



Functional characteristics

- Standards comparable to our all-welded design
- Purifier regeneration frequency once per year
- Regeneration averages ~ once per year
- Automatic antechamber control
- Oxygen Analyzer / Moisture Analyzer
- Auto Vacuum
- 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%/h at -10 mbar
- Circulation capacity more than 20 m³/h (12cfm) at ΔP = 60 mbar (60 Hz)
- Compatible with world-wide voltage standards
- Integrated high vacuum feedthroughs
- Conform to CE

SPECIFICATIONS

Material : Stainless steel 1.4301 (SUS Type 304) , 3 mm in thickness

Glovebox interior dimensions: 39.4" x 25.6" x 28.3", 1000mm (L) x 650mm (W) x 720mm (H)

Feedthrough : DN 40 ISO-KF blank and 3/8" compression bulkhead

Internal Power : Electrical feedthrough

Shelving : 3 - height adjustable , 304 stainless steel

gloves : Butyl, 0.4 mm in thickness

Filters : 1 Inlet/ 1 Outlet HEPA

Lighting : Fluorescent lamp,Front mounted

Electrical voltage : 100-120V or 200-240 VAC 50/60 Hz 20 A

Leak Rate : <0.05 vol%/h (ISO 10648-2)

LARGE ANTECHAMBER

15.7" x 9.8" x 9.8"

Bolt on left or right side

Internal tray : Stainless steel 304

Automatic control : Evacuate/refill

Leak rate : < 10^{-5} mbar • l/s

GAS PURIFICATION SYSTEM

Available as single purifier with solvent removal.

Purity level : <1ppm O₂ and <1ppm H₂O

O₂ capacity = 23 L per purifier column

H₂O capacity = 1000 g per purifier column

Variable speed circulation blower

PLC control system 7" color touch screen

Automatic pressure control : ± 12 mbar

Blower : Automated speed control , O₂ level adjusts blower speed

Circulation capacity more than 17 m³/h (10 cfm) at ΔP = 60 mbar

Pressure control : Automatic box pressure control with foot switch (−12mbar, +12mbar)

Purge valve : O₂ Level, Timer or manually controlled

Vacuum pump : 20 m³/h (12 cfm) rotary pump with oil misteliminator shuts pump off for energy reduction

Oxygen Analyzer : Range 0-1000 ppm

Moisture Analyzer : Range 0-500 ppm

SYSTEM APPLICATIONS

Additive (3D) Manufacturing
 Aerospace
 Automotive
 Chemistry
 Lamp Manufacturing
 Lithium Ion Battery
 Medical Device
 Nuclear
 OLED
 Pharmaceutical
 Semiconductor
 Solar
 Specialty Chemical
 Thin Film
 Many Other Applications



OPTIONAL

Double Sided Access

Left Sided Antechambers

Vacuum Oven

Freezer Temperature -35°C

Through Flow Antechambers

Laminar Flow

Cold Well With Cover

Regenerable Solvent Adsorber

Dual Purification Columns

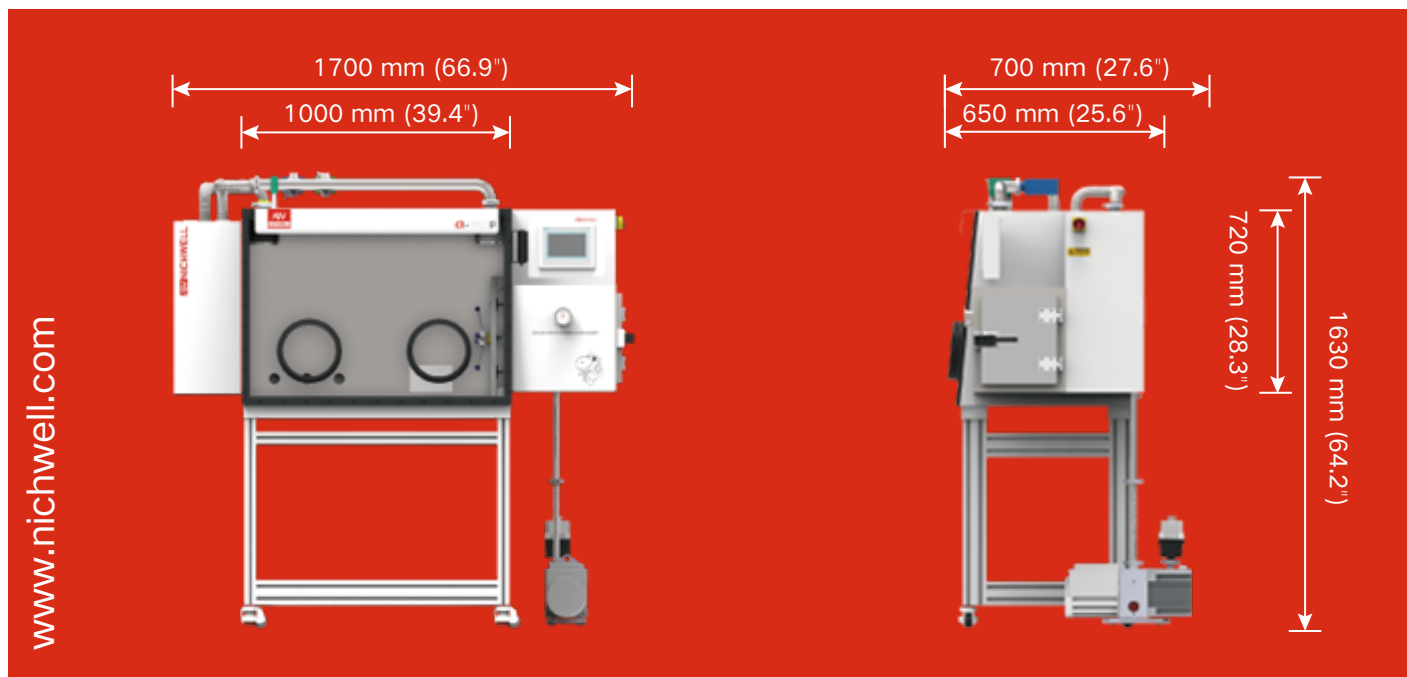
Circular Glove Ports

Polycarbonate Window








Dry Vacuum Pump

Solvent Purification System

Other Customizations







Package List

Part Description	Quantity	Part Image
Quick Clamp KF 25	3 pcs	
Bellows Metal KF 25	1 pcs	
Glovebox Glove	2 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-1000P Mini Glovebox With Auto Purging And Gas Purification

External Structure				
Chamber Capacity		Approximately 16.6 cu. Ft (0.47 m³)		
Overall Dimensions		66.9" L x 27.6" W x 64.2" H, 1700 mm (L) x 700 mm (W) x1630 mm (H)		
Overall Weight		748 lbs (340 kg)		
Electrical Voltage		<ul style="list-style-type: none">• 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 thickness, Glovebox vacuum ≤-1 bar		
	Internal Dimensions	39.4" L x 25.6" W x 28.3" H, 1000 mm (L) x 650 mm (W) x 720 mm (H)		
Inclined Front Window	Material	Tempered glass, 8.0 mm in thickness, Lexan (polycarbonate) 10 mm in thickness upon request		
	Dimensions	37.6" L x 27.0" W, 955 mm (L) x 685 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, <ul style="list-style-type: none"> By oxygen leak decay test method according to ISO 10648-2: 1994 By pressure change test method according to ISO 25412
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Gas Purification System

Description	<ul style="list-style-type: none">Automated removal of H₂O and O₂Single 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	
<div>Vacuum Pump</div> <div></div>	Description	Rotary vane pump, installed with oil mist filter, oil circulator, and automatic gas ballast control; dual-stage. or dry pump upon request	<div></div>
	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, <ul style="list-style-type: none">By oxygen leak decay test method according to ISO 10648-2: 1994By 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 O₂ 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	<ul style="list-style-type: none"> • 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 <ol style="list-style-type: none"> 1) Replacing a worn unit 2) Storing the sensor to ensure maximum longevity when not in use
Application Notes & Warnings	<ul style="list-style-type: none"> • 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
Mini Glovebox	800					Dimensions 31.5" L × 25.6" W × 28.3"H
	1000					Dimensions 39.4" L × 25.6" W × 28.3"H
	1200					Dimensions 47.2" L × 25.6" W × 28.3"H
	1500					Dimensions 59.1" L × 25.6" W × 28.3"H
	1800					Dimensions 70.9" L × 25.6" W × 28.3"H
Structure configuration		P				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
Antechamber				A5		Square Antechamber 15.7" L × 9.8" W × 9.8" 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.

Order No. Example:

①α-1000PPGO-A5, said the single-station 1000mm long glove box with automatic cleaning, water oxygen purification system, volume adsorption system, as well as the configuration of a square transitional tank;

② α-1500PG-A5, said the split 1500mm single-sided duplex glove box water and oxygen purification system, and the configuration of a square transitional tank.

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