



Biological Safety Cabinet

Model YR05706

Instruction Manual

Thank you very much for purchasing our Kalstein's Biological Safety Cabinet

Model YR05706

Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the "Warranty" at a hand place for future reference.



Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.



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1. Product features and uses

Biological safety cabinet is an air purification equipment that provides local dust-free aseptic working environment and can prevent air pollution in the work area

Artificially control emissions through specialized filtration channels to avoid harm to people and the environment. It is a safe, microbiological-specific clean bench. Can also be applied to biological laboratories, bio-pharmaceutical and other related industries to improve the process conditions and protect the operator's body good health has good results.

2. Use environment and conditions

Temperature: 5 ° C ~ 35 ° C

Relative humidity: no more than 85% (at +35 ° C)

Atmospheric pressure: 86KPa~106KPa;

Power source: 220V/50Z

3. Safety matters

(1) Basic safety matters

- ▼ This product is indoor use type, please do not use it outdoors. Do not place in high-speed dust sources
- ▼ Please do not wipe the body with volatile oil, thinner, etc., and hurt the cabinet with a deep layer or cause the paint layer to change color.
- ▼ Not allowed for the following places: low temperature, high temperature, wet, condensation, dusty and soot , a place of fog.
- ▼ Do not hit the glass to avoid personal injury.
- ▼ Ensure maintenance space for fan, filter replacement and electrical components, wiring

(2) Electrical safety matters

- ▼ Before placing the product in place, then wiring and connecting the power plug to avoid personal injury.
- ▼ Please confirm whether the rated voltage and frequency of this product match the parameters of the input power supply, so as to avoid damage to electrical components and fire.
- ▼ Please do not insert or plug the power plug with wet hands to avoid electric shock.
- ▼ Please check the plug conductor and the socket conductor for dust. If there is dust, etc. It is easy to cause a fire.
- ▼ Do not operate the power switch repeatedly within one minute to avoid damage to the electrical due to frequent movements components.
- ▼ This product does not have explosion-proof capability and is strictly prohibited for use in flammable and explosive environments.
- ▼ Please do not touch the electrical components inside the product. When you have to touch it, please dial out plug first.
- ▼ It is strictly forbidden to modify, so as to avoid electric shock, fire and so on.



- ▼ Please do not put heavy objects on the power leads, do not pinch the power leads, so as not to be powered broken wire leads to fire and electric shock.
- ▼ When replacing the fuse, make sure that its capacity does not exceed the specified capacity to avoid a fire.
- ▼ When using for a long time, please pull out the power plug from the socket.

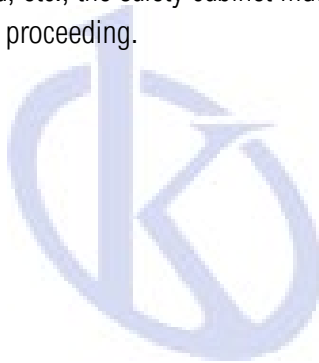
(3) Operational safety matters

- ▼ Under normal atmospheric conditions, the power input end of the product and the casing or exposed conductive parts. The insulation resistance value should be greater than 20MΩ, and the insulation resistance value should be greater than after the humidity test.
- ▼ If you find that the work is abnormal, you should cut off the power in time and notify the relevant personnel.
- ▼ When repairing, the power should be cut off first to avoid inadvertent start-up and personal injury.
- ▼ Person must be kept away after turning on the UV lamp to avoid injury.

(4) Special safety precautions

- ▼ It is strictly forbidden to open the sliding door height above the safe height during work, otherwise it will cause personal injury.
- ▼ When the filter is replaced, repaired, etc., the safety cabinet must be turned off first. The bacteria can be processed before proceeding.

4. Technical Parameters





Model Parameter	YR05704	YR05705	YR05706	YR05707
Airflow system	70% air recirculation, 30% air exhaust			
Cleanliness grade	HEPA: ISO 5 (Class100)			
Number of colonies	≤0.5pcs/dish·hour (Φ90mm culture plate)			
Wind speed	Average suction wind speed: ≥0.55±0.025m/s Average descending wind speed: ≥0.35±0.025m/s			
Filtration Level / Filtration Efficiency	HEPA of borosilicate glass fiber material: ≥99.995%, @0.3μm Optional ULPA: ≥99.9995%			
Noise	≤65dB(A)			
Illumination	≥800Lux			
Vibration half peak	≤5μm			
Power supply	AC single phase 220V/50Hz			
Maximum power consumption	500W	500W	600W	700W
Weight	200KG	210KG	250KG	270KG
Internal Size (mm) W*D*H	840*650*620	1040*650*620	1340*650*620	1640*650*620
External Size (mm) W*D*H	1000*800*2100	1200*800*2100	1500*800*2100	1800*800*2100
High efficiency filter specification and quantity	780*490*50*1 520*380*70*1	980*490*50*1 520*380*70*1	1280*490*50*1 820*380*70*1	1580*490*50*1 1120*380*70*1
Specification and quantity of fluorescent lamp/UV lamp	20W*1/20W*1	20W*2/20W*1	30W*2/30W*1	30W*2/30W*1



5. Structural characteristics and working principle

5.1 Structure

The safety cabinet consists of a chassis, a high efficiency filter, a air blower unit.

It consists of several major components such as work surface, operation panel and exhaust vent.

The surface is painted. The working area is all stainless steel structure, and the work surface is movable and easy to clear clean.

The top exhaust vent allows the user to connect the exhaust duct to the air that will discharge from the safety cabinet to the outside.

If the opening height of the mobile glass door exceeds the warning line, there will be an alarm.

5.2 Working principle

Its working principle is mainly to pump the air inside the cabinet to keep the negative pressure state inside the cabinet to protect the operator through the vertical air flow. The outside air is filtered through the HEPA filter and then enters the safety cabinet to avoid contamination of the sample. The air in the cabinet is also filtered through the HEPA filter and then vented to the atmosphere to protect the environment.

5.3 Characteristics

1. Air curtain isolation design prevents internal and external cross-contamination, 30% of the air flow is discharged outside and 70% of the internal circulation, negative pressure vertical laminar flow, no need to install pipes.
2. The glass door can be moved up and down, can be positioned arbitrarily, is easy to operate, and can be completely closed for sterilization, and the positioning height limit alarm prompts.
3. The power output socket in the work area is equipped with a waterproof socket and a sewage interface to provide great convenience for the operator
- 4 A special filter is installed at the exhaust air to control emission pollution.
5. The working environment is made of high-quality 304 stainless steel, which is smooth, seamless, and has no dead ends. It can be easily and thoroughly disinfected and can prevent the erosion of corrosive agents and disinfectants.
6. It adopts LED LCD panel control and built-in UV lamp protection device, which can only be opened when the safety door is closed.
7. With DOP detection port, built-in differential pressure gauge.
- 8, 10° tilt angle, in line with the human body design concept

6. Installation adjustment

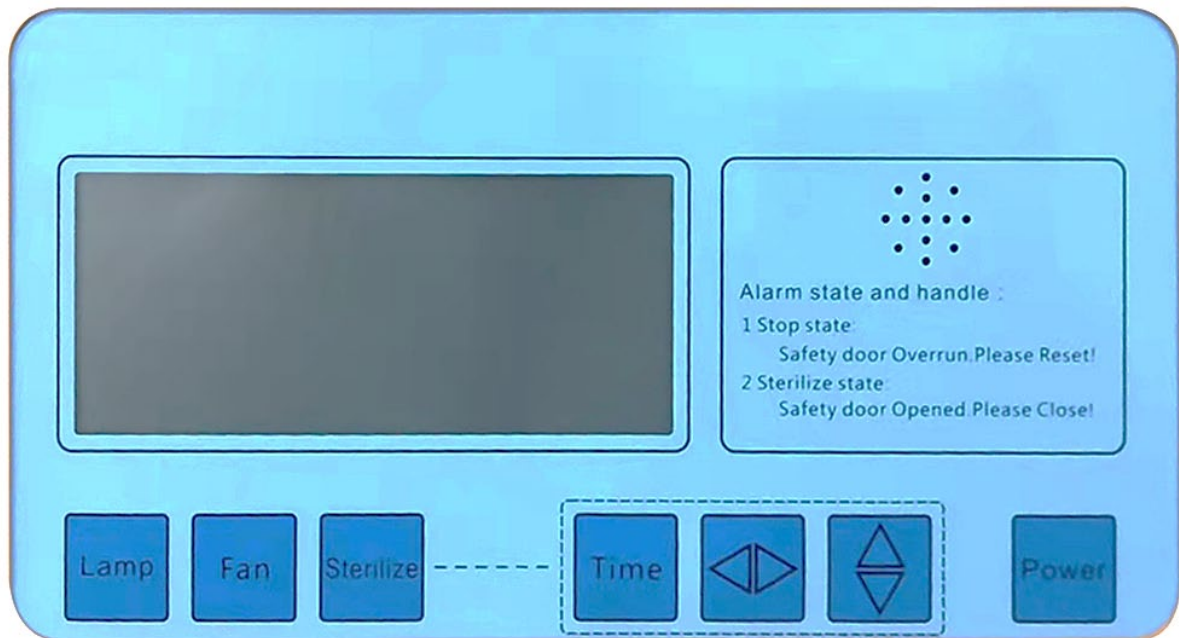
1. The safety cabinet should be placed in a clean room or in a cleaner environment.
2. The safety cabinet should be placed away from high-speed dust sources and sources.
3. The equipped frame needs to be installed at the bottom of the product
4. During the process of unpacking and seating the safety cabinet, care should be taken to avoid collision or crossover.
5. In the vicinity of the safety cabinet, there must be no more than the front wind speed (0.5-0.6s) of the safety cabinet.



Airflow, (must be avoided in places where people enter and exit, doors near the vents)

6. Please make sure the input voltage matches

7. The Panel



8. Failure analysis and solution

Failure analysis	The reason	Solution
Operation switch is invalid (cannot be turned on/off)	1. The power is not turned on 2. The operation mode switch is inactive 3. Circuit board failure	1. Plug in the plug 2. Set the operation mode 3. Replace the circuit board
Illumination light, ultraviolet light are not bright	1. Lamp damage 2. Ballast damage	1. Replace the lamp 2. Check or replace the Ballast
The fan does not turn	1. Failure of the fan itself 2. Failure of the control circuit, no control signal output	1. Check and replace the fan 2. Check the replacement control circuit
Alarm	1. The sliding door opening is above the safety line . 2. The fan is blocked during operation. 3. High efficiency filter resistance	1. Move the sliding door below the safety line. 2. Check the circuit and replace the damaged components. 3. Replace the high efficiency filter