## Clean Bench



YJ-VS-1 Single Vertical Clean Bench



YJ-HS-1 single horizontal clean bench



YJ-VD/HD table clean bench



YJ-VS-2 double vertical clean bench



YJ-HS-2double horizontal clean bench



YJ clean cabinet(100Class)



**Medical Vertical clean bench** 



Stainless non-standard clean bench

### **Product Introduction**

Clean bench is also called bio-safety cabinet. It is designed for work area cleanliness requirements in modern industry, optoelectronics, biotechnology and scientific research and experiments.

## Work Principle



The air is entered into the pre-filter through fan then entered into high effiency HEPA filter by Plenum. The filtered air in a vertical or horizontal airflow state is sent to 100class purity, ensuring the production of environmental cleanliness requirements.

According to the direction of air, there are 2 kinds, one is vertical clean bench, the other one is horizontal clean bench. According to the operation struction, there are 2 kinds, one is single side operation, the other is two sides operation. According to application, there are common clean bench and Bio-safety cabinet clean bench.

The Principle of the clean bench is in a special space, the indoor air is pushed by the small centrifugal fan plenum chamber through the pre-filter initial filter, and then through the second air filter, high efficiency filter from the air outlet side blown clean air with a certain speed and a uniform cross-section. It can exclude the original air, taking away the dust and biological particles, ensuring a sterile high clean working environment.

So that the operating area reaches one hundred cleanliness, ensuring the production of environmental cleanliness requirements.

### **Product features**



Clean bench with its open tops, convenient operation, one hundred cleanliness etc,is widely used in medical, scientific, optical and other industries. The followings are the detailed advantages of Our self- developed and manufactured in clean bench.

- 1. Using the German EBM manufacturing efficient direct drive centrifugal fan with low noise, it has advantages like long-life use, maintenance-free, stepless speed adjustable, etc Energy saving is about 50 % or more based on high efficiency filter initial resistance, effectively reducing the actual running costs. The working life is up to 50,000 hours or more.
- 2.Our clean bench can be designed to separate use and also can be formed 100water clean lines .It is assemble alone, flexible.
- 3. It is equipped with dwyer pressure table, clearly shows the differential pressure of the filter, also remind users to replace the HEPA filter timely.
- 4.. Easy Touch panel, LED digital display, beautiful and easy to operate
- 5. Stainless steel work surfaces, more effectively guarantee cleanliness.
- 6.Before sales, the products are strictly tested in accordance with the USA Federal 209E standards. So the reliability is very high.
- 7. Surface electrostatic spraying and quasi-closed the whole stainless steel countertops, can effectively prevent the penetration of outside air flow, and the operation of the human body odor stimulation.
- 8. With adjustable fan system, touch-type switches and dual-speed voltage regulation size, ensuring the work area is in perfect condition.
- 9. Touch-up switching regulates air flowing, ensuring the work area within the required range air speed.

# **Technical Speficiation**



Specification	YJ-HS-1	YJ-VS-1	YJ-HS-2	YJ-VS-2	Marks			
Air flow	Single person horizontal	Single person vertical	Double horizontal	Double vertical	Single Operation			
Application	Electronic, Food laboratories, hospitals, group training, precision instruments, biological research, laboratories and other environments.							
Operation	HS horizontal seriels is open mode; VS vertical stop surface in front of the glass, you can locate any lift.							
Outside Size	900*720*1420	990*750*1620	1500*720* 1420	1500*750*1620	mm			

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Inside size	860*520*600	830*700*520	1460*520*	1340*700*520	mm		
Pre-filter	500*500*10×①	437*390*10×①	500*500*1 0×②	437*390*10×②	mm		
High-effiency filter	820*600*50×①	790*600*120×①	600*600*5 0×① 820*600*5 0×①	650*600*120×②	mm		
Fan Power	400W×①	400W×①	400W×2	400W×2			
Main Unit	400W	400W	800W	800W	220V		
Lamp specification and number	20W×①	20W×2	30W×①	20W×2	electronic rectifier		
UV lamp specification s and quantity	20W×①	20W×②	30W×①	20W×②	UV disinfection		
Material	The cabinet is 1.2mm cold-rolled steel, the operation board is SU304 1.2mm stainless(Also can be customized to all full set stainless clean bench.)						
Weight	110Kg	120Kg 14	0Kg 160	Kg Kg			

# **Using methods**

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Clean Bench is easy to operate, comfortable, high-efficient, short preparation time, the bench can be operated above 10 minutes, it can be used any time just you want!

In industrial production, when the vaccination workload is too much and working time is long, the Clean Bench is ideal equipment. The air flow rate is  $24 \sim 30 \text{m/min}$ ,

which is enough to prevent harassment and the nearby air pollution, which it will not interfere with use of alcohol lamp or Bunsen burner for burning disinfection equipment, etc.

Staff operates under this sterile conditions, preventing sterile material from contamination contamination in transfer.

However, in case of power cut in halfway operation, the unfiltered exposed air contaminated material will be spared. Then stop operation immediately,make marks on the bottles,if the material at the proliferation stage, then it can not be used as a proliferation transferred to rooting. If as general extremely rich production materials, it can also be discard . If already have roots , you can wait until after planting .

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## **Safety Cautions**





Clean Bench power supply uses three-phase four -line, One zero line is connected to machine housing, which should be firmly connected to the ground line. Other three lines are phase line, the working voltage is 380V. The three -line access to the circuit in a certain order, if connect the wrong thread, air shower will reversal direction, then sound is normal or slightly abnormal, laminar flow positive has no wind (Used alcohol lamp flame observed movement, not a long time trial) The power should be cut off, Only need to change any two phases and connect the thread to swap positions, the problems will be resolved.

IF only access two -phase or three-phase there is a bad contact, the machine sounds will be very abnormal, inspect carefully should be immediately cut off the power, otherwise it will burn the motor. These common sense should be used at the beginning of Clean Bench explain to staff when they clearly should not be exempt from causing accidents and losses.

Laminar flow inlet is at the bottom of the back or front ,there is an ordinary metal grille foam sheets or woven to block large particles of dust, you should always inspect, wash, such as hair foam aging, replace timely. Besides outside air intake, if any leakage, pore blocking should be strict, such as taped stuffed cotton, paper and glue stick.

Inside table of the front metal grille filter is super filter, which can also be replaced, if long time use, dust clogging , wind speed decreases, which can not guarantee aseptic operation, you can change new one.

The life-time of clean bench is affected by the cleanliness of the air.

Clean Bench in temperate regions can be used in the general laboratory, but in tropical or subtropical regions, the atmosphere contains the amount of pollen, or dust areas , Clean Bench are advised to put a better indoor use with double doors . In any cases ,it should not be used under any laminar flow towards the front of the open door or window, so as not to affect the filter life

Sterile room should be steriled periodically with 70 % alcohol or 0.5 % phenol spraying water and disinfected with 2% bromide wiped countertops and appliances (70% alcohol

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can be ), with formalin ( 40% formaldehyde ) plus a small amount of potassium \*\* regular airtight fumigation , with ultraviolet germicidal lamp ( more than 15 minutes each time you open ) , etc, to keep the degree of the sterile room sterile form.

Inside Inoculation box should also be equipped with a UV lamp, turn on the lights more than 15 minutes before using irradiation sterilization, but those where are not exposed to still has bacteria.

Ultraviolet light is turned on in a long time, which can stimulate synthesis of molecular association of ozone molecules in the air, which can also directly shine on the corner of UV sterilization effect produced. Because ozone is unhealthy, which should be preceded by ultraviolet light in operation, entering after more than ten minutes.

In the clean table, Lifting ultraviolet light should be installed in the shade outside lighting and lighting is in staggered arrangement, so that in work it does not interfere with lighting. If the UV lamp installed into the inside lamp cover ( glass ), which is useless, ultraviolet rays can not penetrate the glass, because the lamp is made of quartz glass, not silicate.

Vaccination indoor should be concise, anything that is not needed for the work of it can not be placed , in order to maintain a sterile state. The air in vaccination indoor should be absolutely isolated, the vent channel should be closed.

Vent channel can be set to up and down transom, the transom area should be slightly larger , which is also should be covered with four layers of cheesecloth ,just as a simple dust filter. After one day's work ,open the window fully ventilation , and then close.

In short, both clean and dust- sterile, and fresh air, which is suitable to work. The ventilation gauze covers in the windows should be always washed. However, these measures are only an ideal design solution which is often difficult to fully achieve, in fact, only strict aseptic procedures, interior doors and windows open, there is a laminar flow protection, vaccination was still controllable pollution can be tolerated in the production level.

#### **Maintenance**

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- 1. Based on actual usage, periodically remove the primary filter cleaning , the cleaning cycle is generally three to six months. ( If you do not clean it for a long time, the dust will affect the lack of air flow into the lower cleaning effect )
- 2.When the air filter is normally replaced or cleaned ,which still can not achieve the desired cross-section wind speed, you should adjust the fan operating voltage ( rotary knob ) , so as to achieve the desired average wind speed ( start with a new table when the fan working voltage can be adjusted to  $80V \sim 90V$ )
- 3.Generally,After eighteen months use, when the fan operating voltage adjusted to the highest point, the ideal air showering velocity can still not be achived, which it means that too much dust HEPA filter (the filter holes in the filters have been basically stuck to timely update ), the time use of HEPA filters is about eighteen months.
- 4. When changing high- efficiency HEPA filter, you should pay attention to the correct size ( original manufacturer configured ),press the arrow direction then install, and you should pay attention to the periphery of the filter seal,no leakage phenomenon should not happen absolutely.