 3.0 mm in thickness
	Inside dimensions	5.9"(Φ) x 13"(L), 150 mm (Φ) x 330 mm (L)
	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		
O_2-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
H_2O-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 304

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 and damage due to improper storage condition or maintenance are not covered by warranty • Gloves are consumable items and are NOT covered by warranty • The Oxygen Sensor is a consumable component NOT covered by warranty. Please follow the videos below for proper operations 1) Replacing a worn unit 2) Storing the sensor to ensure maximum longevity when not in use
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 O_2 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
Standard Glovebox	1200					Dimensions 47.2" L × 29.5" W × 35.4" H
	1500					Dimensions 59.1" L × 29.5" W × 35.4" H
	1800					Dimensions 70.8" L × 29.5" W × 35.4" H
	2400					Dimensions 94.5" L × 29.5" W × 35.4" H
Structure configuration		U				One Glovebox
		S				Split Glovebox
		D				Double Sided Glovebox
Function option			P			Purging System
			G			Gas Purification System，H2O、O2≤1ppm
			O			Solvent purification system
Antechamber				A0		Main Cylindrical Antechamber φ14.2"×23.6" L
				A1		Main Cylindrical Antechamber φ15.3"×23.6" L
				A2		Mini Cylindrical Antechamber φ5.9"×13.0" L
				A3		Square Antechamber 15.7" L × 11.8" W × 11.8" H
Other function options					FW	Openable Front Window
					18F	18L Freezers Temperature -32.8˚F
					32F	32L Freezers,Temperature -32.8˚F

* No. is the basic required option, 1,2,3,4 for the optional order number, according to the needs of their own configuration. If you have special requirements, you can contact us.

Example of ordering numbers:
①α-1200UPGO, which means the integrated single station 1200mm long glove box with automatic cleaning, water oxygen purification system and volume adsorption system;
②α-1800SDPG-A3, said the split 1800mm two-sided four-station glove box with automatic cleaning, water and oxygen purification system, and the configuration of a square transitional tank.

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