

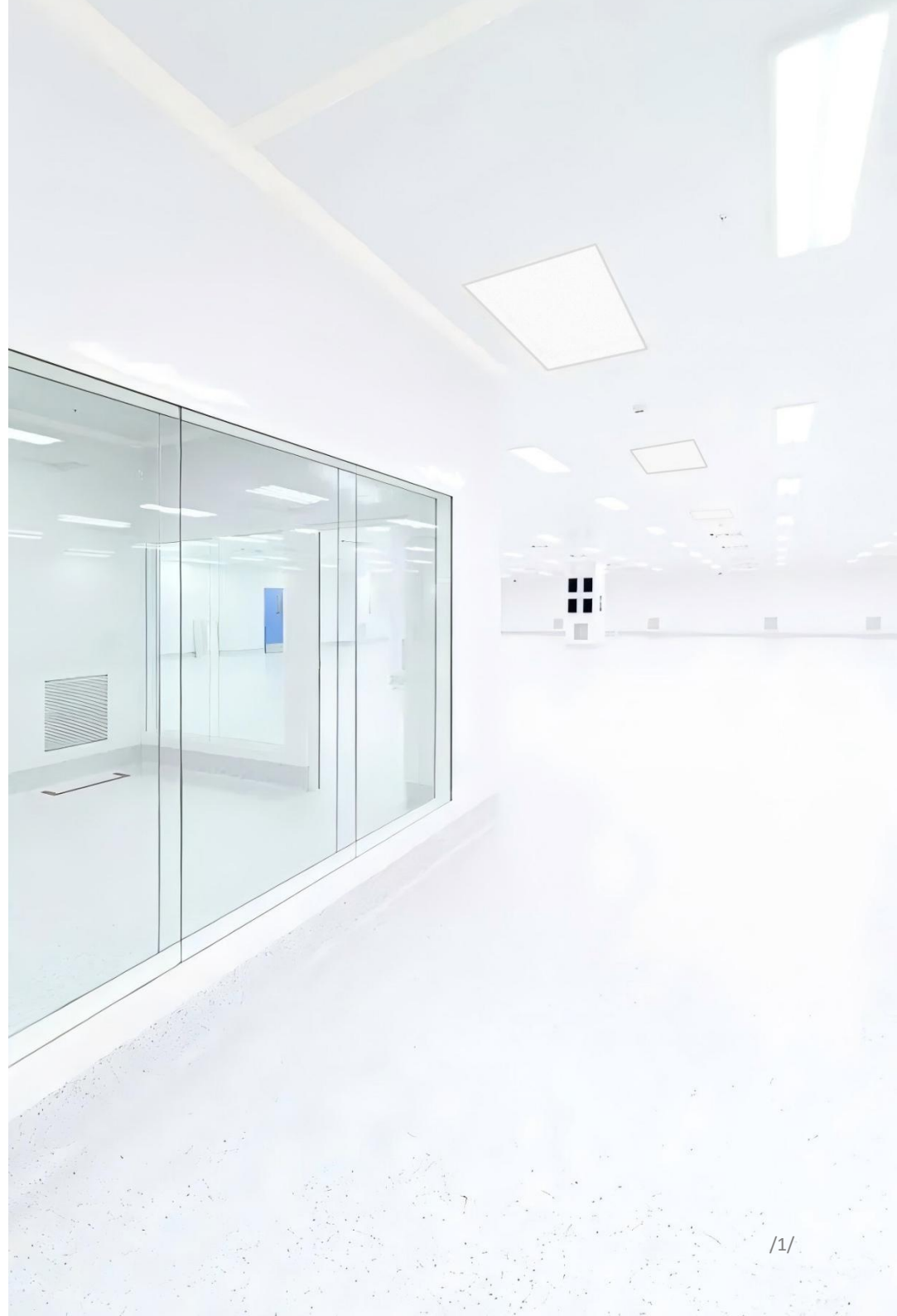


**OUDELONG | **

The leading cleanroom manufacturer

# Catalogue

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odlcleanroom.com

# About us

OUDELONG is an experienced cleanroom manufacturer with a team of multi-field specialists in the pharmaceutical, hospital, cosmetic and food industries.

We specialize in providing you with design, construction, equipment and technical consulting services.

We comply with all international standards according to your requirements:

INVIMA, ANVISA, COFEPRIS, FDA, INAME, EMA, GMP.

**Design - Production - Transport - Installation - Acceptance - Instruction**



Since  
2013 >>>

From 2013 to now, OUDELONG has come all the way, every step of effort is engraved with the imprint of development, and the steady step forward never stops.



Our philosophy is not to sell specific products or services, but to accompany our clients at all stages of a project so that they can integrate quality and profitability.

We integrate design with high quality construction and state-of-the-art technology.

As a result, we are able to come up with clear solutions to everyday challenges with ease.





# OUDELONG

## CLEAN ROOM

Providing complete solutions for the hospital, electronics, pharmaceutical, semiconductor, optics, food, beverage, household chemicals, cosmetics, aerospace and related markets, integrating design, build, critical support systems, validation and start-up.

# OUDELONG

## EQUIPMENT

Design and manufacture of production process equipment representative of different markets.

# OUDELONG

## SERVICE

Preventive maintenance and corrective maintenance services, all support areas critical to industrial plants.



# Service

We have extensive and wide-ranging experience in designing, plant building,  
With state-of-the-art technology and the best professionals.



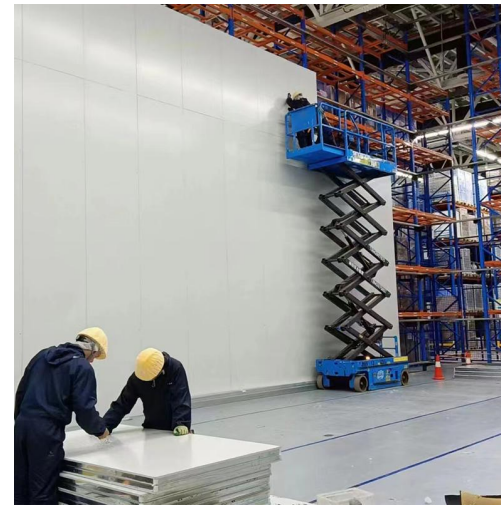
## Conceptual Design

Layout Definition  
User Requirements  
Installation



## Civil engineering Construction

One-stop solutions and customisation



## Construction of Cleanroom

One-stop solution and customisation,  
with modular design components for  
easy installation, dismantling and  
re-construction.



## Project Engineering

Definition of technical papers  
Project construction drawings



Our extensive experience in the market enables us to work on all purification projects.



### Certificates

We have many certificates such as CE ISO patent



### Purification equipment

Equipment tailored to customer needs, Offer the best prices on the market



### HVAC

Professional design and assembly  
Design and assembly of industrial air-conditioning systems



### Worry-free after-sales service

We provide worker dispatch after-sale maintenance, online video guidance, and free replacement parts



## Pharmaceutical Industry



The clean room of our company is used in the field of medicine, in the production process of medicine, the threat mainly comes from particles and regeneration of bacteria, our company can build GMP clean room from class 100 to class 100,000 according to the requirements of customers. We can build GMP clean room from class 100 to class 100,000 according to customer's requirement, which can meet the clean standard of modern medicine and medical device production. In the animal, physical and chemical, microbiological industry test, the cleanliness of the space requirements are high, the company to create a biological clean room fully meet the national level standards, that is, the human body, plants and animals less harmful, does not have a healthy adult, plant and animal disease-causing pathogenic factors.



## Medical Supplies Industry



The medical industry faces serious threats from particles and regenerating bacteria during the production of pharmaceuticals and medical devices. In order to ensure the cleanliness of the production environment, our company has specially designed and constructed GMP-compliant cleanrooms with cleanliness levels ranging from Class 100 to Class 100,000 to meet the needs of different customers. These clean rooms not only meet the high standards of modern medical drugs and medical devices production, but also provide a safe and reliable environment for experiments in animal, physical and chemical, microbiological and other fields.



## Cosmetic Industry



Cosmetic cleanrooms are highly controlled production environments designed to reduce airborne particles, bacteria and other contaminants to ensure product quality. Cleanrooms are usually ISO 7 or ISO 8 rated, with temperatures maintained at 18 - 26°C and relative humidity at 45 - 65%. Cleanrooms are categorised into general operations areas, quasi-clean areas and clean operations areas, each with different cleanliness requirements and management regulations to prevent cross contamination. Our cosmetic cleanrooms are equipped with advanced facilities and technologies to meet the needs of various cosmetic production and provide customers with high quality products and services.



# Hospital



A hospital operating theatre cleanroom is a highly controlled medical environment designed to reduce airborne particles, bacteria and other contaminants to ensure hygiene and patient safety during surgical procedures, and cleanrooms are usually ISO5 or ISO6 rated. Hospital operating theatre cleanrooms are equipped with state-of-the-art facilities and technology to meet the needs of a wide range of surgical procedures and provide high quality healthcare to patients.



## Electronics Industry



With the development of science and technology, the electronics industry has also been determined to this development, and thus the clean car with higher and higher requirements, the company can be based on customer requirements to create a hundred to one hundred thousand high-standard purification processing plant, for the workshop of the clean quality to provide security drop.



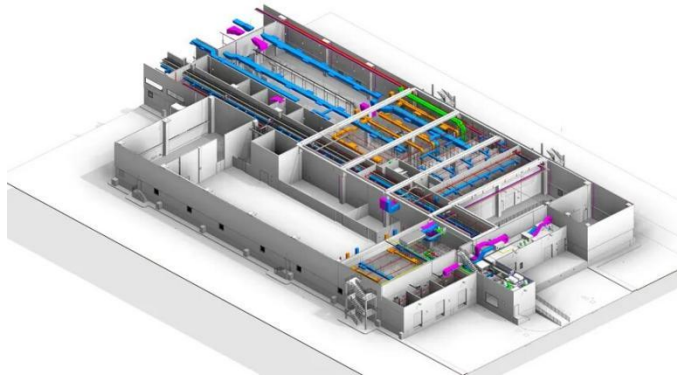
## Food Industry



The food industry is directly related to the life and health of consumers, regenerative bacteria particles on the production process of food is more harmful, the company to create a hundred to 100,000 high-standard clean room processing plant, to ensure that all kinds of food, beverage clean quality.



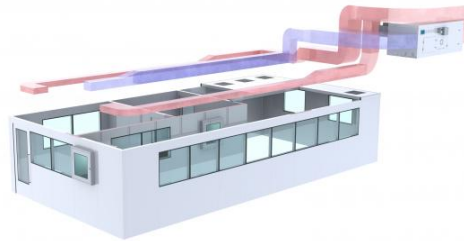
## HVAC Solution



### Custom Design

OUDELONG will design and manufacture the OUDELON system to meet any type of cleanroom ventilation requirement and will install the entire system, including the cleanroom ducting.

Our customised horizontal or vertical air handling units are ideally suited to space constraints. Different engineering configurations and air passage options are also available, and they can be located on the floor or on the roof. They can be pre-assembled at OUDELONG or prefabricated and assembled on site.



### Performance and Compliance

Leveraging OUDELONG's experience and expertise in designing OUDELONG cleanrooms performance and compliance is directly related to ventilation. As stated in ISO standard 14644-1, "To minimise the introduction, generation and retention of particles, clean rooms must be supplied with a large volume of air, filtered with high efficiency filters (HEPA or ULPA) to dilute and remove particles, bacteria and chemicals from the room". This is what HVAC does. oudelong guarantees the performance and compliance of its HVAC cleanroom systems.



### Durable and easy to maintain

Our HVAC systems are heavy duty and maintenance free. Factory-installed components and control systems simplify jobsite coordination, reduce installation time and costs, and provide single-source responsibility for warranty and service issues.





# Machine-made clean sandwich panel

Sandwich panel products are made up of two layers of moulded metal panels (or panels of other materials) and a polymer insulating core that is foamed and cooked and moulded directly in the middle of the panels. The filling system also uses a closed cell molecular structure that prevents water vapour condensation. The outer steel sheet is moulded with full consideration of structural and strength requirements, while the inner surface layer is moulded as a flat sheet to suit various needs. Sandwich panels are beautiful in appearance, colour and lustre, overall effect is good, it combines load-bearing, heat preservation, fire prevention, waterproof in one, and no need for secondary decoration. It is widely used as walls and ceilings, especially for temporary offices, warehouses and fences in construction sites. In the rapid installation into use, can be mounted and dismantled, the reuse index of the material, there are obvious advantages, a substantial reduction in the cost of temporary facilities on construction sites, is an indispensable new lightweight construction materials.

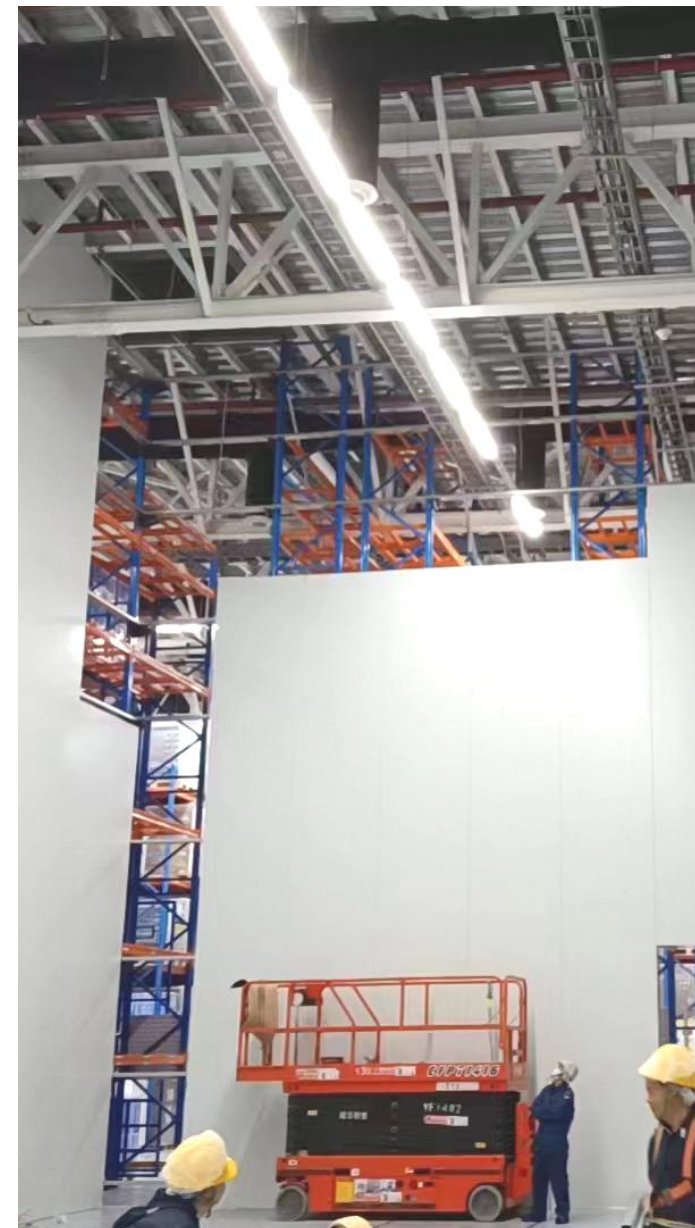
**Width:**950,1150mm

**Thickness:**50,75,100,150,200mm

**Length:** according to project requirements and transport conditions.

**Colour:** according to project requirements

**Variety:** H-board (flat, pressed), slabs, corrugated sandwich panels




## Machine-made series Rock wool Clean sandwich panel

### Framework

Machine-made rock wool clean sandwich panel is a commonly used in clean workshops, hospitals, laboratories and other high cleanliness requirements of the construction field of building materials. Usually using medium and high density rock wool as the core material, galvanized or sandwich panel for the surface (two layers) and high-strength adhesive, through the high-speed continuous automated molding machine heating, pressurized composite after trimming, slotting, and under the material into, endowed with a variety of properties of the plate fire prevention, heat preservation and sound insulation.



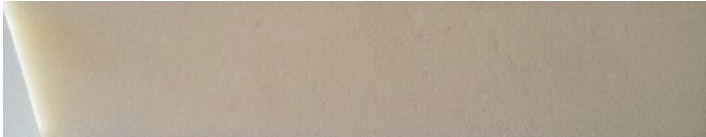
|                               |  |
|-------------------------------|--|
| <b>Insulation material</b>    |   |
| <b>Technical Parameter</b>    |  |
| <b>Thickness</b>              | 50mm, 75mm, 100mm, 150mm, 200mm  |
| <b>Standard width</b>         | 950mm, 1150mm  |
| <b>Tolerance</b>              | ≤1mm   |
| <b>Maximum Length</b>         | ≤10000mm   |
| <b>Panel Coating Material</b> | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| <b>Filled Core Material</b>   | Rock wool (Density: 100~120 kg/m <sup>3</sup> )                                      |
| <b>Panel thickness</b>        | 0.45mm, 0.5mm thickness available  |
| <b>Protective coating</b>     | 0.06mm thickness, >0.06mm can be customised  |
| <b>Connection method</b>      | Flange type  |
| <b>Fire resistance</b>        | 1.0h   |
| <b>Type</b>                   | H-board (flat, pressed), stand-up board, corrugated sandwich panel                   |

## Machine-made series Polyurethane Clean sandwich panel

### Framework

Adopting polyurethane PU core material, hot zinc colour coated sheet for the surface layer (two layers) through high-speed continuous automated molding machine heating, pressure composite, after trimming, slotting, under the material and a new generation of architectural decorative panels. Density 15~45(kg/m<sup>3</sup>), thermal conductivity 0.024(W/m.k), water absorption rate 2.45%



| Insulation material   |  |
|---|--|
|  |  |
| Technical Parameter   |  |
| Thickness   | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width  | 950mm, 1150mm  |
| Tolerance   | ≤1mm   |
| Maximum Length  | ≤10000mm   |
| Panel Coating Material  | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material  | Polyurethane   |
| Panel thickness   | 0.45mm, 0.5mm thickness available  |
| Protective coating  | 0.06mm thickness, >0.06mm can be customised  |
| Connection method   | Flange Type  |
| Fire resistance   | 1.0h   |
| Type  | H-panel (flat, moulded), flange type, corrugated sandwich panel                      |

## Machine-made series

### Hollow glass-magnesium rock wool Clean sandwich panel

#### Framework

Hollow glass-magnesium rock wool machine-made panel is a kind of composite building material, which is made of magnesium oxide, magnesium chloride, water and medium alkaline glass fibre mesh made of glass-magnesium board and rock wool made of natural rock. This kind of panel has the advantages of light weight, high strength, fireproof, waterproof, soundproof, heat insulation, etc. It is suitable for partition wall and ceiling materials in the field of building decoration. Its internal filling of lightweight materials reduces the overall density, making it easy to transport and install. Hollow glass-magnesium rock wool machine-made panels have a wide range of applications in the field of construction, especially in environments that require fireproofing, moisture-proofing and sound insulation.



| Insulation material    |  |
|------------------------|--|
| Technical Parameter    |  |
| Thickness              | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width         | 950mm, 1150mm  |
| Tolerance              | ≤1mm   |
| Maximum Length         | ≤10000mm   |
| Panel Coating Material | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material   | Magnesium + Rockwool   |
| Panel thickness        | 0.45mm, 0.5mm thickness available  |
| Protective coating     | 0.06mm thickness, >0.06mm can be customised  |
| Connection method      | Flange Type  |
| Fire resistance        | 1.0h   |
| Type                   | H-board (flat, moulded), panel, corrugated sandwich panel                            |

## Machine-made series Magnesium sulfate Clean sandwich panel

### Framework

A new type of architectural decorative panels, with magnesium sulphide as the core material, galvanised sheet or colour coated sheet as the substrate, using high-strength adhesive, heated and pressurised by high-speed continuous automatic forming machine, and then trimmed, grooved, cut and become, with strong fire resistance, high-strength sandwich panels can be up to 10 m in length, and can withstand the milling of two adults, and has a good thermal and acoustic insulation properties.



| Technical Parameter    |  |
|------------------------|--|
| Insulation material    |   |
| Thickness              | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width         | 950mm, 1150mm  |
| Tolerance              | ≤1mm   |
| Maximum Length         | ≤10000mm   |
| Panel Coating Material | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material   | Magnesium sulphoxide   |
| Panel thickness        | 0.45mm, 0.5mm thickness available  |
| Protective coating     | 0.06mm thickness, >0.06mm can be customised  |
| Connection method      | Flange Type  |
| Fire resistance        | 1.0h   |
| Type                   | H-board (flat, pressed), flange type, corrugated sandwich panel                      |

# Hand-made Clean sandwich panel

Products are semi-mechanical combined with manual production, rock wool colour steel plate, glass-magnesium rock wool colour steel plate, glass-magnesium colour steel plate, aluminium silicate cotton colour steel plate, polyurethane colour steel plate, aluminium (paper) honeycomb colour steel plate. According to the customer and the demand side of the project requirements to make special core material, special specifications of the plate, combined installation, and can be dismantled and installed many times, the construction and installation is convenient, the comprehensive effect is very significant. The steel surface of the product is high-level polyester baking coating, aluminium-zinc coating, stainless steel plate, so the corrosion resistance is particularly good; products filled with materials are A-class flame retardant materials will not fuse when burning, there is no high-temperature decomposition of the droplets, is the current high level of fire-resistant architectural decorative composite panels, the product of high-strength, impact resistance, good seismic performance. With a smooth and beautiful surface, high strength, sound insulation, adiabatic, heat preservation, seismic, size can be customised, easy to connect, easy to dismantle, the core material is not exposed, easy to construct and other properties. Widely used in high-tech electronics, pharmaceutical, chemical, food and other industries, purification room enclosure, ceiling, industrial plants, warehouses, cold storage, ovens, air conditioners wall panels and other clean areas.

**Length:** according to customer's demand (generally  $\leq 6000\text{mm}$ )

**Width:** standard board: 980mm, 1180mm.

**Non-standard plate thickness:** 50mm, 75mm, 100mm customised

**Plate type:** aluminium type, male and female mouth type

**Fire resistance:** Class A, Class B (paper honeycomb)



## Hand-made series

### Rock wool Clean sandwich panel

#### Framework

Double steel plate, lined with rock wool (mineral wool), handmade: Double steel plate, lined with rock wool (mineral wool), handmade. Rock wool, also known as rock wool, the main component of basalt, is a kind of fluffy short fibre made of natural rock and mineral materials, non-combustible.

**Advantages:** good fireproof performance, high sound insulation performance.

**Application:** Widely used in food, medicine, electronics, scientific research, aerospace, medical and other industries in the plant, laboratory and a variety of places of the partition, ceiling.



| <b>Insulation material</b> |   |
|----------------------------|--|
| Technical Parameter        |  |
| Thickness                  | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width             | 980mm, 1180mm  |
| Tolerance                  | ≤1mm   |
| Maximum Length             | ≤10000mm   |
| Panel Coating Material     | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material       | Rock wool (density: 100~120 kg/m <sup>3</sup> ) Magnesium glass thickness 5mm        |
| Panel thickness            | 0.45mm, 0.5mm thickness available  |
| Thickness of keel          | 0.6mm-0.8mm  |
| Corner                     | Galvanised/ABS   |
| Bending ability            | 0.9KN/m <sup>2</sup>   |
| Bonding performance        | 0.15MPa  |
| Peeling rate               | ≥ 85%-≤ 98%.   |
| Heat transfer coefficient  | 0.73W/m <sup>2</sup> -K  |
| Protective Coating         | 0.06mm thickness, >0.06mm can be customised  |
| Connection method          | Middle aluminium connection type, male and female port continuous type               |
| Fire resistance            | 1.0h   |
| Type                       | H-board (flat, pressed), flat board, corrugated sandwich panel                       |

## Hand-made series

### Double glass-magnesium rock wool Clean sandwich panel

#### Framework


Double glass and magnesium rock wool sandwich handmade board, with high-quality colour coated steel plate as the surface layer, reinforced with galvanized steel tape sealing, moisture-proof glass and magnesium board as the core layer, rock wool as the inner core layer, made by pressurisation, heating and other crafts, with good sealing performance and high fire protection grade. The product construction and installation is convenient and quick, and the comprehensive benefits are very significant. Mainly used in electronics (industrial plant) medicine (purification room) chemical industry (fireproof workshop)

Composition: steel plate + glass magnesium + rock wool + glass magnesium + steel plate, handmade craft.

**Advantages:** good fireproof performance, high sound insulation performance.

**Application:** Widely used in food, medicine, electronics, scientific research, aerospace, medical and other industries in the plant, laboratory and a variety of places partition, ceiling.



| Technical Parameter       |  |
|---------------------------|--|
| Insulation material       |   |
| Thickness                 | 50mm, 55mm, 60mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width            | 980mm, 1180mm  |
| Tolerance                 | ≤1mm   |
| Maximum Length            | ≤10000mm   |
| Panel Coating Material    | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material      | Rock wool (density: 100~120 kg/m <sup>3</sup> ) Magnesium glass thickness 5mm        |
| Panel thickness           | 0.45mm, 0.5mm thickness available  |
| Thickness of keel         | 0.6mm-0.8mm  |
| Corner                    | Galvanised/ABS   |
| Insulation                | 1.8kcal/m <sup>2</sup> /h/C  |
| Bending capacity          | 0.9KN/m <sup>2</sup>   |
| Bonding performance       | 0.15MPa  |
| Peeling rate              | ≥ 85%-≤ 98%  |
| Heat transfer coefficient | 0.73W/m <sup>2</sup> -K  |
| Protective coating        | 0.06mm thickness, >0.06mm can be customised  |
| Connection method         | Middle aluminium connection, male and female port continuous type                    |
| Fire resistance           | 1.0h   |
| Type                      | H-board (flat, pressed), flat board, corrugated sandwich panel                       |



## Hand-made series


### Hollow glass-magnesium Clean sandwich panel

#### Framework

Hollow glass-magnesium sandwich panel double-sided colour-coated/fluorocarbon/aluminium-zinc/anti-static plate (thickness 0.18mm-1.2mm); core material is inorganic glass-magnesium plate (fireproof, moisture-proof), which is the newly developed sandwich panel product of our company; surrounded by aluminium alloy cold-drawn skeleton or plastic steel skeleton; the product has beautiful surface, and the performance of sound insulation, heat insulation, seismic fireproofing meets the national standard.

**Performance and quality standard:** modular design, flexible and convenient installation. Excellent waterproof performance, no deformation after 8 hours of immersion in water.



| Technical Parameter       |   |
|---------------------------|---|
| Insulation material       |  |
| Thickness                 | 50mm, 75mm, 100mm, 150mm, 200mm   |
| Standard width            | 980mm, 1180mm   |
| Tolerance                 | ≤1mm  |
| Maximum Length            | ≤10000mm  |
| Panel Coating Material    | PE, customised with PVDF, anti-static, stainless steel, HDP and PVC coatings        |
| Filled Core Material      | Magnesium thickness 5mm   |
| Panel thickness           | 0.45mm, 0.5mm Thickness Available   |
| Thickness of keel         | 0.6mm-0.8mm   |
| Corner                    | Galvanised/ABS  |
| Bending ability           | 0.9KN/m <sup>2</sup>  |
| Bonding performance       | 0.15MPa   |
| Peeling rate              | ≥ 85%-≤ 98%   |
| Heat transfer coefficient | 0.73W/m <sup>2</sup> -K   |
| Protective Coating        | 0.06mm thickness, >0.06mm can be customised   |
| Connection method         | Middle aluminium connection , male and female port continuous type                  |
| Fire resistance           | 1.0h  |
| Type                      | H-board (flat, pressed), flat board, corrugated sandwich panel                      |

## Hand-made series

### Aluminium honeycomb Clean sandwich panel

#### Framework

Handmade aluminium honeycomb sandwich panel is made of high quality colour coated steel sheet as the surface layer and aluminium honeycomb as the core layer, which is made of pressurised, heated and grooved according to strict processing technology. Compared with other sandwich panels, it has the features of light weight, good flatness, beautiful appearance, scientific nodes, sound insulation, good fireproof performance, easy installation, etc. Due to the unique hexagonal structure of its core material, it has the features of high compressive strength, good tensile performance, light weight, etc., and belongs to the green environmentally friendly building materials.



| Insulation material       |  |
|---------------------------|--|
| Technical Parameter       |  |
| Thickness                 | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width            | 980mm, 1180mm  |
| Tolerance                 | ≤1mm   |
| Maximum Length            | ≤10000mm   |
| Panel Coating Material    | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material      | Aluminium honeycomb size 0.04~0.05mm   |
| Panel thickness           | 0.45mm, 0.5mm thickness available  |
| Thickness of keel         | 0.6mm-0.8mm  |
| Corner                    | Galvanised/ABS   |
| Bending ability           | 0.9KN/m <sup>2</sup>   |
| Bonding performance       | 0.15MPa  |
| Peeling rate              | ≥ 85%-≤ 98%.   |
| Heat transfer coefficient | ≤0.030 m.k   |
| Protective Coating        | 0.06mm thickness, >0.06mm can be customised  |
| Connection method         | Middle aluminium connection , male and female port continuous type                   |
| Fire resistance           | 1.0h   |
| Type                      | H-board (flat, pressed), enterprise mouth board, corrugated sandwich panel           |



## Hand-made series

## Polyurethane Clean sandwich panel

### Framework

It is a new generation of architectural decorative board which adopts PU as the core material, galvanized (stainless steel) or colour coated board as the surface layer, combined with high-strength adhesive, heated, pressurised and compounded by high-speed continuous automatic moulding machine, and then trimmed, slotted and cut into a new generation of architectural decorative boards. Widely used in electronics, biology, food, pharmaceuticals, hospitals, military and other clean building areas, especially for high-grade clean production workshop and warehouse.



| Technical Parameter       |   |
|---------------------------|---|
| Insulation material       |  |
| Thickness                 | 50mm, 75mm, 100mm, 150mm, 200mm   |
| Standard width            | 980mm, 1180mm   |
| Tolerance                 | ≤1mm  |
| Maximum Length            | ≤10000mm  |
| Panel Coating Material    | PE, customised with PVDF, anti-static, stainless steel, HDP and PVC coatings.       |
| Filled Core Material      | Polyurethane Weight 40kg/m <sup>3</sup> -45kg/m <sup>3</sup>                        |
| Panel thickness           | 0.45mm, 0.5mm thickness available   |
| Thickness of keel         | 0.6mm-0.8mm   |
| Corner                    | Galvanised/ABS  |
| Bending ability           | 0.9KN/m <sup>2</sup>  |
| Bonding performance       | 0.15MPa   |
| Peeling rate              | ≥ 85%- ≤ 98%.   |
| Heat transfer coefficient | ≤0.030 m.k  |
| Protective Coating        | 0.06mm thickness, >0.06mm can be customised   |
| Connection method         | Middle aluminium connection , male and female port continuous type                  |
| Fire resistance           | 1.0h  |
| Type                      | H-board (flat, pressed), enterprise mouth board, corrugated sandwich panel          |

## Hand-made series

### Magnesium glass aluminium honeycomb Clean sandwich panel


#### Framework

Handmade double-sided  
glass-magnesium aluminium  
honeycomb sandwich panel, using  
high-quality colour-coated steel plate as  
the surface layer, moisture-proof  
glass-magnesium board and aluminium  
honeycomb as the core layer, with  
special keel support, after heating,  
pressure, curing and become.

#### Performance and quality standards :

The core material adopts unique  
hexagonal structure, high compressive  
strength, good tensile strength, belongs  
to the green environmental protection  
building materials, is the current clean  
plant to promote environmentally  
friendly sheet. Light weight, good flatness,  
beautiful appearance, node science.



| Technical Parameter       |  |
|---------------------------|--|
| Insulation material       |   |
| Thickness                 | 50mm, 75mm, 100mm, 150mm, 200mm  |
| Standard width            | 980mm, 1180mm  |
| Tolerance                 | ≤1mm   |
| Maximum Length            | ≤10000mm   |
| Panel Coating Material    | PE, can be customised with PVDF, anti-static, stainless steel, HDP and PVC coatings. |
| Filled Core Material      | Aluminium honeycomb specification 0.04~0.05mm, magnesium glass thickness 5mm         |
| Panel thickness           | 0.45mm, 0.5mm thickness optional   |
| Thickness of keel         | 0.6mm-0.8mm  |
| Corner                    | Galvanised/ABS   |
| Bending ability           | 0.9KN/m <sup>2</sup>   |
| Bonding performance       | 0.15MPa  |
| Peeling rate              | ≥ 85%- ≤ 98%.  |
| Heat transfer coefficient | ≤0.030 m.k   |
| Protective Coating        | 0.06mm thickness, >0.06mm can be customised  |
| Connection method         | Middle aluminium connection , male and female port continuous                        |
| Fire resistance           | 1.0h   |
| Type                      | H-board (flat, pressed), enterprise mouth board, corrugated sandwich panel           |

# Door & Window system



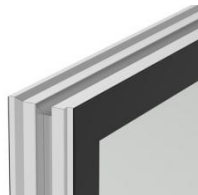
**Double glazed hollow glass window** (Manual panels adapted)



**Product Features**

- The glass inter layer is specially treated, no fogging in temperature difference, no stigmata .
- Using clean aluminium alloy frame, hard and solid, easy to clean.
- Toughened glass, when broken, the fragments become obtuse particles, reducing the risk of human injury.

**Product Details**



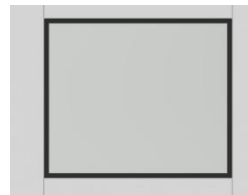
Window frame corner



Window frame corner

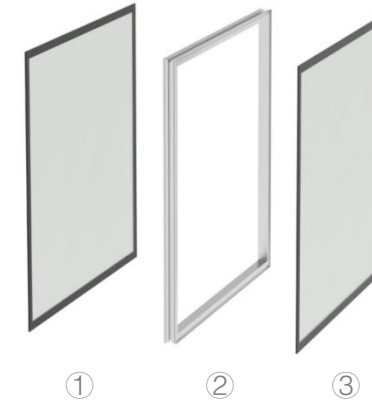


Air hole



Overall view

**Assembling Drawing**



**① Aluminum Door Frame Profile**

Aluminium alloy profile, the whole door frame with a smooth transition design, anti-collision, easy to clean.

**② Air hole**

There is a desiccant under the air holes, and the desiccant adsorbs water vapour in the insulating glass interlayer, which prevents the glass from fogging up due to the temperature difference between indoors and outdoors.

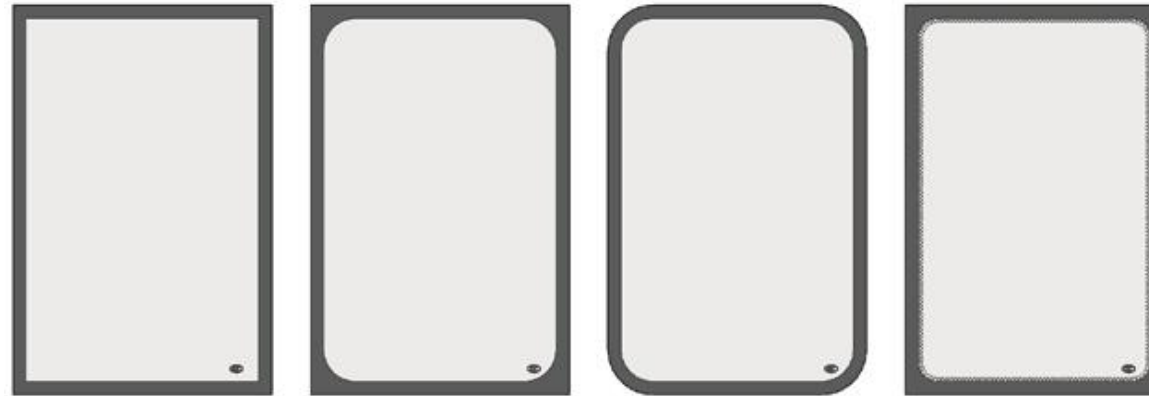
**③ Tempered glass**

When the glass is damaged by external force, it will be broken into honeycomb-shaped obtuse angles small particles, which not easy to cause harm to the human body. The strength of glass is 3 or 5 times than common glass.

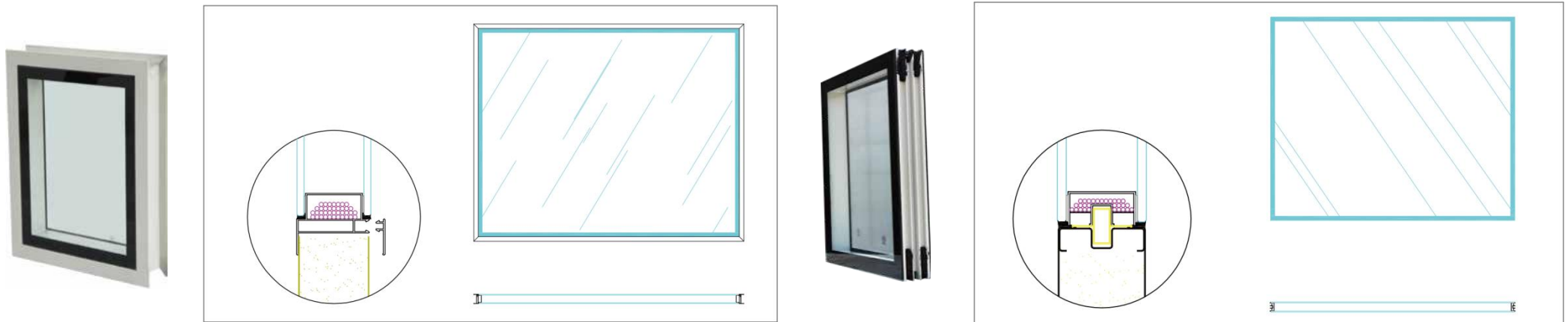
| Technical Parameter |   |
|---------------------|---|
| Specification       | 400*600/1180*1200/2363*1200/and customised (mm)     |
| Thickness           | 50/75/100 (mm)                                      |
| Window frame        | Aluminium alloy, stainless steel, cold rolled steel |
| Silkscreen          | Customised  |
| Glass               | Hollow  |
| Internal Filling    | 3A grade molecular sieve/inert gas                  |



Frame Appearance



Frame structure



Machine-made panel insulated glass window

Handmade panel insulated glass window



## Steel door



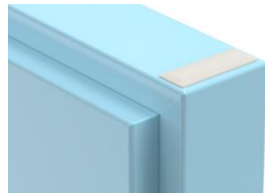
### Product Features

- The hinge is designed with rounded arc and the shaft is increased with nylon cuffs for friction and no dust.
- Exclusive sealing strip for the door frame, strong sealing, good noise and sound insulation effect
- Steel door panel, anti-collision, not easy to deform, easy to clean
- Various styles and support customised sizes

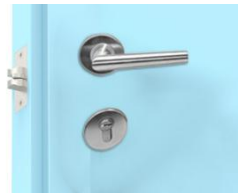
### Product Details



Hinges



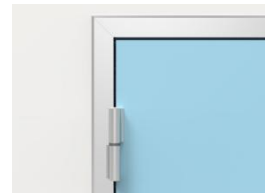
Door Leaf corner



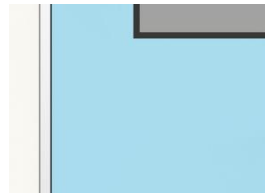
Lock



Door gap



Door Frame corner



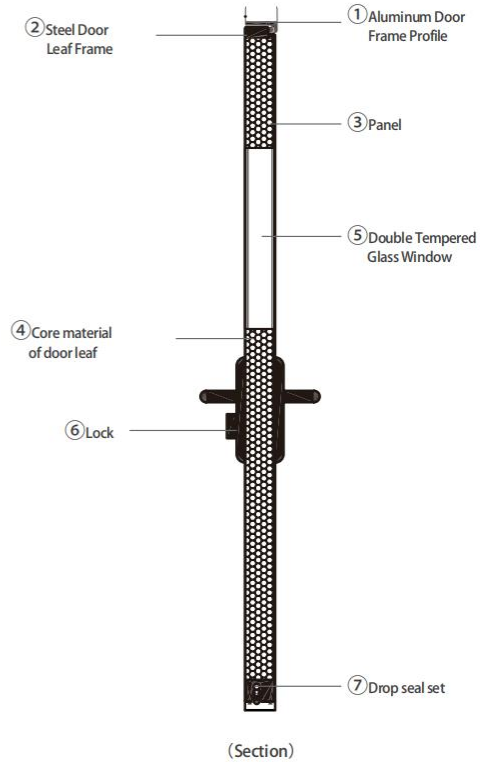
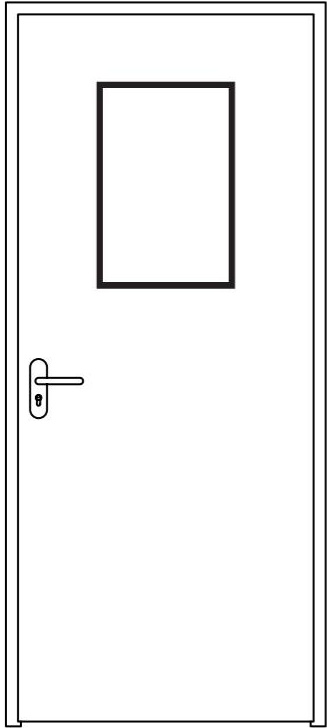
Door Leaf

### Technical Parameter

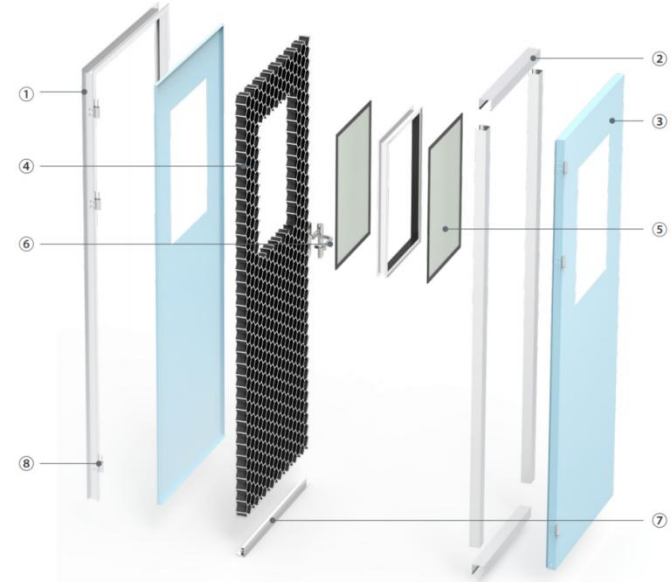
|                      |   |
|----------------------|---|
| Standard size        | 900*2100/1300*2100/1500*2100/1500*2100 (Customized size available)                        |
| Door frame structure | Swing door / Clamp door (Customized door frame size available)                            |
| Door frame material  | 1.5 mm galvanised steel sheet   |
| Door leaf material   | 1.0/1.2 mm galvanised steel.  |
| Door leaf thickness  | 50 mm   |
| Filling material     | Paper honeycomb/aluminium honeycomb/rock wool   |
| Window               | Double-layer square or rounded corner windows and doors                                   |
| Window size          | 400*600 mm, customisable;   |
| Window colour        | White or black  |
| Glass                | 5 mm thick toughened glass (flame retardant) with N <sub>2</sub> gas and desiccant inside |
| Lock                 | Split /Integral lever lock, Escape Lock, Stainless Steel Handle                           |
| Hinge                | Stainless Steel 304   |
| Door closer          | Normal or hidden (with or without positioner)/Electric swing door opener                  |
| Interlock            | Electromagnetic or electric bolt type   |
| Door seal            | Auto drop seal  |
| Coated               | Electrostatic spraying (colour cards available)   |



Structural diagram



Assembling Drawing



**① Aluminum Door Frame Profile**

Aluminium alloy profile, the whole door frame with a smooth transition design, anti-collision, easy to clean.

**② Aluminum Door Leaf Profile**

Aluminium alloy frame, flat surface

**③ Panel**

PPGI ,Anti-collision, abrasion resistance, antibacterial

**④ Core material of door leaf**

Using aluminum honeycomb, the center of which is aluminum hexagon, the honeycomb has no combustible substances, flame retardant, waterproof, moisture-proof, no harmful gas release

**⑤ Observation window**

Using double-layer tempered glass, and the window frame and door leaf are integrated. Not easy to fall off, no dead angle, anti-fogging

**⑥ Lock**

Anticollision, anti-pinch, can be opened by elbow

**⑦ Drop seal set**

Adopt unique double-shrapnel design, sinking smoothly, average strength, mute, good air tightness

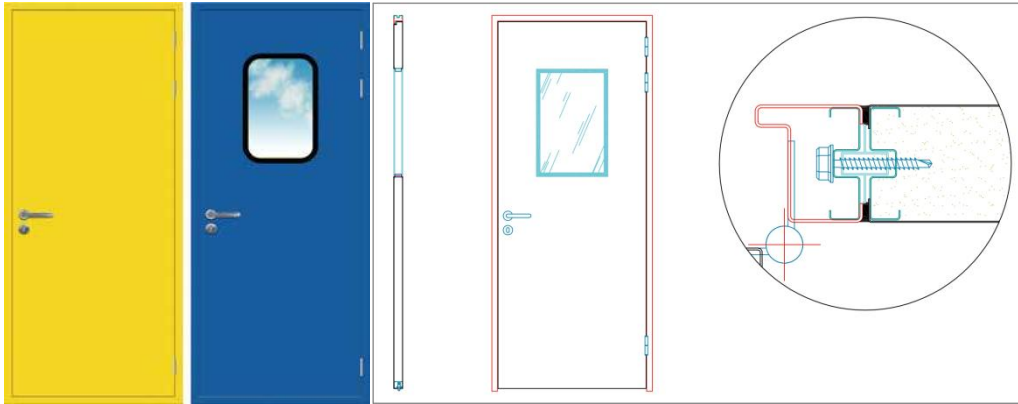
**⑧ Hinges**

Non-metal powder produced while working, quiet, wear-resistant, easy to clean, firm and beautiful

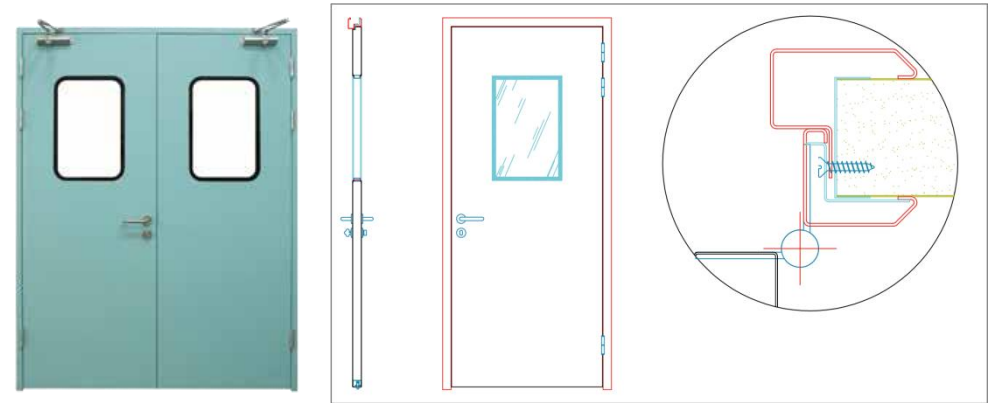


# Door frame type

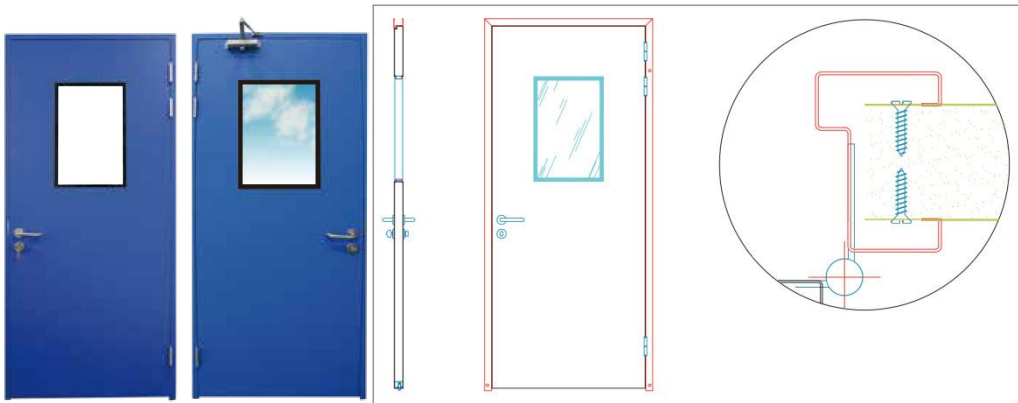
## Flat Framed Steel Door



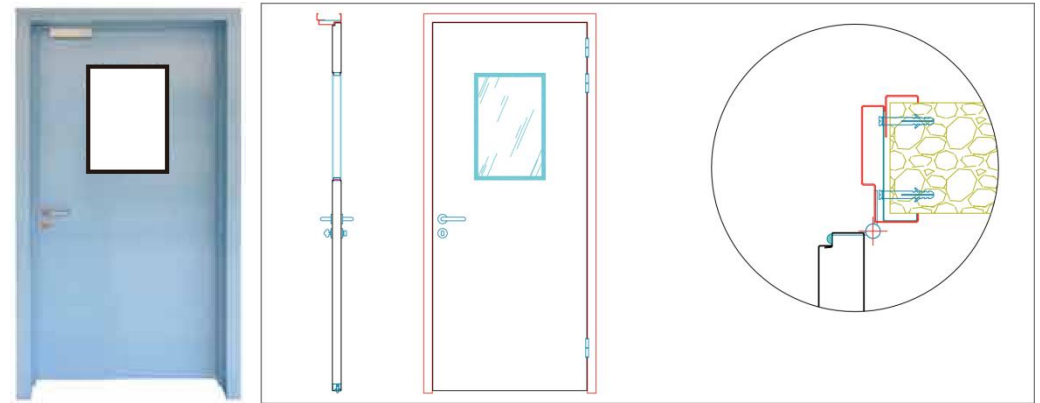
## Machined made panel steel door



## Machined made panel split steel door



## Civil Wall Steel Door



# Airtight automatic door



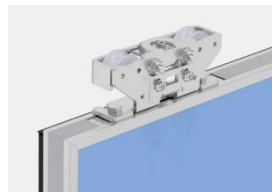
## Product Features

- guide rails are made of high-strength aluminium alloy, and the door frame can be opened and covered for easy maintenance
- Door pulls and panels are flush and seamless with no dead space, easy to clean
- Automatic door can be equipped with sinking internal buckle function, better airtightness

## Product Details



Guide Rail



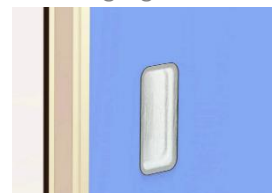
Hanging wheel



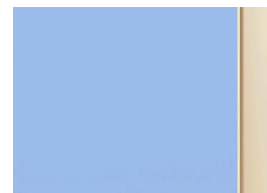
Safe beam



Balance wheel



Hidden handle



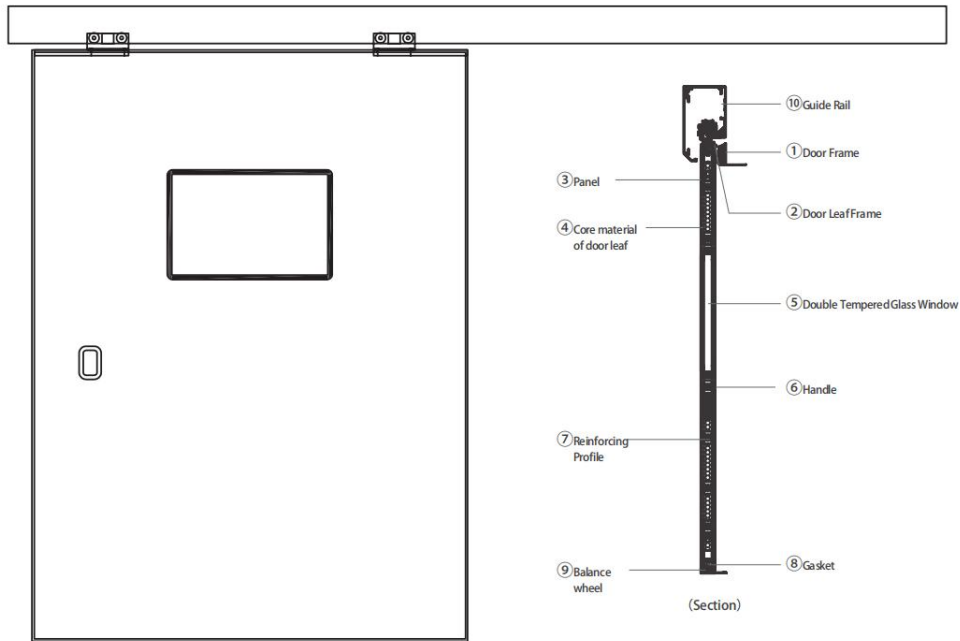
Door Leaf

## Technical Parameter

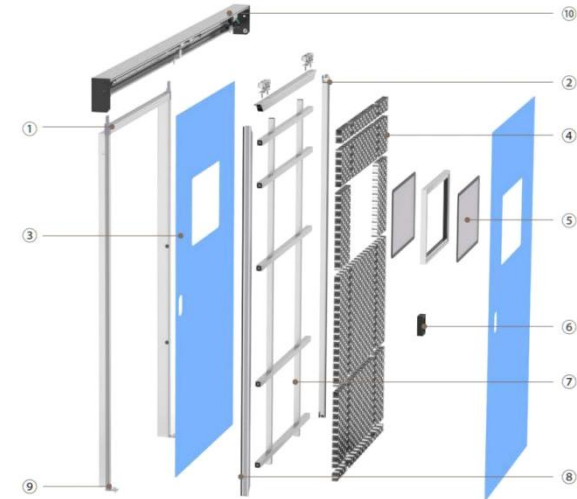
|                                |   |
|--------------------------------|---|
| Door weight                    | Maximum 150kg   |
| Door width                     | 1080mm-1580mm   |
| Common size of doorway         | Width: single door: 900/1000/1500mm; double door ≤3000mm<br>Height: ≤2100mm               |
| Door opening width             | ≤93%  |
| Door frame material            | 1.5 mm galvanised steel.  |
| Door leaf material             | 1.0/1.2 mm galvanised steel.  |
| Door leaf thickness            | 50 mm   |
| Door opening and closing speed | 250-500mm/s (adjustable)  |
| Filling material               | Paper honeycomb/aluminium honeycomb/rock wool   |
| Viewing window                 | 5 mm thick toughened glass (flame retardant) with N <sub>2</sub> gas and desiccant inside |
| Opening time                   | 2-20s (adjustable)  |
| Closing force                  | > 70N   |
| Manual push                    | < 100N  |
| Power                          | < 150W  |



Structural diagram



Assembling Drawing



① Aluminum Door Frame

Aluminium alloy profile, the whole door frame with a smooth transition design, anti-collision, easy to clean.

② Aluminum Door Leaf

Aluminium alloy frame, flat surface

③ Panel

PPGI or HPL, Anti-collision, abrasion resistance, antibacterial

④ Core material of door leaf

Using aluminum honeycomb, the center of which is aluminum hexagon, the honeycomb has no combustible substances, flame retardant, waterproof, moisture-proof, no harmful gas release

⑤ Observation window

Double-layer tempered glass is used, and the window frame and door leaf are integrated. Not easy to fall off, no dead angle, anti-fogging

⑥ Handle

Hidden handle, integral arc over-design, seamless no dead angle, easy to clean

⑦ Reinforcing Profile

To reduce deformation caused by external force, solid, anticollision, and durable

⑧ Gasket

Durable, cold resistant and heat resisting, not easily deformed, thermostability and other characteristics

⑨ Balance wheel

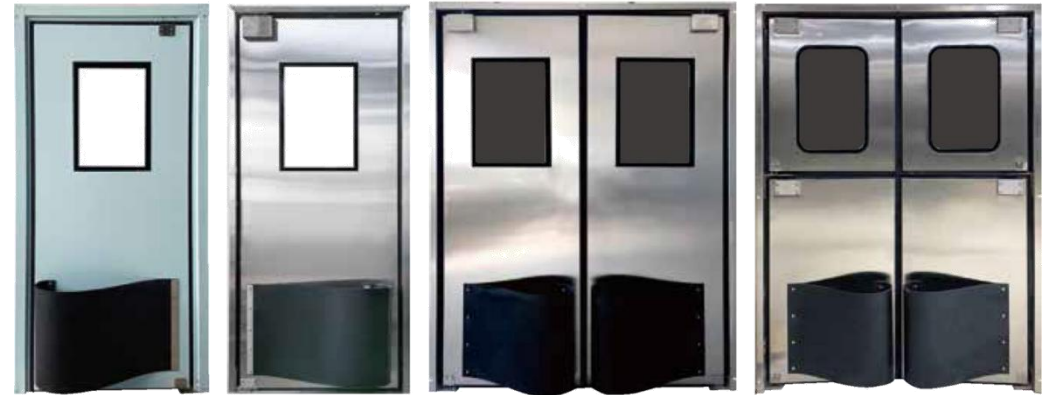
Improve the installation efficiency and make door operate stably with low noise

⑩ Guide Rail

Made of high strength aluminum alloy, surface polishing treatment, stand wear and tear



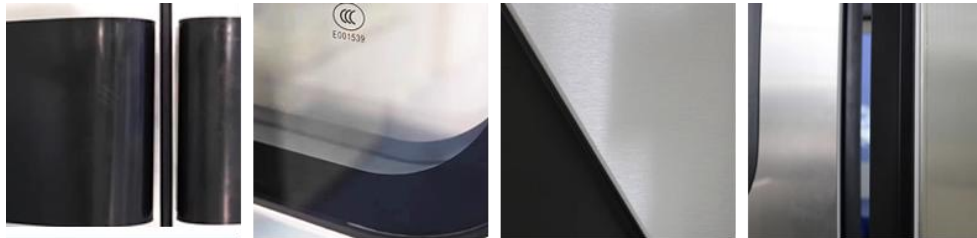
# Traffic door



## Product Features

- Suitable for food shops, warehouses, cold rooms and other areas
- Door panels and frames are made of high-strength 304 stainless steel with brushed surface for high corrosion resistance.
- Door panels are equipped with high-strength PE strips on both sides and single- or double-panelled doors and windows.
- Door panels spring back freely and hinge life is over 500,000 cycles.

## Product Details



Anti-collision rubber

Double-glazed viewing window

Stainless steel door panel

Door gap



Up shaft

Up shaft

Bottom shaft

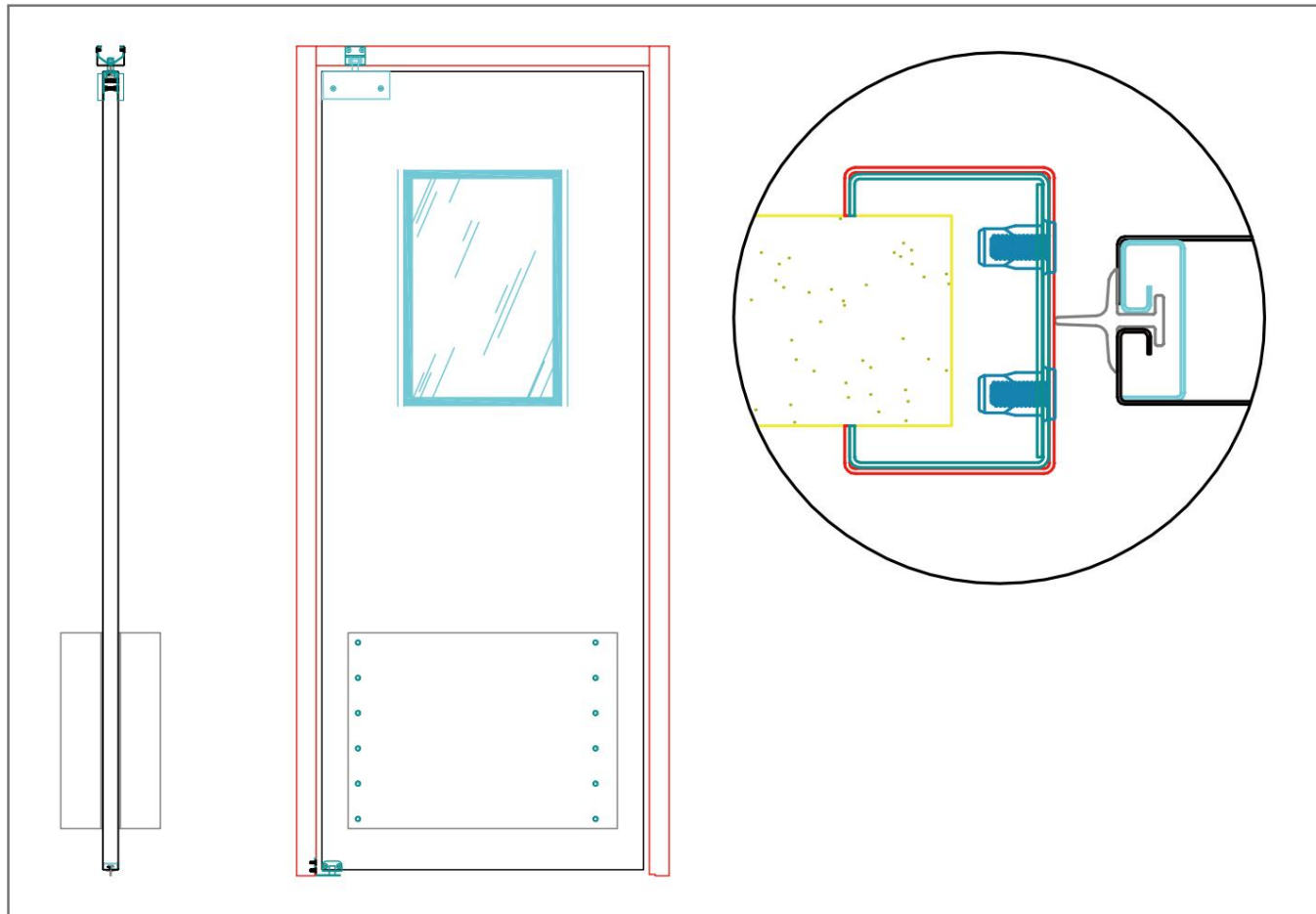
Bottom shaft

## Technical Parameters

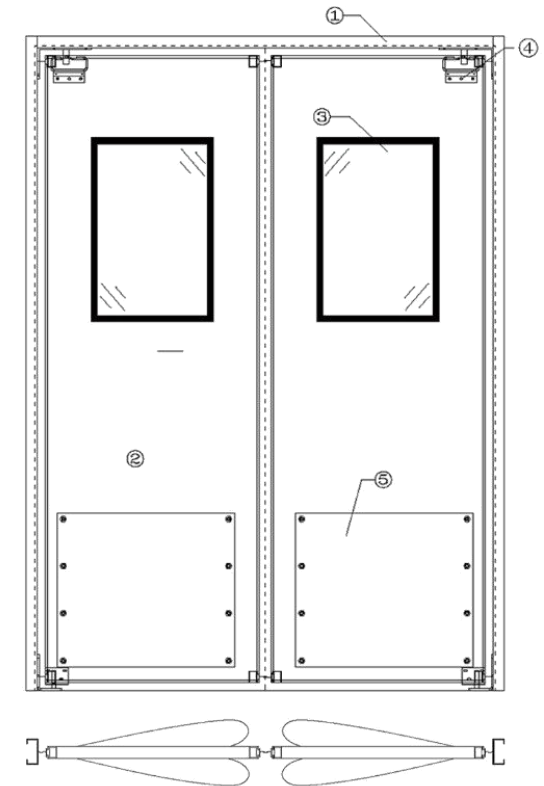
|                                |   |
|--------------------------------|---|
| Door frame                     | 1.2mm thick Galvanised sheet and stainless steel optional   |
| Door panel                     | 0.8mm thick Galvanised sheet and stainless steel available.   |
| Door leaf thickness            | 50 mm   |
| Door opening and closing speed | 250-500mm/s (adjustable)  |
| Filling material               | Paper honeycomb/aluminium honeycomb/rock wool   |
| Viewing window                 | 5mm thick toughened double insulated glass filled with desiccant  |
| Hinge                          | Up -bottom shaft  |
| Anti-collision panel           | 5mm Thick Black PE Rubber Plastic Bumper Plate  |
| Opening method                 | Single-door left-opening type, right-opening type, double-door is divided into inner-opening type, outer-opening type |



Schematic diagram of door frame



Structure diagram



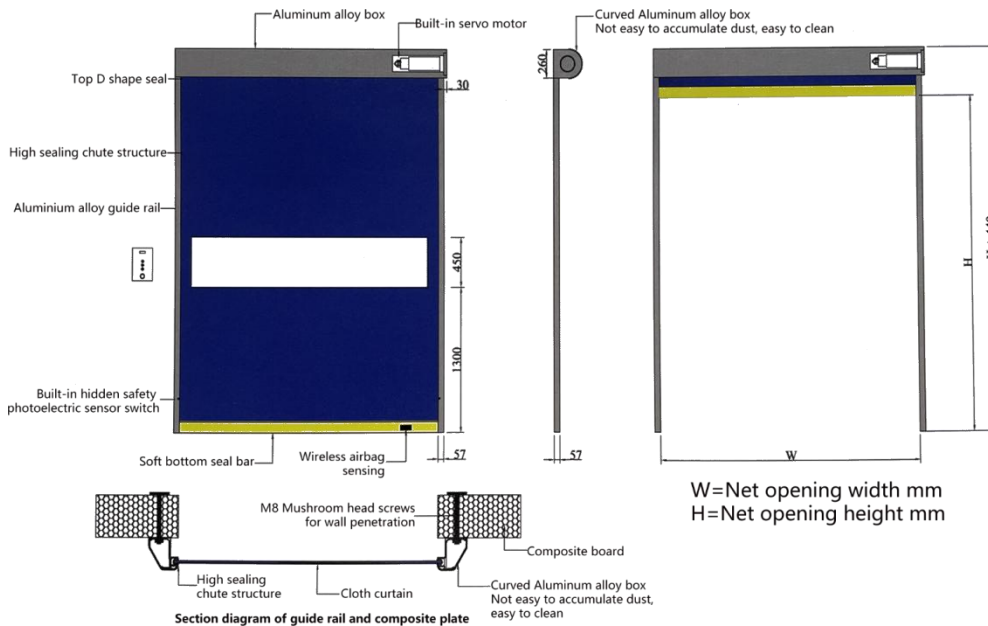
- ① Door frame
- ② Door panel
- ③ Viewing window
- ④ Up-bottom shaft
- ⑤ Anti-collision panel

# Fast roll-up shutter door

## Product Features

- Fast roll-up shutter door has the advantages of improving the air conditioning effect, high-speed automatic closing, and improving the efficiency of the action.
- It has many functions such as heat preservation, cold preservation, insect proof, wind proof, mosquito proof, dust proof, sound proof, fire proof and so on.

## Product Details



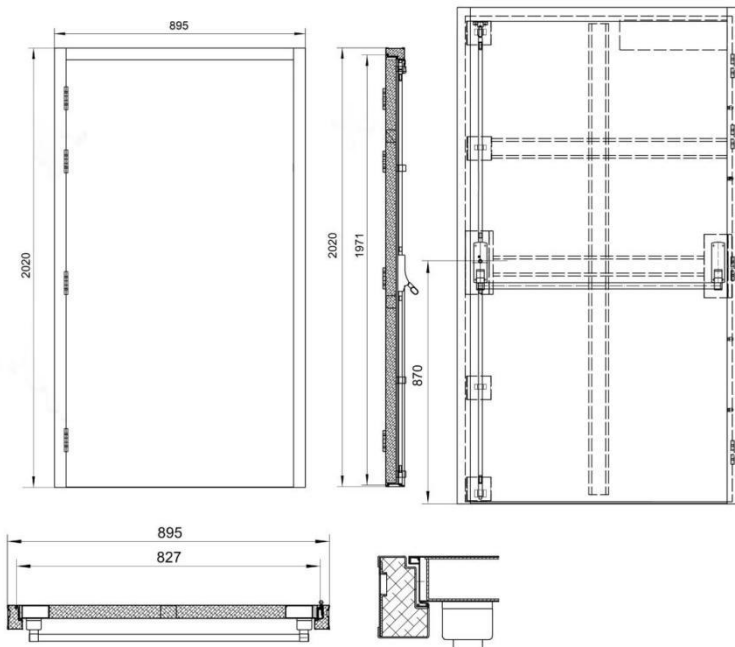
| Technical Parameter                    |   |
|--|---|
| Maximum door size                      | W 6500 mm * H 6000 mm   |
| Opening speed                          | 0.8 - 2.0 m/s adjustable  |
| Closing speed                          | 0.6 - 1.0 m/s adjustable  |
| Operation mode                         | Remote control, access control, magnetic ring, radar, pull rope switch  |
| Control system                         | 2-phase 220V - 3-phase 380V - power 0.75-1.5-2.2KW, control box with main power control switch, emergency stop button, manual-automatic switchover button, manual control of rise and fall button.  |
| Photoelectric safety protection device | Safety light on both sides of the door frame  |
| Door curtain thickness                 | 0.8 / 1.0 / 1.2 / 1.5mm   |
| Hardware material                      | Frame and cover box: galvanised steel / 304 stainless steel.<br>Rail guide: galvanised steel / 304 stainless steel / aluminium profile.<br>Wind bar: aluminium profile, diameter 40mm, thickness 1.5mm, installation distance 50cm.<br>Soft curtain body: industrial polyester fibre high strength and wear-resistant base cloth, thickness 0.9mm, colour available<br>Window: 1.5mm thick transparent PVC. |
| Motor                                  | 0.75-1.5 Kw; 220V 50 Hz / 380V 50Hz   |
| Frequency inverter / AC drive          | 2 times/minute, inverter on 2500-3000 times/day   |
| Door frame                             | High-quality aluminium alloy columns with baking and painting technology or 3.5mm thick antioxidant treatment   |



## Fire exit door

### Product Features

- Fire rated glazed windows.
- Suitable for fire protection separation of fire escape, vestibule façade and corridor area.
- Using high quality fireproof and heat insulation materials with excellent heat and sound insulation effect.
- Sealed on three sides with polystyrene self-sealing tape.



| Technical Parameters |   |
|----------------------|---|
| Standard size        | 900*2100/1300*2100/1500*2100mm (Customised door sizes available)  |
| Door frame structure | Swing door / Clamp door (Customized door frame size available)  |
| Door frame material  | Stainless steel frames, powder coated steel frames, alloy steel frames, aluminium frames and other constructions  |
| Door leaf material   | Stainless steel frames, powder coated steel frames, alloy steel frames, aluminium frames and other constructions  |
| Door leaf thickness  | 50mm  |
| Filling material     | Paper honeycomb/aluminium honeycomb/rock wool   |
| Viewing window       | Window size: 500*800 mm, double pane, square or rounded corners. Glazing; T=5 mm toughened glass (flame retardant) filled with N <sub>2</sub> gas and desiccant.  |
| Lock                 | Split /Integral lever lock, Escape Lock, Stainless Steel Handle, Panic bar, Hinges: SS304 hinges<br>Door closer: plain or concealed (with or without locator)<br>Interlocking: electromagnetic or electric latch type |
| Door sealing         | Auto drop seal  |
| Coated               | Electrostatic spraying (colour cards available)   |



## Door accessories



Split lock



Integral lock



Panic bar



Press bar



Push pull panel



Regular door closer



Hidden door closer



Sliding Door Closer



door sequencer



Automatic door closer



Stainless steel hinges



floor springs



Microwave induction detector



Magnetic card entrance guard machine



Safe Beam



Electrical Bolt-On Interlocks



Electromagnetic interlocks



Foot sensor switch



Face Recognition Switch



Metal exist switch



Auto drop seal



Common hinge



Card reader disk



Sliding automatic door motor



Swing automatic door motor



# Cleanroom equipment



# Air shower

## Product Features

The air shower room is the supporting equipment of clean plant and assembly clean room, used to blow off the dust attached to the surface of the human body and carrying goods in the purification plant, at the same time the air shower room also plays the role of the airlock, preventing the air from entering the clean area without purification, it is an effective equipment to carry out the purification of the human body and to prevent the pollution of outdoor air to solve the problem of the region.



Nozzle



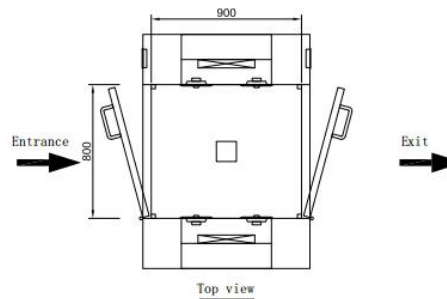
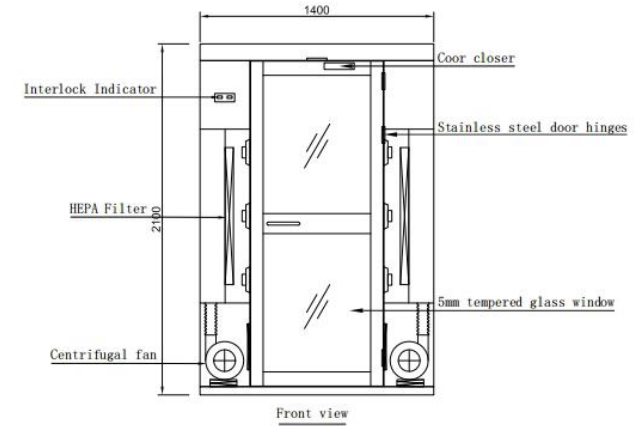
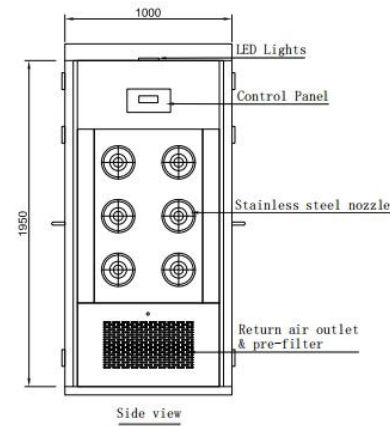
Control panel



Door closer



Indicator light



**Air Shower** - Pass Box - FFU - Negative Pressure Weighing Room - Clean Bench - Operating Room Equipment - Cleanroom Equipment

| Technical Parameter                         |   |                |   |                |                |
|---|---|----------------|---|----------------|----------------|
| Model/Name                                  | S1200-1   | S1200-2        | D1400-1   | D1400-2        | D1400-4        |
| Dimension W×D×H(mm)                         | 1200*1000*2100  | 1200*1500*2100 | 1400*1000*2100  | 1400*1500*2100 | 1400*2000*2100 |
| Size of air shower area ×D×H(mm)            | 900*800*1950  | 800*1400*1950  | 900*800*1950  | 800*1400*1950  | 800*1900*1950  |
| Nozzle material                             | 360° SUS 304 Stainless Steel Nozzle;Internally rotatable for even airflow Nozzle (optional)   |                |   |                |                |
| Nozzle wind speed (m/s)                     | Nozzle outlet wind speed ≥20m/s or more   |                |   |                |                |
| Nozzle number                               | 6   | 9              | 12  | 18             | 24             |
| Control System                              | Intelligent Voice Announcement Control System & External Door Indicator Lights;Plastic shell for control panel/ Stainless Steel control panel (optional);LCD control panel (Contact factory for more control system models) |                |   |                |                |
| Emergency Stop                              | 2 Emergency Stop button.One is the indicator panel for the outer door and the other one is in the inner door control panel.Optional upgrade to two oversize mushroom head buttons   |                |   |                |                |
| Blowing time                                | The initial factory setting is 10S,0-99S (adjustable),infrared sensor sensor fully automatic blowing shower   |                |   |                |                |
| Blowing shower mode                         | Blowing shower on the left side of the air shower area  |                | Blowing shower on the left and right sides of the air shower area |                |                |
| Static pressure outer box main material     | SUS 304 Stainless Steel plate;High-quality cold rolled steel plate (optional);Powder coated galvanised plate (optional)   |                |   |                |                |
| Static pressure inner box main material     | SUS 304 Stainless Steel plate;High-quality cold rolled steel plate (optional);Powder coated galvanised plate (optional)   |                |   |                |                |
| Door material                               | SUS 304 Stainless steel /Powder coated galvanised plate (optional) ; deluxe single door full-glass(half-glass optional) observation window  |                |   |                |                |
| Bottom plate material                       | Stainless steel plate on the bottom of the air shower room;Powder coated galvanised plate (optional)  |                |   |                |                |
| Filter size and quantity                    | 600*600*50*1  | 820*600*50*1   | 600*600*50*2  | 820*600*50*2   | 600*600*50*4   |
| Filter                                      | Class G4 pre-filter & class H13/H14 HEPA filter   |                |   |                |                |
| Filtration efficiency                       | Filter combination efficiency greater than 99.97%,0.5um   |                |   |                |                |
| Fan power(W)                                | 0.37Kw*1  | 0.75Kw*1       | 0.37Kw*2  | 0.75Kw*2       | 0.75Kw*4       |
| Maximum power consumption                   | 0.5Kw   | 1.0Kw          | 1.0Kw   | 1.6Kw          | 2.0Kw          |
| Power supply                                | 380V 50HZ   | 380V 50HZ      | 380V 50HZ   | 380V 50HZ      | 380V 50HZ      |
| Wire  | Three-phase four-wire wire 1m. No plug, please prepare the plug suitable for local standards, or contact the factory to customize the plug before shipment  |                |   |                |                |
| Number of blowers                           | 1   | 2              | 1   | 2              | 4              |
| Fluorescent lamp specification and quantity | 12W*1   | 12W*1          | 12W*1   | 12W*1          | 12W*2          |
| Weight                                      | ~120kg  | ~180kg         | ~250kg  | ~310kg         | ~480kg         |
| Packaging                                   | Wooden Pallet + Foam Board + Winding Film;Wooden Case+ Foam Board + Winding Film (optional)   |                |   |                |                |
| Customization                               | Support all appearance, parameters and model customization, please contact the factory for details  |                |   |                |                |



# Cargo air shower

## Product Features

Cargo air shower is the necessary channel for goods to enter the clean room, which can effectively reduce the pollution problems caused by goods entering and leaving the clean room. The equipment consists of several major components such as box body, fast rolling shutter door, fast rolling shutter door system, high efficiency filter, air blower, distribution box, nozzle, etc. The box body is made of high quality cold rolled steel plate. The box is made of high-quality cold-rolled steel plate, the surface of electrostatic spraying treatment, easy to clean. Rapid rolling shutter door can be used together with clean workshop and air shower room, supporting high-speed frequent opening, can block the air into the air shower room and thus in and out of the clean area, to avoid environmental pollution caused by the unpurified air.



Nozzle



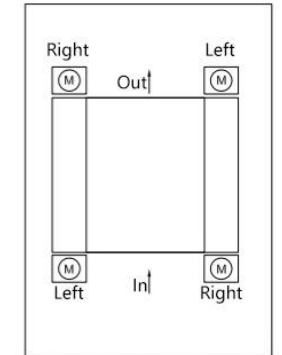
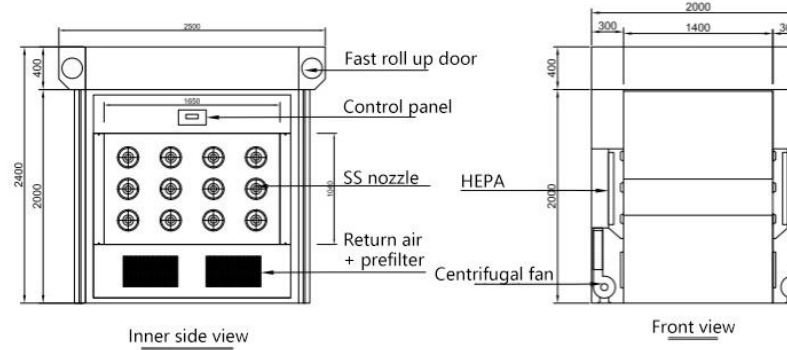
Polyester fabric curtains



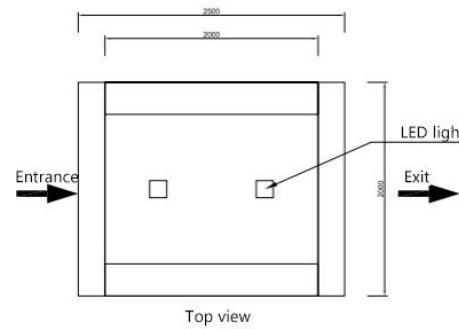
Controller



Safe beam



The direction of the position of the motor of the inlet and outlet side of the rapid rolling shutter door



# Pass box-Static pass box

## Product Features

The static pass box is made of stainless steel, which is rust and corrosion resistant. Equipped with electronic or mechanical interlocking device to ensure that both sides of the door can not be opened at the same time, effectively preventing cross-contamination. Built-in high-efficiency filter to maintain the cleanliness of air in the cleanroom. Simple design, easy to clean and maintain. Suitable for pharmaceutical, electronics, food processing and other industries, helping to reduce the risk of contamination in clean areas.



Electronic interlock



Stainless steel handle

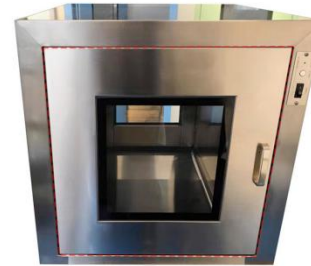


Door locks



Viewing window

## Door frame/interlock construction



Electronic Interlock & Flat Door



Mechanical interlock & convex door

### Technical Parameter

|                     |  |
|---------------------|--|
| Standard size WxDxH | 500x500x500; 600x600x600mm (sizes can be customised as multi-layer)                    |
| Working Area WxDxH  | 380x430x420; 480x530x520mm   |
| Material            | SUS 304 stainless steel 1.0/1.2/1.5mm thickness  |
| Viewing Window      | Tempered glass/vacuum glass  |
| Structure           | -Internal and external double-layer shell, internal arc processing, no seam connection |
| Interlocking        | Electronic interlock/mechanical interlock  |
| Disinfection lamp   | UV lamp, individually switchable 18W   |
| Power supply        | 220V/50Hz / Customised   |



Technical Parameter

|   |   |
|---|---|
| Outer diameter size W×D×H(mm)                 | 2000*2500*2400  |
| Size of air shower area W×D×H(mm)             | 1400*2000*2000  |
| Nozzle material                               | 360° SUS 304 stainless steel nozzle; internal rotatable nozzle for uniform airflow (optional)   |
| Wind speed (m/s)                              | Nozzle outlet air speed ≥29m/s  |
| Number of nozzles                             | 24  |
| Control system                                | Intelligent voice announcement control system and exterior door indicator; control panel plastic enclosure/stainless steel control panel (optional); LCD control panel (contact factory for more control system models) |
| Emergency stop                                | 3 Emergency Stop Buttons. Two are oversized mushroom head buttons for the outer door and the other on the inner door control panel.   |
| Shower time                                   | Factory initial setting of 10S, 0-99S (adjustable), infrared sensor for fully automatic blowing shower  |
| Air shower mode                               | Blowers on the left and right sides of the air shower area  |
| Static pressure outer box main material       | SUS 304 stainless steel sheet; high quality cold rolled steel sheet (optional); powder coated galvanised sheet (optional)   |
| Static pressure inner box main material       | SUS 304 stainless steel plate; high quality cold rolled steel plate (optional); powder coated galvanised sheet (optional)   |
| Door material                                 | SUS 304 stainless steel/powder coated galvanised sheet (optional); industrial polyester fibre high strength abrasion resistant base cloth, thickness 0.9mm, colour optional; PVC viewing window                         |
| Base plate material                           | 600*600*50*4  |
| Filter size and quantity                      | G4 pre-filter and H13/H14 high-efficiency filter  |
| Filter  | Filter combination efficiency > 99.95%, 0.5 micron  |
| Fan power                                     | 0.55 Kw*4   |
| Maximum power consumption                     | 4.6 Kw  |
| Power supply                                  | 380V 50HZ   |
| Cord  | Three-phase, four-wire cord 1 metre. No plug, or contact factory for customised plug prior to shipment.   |
| Number of fans                                | 4   |
| Specification and number of fluorescent lamps | 12W*2   |
| Weight  | ~900kg  |
| Packaging                                     | Wooden pallet + foam board + wrap-around film; wooden case + foam board + wrap-around film (optional)   |
| Customised                                    | Support all appearance, parameters and model customisation, please contact factory for details.   |



# Pass box-Dynamic pass box

## Product Features

Dynamic pass box is a kind of equipment used to pass items between cleanroom and non-clean area. It adopts laminar flow design, and the airflow direction adopts upward and downward mode. It is equipped with primary filters and high efficiency filters to ensure that the cleanliness inside the pass box reaches class B. The pass box is also equipped with built-in electronic door interlocks and UV rays. The pass box is also equipped with built-in electronic door interlocks, UV lamps and lighting to facilitate the transfer and disinfection of goods. Dynamic pass box achieves self-purification effect in the process of passing objects and reduces cross contamination brought by objects, which is suitable for various clean areas such as biopharmaceuticals, scientific research units, CDCs, large hospitals, university scientific research and so on.



Electronic interlock



Differential pressure gauge



DOP detection port



SS Door Handle



| Technical Parameter         |   |
|-----------------------------|---|
| Standard size WxDxH         | 720x580x1000 mm (dimensions can be customised to multi-layer)                         |
| Working Area WxDxH          | 500x500x500 mm  |
| Material                    | SUS 304 stainless steel 1.0/1.2/1.5mm thickness                                       |
| Viewing Window              | Tempered glass/vacuum glass   |
| Structure                   | Internal and external double-layer shell, internal arc processing, no seam connection |
| Interlocking                | Electronic interlock/mechanical interlock   |
| Disinfection lamp           | UV lamp, separate switch 18W irradiation intensity >70μW/cm2                          |
| Power supply                | 0.4Kw; 220V/50Hz / customised   |
| Sterilisation rate          | 99.99 %   |
| Dust removal rate           | 99.99 %   |
| Blowing air                 | 0.35-0.45 m / s; 0-999 seconds adjustable   |
| Differential Pressure Gauge | 1 high-efficiency pointer differential pressure gauge                                 |
| PAO detection port          | 1 pair  |
| Primary filter              | G4  |
| High efficiency filter      | H14   |

# FFU

## Product Features

FFU is a combination of fan and filter, for the filtering equipment with its own fan. It consists of fan, filter, box, electrical control components. After the fan inhales the air through the primary and high efficiency filtration, the clean air is sent out at a uniform speed with a wind speed of 0.45M/S±20%.FFU can be connected modularly and is widely used in clean places, and it is easy to operate and maintain.



Three-stage air speed adjustment switch



High Efficiency Filter



High-speed fan



Air inlet safety net

| Technical Parameter         |  |               |
|-----------------------------|--|---------------|
| Standard Size WxDxH         | 1175x575x320mm   | 575x575x300mm |
| Filter size WxDxH           | 1170*570*69  | 570x570x69mm  |
| Rated air volume            | 1000 m³/h  | 500 m³/h      |
| Power consumption           | 150-180 W  | 125-175W      |
| Noise level                 | 49-54 dB   |               |
| Total Static Pressure @0.45 | 290 m/s  |               |
| Current                     | 0.69-0.82 A  |               |
| Wind speed                  | 0.3-0.5 m/s  |               |
| Filtration efficiency       | H13 (optional H13-U17)   |               |
| Power supply                | 220V /50Hz   |               |
| Control method              | Gear adjustment / stepless speed control / group control speed control |               |
| Box material                | Aluminium-zinc plated/stainless steel                                  |               |

Three speed controllers can be replaced with group controllers



# Negative Pressure Weighing Room

## Product Features

Negative Pressure Weighing Room is a localised purification equipment which is widely used in pharmaceutical, food and other industries. It ensures high cleanliness in the working area and prevents dust and harmful substances from leaking out through vertical unidirectional airflow and high efficiency filtration system. The equipment is made of stainless steel, which is easy to clean and sterilise with good durability and safety. The negative pressure weighing chamber effectively prevents cross contamination and protects the operator and the environment.



SS operating desk



Sockets and emergency stop



Air flow detector



Differential pressure gauge



| Technical Parameter    |   |
|------------------------|---|
| Standard Size WxDxH    | Customized according to customer's size |
| Cleanliness Level      | Class A                                 |
| Average illuminance    | 500LUX                                  |
| Wind Speed             | 0.45 m/s                                |
| Pressure               | 500Pa                                   |
| Rated air volume       | Based on dimensions                     |
| Total power            | By design                               |
| Speed Adjustment       | Frequency converter                     |
| High efficiency filter | Reverse flange tank filter              |
| Overall material       | SUS304                                  |
| Protection object      | Drugs, operators, working environment   |

# Vertical Laminar Flow Clean Bench

## Product Features

Vertical flow, quasi-closed table, can effectively prevent the penetration of external air flow, as well as the stimulation of odor on the human body during work. The adjustable air volume fan system ensures that the wind speed in the working area is always in the ideal state. Equipped with lighting and germicidal lamps to ensure cleanliness. The front windshield is designed with 5MM tempered glass, which can be moved up and down and positioned at will. Single and double-sided operation, more convenient and safe



UV sterilisation lamp



Free-stop glass panel



High Efficiency Filter



Controller

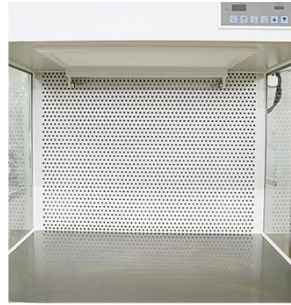
| Technical Parameter                                 |                                      |                           |
|---|--------------------------------------|---------------------------|
| Model   | Workbench for single                 | Workbench for double      |
| Standard Size WxDxH                                 | 980x730x1650 mm                      | 1600x730x1650 mm          |
| Working area size WxDxH                             | 820x700x500 mm                       | 1450x700x500 mm           |
| Cleanliness Class                                   | ISO5                                 |                           |
| Colony Count  | ≤0.5pcs/disc/hour (φ90mm Petri dish) |                           |
| Average wind speed                                  | 0.3 m/s ~ 0.60 m/s                   |                           |
| Vibration/Half Peak                                 | ≤4 microns (X, Y, Z direction)       |                           |
| Noise   | ≤62dB(A)                             | ≤65dB(A)                  |
| Illumination  | ≥300Lx                               |                           |
| Maximum Power Consumption                           | ≤0.4KW                               | ≤0.8KW                    |
| Power   | AC, single-phase 220 V/50 Hz         |                           |
| Specification and number of high-efficiency filters | 760x600x50x①                         | 760x600x50x①、600x600x50x① |
| Specification and number of fluorescent/UV lamps    | 14Wx①、14Wx①                          | 14Wx②、14Wx②               |



# Horizontal Laminar Flow Clean Bench

## Product Features

Horizontal airflow with open countertop for easy operation. Adopt adjustable airflow fan system light touch switch to adjust the voltage, to ensure that the wind speed of the work area is always in the ideal state always in the ideal state. The table top is made of SUS304 high quality stainless steel with rounded humanised design, which not only effectively improves the working comfort, but also has anti-bacteria, corrosion resistance and cleaning function.



UV sterilisation lamp



Control panel



SS Workbench



Horizontal vent



| Technical Parameter                                 |                                      |                           |
|---|--------------------------------------|---------------------------|
| Model   | Workbench for single                 | Workbench for double      |
| Standard size WxDxH                                 | 900x720x1450 mm                      | 1500x720x1450 mm          |
| Working area size WxDxH                             | 850x480x600 mm                       | 1450x480x600 mm           |
| Cleanliness Class                                   | ISO5                                 |                           |
| Colony Count  | ≤0.5pcs/disc/hour (φ90mm Petri dish) |                           |
| Average wind speed                                  | 0.3 m/s ~ 0.60 m/s                   |                           |
| Vibration/Half Peak                                 | ≤4 microns (X, Y, Z direction)       |                           |
| Noise   | ≤62dB(A)                             | ≤65dB(A)                  |
| Illumination  | ≥300Lx                               |                           |
| Maximum Power Consumption                           | ≤0.4KW                               | ≤0.8KW                    |
| Power   | AC, single-phase 220 V/50 Hz         |                           |
| Specification and number of high-efficiency filters | 760x600x50x①                         | 760x600x50x①、600x600x50x① |
| Specification and number of fluorescent/UV lamps    | 14Wx①、14Wx①                          | 14Wx②、14Wx②               |



## Operating theatre equipment



Anaesthesia cabinet



Instrument cabinet



Medicine cabinet



Operating theatre control panels & writing desks



Viewing light



Gas Terminal Box



Power outlet box

# Laminar flow hood

## Product Features

A laminar flow hood is a device that shields and isolates the operator from the product, with the primary purpose of avoiding product contamination. Air is extracted from the cleanroom and passes vertically through the operating area via a fan mounted in the top pressurised compartment, filtered by a high efficiency air filter to provide a unidirectional flow of ISO5 (Class 100) air to the critical area, with exhaust air being discharged from below and returned to the cleanroom area. It consists of fans, high efficiency air filters, damping layer, lamps and lanterns.

## Working Principle

Clean laminar flow hood is a high-efficiency filter that passes air through at a certain wind speed to form a uniform airflow, so that the clean air flows vertically and unidirectionally, thus ensuring that the working area achieves the high degree of cleanliness required by the process.

## Appliance

There are two types of clean laminar flow hoods: external fan and built-in fan, and two types of installation: hanging type and floor type. Compared with the clean room, the clean laminar flow hood has the advantages of investment saving, quick effect, low requirement of plant construction, easy installation and power saving.



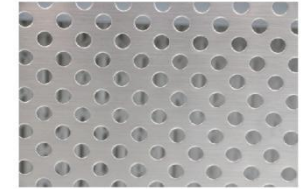
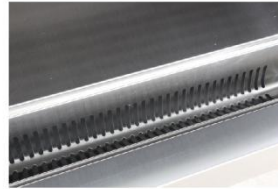
| Technical Parameter              |  |
|----------------------------------|--|
| External dimensions LxWxH        | 2400x1400x400mm (customised dimensions available)                            |
| Cleaning category                | Class 100  |
| Process                          | Individual static pressure box, quantity varies according to customised size |
| Average wind speed               | 0.3~0.6m/s (adjustable), laminar airflow outlet                              |
| Noise level                      | <65 dB   |
| Power supply                     | AC, single 220V/50Hz   |
| Lighting                         | ≥300LX, with lighting according to customised dimensions                     |
| Filter                           | Primary filter + high efficiency filter with high sealing tank H14           |
| Fan                              | 4 low noise purge fans   |
| Differential pressure indication | Differential pressure gauge with pointer                                     |
| Material                         | 304 stainless steel/201/painted optional                                     |

# Biological safety cabinet

## Product Features

Biosafety cabinets are designed to protect operators, laboratory environment and experimental materials from exposure to infectious aerosols and spills that may be generated in the process of handling infectious experimental materials (such as primary cultures, phages and inactivated specimens). Biosafety cabinets are widely used in the fields of healthcare, disease prevention and control, food hygiene, biopharmaceuticals, environmental monitoring and various types of biological laboratories, and are the foundation for ensuring biological and environmental safety.

## Product Details



- Safety cabinets are designed with R12.5 seamless rounded corners on all three sides inside the exposed work area for enhanced self-cleaning.
- All internal surfaces of the work area are made of 304 stainless steel.
- The front window of is made of burst-resistant toughened glass for clear optics and no negative effects during cleaning and disinfection.
- The chamber is leak tested and leak free when pressurised to 500PA.
- Rigorous HEPA/ULPA filter leakage testing ensures  $\leq 0.01\%$  leakage for scannable filters and  $\leq 0.005\%$  leakage for non-scannable filter test points.

# Ozone Equipment - Wall Mounted Ozone Generator

## Product Features

This machine is the latest ozone generator for air-conditioning system, which is widely used in electronics, optics, chemical, biological, pharmaceutical, scientific research and other projects, and is a necessary product for purifying air-conditioning system.

It is mainly used for the disinfection and sterilisation of studios and clean rooms. Ozone generating system: Japan's surface plasma ozone generating technology of sub-high voltage (3500v) is introduced, which is in the surface working condition, and the ozone generating capacity is large and stable; due to the characteristics of its composition and process, the ozone generator has strong adaptability to the environment, temperature and humidity when it is working, and it can be operated for a long period of time, which can really realise the user's strict requirements for its high performance and long service life. The generator takes surface plasma, composite ceramic medium, gold-containing material covering and overall nano-coating as the technical core, replacing the pipe network glass medium generator. The standard service life is 30,000 hours, which is a new milestone in the combination of ozone generator for high-voltage AC system and modern high-tech.



| Technical Parameter |                                  |
|---------------------|----------------------------------|
| Size                | 600x240x190mm                    |
| Material            | stainless steels                 |
| Rated Voltage       | 220V (can be customised to 110V) |
| Usable area         | 5~300m <sup>3</sup>              |
| Air source          | Air                              |
| Cable length        | 1.5m                             |

| Model            |     |     |     |     |
|------------------|-----|-----|-----|-----|
| Ozone production | 10g | 15  | 20  | 30  |
| Usable area      | 100 | 150 | 200 | 300 |
| Rated power      | 160 | 220 | 280 | 340 |

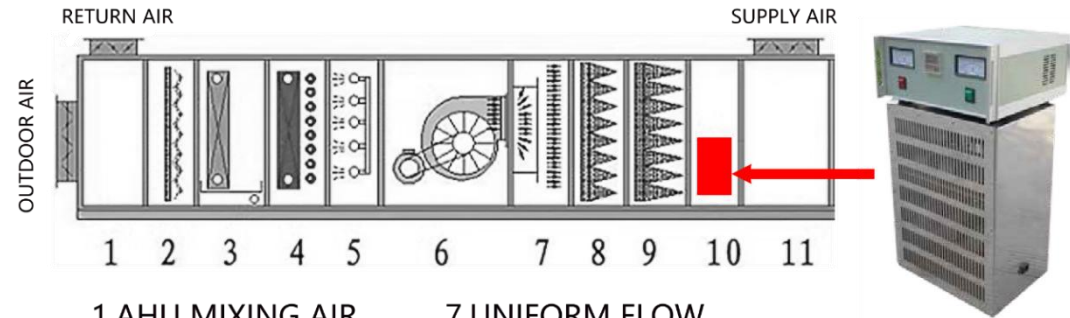


# Ozone Equipment - Built-in Ozone Generator

## Product Features

The main unit and control cabinet are designed separately, and the main unit is built-in. The main unit is built-in. It is installed in the main air duct of the HVAC system or in the air conditioning unit. The control cabinet is placed in a suitable (easy to operate and control) location according to the user's wishes. When disinfecting and sterilising, the ozone is diffused into each clean room controlled by the system using circulating air for disinfection and sterilisation.

Central air-conditioning built-in ozone generator using long-life quartz tube ozone generator, dust-proof and moisture-proof design, can be easily disassembled and replaced by any one group, easy to maintain, maintenance, the body adopts an open design, no wind resistance, the generator dissipates heat quickly to extend the service life of the equipment, the ozone concentration is high. Built-in ozone generator can completely replace the ultraviolet light irradiation and chemical fumigation disinfection, no secondary pollution. Can be widely used in pharmaceutical, food and other industries. We can provide all kinds of equipments that meet the requirements of disinfection and sterilisation of class 10,000 (local class 100), class 100,000 and class 300,000



- 1. AHU MIXING AIR
- 2. PRIMARY FILTER
- 3. COOLING COIL
- 4. HEATING COIL
- 5. HUMIDIFIER
- 6. SUPPLY FAN
- 7. UNIFORM FLOW
- 8. MIDDLE-EFFECT FILTER
- 9. SUB-HIGH EFFICIENCY FILTER
- 10. OZONE STERILIZATION
- 11. AHU SUPPLY AIR

| Technical Parameter  |                                  |
|----------------------|----------------------------------|
| Control cabinet size | 230x180x160mm                    |
| Generator Size       | 350x280x450mm                    |
| Material             |                                  |
| Rated Voltage        | 220V (can be customised to 110V) |
| Rated Power          | 250W                             |
| Ozone output         | 20g/h                            |
| Cooling method       | Air-cooled                       |
| Gas source           | Air                              |
| Timing range         | Intelligent Clock Timing         |



# Ozone Equipment - Mobile Ozone Generators

## Product Features

- Mobile ozone generator produces ozone gas with strong oxidation, catalysis and other effects, viruses and bacteria in the ozone gas due to a variety of free radicals, so that the protein dissociation denaturation, nucleic acid and enzyme activity is reduced, so as to disinfect and sterilise.
- Mobile ozone generator produces ozone and formaldehyde, carbon dioxide, xylene and other toxic and harmful gases such as degradation, oxidation and other complex physical and chemical reactions, and the by-products are non-toxic and harmless, can avoid secondary pollution.
- Can be moved, easy to use, and can be sterilised and purified for different rooms



| Technical Parameter |                       |                        |
|---------------------|-----------------------|------------------------|
| Model               | 10g/H                 | 20g/H                  |
| Standard Size WxDxH | 320x260x580mm         | 40x30x74mm             |
| Operation mode      | Timed                 |                        |
| Voltage             | 220V 50Hz             |                        |
| Air source          | Air                   |                        |
| Noise level         | < 80dB                |                        |
| Net weight          | 11KG                  | 17.5KG                 |
| Wattage             | 180W                  | 320W                   |
| Applicable area     | 80-150 m <sup>2</sup> | 150-240 m <sup>2</sup> |

# Sampling cart

## Product Features

It is suitable for sampling raw materials for pharmaceutical preparations (except sterile preparations). According to the GMP standard, our sampling trolley has a cleanliness level of 10,000, and the electric parts used are in accordance with GB1497-85 (electric safety standard) and GB-191 (packaging standard). The structure of the product consists of stainless steel plate or plastic spraying steel plate, computer touch control, the fan is stepless speed regulation air volume adjustable, equipped with ultraviolet germicidal lamps, specifications and sizes can be customised according to customer requirements.

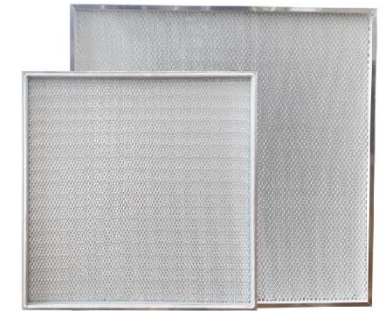


## Usage

Move the clean sampling cart to the place to be sampled, fix the sampling cart (brake); turn on the power, switch on the power switch, turn on the fan switch. Turn on the fan, adjust the voltage to the appropriate level (generally 220V), clean the sample for 15 minutes and then put it into the sampling bucket. After sampling, take away the sampling bucket, switch off the fan and power supply, unplug the power cord and move the sampling trolley to its original position.

| Technical Parameter   |   |
|-----------------------|---|
| Outer Diameter Size   | 715*715*1950mm      930*715*1950mm  |
| Inner Diameter        | 615*715*1550mm      830*715*1550mm  |
| Cleanliness Class     | Dust particle size $\geq 0.3$ micron $\leq 3.5$ (Class 100, US Federal Standard 209E) |
| Filtration efficiency | 99.99 per cent  |
| Lighting              | >300LX  |
| Vibration             | $\leq 3\mu\text{m}$ (X, Y, Z direction)   |
| Wind speed            | 0.25-0.45m/s (three speeds adjustable)  |
| Noise                 | $\leq 62\text{dB}$  |
| Power supply          | 0.2 kW  |
| Voltage               | Single-phase AC220V/50Hz  |
| Material              | All 201/304 stainless steel   |

# Filter



**High Temperature Resistant High Efficiency Filter**

**High efficiency filter without partition**

**High efficiency filter with high airflow**

**High Temperature Filter**

| Technical Parameter         |  |
|-----------------------------|--|
| Filter materials            | Glass fibre filter paper   |
| Frame Material              | Galvanised/stainless steel   |
| Spacer                      | Aluminium Foil Aluminium Foil  |
| Sealant                     | High temperature sealant   |
| Filtration Efficiency Class | H11(EN779), ≥95%@MPPS;<br>H12(EN779), ≥99.5%@MPPS;<br>H13(EN779), ≥99.95%@MPPS;<br>H14(EN779), ≥99.995%@MPPS |
| Final Resistance            | ≤500Pa   |
| Stable working temperature  | ≤250°C   |

| Technical Parameter         |  |
|-----------------------------|--|
| Filter materials            | Glass fibre filter paper   |
| Frame Material              | Galvanised/stainless steel   |
| Spacer                      | Aluminium Foil Aluminium Foil  |
| Sealant                     | High temperature sealant   |
| Filtration Efficiency Class | H11(EN779), ≥95%@MPPS;<br>H12(EN779), ≥99.5%@MPPS;<br>H13(EN779), ≥99.95%@MPPS;<br>H14(EN779), ≥99.995%@MPPS |
| Final Resistance            | ≤500Pa   |
| Stable working temperature  | ≤250°C   |

| Technical Parameter         |  |
|-----------------------------|--|
| Filter materials            | Glass fibre filter paper   |
| Frame Material              | Galvanised/stainless steel   |
| Spacer                      | Aluminium Foil Aluminium Foil  |
| Sealant                     | High temperature sealant   |
| Filtration Efficiency Class | H11(EN779), ≥95%@MPPS;<br>H12(EN779), ≥99.5%@MPPS;<br>H13(EN779), ≥99.95%@MPPS;<br>H14(EN779), ≥99.995%@MPPS |
| Final Resistance            | ≤500Pa   |
| Stable working temperature  | ≤250°C   |

| Technical Parameter         |  |
|-----------------------------|--|
| Filter materials            | Glass fibre filter paper   |
| Frame Material              | Galvanised/stainless steel   |
| Spacer                      | Aluminium Foil Aluminium Foil  |
| Sealant                     | High temperature sealant   |
| Filtration Efficiency Class | H11(EN779), ≥95%@MPPS;<br>H12(EN779), ≥99.5%@MPPS;<br>H13(EN779), ≥99.95%@MPPS;<br>H14(EN779), ≥99.995%@MPPS |
| Final Resistance            | ≤500Pa   |
| Stable working temperature  | ≤250°C   |



# High Efficiency Air Supply Port



## Product Features

The shell of the high-efficiency air supply outlet is made of high-quality cold-rolled steel plate, and the surface is electrostatically sprayed with plastic. Including static pressure box, high-efficiency filter and diffuser, it can be installed as the end high-efficiency filtration device in all levels of clean room, such as clean ceiling.

| Model              | Size         | High Efficiency Filter | Rated air volume | Inlet duct size | Pipeline Link | Assembly Size    | Toroidal spacing | Weight |
|--------------------|--------------|------------------------|------------------|-----------------|---------------|------------------|------------------|--------|
| 侧面进气口 顶部进气口        | LxWxHmm      | mm                     | m/h              | (AxBmm)         | (CxDmm)       | (TxSxRxGmm)      | PMm              | kg     |
| GFK-320 GFK 320D   | 370x370x530  | 320x320x220            | 500              | 200x200         | 250x250       | 438x438          | 344x344          | ~20    |
| GFK-484 GFK 484D   | 534x534x530  | 484x484x220            | 1000             | 220x200         | 370x250       | 588x588x294x294  | 508x508          | ~26    |
| GFK-610 GFK610D    | 660x660x460  | 610x610x150            | 1000             | 320x250         | 370x300       | 716x716x358x358  | 634x634          | ~30    |
| GFK-820 GFK 820D   | 870x650x460  | 820x600x150            | 1200             | 320x250         | 370x300       | 926x706x436x353  | 844x624          | ~35    |
| GFK-630 GFK 630D   | 680x680x530  | 630x630x220            | 1500             | 320x250         | 370x300       | 735x736x368x368  | 654x654          | ~35    |
| GFK-726 GFK 726D   | 776x534x530  | 726x484x220            | 1500             | 400x200         | 450x250       | 832x590x416x295  | 750x508          | ~35    |
| GFK-915 GFK 91D    | 965x660x460  | 915x610x150            | 1500             | 500x250         | 500x300       | 1022x716x511x358 | 939x634          | ~40    |
| GFK-968 GFK968D    | 1018x534x530 | 968x484x220            | 2000             | 500x200         | 550x250       | 1074x590x537x295 | 992x508          | ~50    |
| GFK-1220 GFK 1220D | 1270x660x460 | 1220x610x150           | 2000             | 500x200         | 550x250       | 1326x716x332x358 | 1244x634         | ~55    |
| GFK-945GFK 945D    | 955x680x530  | 945x630x220            | 2200             | 500x250         | 550x300       | 1052x736x526x368 | 969x654          | ~50    |
| GFK-1260 GFK1260D  | 1310x680x530 | 1260x630x220           | 3000             | 600x250         | 650x300       | 1366x736x455x368 | 1284x654         | ~60    |



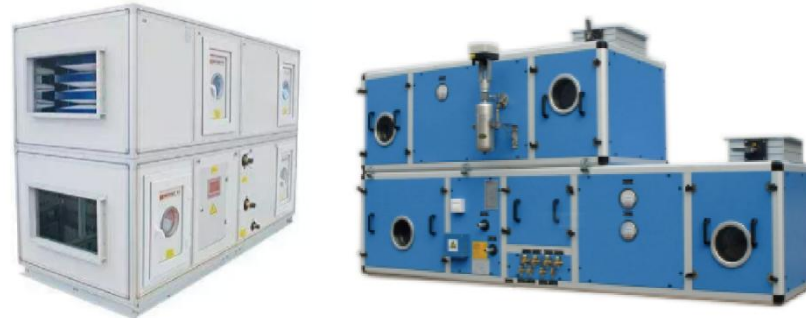
## Horizontal combined purification air-conditioning unit



### Product Features

Horizontal combined air-conditioning unit is one of the common forms of air-conditioning and ventilation system, applicable to different places and buildings, and usually consists of a number of functional parts, such as fresh air, filtration, return air, mixing and cooling, heating, humidification, air supply fan, even flow, filtration, air outlet and so on. Horizontal air-conditioning is designed based on the internal conditions of the building and is characterised by easy installation, operation and maintenance. It is the most widely used combined air-conditioning unit at present.

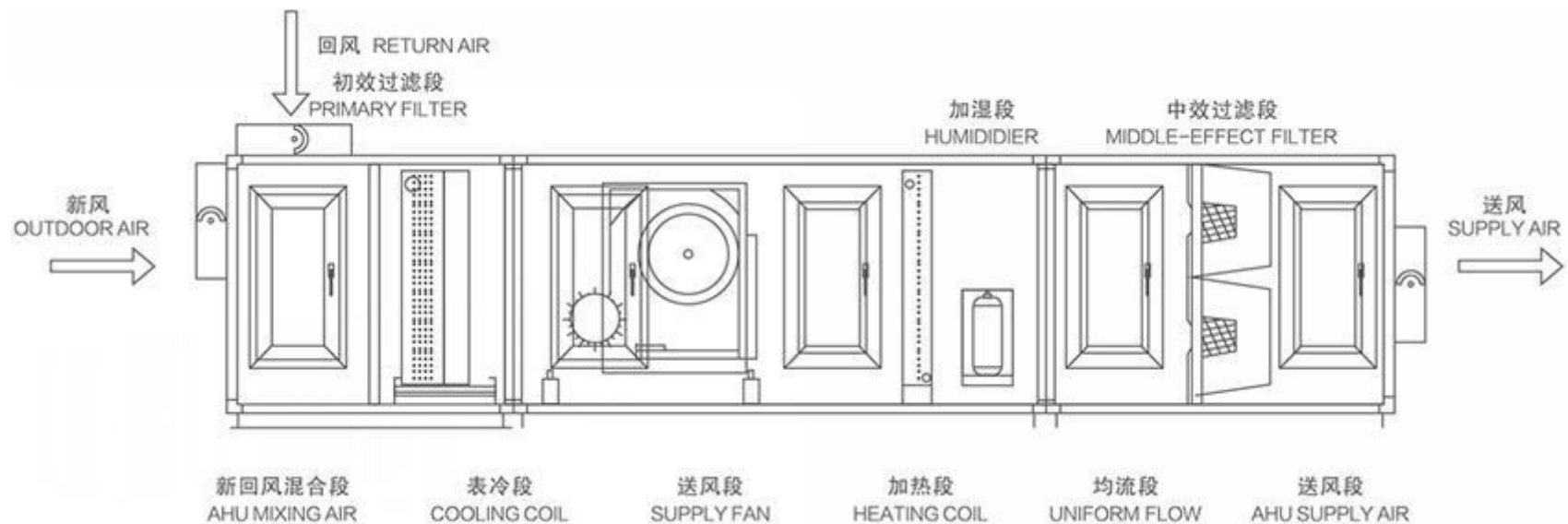
## Vertical combination purification air-conditioning unit



### Product Features

The advantage of vertical air-conditioning units is to solve the problem of insufficient space occupied by the unit's machine room, which brings convenience to many projects that do not have a separate air-conditioning unit machine room. The functional segments of the air-conditioning unit can be stacked up and down according to the size of the site to meet the demand for air-conditioning use. It is more suitable for small air volume air conditioning units.

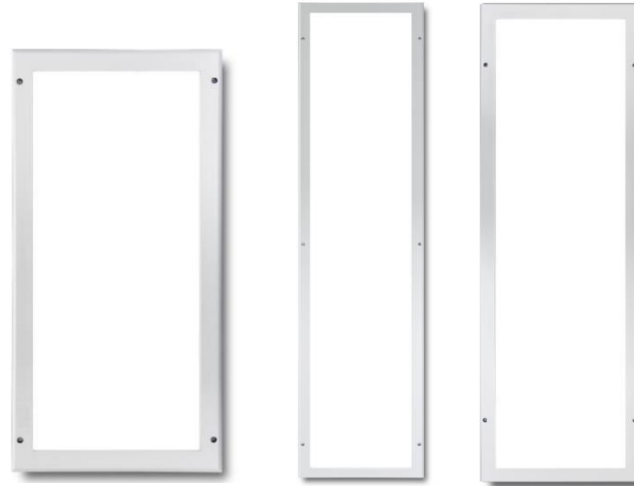




| Technical Parameter                  |        |        |        |        |        |        |        |        |        |         |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Type of equipment                    | OAH-10 | OAH-20 | OAH-30 | OAH-40 | OAH-50 | OAH-60 | OAH-70 | OAH-80 | OAH-90 | OAH-100 |
| Rated air volume (m <sup>3</sup> /H) | 10000  | 20000  | 30000  | 40000  | 50000  | 60000  | 70000  | 80000  | 90000  | 100000  |
| Section height H (mm)                | 1400   | 2000   | 2480   | 2950   | 3280   | 2800   | 2950   | 3120   | 3280   | 3600    |
| Section width (mm)                   | 1400   | 1700   | 1930   | 2080   | 2270   | 3320   | 3580   | 3850   | 4060   | 4060    |



# Clean lamp



## Product Features

The lamp is suitable for pharmaceutical factories, food factories, electronic factories, biochemicals, operating theatres, laboratories and so on. Special design of high quality aluminium alloy frame, good heat dissipation, improve the service life of the lamp beads, classic plastic spraying process, to ensure that the lamps and lanterns are seamless and dust-free. Adopt brand LED light source, high light efficiency and long life. Cross-current power supply, uniform brightness, soft optical fibre, beautiful atmosphere, while saving more than 65% energy than traditional light source. Top screw mounting, no need to cut holes, easy to install, the thickness of the whole lamp does not exceed 1cm.

| Model      | Size        | Power (Kw) | Colour temperature (w) | Lumen | Zero index (Ra) | Weight (Kg) | Outer box size (mm) | Quantity (sets) |
|------------|-------------|------------|------------------------|-------|-----------------|-------------|---------------------|-----------------|
| B300120048 | 300*1200*10 | 48         | 6500-7000              | 4600  | 80              | 2.8         | 126*20*38.5         | 10              |
| B30090036  | 300*900*10  | 36         | 6500-7000              | 3800  | 80              | 2.2         | 96*20*38.5          | 10              |
| B30060024  | 300*600*10  | 24         | 6500-7000              | 2400  | 80              | 1.6         | 66*20*38.5          | 10              |



# Aluminium profiles



Outer cylinde



T-type aluminum



Old window frame aluminum



I-shaped aluminum



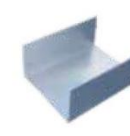
Single seal door material



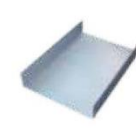
Door closure head



50 cell aluminum



75 tank aluminum



100 tank aluminum



Fixed window material



Heavy girde



Ceiling beam



In the word aluminum



Door frame aluminum



Large envelope Angle



Single R tank aluminum



Double R tank aluminum



Handmade plate outside cylinder



two-way



Three links



Slot aluminum



Internal arc



Double sealed door material



Fixed window frame aluminum



Double R tank aluminum



# Clients



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