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# TENCAN

## Product Brochure



**GLOVE BOX**

# glove box with purification system

**GBP**

Water oxygen content &lt;1PPM, suitable for high water and oxygen content requirements

<https://www.planetaryballmills.com/products/glove-box/glove-box-with-purification-system.html>

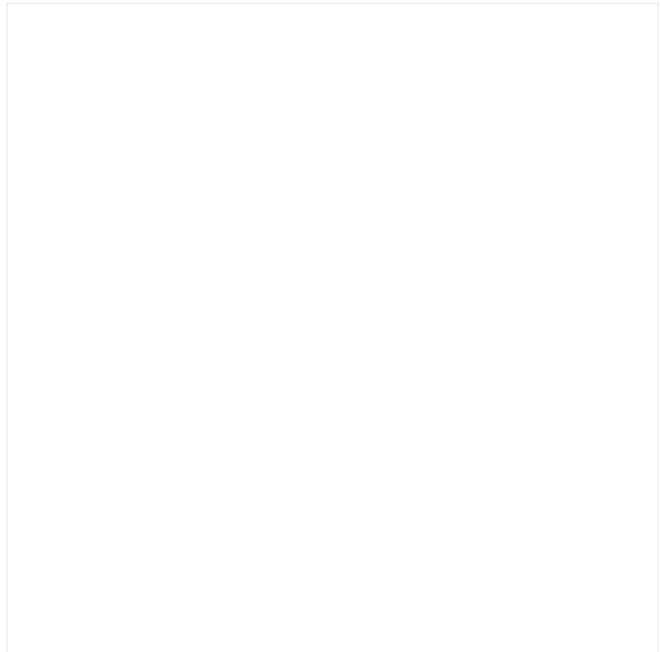


— TENCAN POWDER —

## Product Overview

Water oxygen content <math>< 1\text{PPM}</math>, suitable for high water and oxygen content requirements





## Product Introduction

1. Used in ultra-pure working environments that require no water, no oxygen and no dust.;
2. Research, development and production of batteries and battery materials (lithium-ion batteries, power batteries, solar cells, lithium iron phosphate batteries, etc.) ;
3. R&D and manufacturing of special lamps: D lamps, metal halide lamps, ceramic metal halide lamps, etc. ;
4. Welding: resistance welding, TIG welding, laser welding, plasma welding, brazing, etc. ;
5. OLED R&D and production ;
6. Research, development and production of medical supplies ;
7. Research, development and production of supercapacitors ;
8. Fine chemicals, nuclear industry, etc. ;
9. Research, development and production of new energy materials.



## Technical parameters

Water content in the box under standard conditions <i>(Note: The standard situation is one atmospheric pressure and a constant temperature of 20 degrees)</i>	Oxygen content in the box under standard conditions <i>(Note: The standard situation is one atmospheric pressure and a constant temperature of 20 degrees)</i>	The transition cabin can withstand the vacuum degree value	Leak rate	The box is subject to gas pressure
≤1ppm	≤1ppm	<100pa	≤0.05vol%/h	-3000pa~+3000pa

### Purification glove box model

Glove box number description

**GBP** Product code (Glove Box With Purification System)

**800** Indicates the width of the bottom of the box, in mm

**S/D** S means single-sided operation, D means double-sided operation

**2** Number of gloves (optional 2, 3, 4, 6)



model	Cabinet size	Equipment size	Number of operating surfaces	Number of gloves	Remark
GBP800-2	1200×800×930	1915×830×1830	Single sided	2	Single and double purification columns optional
GBP1000S-2	1200×1000×930	1915×1060×1830	Single sided	2	Single and double purification columns optional
GBP1000D-4	1200×1200×930	1915×1260×1830	Double sided	4	Single and double purification columns optional
GBP1200S-2	1200×1200×930	1915×1260×1830	Single sided	2	Single and double purification columns optional
GBP1200D-4	1200×1200×930	1915×1260×1830	Double sided	4	Single and double purification columns optional



model	Cabinet size	Equipment size	Number of operating surfaces	Number of gloves	Remark
GBP800-3	1500×800×930	2215×1060×1830	Single sided	3	Single and double purification columns optional
GBP1000S-3	1500×1000×930	2215×1060×1830	Single sided	3	Single and double purification columns optional
GBP1000D-6	1500×1000×930	2215×1060×1830	Double sided	6	Single and double purification columns optional
GBP1200S-3	1500×1200×930	2215×1260×1830	Single sided	3	Single and double purification columns optional
GBP1200D-6	1500×1200×930	2215×1260×1830	Double sided	6	Single and double purification columns optional



model	Cabinet size	Equipment size	Number of operating surfaces	Number of gloves	Remark
GBP800-4	1900×800×930	2615×1060×1830	Single sided	4	Single and double purification columns optional
GBP1000S-4	1900×1000×930	2615×1060×1830	Single sided	4	Single and double purification columns optional
GBP1000D-8	1900×1000×930	2615×1060×1830	Double sided	8	Single and double purification columns optional
GBP1200S-4	1900×1200×930	2615×1260×1830	Single sided	4	Single and double purification columns optional
GBP1200D-8	1900×1200×930	2615×1260×1830	Double sided	8	Single and double purification columns optional

## System functions

name	Introduction
automatic control	The program control unit realizes automatic control and detection of equipment operation.
Box manual/automatic gas replacement	Before using the cabinet for the first time, the air in the cabinet must be "replaced" with inert gas or nitrogen. This can be easily achieved using the automatic gas replacement function of the box provided by the system, or gas replacement can be performed manually.
Transition cabin box manual/automatic gas replacement	When materials enter the box, the gas in the transition cabin needs to be replaced. This can be easily achieved using the automatic gas replacement function of the transition cabin provided by the system, or gas replacement can be performed manually.
Gas purification control	After setting the working status and results, the system purification can be set to automatic. The system will automatically maintain the atmosphere conditions in the box, so that the system can complete the work for us without anyone, or you can choose manual control.
Foot operated air pressure control	Use the foot controller - to control the gas pressure of the cabinet by inflating or pumping the system.
Restore purification system	The restoration of purification materials is automatically completed by the system. We only need to give the system restoration conditions. After turning on the restoration, the system can automatically complete the restoration work for us. The process does not require human supervision.
Online working condition detection	The control system provides users with a function to detect the working status of equipment components. This function can be used to observe the working status of components and detect the source of faults for each function and component.
System parameter settings	There is a system setting function, and users can achieve the desired working conditions and function settings by setting system parameters.
Data logging function	The system provides a record of the operating parameters of the equipment, through which we can trace or monitor production or experiments.
Control air circuit backup function	When the control air source is temporarily cut off or the control air source is insufficient for a period of time, the equipped control gas will ensure that the equipment continues to work.
Multi-level security system	The control system is set up with multi-level safety prompts, alarms and prohibition functions. Safety of packaging operators and equipment.
Purification cycle obstruction protection function	When the circulation system is blocked, the control system prompts an alarm and actively adjusts the circulation wind speed to protect the motor. This function can also detect problems such as blocked system circulation, blocked pipes, blocked filters, etc.
Glove box optional features	Data recording and printing, remote service function, system temperature control function.

## System configuration

Configuration and quantity	Technical parameters	Remark
Standard transition cabin 1 item	DN385×588mm	Located on the right side of the box, material: SUS304 stainless steel; Aluminum alloy door cover with movable drawer inside ; Equipped with door opening assist device
Tool transition cabin 1 item	DN150×350mm	Located on the right side of the box, material: SUS304 stainless steel (can be made according to customer requirements)
Shelves 1 item	Double layer	Back-mounted
Box rack 1 item	Height 900mm	There are swivel casters for easy moving of the glove box; Integrated purification system inside the right rack
Transparent visual panel	Thickness: 12mm	Made of double-layer laminated tempered glass
4 gloves	Thickness: 0.4mm	Butyl synthetic rubber, brand: American PIERCAN
1 power socket	220V, 10A, 8 holes	Located inside the glove box, it provides power to the electrical appliances in the box.
lighting system	Brand: Philips	Equipped with fluorescent tubes to provide lighting inside the box.
3 sets of spare interfaces	KF40	Device for gas or liquid to enter the box, material: SUS304 stainless steel; Configure quick connectors.
1 vacuum pump	Model: D16C	Air extraction volume: 4L/S, brand: German LEYBOLD, equipped with oil mist filter
2 HEPA filters	Filtration precision: 0.3μm	Installed in the box, it is mainly used to filter dust in the box and protect the ventilation pipe from being unobstructed.
2 vacuum gauges	Mechanical dial display	Measuring excessive and excessive tool vacuum
1 pressure gauge	Mechanical dial display	Measure box air pressure
Foot controller 1 item	Double pedal type	Control box gas replenishment and emptying
control system	Color touch screen: 6 inches	Touch screen, PLC Brand: SIEMENS; The touch screen is hung on the box and can rotate freely ; The Chinese, English and Russian operating interfaces can be switched freely.
1 pressure sensor	-2500~2500Pa (relative pressure)	Touch screen display
Moisture analyzer 1 piece	0~1000ppm	Touch screen display, accuracy: 0.1ppm, brand: American MICHELL
1 oxygen transmitter	0~1000ppm	Touch screen display, accuracy: 0.1ppm, brand: American All
Gas purification system	Single purification column	Has the function of removing water and oxygen; Integrated into cabinet rack ; Water removal material: UOP from the United States, oxygen removal material: BASF from Germany.
Organic solvent adsorption system	21L	Installed on the glove box pipeline, it is a purification material used to absorb solvent gas generated during use and protect the system.

## Special customization



Material



size



shape



## Other customization requirements























## Product Features

**<0.001vol%/h** Ultra low leakage rate

**ISO level 3** Ultra-high cleanliness, efficient HEPA filter

**<60W** Ultra-low power consumption, energy consumption is less than 60w most of the time

**Noiseless** Professional gas circuit design, professional fluid software design

**Professional leak alarm** Automatic detection of glove box leakage rate

**One-click calibration** Calibrate the analyzer with one click on the display

**Comprehensive data logging** Can record O<sub>2</sub>, H<sub>2</sub>O, pressure, time...

## **Accessories & Customization**

### **Accessories**

Grinding jars, heating elements, sample holders, control modules and other matching accessories can be selected according to the product configuration.

### **Customization**

For voltage, capacity, chamber size, process temperature or application requirements, please contact TENCAN for a suitable configuration.