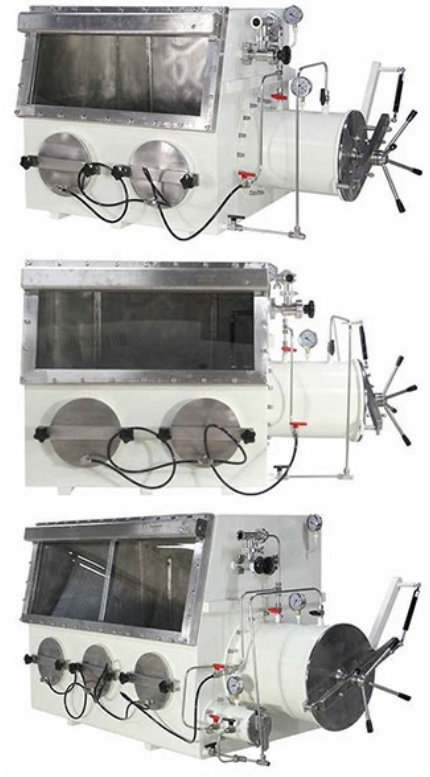
vacuum glove box made with robotic welding technology

Vacuum glove box for the experiment to provide oxygen-free, water-free environment, can effectively avoid the sample due to contact with air and oxidation, deliquescence and other adverse reactions, thus ensuring the accuracy and safety of a variety of scientific experiments.



Vacuum Glove Box Series

With the vacuum glove box, users can complete precise operations, reactions and tests in a closed environment, avoiding the external environment from interfering with the experimental results.

Features

1. **Stainless steel:** the main structure of the vacuum glove box is made of stainless steel, which not only makes the equipment more robust and durable, but also has a strong corrosion resistance, can effectively prevent the corrosion of chemicals or other substances.
2. **High vacuum performance:** the device can reduce the air pressure inside the box to -0.1 MPa through the vacuum system, providing users with a working environment close to vacuum.

3. **Transition box design:** GV3 model vacuum glove box is equipped with two transition boxes, this design effectively reduces the atmosphere leakage caused by frequent entering and exiting the operation room, thus saving the use of protective atmosphere and shortening the operation time.
4. **Highly transparent observation window:** The vacuum glove box is equipped with a wide-viewing angle and highly transparent observation window, which allows users to clearly observe the operation status inside the box, ensuring the safety and accuracy of the experimental process.
5. **Multi-functional interface:** the device provides a number of multi-hole sockets, easy to connect the user to a variety of experimental equipment, and support for heating and other operations in the box, applicable to different experimental needs.
6. **Sealed latex gloves:** equipped with sealed latex gloves to ensure the isolation of the glove box and the external environment, the user can carry out a variety of fine operations in the glove box, without affecting the stability of the internal atmosphere.
7. **Transition Tray Design:** The GV2 and GV3 models are equipped with a transition tray, which helps to avoid the leakage of protective atmosphere during frequent opening and closing of the door, improving the stability of the working environment and reducing the consumption of protective gas. This design makes the transfer of goods more efficient and convenient, while avoiding direct contact with air.
8. **Robotic welding technology:** the manufacture of vacuum glove box adopts advanced robotic welding process, which ensures the accuracy and sealing of the welding seams, improves the durability and airtightness of the overall equipment, and ensures that the equipment will not leak in the long-term use of the phenomenon.

9. **Customized service:** this vacuum glove box can be customized according to user needs, including size, functional configuration, internal accessories, etc., to meet the needs of different experimental environments.

Advantages

1. **High-efficiency sealing:** vacuum glove box adopts high-efficiency sealing technology, can maintain the long-term stability of the internal and external environment, to avoid oxidation and deliquescence and other interference with the test samples.
2. **High safety:** the internal operating space is completely closed, the user can carry out a variety of operations through the gloves, to avoid direct contact with hazardous substances, to ensure the safety of the experimental process.
3. **Operational flexibility:** equipped with a transition box and porous socket design, making the transfer of goods and equipment in the experimental process is more simple to connect, enhance the flexibility and efficiency of the experimental operation.
4. **Wide applicability:** vacuum glove box used in biomedical, chemical analysis, materials testing and manufacturing fields, widely used in various types of high-demand experiments.
5. **Long-term durability:** the use of stainless steel material to improve the durability of the equipment, and reasonable structural design, easy to clean and maintain, suitable for long-term use.

Working Principle

1. Based on two core concepts: vacuum extraction and inert gas protection. Inside the equipment, the air inside the box is discharged through the pumping system to achieve the required low-pressure state, thus ensuring that the internal environment is free of water and oxygen, suitable for special experimental operations.
2. Vacuum extraction: through the efficient pumping system, the vacuum glove box can reduce the internal air pressure to the level of -0.1 MPa, effectively removing the air inside the box, reducing the risk of oxidation and deliquescence.
3. Inert gas protection: the interior of the box can be filled with argon, nitrogen and other inert gases to further isolate the influence of oxygen and moisture, to ensure that the experimental samples are processed in a completely oxygen-free and water-free environment. By connecting the gloves, the user is able to directly manipulate the samples in a closed environment without exposing the samples to the external environment, thus effectively avoiding the interference of external factors.

Application Areas

1. **Chemical and materials research:** in chemical experiments, many reactions will be affected by air, moisture and other factors, such as easy to oxidize, deliquescent chemicals and sensitive materials research. Vacuum glove box provides an oxygen-free, water-free environment to help researchers accurately control the experimental conditions.

2. **Biomedical:** vacuum glove box is widely used in microbial culture, aseptic operation, low-energy radioactive material experiments and other fields. In these experiments, it is crucial to control the purity of the environment, the glove box can provide a completely isolated operating space.
3. **Electronics and semiconductor industry:** in electronic materials, semiconductor manufacturing process, the vacuum glove box can provide a stable atmosphere for the process environment. Many electronic components in the production process need to avoid oxygen, moisture and other interference.
4. **Food and pharmaceutical industries:** food packaging, qualitative and quantitative analysis of drugs and other work needs to be carried out in a non-polluting, oxygen-free environment, the vacuum glove box can provide a good working space to ensure product quality.
5. **Metallurgy and mineral resources:** in metallurgy and mineral materials research, many metals and minerals are very sensitive to oxygen and moisture, vacuum glove box for these experiments provides a protective atmosphere.
6. **Other industries:** this equipment is also widely used in magnetic materials, battery technology, environmental monitoring and other industry sectors, to meet the needs of different scientific research and industrial environment for atmosphere control.

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Model	GV1	GV2	GV3
Transfer Size	ϕ200x270mm	ϕ280x350mm	ϕ340x400mm
Little transfer size	no	no	ϕ120x160mm
Rack	no	two layers	two layers
Glove portdiameter	ϕ145mm	ϕ200mm	ϕ200mm
Window size	52x25mm	70x32mm	110x38mm
Left side door size	no	400x400mm	400x400mm
Vacuum degree	-0.1mpa		
Vacuum of transfer box	-0.1mpa		
Lamp	External control lamp:1ps		
Valve configuration	Import valve: 2ps, Export valve:2ps		
Use gas	Argon, helium, and nitrogen gas (purity99.99%)		

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Model	GV1	GV2	GV3
Power supply	220Vac, 50Hz, 10A		
Weight	89kg	146kg	312kg
Dimensions	600x450x500mm	800x600x700mm	1200x700x900mm