FUME HOODS

The fume hood provides safe ventilation to protect against exposure to hazardous or toxic fumes, vapors, or airborne particulate. It is primarily used in laboratory and manufacturing applications to protect the user or environment outside the hood, but can also be used to protect the materials or experiment under the hood.

APPLICATION

Chemistry Lab, physics Lab, biological analysis, pharmaceutical medicine analysis, biological pharmaceutical, plant culture, environmental testing and electronic instrumentation scientific research etc.

CLASSIFICATION

Classification of fume hood materials:

·All-Steel Fume Hood
·PP Fume Hood
·Stainless Steel Fume Hood
·FRP Fume Hood

Classification of fume hood structure:

·Standard Fume Hood
·Walk-In Fume Hood
·Benchtop Fume Hood
·Multi-Sided Fume Hood

Classification of fume hood exhaust method:

·Full Exhaust Fume Hood
·Add Air Fume Hood
·Bypass Fume Hood
·Ductless Fume Hood
·Variable Air Volume(VAV) Fume Hood

Classification of fume hood special needs of the lab:

·Perchloric Acid Fume Hood
·Radioactive Fume Hood.
·Wet Fume Scrubber Fume Hood

BASIC SERIES FUME HOOD

All steel fume hood is the most basic and common of all fume hoods. Steel fume hood is generally applicable for common laboratory applications such as boiling, evaporation, drying, and other applications that emit noxious fumes and vapors.

Model	FH-120	FH-150	FH-180
External Dimension (W*D*H)(mm)	1200*850*2350	1500*850*2350	1800*850*2350
Internal Dimension (W*D*H)(mm)	960*680*1150	1260*680*1150	1560*680*1150
Base Cabinet Dimension (W*D*H)(mm)	1200*800*850 (Can remove)	1500*800*850 (Can remove)	1800*800*850 (Can remove)
Exhaust air volume	700-1300m³/h	900-1700m³/h	1300-2100m³/h
Air Velocity	0.3～0.8 m/s		

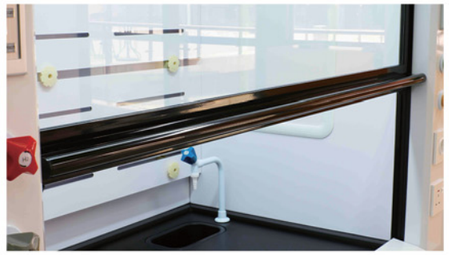
SPECIFICATION

HOOD BODY&BASE CABINET

1.0mm full-thickness high-quality cold-roll steel sheet is used as a whole; The steel surface undergoes grinding, polishing, rust removal, phosphating, and other processes, followed by epoxy resin electrostatic powder coating and high-temperature curing at 220°C, resulting in a smooth, corrosion-resistant surface with a thickness of 1.15mm to 1.2mm

WORK SURFACE

Standard Work Surface: Phenolic Resin with water baffle.
Optional: Epoxy Resin/PP/Stainless Steel/Ceramic/Granite/Marble.



GLASS SASH

Use explosion-proof 5mm tempered glass, aluminum alloy sash handle. It is designed by the weight balance method in the mechanical principle, and the left and right are connected by synchronous wheels.

BAFFLE

Use 5mm Compact grade laminate, fixed with PP material.Three-stage design, there is no blind angle of airflow in the cabinet, and all the toxic and harmful gases of different specific gravity generated during the experiment can be discharged out of the cabinet.

INNER

Use 5mm Compact grade laminate, its structure has a pressure release effect on explosive

BASIC SERIES FUME HOOD

AIR FOIL

Aerodynamic curve allows air to sweep the work surface maximizing containment. Reduces energy consumption by 7-10% compared to flat air foils.

BY-PASS SLOTS

By-pass airflow design with variable air volume compatibility. Compensating opening that maintains a relatively constant volume exhaust through a Fume Hood regardless of sash position and that functions to limit the maximum face velocity as the sash is lowered.

LIGHTING

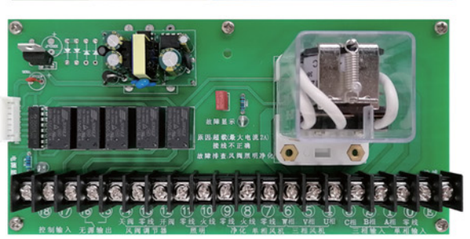
Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX.

SERVICE ACCESS

Removable service access on both sides for easy installation and maintenance of circuits, gas circuits and other accessories.

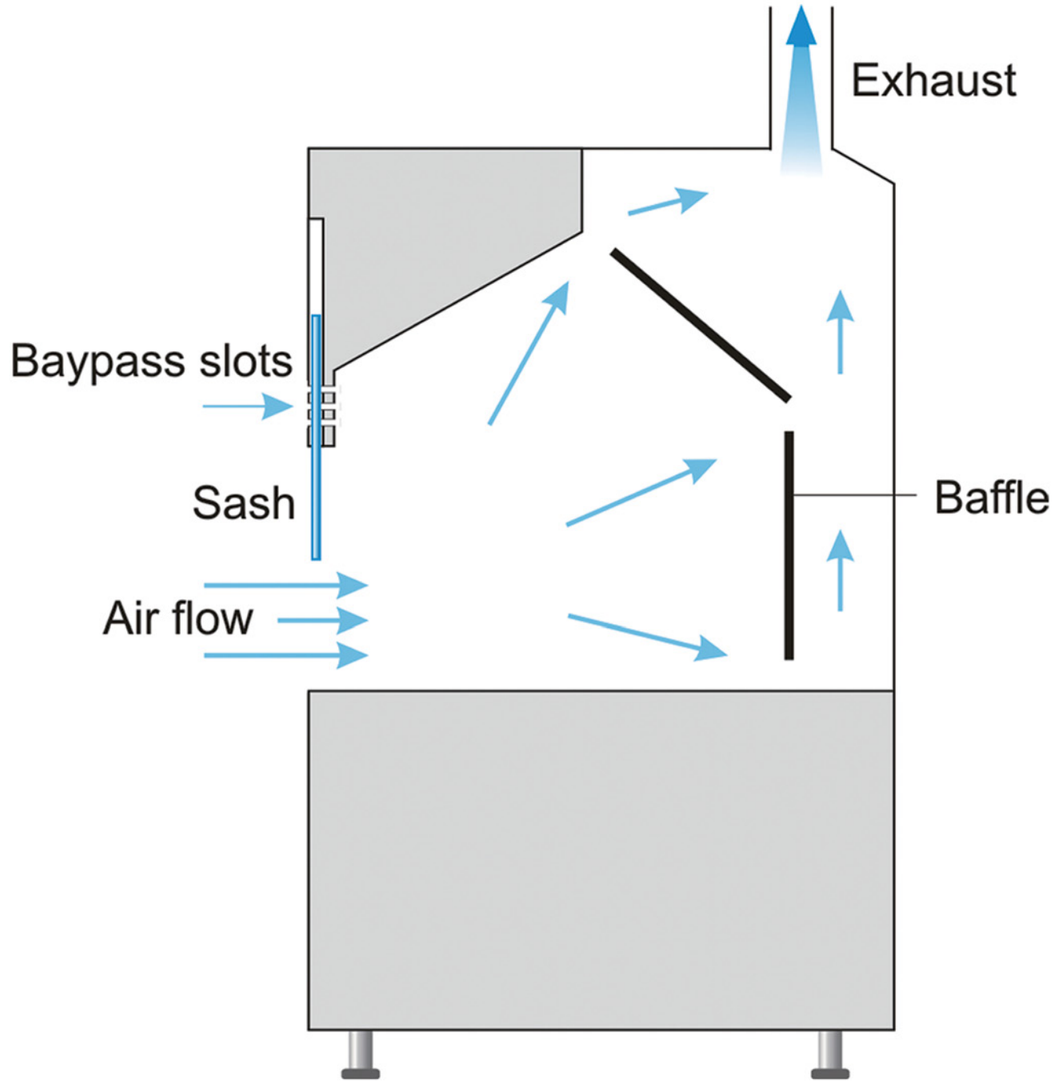
CONTROLLER

Intelligent button or touch screen with digital display, multiple controls power on, fan, lighting, socket, sterilization, damper,etc.



JUNCTION BOX

The junction box with circuit board and AC contactor makes wiring more convenient. Suitable for 110V-230V voltage.



WORKING PRINCIPLE

BASIC SERIES FUME HOOD

PRODUCT DETAIL

PRODUCT ACCESSORIES

WATER TAP& SINK

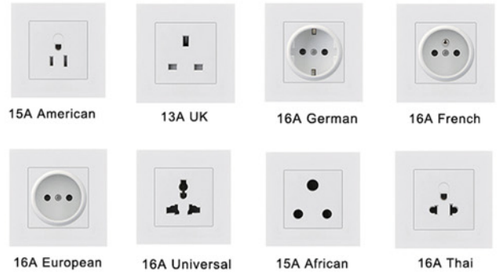
1x Bench-mounted single water tap
1x PP oval cupsink
1x PP material anti-siphon bottle trap

REMOTE CONTROL SYSTEM (OPTIONAL)

Interior mounted hole for gas, water, vacuum and other services have remote control valve3Prepared for up to two fixtures on each side (Four total).

EXHAUST HOOD

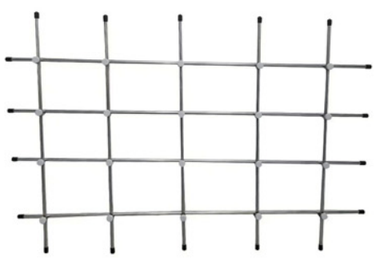
Used PP material and diameter is Φ250/315mm



ELECTRIC OUTLET

Each national standard electric outlet is available

ACID CABINET AND FLAMMABLE CABINET (OPTIONAL)



DISTILLATION GRID KIT

(OPTIONAL)

BASIC SERIES FUME HOOD

FEATURE

• By-pass airflow design with variable air volume compatibility

• Hood entrance is framed with inward-angled members to minimize turbulence and provide smooth air movement in hood at face velocities

• Engineered Three section baffle system for proper air distribution and constant face velocity

• Double wall construction for installation of plumbing and electrical fixtures and concealed routing of piping and wiring

• Chemical-resistant fume hood liner and baffle. Baffles are removable for cleaning

• Removable service access of side panels for access to plumbing and electrical wiring

• Removable service access of base cabinet for access to connection of water pipes

• The junction box on top of fume hood with circuit board and AC contactor makes wiring more convenient. Suitable for 110V- 230V voltage

MORE DETAIL

CRASH PAD

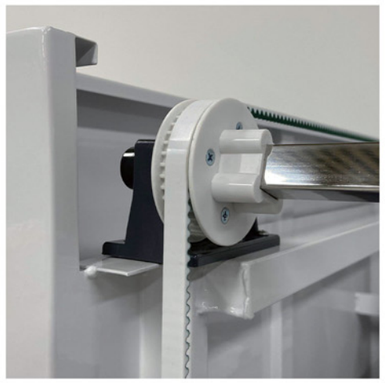
Effectively prevent impact damage and reduce noise.

GLASS SASH CHUTE

Effectively prevent the window from shaking back and forth and protect the door frame.

SASH WEIGHT CHUTE

Effectively reduce shaking during operation, reduce noise, and avoid damage during transportation.



SYNCHRONOUS BELT &PULLEY

PP+Fiber+Steel Wire Material, belt surface is durable, with less friction for movement and easier sliding.

HINGE

DTC buffer hinge, good corrosion resistance and long service life.

FOOTING

Use lab-specific adjustable feet with an adjustment range of ≥35mm, strong bearing capacity, the balance of the Fume hood can be adjusted.

WALK-IN FUME HOOD

Large apparatus or complex set-ups may require the use of a Fume Hood specifically designed to meet these requirements. The Walk-In Fume Hood has two vertical rising sashes that allow you to roll in large equipment or portable work stations.

Model	WFH-120	WFH-150	WFH-180
External Dimension (W*D*H)(mm)	1200*850*2350	1500*850*2350	1800*850*2350
Internal Dimension (W*D*H)(mm)	960*680*2000	1260*680*2000	1560*680*2000
Exhaust air volume	700-1300m³/h	900-1700m³/h	1300-2100m³/h
Air Velocity	0.3～0.7 m/s		

SPECIFICATION

1.Hood body: 1.0mm full-thickness high-quality cold-roll steel sheet is used as a whole;The steel surface undergoes grinding, polishing, rust removal, phosphating, and other processes, followed by epoxy resin electrostatic powder coating and high-temperature curing at 220°C, resulting in a smooth, corrosion-resistant surface with a thickness of 1.15mm to 1.2mm

2.Controller: Intelligent switch with digital display, multiple controls such as power on, fan, lighting, socket, sterilization, damper, etc..

3.Glass sash: two vertical rising sashes, use explosion-proof 5mm tempered glass, aluminum alloy sash handle. It is designed by the weight balance method in the mechanical principle, and the left and right are connected by synchronous wheels.

4.Lighting: Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX.

5. Fume hood liner liner and Baffle: Use 5mm Compact grade laminate, baffle fixed with PP material.

6. Junction box: The junction box with circuit board and AC contactor makes wiring more convenient. Suitable for 110V-230V voltage.

7.Standard accessories:

4x Electrical Outlets

1x 250 or 315mmφ PP hood.

8.Optional accessories:

PP oval cupsink

Remote Controlled Fixture gas&water faucet

Explosion-proof light

Distillation Grid Kit

Ductwork

Exhaust Fan

BENCHTOP FUME HOOD

Benchtop fume hood are one of the most popular models of fume hoods available for laboratory use. User sit on a laboratory bench, also known as a workstation or utility table. This makes it easy to sit or stand in front of the fume hood and conduct your work through the opening created by lifting the vertical sash.

Model	BFH-120	BFH-150	BFH-180
External Dimension (W*D*H)(mm)	1200*850*1500	1500*850*1500	1800*850*1500
Internal Dimension (W*D*H)(mm)	960*680*1150	1260*680*1150	1560*680*1150
Exhaust air volume	700-1300m³/h	900-1700m³/h	1300-2100m³/h
Air Velocity	0.3～0.7 m/s		

SPECIFICATION

1.Hood body: 1.0mm full-thickness high-quality cold-roll steel sheet is used as a whole;The steel surface undergoes grinding, polishing, rust removal, phosphating, and other processes, followed by epoxy resin electrostatic powder coating and high-temperature curing at 220°C, resulting in a smooth, corrosion-resistant surface with a thickness of 1.15mm to 1.2mm

2.Controller: Intelligent switch with digital display, multiple controls such as power on, fan, lighting, socket, sterilization, damper, etc..

3.Glass sash: Use explosion-proof 5mm tempered glass, aluminum alloy sash handle. It is designed by the weight balance method in the mechanical principle, and the left and right are connected by synchronous wheels.

4.Lighting: Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX.

5. Fume hood liner liner and Baffle: Use 5mm Compact grade laminate, baffle fixed with PP material

6. Junction box: The junction box with circuit board and AC contactor makes wiring more convenient. Suitable for 110V-230V voltage.

7. Standard accessories:

4x Electrical Outlets

1x 250 or 315mmφ PP hood

8.Optional accessories:

PP oval cupsink

Remote Controlled Fixture gas&water faucet

Explosion-proof light

Distillation Grid Kit

Ductwork

Exhaust Fan

MULTI-SIDED FUME HOOD

Double-sided/four-sided/multi-sided fume hood is applied on the central table of the laboratory, saving space, maximizing the use of laboratory space, barrier-free operation, and space sharing.

SPECIFICATION

1.Hood body: 1.0mm full-thickness high-quality cold-roll steel sheet is used as a whole;The steel surface undergoes grinding, polishing, rust removal, phosphating, and other processes, followed by epoxy resin electrostatic powder coating and high-temperature curing at 220°C, resulting in a smooth, corrosion-resistant surface with a thickness of 1.15mm to 1.2mm

2.Controller: Intelligent switch with digital display, multiple controls such as power on, fan, lighting, socket, sterilization, damper, etc..

3.Glass sash: Use explosion-proof 5mm tempered glass, aluminum alloy sash handle. It is designed by the weight balance method in the mechanical principle, and the left and right are connected by synchronous wheels.

4.Lighting: Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX.

5. Fume hood liner liner and Baffle: Use 5mm Compact grade laminate, baffle fixed with PP material

6. Junction box: The junction box with circuit board and AC contactor makes wiring more convenient. Suitable for 110V-230V voltage.

7. Standard accessories:

4x Electrical Outlets

1x 250 or 315mmφ PP hood

8.Optional accessories:

PP oval cupsink

Remote Controlled Fixture gas&water faucet

Explosion-proof light

Distillation Grid Kit

Ductwork

STAINLESS STEEL FUME HOOD

Stainless steel fume hoods with duct port fabricated of grade 304/316 stainless steel, They have good resistance to a wide range of chemicals and excellent moisture and heat resistance. They can be decontaminated and cleaned easily and they are ESD safe suitable for electro static sensitive applications if their body connected to building grounding.

Model	SSFH-120	SSFH-150	SSFH-180
External Dimension (W*D*H)(mm)	1200*850*2350	1500*850*2350	1800*850*2350
Internal Dimension (W*D*H)(mm)	960*680*1150	1260*680*1150	1560*680*1150
Base Cabinet Dimension (W*D*H)(mm)	1200*800*850 (Can remove)	1500*800*850 (Can remove)	1800*800*850 (Can remove)
Exhaust air volume	700-1300m³/h	900-1700m³/h	1300-2100m³/h
Air Velocity	0.3～0.8 m/s		

SPECIFICATION

1.Hood body&base cabinet:1.0mm full thickness 304/316 stainless steel sheets and the surface is smooth.

2.Standard Work Surface: 20mm thickness 304/316 Stainless Steel.

Optional: Phenolic Resin/Epoxy Resin/PP/Ceramic/Trespa/Granite/Marble.

3.Controller: Intelligent switch with digital display, multiple controls such as power on, fan, lighting, socket, sterilization, damper, etc..

4.Glass sash: Use explosion-proof 5mm tempered glass, stainless steel sash handle. It is designed by the weight balance method in the mechanical principle, and the left and right are connected by synchronous wheels.

5.Lighting: Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX.

6. Fume hood liner and Baffle: Use stainless steel sheets.

7. Junction box: The junction box with circuit board and AC contactor makes wiring more convenient. Suitable for 110V-230V voltage.

8. Standard accessories:

1x bench-mounted single stainless stee water tap

1x Stainless Steel cupsink

4x Electrical Outlets

1x 250 or 315mmφ stainless steel hood.

9.Optional accessories:

Remote Controlled Fixture gas&water faucet

Explosion-proof light

Stainless steel distillation Grid Kit

Acid and flammable base cabinet

Ductwork

Exhaust Fan

PP FUME HOOD

PP(Polypropylene) Fume Hoods are made of high-quality non-corrosive polypropylene with excellent chemical resistance. PP increases the product's tensile strength and improves its thermal characteristics.PP Fume Hoods protect laboratory staff from noxious fumes released by acids, dangerous gas and organic solutions – materials and acids which regular steel hoods may not withstand.

Model	PPFH-120	PPFH-150	PPFH-180
External Dimension (W*D*H)(mm)	1200*850*2350	1500*850*2350	1800*850*2350
Internal Dimension (W*D*H)(mm)	1000*680*700	1300*680*700	1600*680*700
Base Cabinet Dimension (W*D*H)(mm)	1200*800*850 (Can remove)	1500*800*850 (Can remove)	1800*800*850 (Can remove)
Exhaust air volume	700-1300m³/h	900-1700m³/h	1300-2100m³/h
Air Velocity	0.3~0.8 m/s		

MATERIAL INTRODUCTION

PP is polypropylene. English name: Polypropylene, referred to as: PP, commonly known as: pp Polypropylene is the representative of polyalpha-olefins, a thermoplastic resin made from propylene polymerization, whose monomer is propylene CH2 = CH3. It is one of the lighter ones in the common plastic, and its electric performance is excellent, but it can be used as an application of high humidity and high frequency insulation materials. It has good acid resistance, easy cleaning, oxidation resistance and good surface gloss.

SPECIFICATION

1.Hood body&base cabinet: 8-12mm porcelain white PP (polypropylene) sheets, welded into one piece, welded by the same color and homogeneous electrode.

2.Standard Work surface: 12mm porcelain white PP sheets.

Optional: Phenolic Resin/Epoxy Resin/Stainless Steel/Ceramic/Trespa/Granite/Marble.

3.Controller: Intelligent switch with digital display, multiple controls such as power on, fan, lighting, socket, sterilization, damper, etc.

4.Glass sash: Use explosion-proof 5mm tempered glass, PVC material sash handle. It is designed by the weight balance method in the mechanical principle, the left&right are connected by synchronous wheels.

5.Lighting: Equipped with LED 30W purification lamp, the luminosity is greater than 300LUX,

6.Fume hood liner and Baffle: Use 8mm porcelain white PP sheets.

7. Standard accessories:

1x bench-mounted single water tap

1x PP oval cupsink

4x Electrical Outlets

1x 250 or 315mmφ PP hood.

8. Optional accessories:

Remote Controlled Fixture gas&water faucet

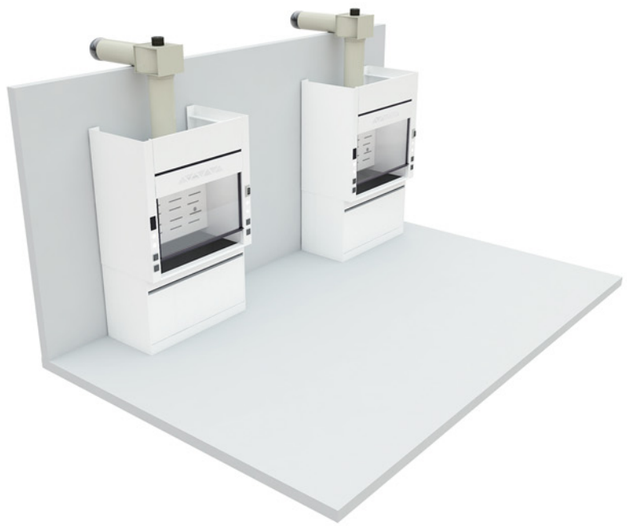
Explosion-proof light

Distillation Grid Kit

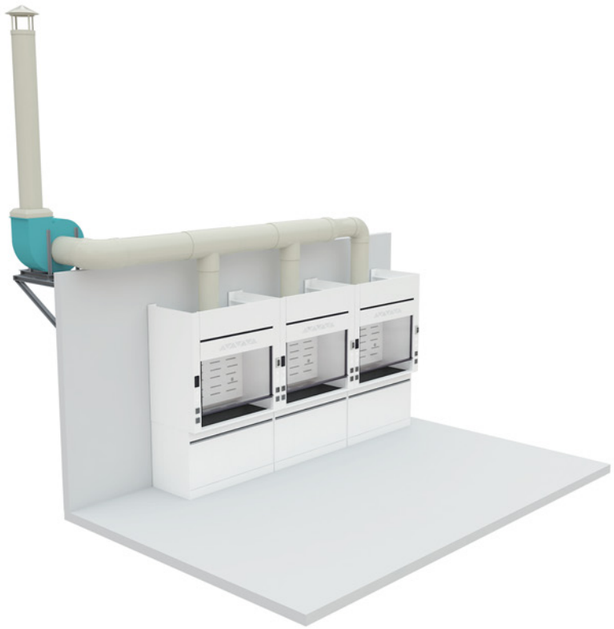
Acid and flammable base cabinet

Ductwork or Exhaust Fan

FUME HOOD EXHAUST & FILTRATION SYSTEM

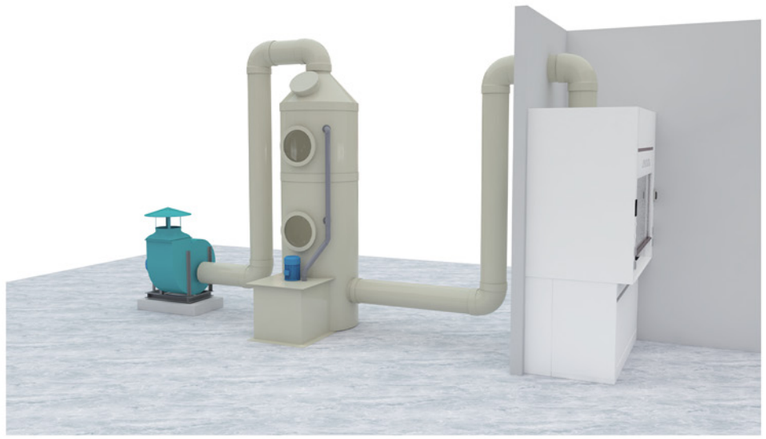


Indoor Fan Exhaust

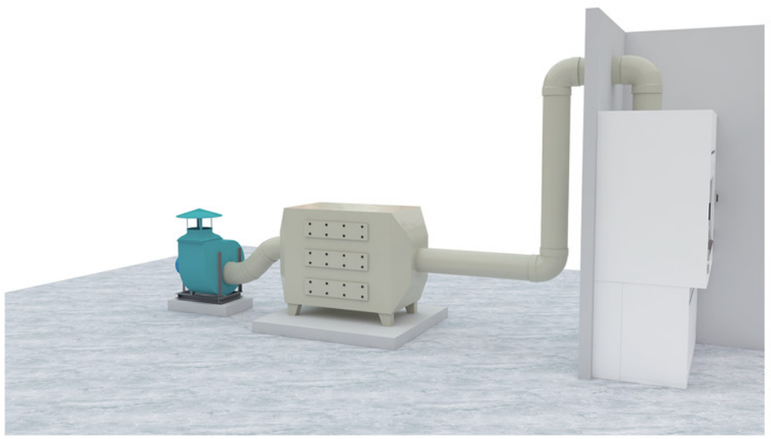


Wall-Mounted Fan Exhaust

Roof-Mounted Fan Exhaust



Scrubber Filtration System



Activated Carbon Filtration System

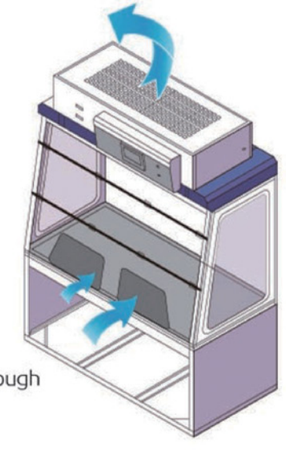
Scrubber+Activated Carbon Filtration System

DUCTLESS FUME HOOD (FILTER)

Ductless Fume Hood is a viable alternative to conventional fume hoods. This type of fume hood utilizes carbon or HEPA filtration to protect laboratory personnel from toxic chemical fumes, odors, and particles. Known for its plug-and-play feature and mobility, Ductless Fume Hood guarantees a hassle-free installation and no lab work interruption.

MaxLab Ductless Fume Hood Series is in accordance with NFX 15 211:2009 (certified to ANSI Z 9.5-201), ASHRAE 110:1995 standard.

OPERATION PRINCIPLE



① The turbine motor draws the air from the outside of cabinet.

② The air brings the hazardous vapour into the filtration system.

③ Choose a proper high efficient filter according to the chemicals.

④ The hazardous air goes though molecular filter become fresh air.

MAXLAB Furniture • Equipment GUANGZHOU MAX LABORATORY EQUIPMENT CO.,LTD.

Model	DFH-800	DFH-1000	DFH-1275	DFH-1600
External Dimensions (W*D*H)mm	800*620*2060	1000*620*2060	1275*620*2060	1600*620*2060
Internal Dimensions (W*D*H)mm	781*570*934	981*570*934	1256*570*934	1581*570*934
Air Velocity	0.4-0.6m/s			
Exhaust Air Volume	230m³/h		690m³/h	
Voltage	110V-240V			
Frequency	50-60HZ			
Maximum Current	2A			
Power	42W		110W	
Noise	40-52dB			
Molecular Filter Size/Number	700*390*21mm			900*390*21mm
	2	2	2	2
Pre-Filter Size/Number	700*390*50mm			900*390*50mm
	1	1	1	1
Number of Fan	1	1	3	3
Number of Socket	2	2	4	4
standard configuration	Phenolic Resin Countertop: 1 Block Lighting: LED Lighting 1 Display: Seven-Inch LCD Touch Screen Control System: 1 Set Filter Saturation Alarm System: 1 Set Temperature And Humidity Alarm System: 1 Set Power Cord: 1			
Optional Accessories	Pp Oval Sink/Water Tap/Gas Tap Fixed Base/Movable Base Anemometer Epoxy Resin/Ceramic/Stainless Steel Countertop			
Optional Filter Type	Pre-Filter*1 (Standard) SFGL OG: Organic Activated Carbon Filter*1 (Standard) SFGL AG: Inorganic Activated Carbon Filter*1 (Standard) SFGL FO: Formaldehyde Activated Carbon Filter (Optional) SFGL AM: Ammonia Activated Carbon Filter (Optional) HEPA H14: HEPA Filter (Optional)			

DUCTLESS FUME HOOD

SPECIFICATION

*1. Hood body&base cabinet: Use galvanized steel sheets ≥1.2mm, electrostatically sprayed with epoxy resin, and covered with durable anti-chemical lead-free coating to maintain high finish and minimize the impact of corrosion and moisture.

*2. Front sash and side sash: Use ≥6mm acrylic sheets, which has excellent weather resistance, excellent chemical resistance, not easy to age, colorless and transparent, transparent throughout, visual comfort, and beautiful appearance.

*3. Seven-inch LCD touch screen display, high-definition display resolution 1024*600, perfect visual system.

*4. Real-time temperature and humidity environment monitoring system, display temperature and humidity, set alarm parameters, and ensure the safety of product use.

*5. Fan monitoring: fan system failure alarm, online adjustable fan speed, to ensure the required air volume for different chemical operations.

*6. Filter saturation alarm system: The product is equipped with double-layer filters and dual VOC probes. One probe monitors the indoor air quality, and one probe monitors the filter saturation status. The filter sets the saturation alarm value. If the concentration exceeds the set value for a long time, the filter needs to be replaced.

*7. PSC fan imported from the United States, 24 volts, stable performance, ultra-quiet, no spark static.

*8. The high-efficiency filtration system, according to the particle size, selects the arrangement and distribution, follows the ASTM standard, effectively targets acidic gases and organic gases, and has strong adsorption capacity. The high-efficiency HEPA filter is used for particles, and the filtration efficiency is 99.995% for particles larger than 0.3um.

*9. The power of LED lighting lamp is equivalent to 25W fluorescent lamp, which does not generate heat, safety does not affect the temperature of the experimental environment, energy saving, environmental protection and long life.

*10. 12.7mm thickness phenolic resin worktop that gold standard for scientific, medical, and industrial labs due to their unmatched durability, chemical resistance, and ease of maintenance.

*11. With the function of process monitoring, customers can view the operating status of the equipment in real time through the mobile client, and can remotely set operating parameters. When the device alarms, the alarm information can be pushed through the client.

DFH-800

DFH-1000

DFH-1275

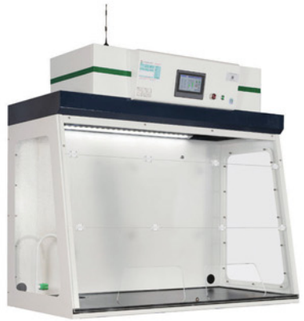
DFH-1600

BENCHTOP DUCTLESS FUME HOOD

WDFH-800

WDFH-1000

WDFH-1275



WDFH-1600

ADVANTAGE

1. Security:

- control concentration and filtration efficiency in accordance with the European Union CE international standard.
- one-piece filter system, effective filtering poisonous and harmful gases.
- provide double protection operation for personnel and lab environment.

2. Easy installation:

- delivered cabinet has complete assembly, come to service directly.
- no need to connect external pipe, can be moved flexibly, you can place it on any floor conveniently.
- no need to configure air compensating system.

3. The energy conservation and environmental protection:

- no exhausted air flow outdoor, saving the energy consumption of air conditioning.
- no pollution emissions, protect the environment.
- low power consumption, do not use high power components.

4.Cost savings:

- no causing extra pipe installation cost.
- no need exhausted air and air compensating system installation.
- very low running cost.

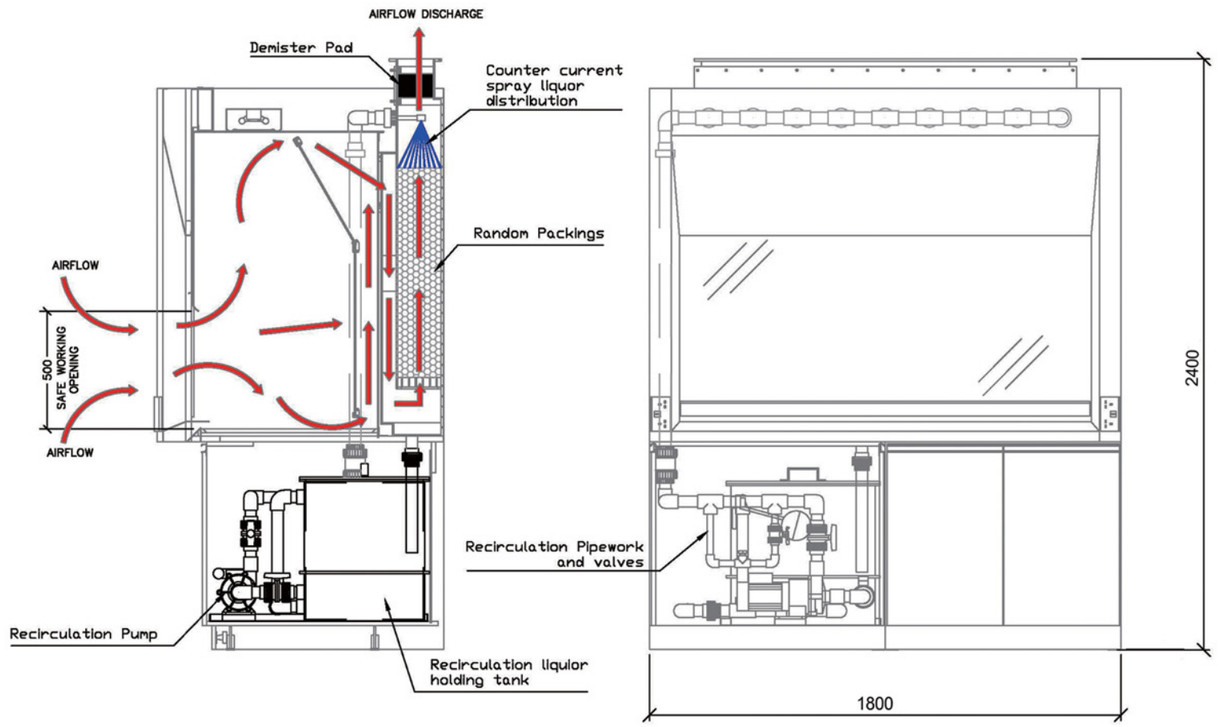
5.Filter level / filter efficiency:

-HEPA: ≥99.995%, @0.3μm/ULPA: ≥99.999%, @0.12μm

Model	BDFH-800	BDFH-1000	BDFH-1275	BDFH-1600
External Dimension (W*D*H)mm	800*620*1245	1000*620*1245	1275*620*1245	1600*620*1245
Internal Dimension (W*D*H)mm	781*570*934	981*570*934	1256*570*934	1581*570*934
Air Velocity	0.4-0.6m/s			
Air Handling Capacity	230m³/h		690m³/h	
Voltage	110V-240V			
Frequency	50-60HZ			
Maximum Current	2A			
Power	42W		110W	
Noise	40-52dB			
Molecular Filter Size/Number	700*390*21mm			900*390*21mm
	2	2	2	2
Pre-Filter Size/Number	700*390*50mm			900*390*50mm
	1	1	1	1
Number of Fan	1	1	3	3
Standard Configuration	Phenolic Resin Countertop: 1 Block Lighting: LED Lighting 1 Display: Seven-Inch LCD Touch Screen Control System: 1 Set Filter Saturation Alarm System: 1 Set Temperature And Humidity Alarm System: 1 Set Power Cord: 1			
Optional Accessories	Anemometer Epoxy Resin/Ceramic/Stainless Steel Countertop			
Optional Filter Type	Pre-Filter*1 (Standard) SFGL OG: Organic Activated Carbon Filter*1 (Standard) SFGL AG: Inorganic Activated Carbon Filter*1 (Standard) SFGL FO: Formaldehyde Activated Carbon Filter (Optional) SFGL AM: Ammonia Activated Carbon Filter (Optional) HEPA H14: HEPA filter (Optional)			

PERCHLORIC ACID FUME HOOD

The perchloric acid fume hood is specially designed to handle the regular use of hot perchloric acid, hot nitric acid or perchloric acid. Does not handle sulfuric acid, acetic acid, organic solvents, or any combustible materials.
This professional fume hood has a PP liner surface (including work area) and a cleaning system, which is scattered throughout the fume hood. When heated, perchloric acid evaporates and condenses in the fume hood, air duct and fan assembly. In addition to being highly corrosive, the condensed steam can form explosive perchlorates and esters with fume hood gaskets, grease and other collected materials. Therefore, the PP surface improves cleanliness and the cleaning system can remove any explosive compounds that may be formed on the inner surface.



PRINCIPLE

The system needs to be pre-checked before use, including the following:
1) The water tank should be filled with alkaline water (NAOH 50% solution), and tested with PH reagent, and the PH value recorded.
2) Check that all valves in the circulating water system are all open. If the valve in the circulating system of the pump is closed, the circulating pump must not be started.
3) Whether the test of perchloric acid is prepared in the fume hood, the fume hood needs to have the rated exhaust air volume (the average surface wind speed is between 0.5-0.8m/s, which needs to be detected by hand-held anemometer)
4) Turn on the pump start button, at which point the circulating water is evenly distributed in the form of water droplets behind the deflector.
System operation flow after the experiment is completed
1) The perchloric acid experiment in the fume hood has been completed
2) Turn off the water pump and test with PH test paper, and record the PH value for the reference value of the next experiment. (When the pH is below 6, the buffer needs to be replaced)
3) Close the valve on the water system
4) Turn off the exhaust of the fume hood

PERCHLORIC ACID FUME HOOD

SPECIFICATION

1.1 Fume hood body: High quality PP (polypropylene) sheet, excellent acid and alkali resistance, and excellent weather resistance.welded by PP board. Hood cabinet (air exhaust cabinet) adopts double-layer structure, and the interlayer between the outer casing and the inner lining (interlayer width is about 100mm), which can accommodate water, electricity and gas pipeline systems, and can ensure the airtightness and protection of the cabinet. The operation table and the bottom cabinet (connected to the exhaust pipe can be designed as a suction type), that is, the table top is placed on the base cabinet, and the upper cabinet is placed on the table top.

1.3 Baffle: Its material and thickness are the same as the inner liner. The installation position and angle of the baffle can make the exhaust distribution even and there is no dead angle. In the standard condition, the proportion of exhaust air at the upper and middle and lower air outlets of the deflector is about 50±10% to ensure that the gases of different specific gravity can be effectively discharged. The air volume of the middle and lower air outlets can meet the needs of different experiments. (The shape, size and hole position of all the same type and size of fume cupboard deflector can be interchanged arbitrarily).

1.4 Baffle fixing seat: It is made of acid and alkali resistant PP(polypropylene) material molded baffle fixing seat assembly. Its performance meets the following requirements:

◇ The back plate fixing seat and the baffle fixing knob can be easily assembled, disassembled, maintained and cleaned from the front of the cabinet.

◇ If metal screws are used during assembly, they can be hidden and isolated to avoid contact with the gas in the cabinet.

◇ The fixed seat has good stability, and its load-bearing capacity should be at least "100kg" (inclusive).

◇ The back plate fixing seat has the mounting hole design for the distillation grid kit. The stainless steel round tube bracket can be fixed by locking and tightening to facilitate the combination of the distillation grid kit. The front of each fume cupboard is equipped with digital numbers. The machine tool is precision machined, punched and formed to ensure that the moisture of large particles does not overflow, and the cabinet can be kept clean.

1.5 Vertical sash:

◇ The glass is made of acrylic, and it is wrapped around the edges.

◇ The track is made of plastic material and is designed to be inclusive.

◇ Each fume cupboard Sash adopts the design of double steel cables on the left and right sides. The steel cables are uncoated 304 stainless steel cables with a diameter of 2.5mm or more. (Inclusive) the above is not broken to ensure the safety of long-term use.

◇ Adopting a single counterweight box design, its up and down travel tool track is limited.

◇ Made of PP plastic material, the conical constricted air collecting hood is formed with a rectangular opening at the bottom. The diameter of the outlet pipe at the top of the fume hood is about 2*∮12", and the height of the outlet connecting pipe is more than 50mm (inclusive), which is convenient for air duct casing. Connection, the gas collecting hood has a good conical gas gathering angle and smoothness, the ratio of the length of the bottom elongated opening to the diameter of the top circular outlet is at least 2:1, and the conical angle is at least 30 degrees (inclusive) or more. In order to obtain good gas gathering uniformity and low pressure loss.

◇ The full-cover lamp holder is made of 1.0mm thick (and above) number 304 stainless steel sheet machine (with heat dissipation hole design), and the bottom is equipped with a 5mm thick matte acrylic glass, which can isolate the contact with the gas in the cabinet. , and has the function of pressure relief port.

CIRCULATING WATER DILUTION SYSTEM

In the experiments carried out in perchloric acid fume hoods, there may be an aerosol release process of perchloric acid, so the fume hood needs to be ventilated under the conditions of rated high air volume exhaust, with a design value of 1300 CMH, perchloric acid and ventilation. The alkaline water after the deflector of the cabinet is mixed and contacted, and the chemical reaction is:

$HClO4+NaOH====NaClO4+H2O$

The neutralized product is a neutral product with a pH of 7-14, so the designed recycling system is made of chemically resistant materials.

A buffer tank is arranged at a lower part of the fume hood, and a PP water pump is connected to the outlet side, and the water pump is connected with the atomization pipe behind the baffle, and the water pump outputs the alkali liquid to the atomization tube in the form of medium pressure, and forms a fine water droplet after passing through the atomization tube. The gas is mixed with the perchloric acid gas to complete the chemical reaction. The product is recirculated into the buffer tank of the water pump through the technical interlayer by the gravity.

PRECAUTIONS

This type of fume hood is a special type of fume hood for perchloric acid. Users are required to carry out experiments according to the chemical characteristics of perchloric acid. The experiment should follow the relevant experimental procedures. Do not directly carry high concentration and high dose in the fume hood. Perchloric acid experiment. The alkaline water and circulation system behind the baffle of the fume hood is a neutralization system, which is to ensure that no high concentration of perchloric acid residues are accumulated in the fume hood, causing chemical reactions such as burning, explosion or mass heating. There is no guarantee that national standards for exhaust emissions will be met. In order to meet the national environmental protection corresponding emission standards, a secondary neutralization reaction is required on the fan side.

FIRST-AID

Skin contact: Immediately remove contaminated clothing and rinse with plenty of running water for at least 15 minutes. Seek medical attention.

Eye contact: Immediately lift eyelids and rinse thoroughly with plenty of running water or saline for at least 15 minutes. Seek medical attention.

Inhalation: Remove quickly from the scene to fresh air. Keep the airway open. If breathing is difficult, give oxygen. If breathing stops, perform artificial respiration immediately. Seek medical attention.

Ingestion: Rinse mouth with water and drink milk or egg white. Seek medical attention.

Maintenance

◇ If the pump leaks, please stop the experiment immediately, and contact the contractor for timely maintenance;

◇ The circulating water treatment system needs to regularly clean the sludge in the buffer tank;

◇ The pump must not be idling without liquid;

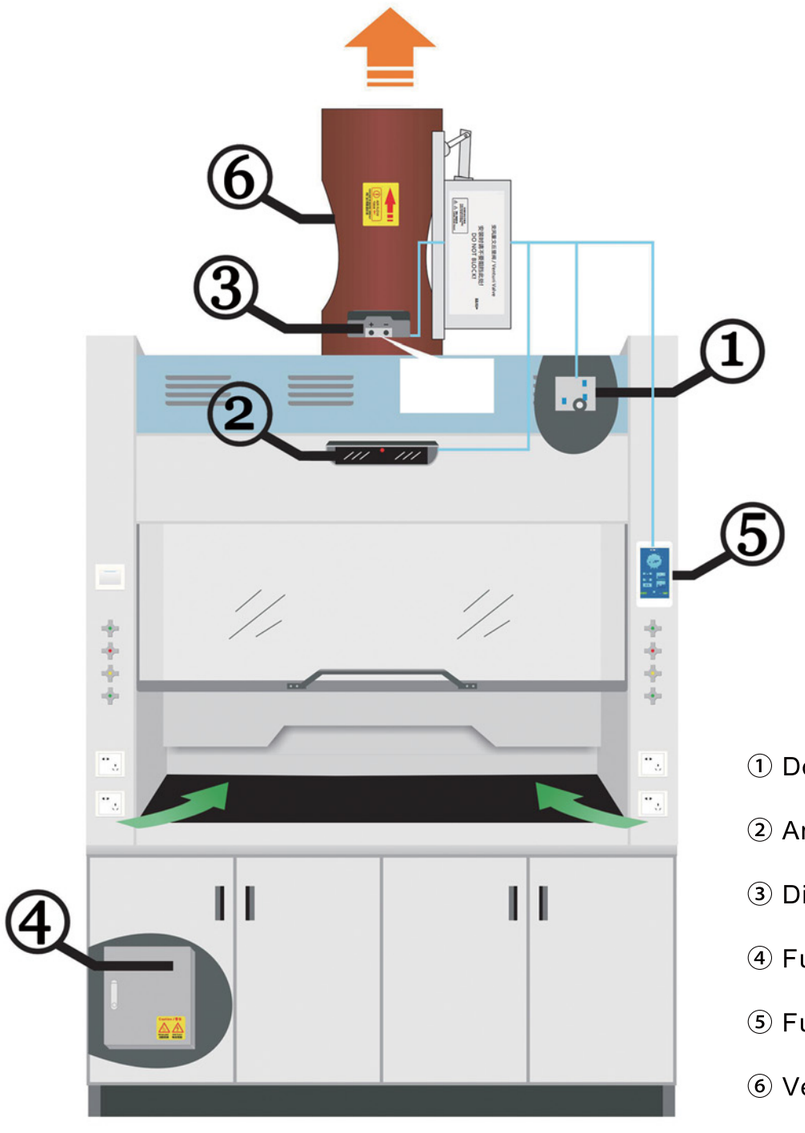
◇ The pump should not be operated when the pipeline valve is not open;

◇ The pump must not run a chemical solution with a temperature exceeding 50 °C;

VENTURI VALVE AIR VELOCITY CONTROL SYSTEM

The Venturi airflow control valve combines a mechanical, pressure-independent regulating valve with a high-speed position/airflow controller to meet the unique needs of airflow control. Through aerodynamic design, the valve has a quiet working performance. Quick response automatic pressure balance device. Provide reliable fume hood dust collection and indoor pressure control, and the air volume control is not affected by the fluctuation of the ventilation system.

Valves are classified into applications such as Constant Air Volume(CAV) control, bistable control or Variable Air Volume(VAV) control. In the design, the airflow should be maximized and the related noise should be reduced.



① Door height sensor

② Area presence sensor (Optional*)

③ Differential pressure sensor

④ Fume hood control box

⑤ Fume hood controller

⑥ Venturi Valve (VAV)

PRINCIPLE

Using a pressure-independent variable air volume control system, when the height of the fume hood window changes, the system automatically calculates the required exhaust air volume value for the current window height of the fume hood, and the pressure-independent variable air volume venturi valve responds to quickly adjust the valve exhaust volume, To ensure constant wind speed on the surface of the fume hood, and control accuracy within ±5%. Each fume hood is equipped with a set of variable air volume control system to ensure that the surface wind speed of the fume hood is quickly constant at the set value under any position of the fume hood window, generally 0.5M/S; the system includes: a variable air volume venturi valve , An LCD operation panel, a Door height sensor, a differential pressure sensor, a Fume hood control box. The new generation of flow control type Venturi internal Imported ultra-high-precision controlled, the valve pressure loss is smaller, and the system accuracy and stability are increased Performance, bringing the system to a higher level, saving energy and reducing emis-

FEATURES

* Pressure-independent operation: self-adjusting mechanical components, the air volume has nothing to do with the pressure change in the pipeline
* Fast response speed: the response time is less than 1 second
* High control accuracy: air volume control accuracy ≤±5% (within the range)
* High adjustment ratio: up to 20:1
* Automatic window function, convenient to open the window when holding items in both hands
* Air flow control range: 60～17,000m3/h
* Air volume calibration: The air volume is accurately calibrated at 51 points in the factory
* No straight pipe section is required for the air ducts before and after the valve
* Working pressure: 150Pa～750Pa
* A variety of mode control methods, suitable for various integrated control systems

VENTURI VALVE AIR (VAV)

Resin Venturi Valve

Valve body: polymer resin fiber

Features: Corrosion resistance, not easy to deform, good weather resistance

Application: The use environment of strong acid and alkali, fume hood, etc. involve inorganic environment.

DN200 | DN250 | DN300 | DN350 | Double/More

Aluminum alloy venturi valve

Body: Aluminum alloy with phenolic resin or Teflon coating

Features: Economical

Application: popular use in laboratory

Stainless steel venturi valve

Valve Body: 304/316 stainless steel, optional with anti-corrosion coating

Features: high cleanliness

Application: ward, PCR and other clean workshops

STRUCTURE

• Body: 3 options

1. Aluminum, 2.304/316 stainless steel 3. Resin polymer fiber

• Body Shaft: SUS 316 Stainless Steel + Synthetic Teflon Coated Teflon®

• Bile spring: SUS304 stainless steel

• Axle Bracket: SUS 316 Stainless Steel

• Lever: SUS 316 stainless steel

• Spool Assembly: 1060 Aluminum and Celanex3300

• Flexible sealing polyethylene insulation (optional)

VENTURI VALVE AIR (VAV)

Fume hood controller

The fume hood controller is installed on the fume hood. It is mainly used for the measurement and control of the wind speed of the fume hood, lighting monitoring and alarming, and parameter setting. It cooperates with the Venturi valve to realize the air volume control and monitoring and alarming of the fume hood.

*Color touch screen, integrated control, display and operation

*Configurable display content, surface wind speed or air volume, etc.

* With sound and light alarm, visual alarm

*Smart search for matching local Venturi valve controllers to speed up the commissioning process

*Second-level password protects important configuration parameters

*Stopwatch/Timer function: Allows user to set reminders, take samples or end experiments

*RS485 port is connected to PC or host computer for related debugging, setting, monitoring and detection

Door height sensor

The door height sensor is used to detect the position of the fume hood adjustment door. The sensor can be configured to operate with the modulating door found on most VAV fume hoods. When the door moves, the reel and potentiometer will turn and change the potentiometer output resistance value. The monitor obtains the varying regulated gate position voltage.

*Direct scroll type adjustment door sensor

*Fume hood top surface mount or use bracket mount (without bracket)

*0~10K resistance output, the output value is proportional to the adjustment gate position

*Nylon-wrapped stainless steel wire connected to ten-turn precision potentiometer, available in two detection lengths:

*Standard: Maximum wire retraction length is 1050mm

*Long type: the maximum retraction length of the steel wire is 2540mm

Standard detection length: height 52 width 51 length 64mm

Long detection length: height 121 width 79 length 119mm

Differential pressure sensor

Differential pressure sensor is mainly suitable for measuring the pressure difference of display gas. It is widely used in heating systems, purification and ventilation systems and other fields that have strict requirements on the accuracy and quality of environmental pressure differences, such as hospitals, laboratories, chemicals, GMP pharmaceutical factories and industrial plants.

*Air pressure range: 0*1000Pa

Control box

Automatic door control, with pedals, panel, automatic induction, remote diversified control methods, surface wind speed control (support surface wind speed valve control, Venturi flow valve control, on-off volume valve control) fan direct contactor control lighting, socket RS-485 interface of auxiliary equipment can be connected centrally.

Monitoring with leakage protection switch

It can be installed on the top and bottom of the fume hood, with anti-pinch function.

The wind speed is too high or too low, and the temperature is too high.

Direct AC220V power supply, no need to configure power modules.

Area presence sensor (Optional)

Area presence sensors use microwaves to detect if someone is operating in front of the fume hood. When there are people, the system is in the standard state and maintains the surface wind speed of the fume hood at 0.5m/s. When there is no one, it quickly switches to the standby state, and the surface wind speed is reduced to 0.3m/s.

*Output power: AC/DC 12~30V (±10%)

*Signal output: relay, 1 pair of selectable contact points

*Temperature range: *40°C~60°C

*Weight: about 145g

*Protection level: IP54

* Quiescent current: 35mA

*Operating current: 73mA

*Self-learning time: 10s

*Response time: ≤100ms

*Operation display: standby blue LED, detection action red LED

*Maximum installation height: 2500mm

*Detection area: W2000D800mm (maximum) W1000D800mm (minimum)

*Appearance size: L200W49H32

FUME HOOD CONTROL

VARIABLE AIR VOLUME(VAV)
VENTURI VALVE

ROOM MONITOR

SOLUTION OF RESEARCH LABS

CONSTANT AIR VOLUME(CAV)
VENTURI VALVE

SMART ROOM CONTROL
VENTURI VALVE

VARIABLE AIR VOLUME(VAV)
VENTURI VALVE

ROOM MONITOR

SOLUTION OF BIOSAFETY LABS