

# **ZJ-TFG All Steel Fume Hood**

## **User Manual**



Please read operating manual before installation and operation.

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Fume hood is used in the laboratory, the need to discharge harmful gases, and the need to clean and sewage in the experimental process of a common laboratory equipment.

## 1. Product features

Water, electricity, gas, ventilation system, equipped with multi-functional power socket, easy to use other electrical equipment in the laboratory process. Quick opening valve is used to facilitate water use during the experiment. The front baffle is a glass door that can move up and down, and the top is a low-speed suction fan, which can discharge the harmful odor gas smoothly in the experiment process. Stainless steel water tank (optional) is installed at the bottom of the working face, which can discharge disinfectant and experimental residues from a row of water tanks by water washing to keep the experimental environment safe and reliable.

## 2. The Use of the controller

### 3.

#### product Overview

The fume hood controller is a micro controller with modular design and intelligent sensing touch keys. Its main functions are complete, the structure is simple, the stability is good, the interface is clear, and the operation is easy. Large-screen LCD displays various conditions in real time. The current angle and preset angle of the damper are displayed at the same time. The automatic delay is turned off. The damper is automatically closed after shutdown, and the limit alarm function ensures maximum user safety.

#### Specifications

**Rated operating voltage:** 90 ~ 240V AC, 50/60Hz wide voltage operating range

**operating temperature:** 0 ~ 40°C

**storage temperature:** -10 ~ 50 degrees

**Celsius operating humidity:** 5% to 90% RH non-condensation

**power limit:** fan 500W; Other 250W; over power please external contactor

**Opening dimensions:** 15cm (L) x 6.5cm (W)

**External Dimensions:** 17.2cm (L) x 8.6cm (W) x 5.4cm (Thick)

**Control content:** Fan, wind valve, purification, backup, LED

**air valve angle:** 0-90

**degree air valve actuator time:** 5-60 seconds, user can set the installation wiring: The inner zero line of the controller allows the user to wire itself as needed (See Figure 1)

#### Instructions

##### 1 Start control

After the controller is energized, the controller turns on the damper and waits for the damper to close. To prevent external gas from being poured. Damper limit closure, After that, the system is shut down and enters the shutdown state



2. Switch on and off Press and hold the “ ” button for 2 seconds, the system will start, prompting a long tone, and the system will boot. Press and



hold “ ” in the power on state, The key is 2 seconds, the system is shut down, and all outputs are turned off. At this time, if the damper limit switch is not closed, the system will automatically start the damper The line is closed.

3, lighting on and off

In the main interface, press the “Lighting” button to turn the illumination on and off.

4, standby open and close

In the main interface, press the “Alternate” button to turn the standby on and off.

5, the setting of the damper angle

In the main interface, the damper angle value can be changed by the “up” and “down” keys. Change the angle of the valve when the fan is on The degree will directly trigger the damper actuator action. The damper is allowed to be set to a preset fan opening angle of any value within 90 degrees.

6, the fan is turned on and off

In the main interface, press the “fan” button to turn the fan on and off.

When the fan is turned on, the system will first open the damper, when the damper

When the angle reaches the minimum angle of the preset fan and above, the fan is turned on. Avoid turning on the fan when the angle of the damper is too small.

Damage to dampers and fans. When the fan is turned off, the system first closes the damper. When the damper is at a preset angle or above, the fan continues. Continue to run exhaust the harmful gases in the pipeline, when the damper is less than the preset angle, the fan is closed.

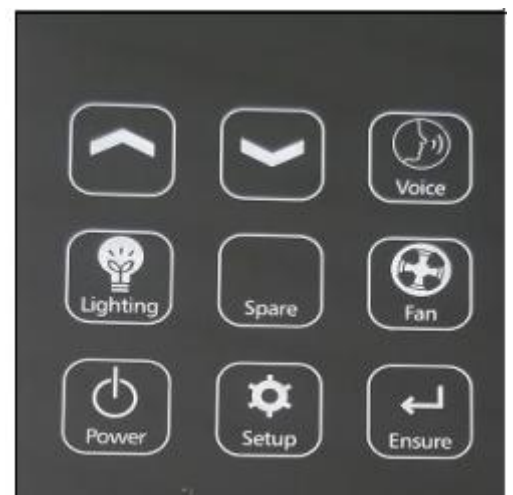
Then close the damper. Effectively avoid harmful gas recirculation in the pipeline.

7, timed on, delay off setting

In the main interface, press the “Settings” button, the time in “Timed On” and “Timed Off” is displayed. Press "Settings" to set them in each setting.

Switch between items. The flashing item can be changed with the "Up" and "Down" keys. After setting, press “OK” to save the parameters.

Press “ ” to exit the system setting state, and the setting contents will not be saved. When the setting item is displayed, it means that the item will arrive at the setting.



Start or shut down after a certain time. If there is no button in 20 seconds in the setting state, it will automatically exit the setting state.

Timed On: The system will start the user-set device after the set time has elapsed. Press the "Lighting" and "Alternate" buttons.

It is turned on at the timing of setting the lighting and standby. The fan is a must. The "fan" button is invalid.

Delay off: The system will close the selection after the fan is started and after the set time has elapsed. Press "Lighting" and "Alternate"


The key can set the illumination and standby delay off. The fan is a must.

Press the "fan" button to set whether the delay end is off.

machine. If the delay is effective, the controller will be turned off after the delay, and the illumination and UV will be turned off regardless of the setting.

### Factory mode



In the off state, press the "  " and "fan" button for 3 seconds at the same time, the system starts, prompts a long sound, the system starts Enter the factory mode.

After powering on, the cursor in the lower left corner flashes and waits for the protection password. (The protection passwords are different for different customers, please see the delivery note).

The corresponding mode of function buttons and numbers is as follows: After the password is entered, press the OK button, if the password is positive.

The setting contents are displayed correctly, such as an error, and the power is turned off.

In the setting state, displayed in the "current value" box

For the setting item, the setting displayed in "Setting Value" is

value. The "Settings" button switches the setting contents. Set up

After finishing, press the OK button to save. Attention (set up again Power on once).

Various pairs of settings should be

Setting item number	Corresponding setting contents	Setting range
● 1	Total time of the air valve actuator, in seconds	● 5-60 s
● 2	Testing of various components of the system	●
● 3	Minimum damper angle for fan opening	● 5-60 °C
● 4	Fan delay time	● 5-60 s

#### Wiring instructions

1. The mains input is 90-240V AC. Because the lighting output is zero line, to ensure safety,

Please connect the mains hot line to the "L" end of the controller, and the mains input line of the mains input controller to the "N" end.

2. Lighting and standby for active output (**active output for power output port**), suitable for working appliances

Connected to the corresponding output port, the controller can control the corresponding lighting, spare and fan and other appliances.

3. The fan output is passive output (**passive output means no voltage output, internal relay is mechanically switched**);

The fan switch can be controlled by connecting it to the working circuit of the fan.

4. **When the fan power exceeds 500W, please use the AC relay to expand the power.**

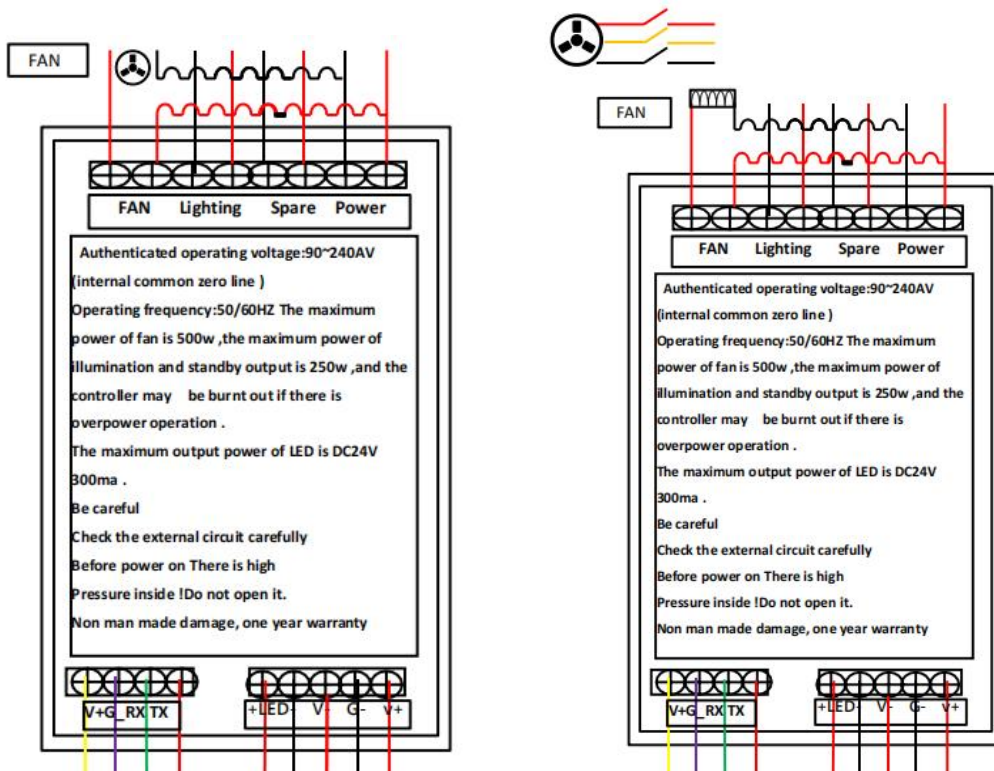
#### Installation wiring

1. When the fan power is less than 500W, please refer to Figure 1.

2. When using a three-phase high-power fan, the power is greater than 500W. Please use three-phase AC power supply.

Add contactor connection, please refer to Figure 2 for specific wiring.

**(Note! In Figure 2, A1 and A2 are contactors. Induction coil. )**



#### 4. Working principle

Air from the top of the low noise centrifugal fan inlet plenum, the blow out at the top of the PVC tube evenly (discharge pipe connect to outdoor), so that the original experiment zone forming negative pressure air curtain, remove the work area of the original natural air or air pollution, boot after five minutes can reach and maintain ideal space, make use of light touch type switch to adjust size, The wind speed in the packing work area is always ideal.

#### 5. Installation and use

This equipment in position location should be in the cleaner work indoor environment, the fume hood pipe installation is complete, with 220 v ac, based on the features shown in open control panel can be used, in response to the workspace of the fume hood face and before starting the enclosure carefully clean processing, to remove surface dust, boot after five minutes for the implementation of normal operation.

#### 6, Maintenance

1. In general, when the fan working voltage is adjusted to the highest point, but the ideal wind speed still cannot be reached, there is much dust in the air duct, so it is necessary to clean or update it carefully.

2. When replacing air ducts or accessories, pay attention to the correct models,

specifications and sizes (configured by the original manufacturer), pay attention to the sealing of exhaust ducts around the indoor part, and there is absolutely no leakage.

**7. General faults, causes, and elimination methods**

Failure phenomenon	Reason	Discharge method
The main power switch can not be closed, automatically trip	1. The fan is stuck and the motor is blocked, or there is a short circuit in the circuit	1. Adjust the position of the fan shaft, or replace the impeller and bearing, and check whether the circuit is in good condition.
Low wind speed	1. Too much dust in the primary filter.	2. Check the insulation resistance of the circuit and components to the shell point by point according to the wiring diagram, and repair the insulation failure.
The fan does not turn	2. The high efficiency filter fails.	1. Clean the primary filter.
Fluorescent light does not light up	1. The contactor does not work.	2. Replace the high-efficiency filter.

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