

# *Glovebox System*

We aim to stand ourselves up as a global Glovebox manufacture by developing our own state-of-the-art technology.



# *Enclosure System*



## About KOREA KIYON

KOREA KIYON has an over 22 years of proven record in design and manufacturing one of most advanced gloveboxes for research and mass production customers worldwide. To do this, KOREA KIYON is making its constant and relentless efforts to develop the best quality glovebox system components like purification system, solvent trap, sensors, and vacuum chambers.

KOREA KIYON is supplying its own branded gloveboxes to global customers. It is not only supply its gloveboxes R&D centers, universities and mass production customers like Samsung, LGE but also has very strong customer bases in overseas including many renowned Japanese' universities and OLED, Solar and Chemical R&D centers, and industrial manufacturing companies. We are differentiating ourselves by manufacturing customized gloveboxes for various applications like Chemical, Display, Battery, Lightening devices, Medical, Optics, Nuclear and many more.

KOREA KIYON sets rigorous quality standards to facilitate customers' various usages and is doing the best to provide each customer the most customized gloveboxes.



# KK-011AS

- 1 Person (2 Glove ports) Glovebox
- Less than 1PPM of Oxygen and Moisture concentration level inside
- The box module
- 1,200(W) X 760(D) x 890(H)mm
- Stainless steel design with polycarbonate window
- Modular box design
- Large antechamber (380 diag. x 500mm) with sliding tray / Mini-Antechamber (150 diag. x 290mm)
- Embedded inert gas purification system
- Vacuum pump
- High efficiency box filters
- Casters and leveling feet



<b>Model</b>	<b>KK - 011 AS ( 2 Port )</b>
<b>Size</b>	1,200(W) X 760(D) X 890(H) mm
<b>Material</b>	SUS 304
<b>Windows</b>	Poly-Carbonate PC or Safety Glass
<b>Glove</b>	Butyl Rubber 1 Pair
<b>External Light</b>	1
<b>Service Port</b>	KF(NW40): 2ea
<b>Leak Test</b>	0.05 vol%/hr According to ISO 10648-2
<b>Ante-Chamber</b>	
<b>Size</b>	380 X 500mm
<b>Vacuum Capacity</b>	$1 \times 10^3$ torr
<b>Tray</b>	200 x 500mm
<b>Mini-Chamber</b>	
<b>Size</b>	150 x 290 mm
<b>Purifier System</b>	
<b>Purifier Level</b>	Less than 1 ppm O <sub>2</sub> and H <sub>2</sub> O
<b>Catalyst</b>	Oxygen Catalyst and Molecular Sieve
<b>PLC</b>	Automatic PLC control
<b>Control Panel</b>	7" Full Color Touch Screen
<b>Purifier Regeneration</b>	Auto Regeneration Programmed on PLC
<b>Blower Speed Control</b>	Max.63 CFM (1.78m <sup>3</sup> /min)
<b>Vacuum Pump</b>	200L/min
<b>Stand</b>	
<b>Size</b>	1,200(W) X 760 (D) X 930(H) mm

# KK-011AS-EXTRA

- 1.5 Person (3 Glove ports) Glovebox:
- Less than 1PPM of Oxygen and Moisture concentration level inside
- The box module
- 1,800(W) X 760(D) x 890(H)mm
- Stainless steel design with polycarbonate window
- Modular box design
- Large antechamber (380 diag. x 500mm) with sliding tray
- Mini- antechamber (150 diag. x 290mm)
- Embedded inert gas purification system
- Vacuum pump
- High efficiency box filters
- Casters and leveling feet



<b>Model</b>	<b>KK - 011AS - Extra (3 Port)</b>
<b>Size</b>	1,800(W) x 760(D) x 890(H)mm
<b>Material</b>	SUS 304
<b>Windows</b>	Poly-Carbonate PC or Safety Glass
<b>Glove</b>	Butyl Rubber 1.5 Pair
<b>External Light</b>	1
<b>Service Port</b>	KF(NW40): 2ea
<b>Leak Test</b>	0.05 vol%/hr According to ISO 10648-2
<b>Ante-Chamber</b>	
<b>Size</b>	380 X 500mm
<b>Vacuum Capacity</b>	$1 \times 10^3$ torr
<b>Tray</b>	200 x 500mm
<b>Mini-Chamber</b>	
<b>Size</b>	150 x 290 mm
<b>Purifier System</b>	
<b>Purifier Level</b>	Less than 1 ppm O <sub>2</sub> and H <sub>2</sub> O
<b>Catalyst</b>	Oxygen Catalyst and Molecular Sieve
<b>PLC</b>	Automatic PLC control
<b>Control Panel</b>	7" Full Color Touch Screen
<b>Purifier Regeneration</b>	Auto Regeneration Programmed on PLC
<b>Blower Speed Control</b>	Max.63 CFM (1.78m <sup>3</sup> /min)
<b>Vacuum Pump</b>	200L/min
<b>Stand</b>	
<b>Size</b>	1,800(W) x 760(D) x 930(H)mm

# KK-021AS

- 2 Person (4 Glove ports) Glovebox:
- Less than 1PPM of Oxygen and Moisture concentration level inside
- The box module
- 2,200(W) X 760(D) x 890(H)mm
- Stainless steel design with polycarbonate window
- Modular box design
- Large antechamber (380 diag. x 500mm) with sliding tray
- Mini-antechamber (150 diag. x 290mm)
- Embedded inert gas purification system
- Vacuum pump
- High efficiency box filters
- Casters and leveling feet



<b>Model</b>	<b>KK - 021AS (4 Port)</b>
Size	2,200(W) x 760(D) x 890(H)mm
Material	SUS 304
Windows	Poly-Carbonate PC or Safety Glass
Glove	Butyl Rubber 2 Pair
External Light	2
Service Port	KF(NW40): 2ea
Leak Test	0.05 vol%/hr According to ISO 10648-2
<b>Ante-Chamber</b>	
Size	380 X 500mm
Vacuum Capacity	$1 \times 10^{-3}$ torr
Tray	200 x 500mm
<b>Mini-Chamber</b>	
Size	150 x 290 mm
<b>Purifier System</b>	
Purifier Level	Less than 1 ppm O <sub>2</sub> and H <sub>2</sub> O
Catalyst	Oxygen Catalyst and Molecular Sieve
PLC	Automatic PLC control
Control Panel	7" Full Color Touch Screen
Purifier Regeneration	Auto Regeneration Programmed on PLC
Blower Speed Control	Max.63 CFM (1.78m <sup>3</sup> /min)
Vacuum Pump	200L/min
<b>Stand</b>	
Size	2,200(W) x 760(D) x 930(H)mm

# KK-011AD

- 2 Person (4 Glove ports) Glovebox
- Less than 1PPM of Oxygen and Moisture concentration level inside
- The box module
- 1,200(W) \* 1,100(D) \* 890(H) mm
- Stainless steel design with polycarbonate window
- Modular box design
- Embedded inert gas purification system
- Vacuum pump
- High efficiency box filters
- Casters and leveling feet



<b>Model</b>	<b>KK-011AD (4 Port)</b>
Size	1,200(W) x 1,100(D) x 890(H)mm
Material	SUS 304
Windows	Poly-Carbonate PC or Safety Glass
Glove	Butyl Rubber 2 Pair
External Light	2
Service Port	KF(NW40): 2ea
Leak Test	0.05 vol%/hr According to ISO 10648-2
<b>Ante-Chamber</b>	
Size	380 X 500mm
Vacuum Capacity	1 x 10 <sup>-3</sup> torr
Tray	200 x 500mm
<b>Mini-Chamber</b>	
Size	150 x 290 mm
<b>Purifier System</b>	
Purifier Level	Less than 1 ppm O <sub>2</sub> and H <sub>2</sub> O
Catalyst	Oxygen Catalyst and Molecular Sieve
PLC	Automatic PLC control
Control Panel	7" Full Color Touch Screen
Purifier Regeneration	Auto Regeneration Programmed on PLC
Blower Speed Control	Max.63 CFM (1.78m <sup>3</sup> /min)
Vacuum Pump	200L/min
<b>Stand</b>	
Size	1,200(W) x 1,100(D) x 930(H)mm

# KK-ISO

## ISOLATOR SYSTEM



<b>Model</b>	<b>KK-ISO (4Port)</b>
Size	2,000(W) x 720(D) x 840(H)mm
Material	SUS 316L
Windows	Safety Glass
Glove	Hypalon glove 2 Pairs
External Light	2
Leak Test	<0.1 Vol%/hr
	<b>Pass box</b>
Size	500 X 300 X 430(H)mm
	<b>Feature</b>
	ULPA Filters with a typical efficiency of >99.999@at ISO class 5
	10.2" Full Color Touch Screen
	<b>Stand</b>
Size	2,000(W) x 725(D) x 900(H)mm

# Optional Parts for KOREA KIYON Glovebox System

## • Moisture Sensor



- Accuracy : +/- 2°C
- Measurement range : 0 ~ 1,000ppm
- Out Put : 4-20mA DC Active
- Sensor : Thin-film capacitive polymer sensor
- Response time 63% [90%] at a gas temperature of +20°C and pressure of 1 bar
- Complies with EMC standard EN61326-1, Electrical equipment for measurement control and laboratory use

## • Oxygen Sensor



- Measurement system: Zirconia Oxygen concentration cell
- Measurement range: 0.001ppm – 100%
- Display range: 0-1,000ppm
- Repeatability: ±0.5%FS or less 0-1% range or more  
±1.0%FS or ±0.1ppm whichever is bigger or less than 0-1% range
- Compliant standard: CE marking and RoHS

## • Solvent Scrubber / Trap



- For solvent removal from inert gas atmosphere.
- Specially designed plumbing & Chemical filter
- Pneumatic isolation valves and bypass valve

## • Freezer



- To -35°C. Mounted to Glove Box on either side panel
- Separate condensing unit installed on a stand.



## • Vacuum Oven



- Mounting inside the antechamber
- Operational temperature: up to 200 °C
- Inner diameter: 300mm
- Available sample size: 150(D) x 180(H) x 450(L)mm

## • Laminar Flow system



- Exhaust Gas Filtration System with HEPA Filter
- Class 10 or better
- Down flow Gas control
- If necessary, Temperature control.

## • New Automatic Pressure Controller

- Safe and Eco friendly Pressure release System
- For more details, please contact KOREA KIYON

## • N2 Safety Interlock and N2 Hazard System

- Safety system to prevent people from inert gas leakage of Glove Box and to protect Glove Box from its upper limit of +12.5mbar inside a box.
- For more details, please contact KOREA KIYON

## • Feedthroughs

- Various types of feedthroughs on request.



## • ECO Mode

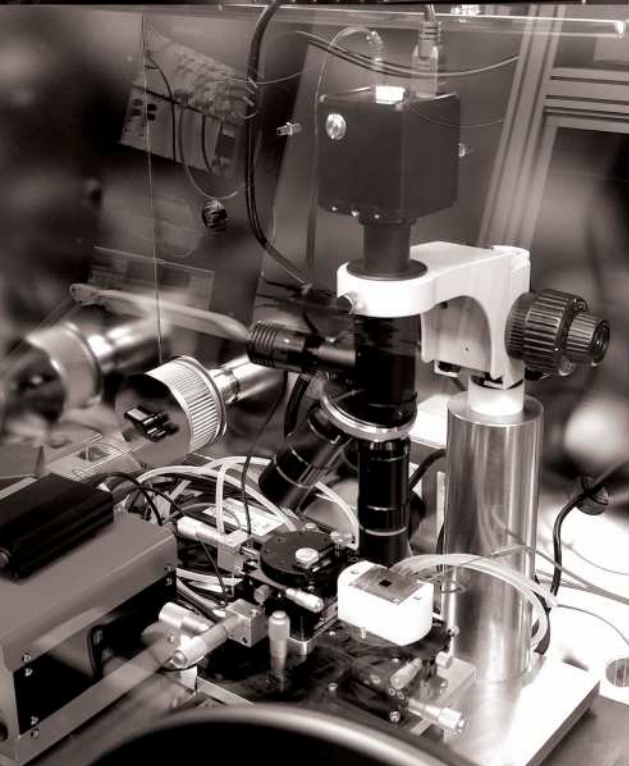
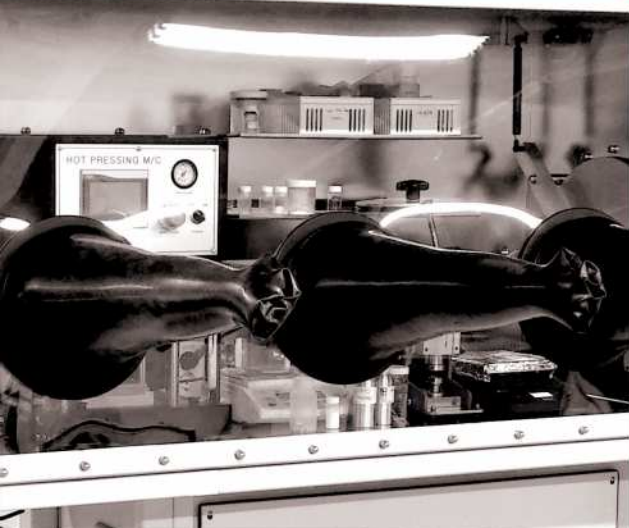
- Energy Saving and Noise control System
- For more details, please contact KOREA KIYON

## • Cold Well

- Customized size stainless steel low temperature well



# Glovebox Models for various Applications



## Glove Box for Nuclear



## Glove Box for Solar and Perovskite Study



**Battery Development / Coating System**



**Glove Box for OLED**



**Glove Box for Film Production**

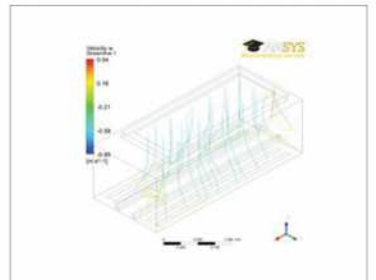
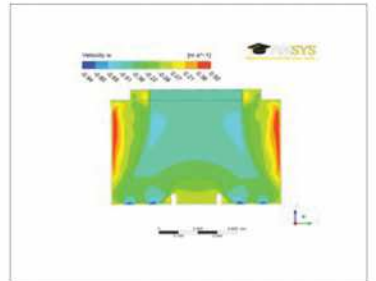
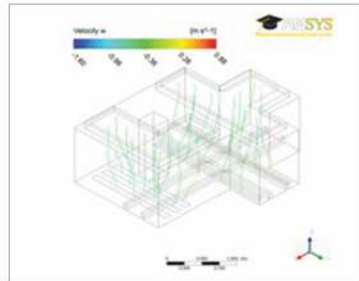
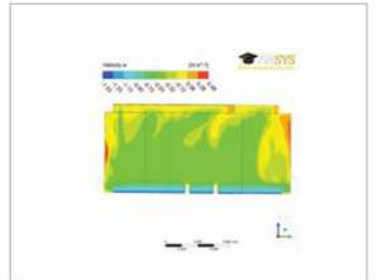
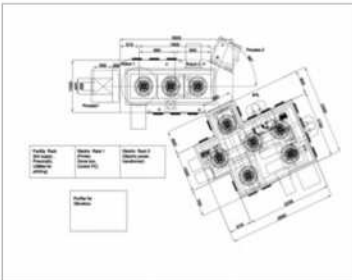
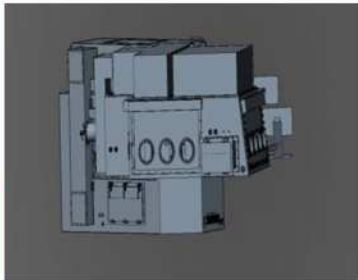


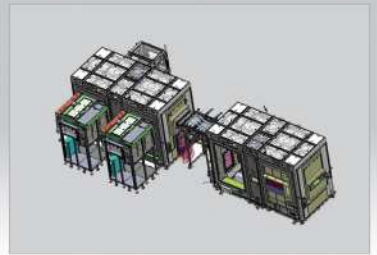
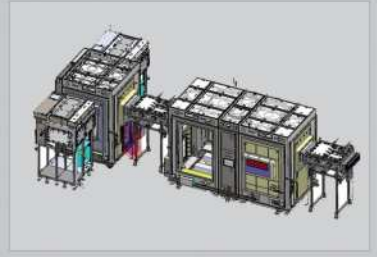
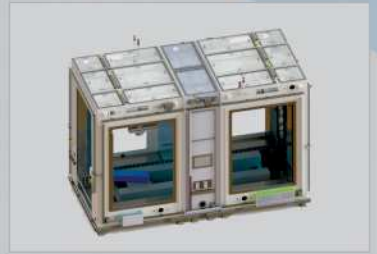
# KOREA KIYON Enclosure System

KOREA KIYON has proven records to supply its Enclosure System with separate Purification Systems to leading OLED Glass manufacturers.



Flow  
Simulation





# KOREA KIYON Purification System



OLED Mass Production



## *Purification System*

- Oxygen/Moisture Removal to less than 1 ppm
- Control: PLC Type (Heat, Vacuum, Purge, Refill)
- 1 set of vacuum pump and Circulation Blower
- PLC controlled Purification Automatic Regeneration Process
- Data logging and integrated operation with Enclosures



OLED Lighting Development



# KOREA KIYON Solvent Purification System

## ◉ **KK-SPS-3**



### ✓ **FEATURES**

- The best alternative to thermal distillation method
- Removes moisture in organic solvents.
- KIYON-SPS's allows for quick and easy delivery of high purity anhydrous solvents.
- Color coded quick connector valves and solvent valve
- Stainless steel gas, vacuum and dispense manifold using Swagelok type valves and component
- All stainless steel braided flex lines and tubing
- Replace used column with new one readily.

### ✓ **Specification**

Dimension	770mm(W) x 680mm(D) x 1980mm(H) (Standard)
Column Type	Dual column per solvent (1set)
Column Size	3.25L
Capacity per Set	Up to 800 liter(ACS grade or better solvent @ 200-ppm)
Reservoir	10L or 18L, Stainless steel, Pressure release valve, Fill port (Optional)
Receiving Flask	250ml, 2 or 3way, 24/40 universal inlet adapter
Vacuum Pump	High chemical resistant, -750mmhg(max)

## ◉ **KK-SPS-COMPACT**



### ✓ **FEATURES**

- Compact modular design
- Easily fit on a bench top
- Easily to operate
- Expandable from 1 to 8 solvents
- Stainless steel gas, vacuum and dispense manifold using Swagelok type valves and component
- Replace used column with new one readily.
- 300 liters drying capacity (ACS or better grade)

### ✓ **Specification**

Dimension	270mm(W) x 300mm(D) x 600mm(H) (Standard)
Column Type	Dual column per solvent (1set)
Column Size	1.65L
Capacity per Set	Up to 300 liter(ACS grade or better solvent @ 200-ppm)
Reservoir	Not included
Receiving Flask	250ml, 2 or 3way, 24/40 universal inlet adapter
Vacuum Pump	High chemical resistant, -750mmhg(max)



# KOREA KIYON

www.glovebox.co.kr



## Office Location :

### EUROPE



#### U.K

SAFFRON SCIENTIFIC EQUIPMENT LTD  
Knaresborough Technology Park  
Manse Lane Knaresborough  
North Yorkshire HG5 8LF  
United Kingdom

Tel : +44 (0) 1423 796138  
Email : sales@saffron-uk.com

### ASIA



#### INDIA

Anarghya Innovations and Technology Pvt. Ltd.,  
#32 New, 7th 'A' Main Road Muthyalanagar,  
Mathikere Bengaluru-560054 India

Tel : +91-80-2337 6448  
Fax : +91-80-2347 5606  
Cell : +91-98450 19130  
Email : siddaram@anarghyainnotech.com

### MIDDLE EAST



#### UAE

Business Communication LLC  
P.O. Box No. 2534, Abu Dhabi  
United Arab Emirates

Tel : +9712 634895  
Fax : +9712 63166465  
Email : dhananjay.kumar@bcluae.com  
Site : www.bcluae.com

### OCEANIA



#### AUSTRALIA

NANO VACUUM  
Suite 504, F78, 24-32 L  
exington Drive Bella Vista NSW 2153  
Australia

Tel : +61 (0) 468 333815  
Email : info@nanovactech.com  
Site : www.nanovactech.com

### NETHERLANDS

LASER 2000 BENELUX  
PO Box 20  
3645 ZJ Vinkeveen  
Netherlands

Tel : +31 (0) 297 266191  
Fax : +31 (0) 297 266134  
Email : info@laser2000.nl

### JAPAN

ALS TECHNOLOGY., LTD  
2179-2, Kaminizo, Chyuo-ku,  
Sagamihara-shi, Kanagawa 252-0243,  
Japan

Tel : +81 (42) 713 3018  
Fax : +81 (42) 713 3019  
Email : sales@als-tech.jp

### SAUDI

Dynamic Technology Supplies Company LTD.  
Jeddah 23343-3523 Wasel:  
7097 Kingdom of Saudi Arabia

Tel : +966 12 6179573  
Fax : +966 12 6179574  
Email : mahfooz.alam@dtSaudi.com

### RUSSIA

Global Lab LLC  
634021, Russia, Tomsk, prospect Frunze,  
117 B

Tel : +7 495 215 06 01  
Cell : +7 925 570 9275  
Email : info@assa-group.ru

### TAIWAN

CORREMAX International Co., Ltd.  
4G-09, No. 5, Sec 5, Hsinyi Rd,  
Taipei

Tel : +886 (02) 2345 2929  
Fax : +886 (02) 2345 0606  
Email : info@corremax.com.tw

### TURKEY

ÇALIŞKAN  
Bahçekapı Mah.  
Dökmeci Sanayi Sitesi 10. Cad.  
No: 3/5 Şaşmaz ANKARA, Turkey

Tel : +90 (312) 278 4047  
Fax : +90 (312) 278 3723  
Email : alper@caliskancam.com

### THAILAND

COMPLETE SCI CO.,LTD  
188/227 Soi Songprapa 30, Songprapa Road,  
Sikan, Donmuang, Bangkok, 10210 Thailand.

Tel : +66 (0) 27791068  
Fax : +66 (0) 27791069  
Email : info@completesci.com  
Site : www.completesci.com

## Head Office :

486, Seobusaet-gil, Geumcheon-gu, Seoul, Republic of Korea (08588)  
Tel +82-2-2087-3527 Fax +82-2087-3535 jefflee@glovebox.co.kr