Laminar Flow Cabinet
User Manual

Content

Ⅰ. Introduction

With the rapid development of science and technology, the clean technology of air has already been widely used in laboratories, electronic technologies, Aero-Spaces, bio-pharmaceuticals, especially some scientific research production division as medical food etc. it is a kind of perfect part air purification equipment which offering the high clean working environment.

The Laminar Flow Cabinet is divided into three kinds: the standard type, the medical use type, living beings type. All of these offer part air purifying working environment that is non-dust and non-microorganisms. It can improve working conditions, and guarantee the precision of products; the high purity and high dependability have good results.

Ⅱ. Main Technical Parameters

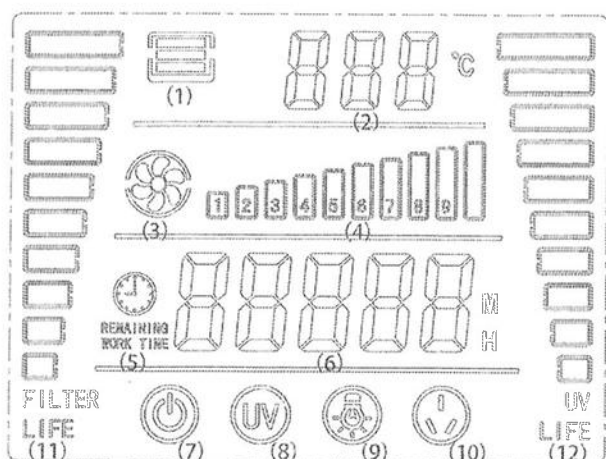| Model	VOS-12070
Applicable Station	One operator one side
Airflow Direction	Vertical
Cleanliness	Class 100
Collection Efficiency	0.3um particle ≥99.995%
Colony Count	Colony Count
Wind Speed	initial: 0.6（m/s）,final：0.2 （m/s）
Fluorescent Lamp	16W*2
UV Lamp	20W*1
Inner Size (W*L*H)(mm)	920*690*650
Current Rating （50/60Hz）	AC220V/1.8A

III. Working Principle

The super Purifying Worktable adopts the horizontal or verticality laminar flow air current form (named one-way). The air passes through thick filter into the negative pressure case, then the shift centrifugal machine presses the air into quiet pressure case, and then undergoes the high-efficient filter to deal the twice filter. The clean air from the high-efficient filter's vent window goes through operation zone with equality wind speed, takes away the dust particle and microorganism particle, thus the aseptic working environment is formed.

IV. Characteristics

1. The case body adopts whole steel structure, and the surface is treated by spraying. At the top of the case, there are bellows and quiet press case, there are high-efficient filter in the quiet press case.

2. The worktable adopts air blower system with adjustable wind speed. The light-touching switch regulates the voltage, can keep the average wind speed of the workspace remain stable within the ideal range, which will prolong the service life of air cleaner, keep it high-efficient, and reduced the operation expenses of the worktable.

3. The mesa of the worktable is made of high-quality stainless steel, which is attractive and durable.

4. The worktable adopts ultraviolet radiation which can radiate the strong 2537 short-wave ultraviolet ray, it not only kill active cell of microorganism, but also kill the bud and others fungus spore, which have the function of resist hot. In addition, the bacteria phage and virus can break rapidly under the ultraviolet.

V. Panel Indication

VI. Icon Definition

No. number	content	Description
1	[Door status]	When the door opening function is on, the three bars in the middle of the icon is off and all on when the door status is closed.
2	Ring temperature measurement value	PA for the corresponding parameter in the parameter setting; when the ring temperature function is displayed, the current ring temperature measurement is turned on.
3	[Fan]	When the fan is on, the fan icon is rotated at the corresponding gear.
4	[Fan] gear	The gear position set by the fan
5	[Time Left]	This icon lights up when the parameter is not set state
6	Run time	In the sterilization state, the countdown of sterilization timing is displayed; the input password is displayed; the input parameters when the parameter is set; "End" when the sterilization timing is completed; the cumulative operating hours of the fan is displayed.
7	[Power]	When the power is off, this icon lights up and all other icons are off; when the power is on, this icon is off and the other corresponding icons are on.
8	[sterilization]	The icon flashes when the system is sterilized
9	[Lighting]	The icon lights when lighting is on
10	[Socket]	The icon is turned on when the socket is turned on
11	[Filter lifespan]	When the filter set life time is not 0, the icon lights up and shows the remaining life of the filter.
12	[sterilization lamp lifespan]	When the set life time of the sterilization lamp is not 0, the icon is illuminated and shows that the remaining life span of the sterilization lamp is very proportional.

VII. Key Button Definition:

1. [Power] Key: Power ON/OFF, click to turn the power on or off.

2. [Lighting] Key: Lighting ON/OFF,

3. [Socket] Key: Socket ON/OFF,

4. [Sterilization] key: the key of sterilization light on

(press for a long time can be set in parameter 2, click when it is off).

5. [Fan] key: ON/OFF, when the fan is off, all gear bar out, the outer frame is also out, the fan icon is out, the fan has no output, display the current gear, other gear, the fan has output, the fan icon turns at different speeds according to the gear size.

6. [▲] (increase), [▼] (decrease) keys:

When not in the parameter setting and transmission password state:

When the fan is turned off, click this key to enter the gear setting state. The current gear bar flashes. Click the button is released to increase or reduce the gear position. If this key is not pressed within 3 seconds, return to the normal state and save the file automatically.

When the fan is on, click this button to directly increase or reduce the gear position and save it automatically.

Description: In this state, long pressing this key has no continuous increase or decrease function.

When in the parameter setting or transmission password state: click this key to increase or reduce the parameter value or password value.

Description: In this state, a long key has continuous increase or decrease functionality.

7. [Set] Key: Click [Set] Key to enter the transmission password interface, modify the input password by [Increase] and [Decrease] Key, and then click [set] Key to determine whether the password is correct, enter the corresponding internal parameter interface; adjust the parameter size by [Increase] and [Decrease] Key, press [set] Key for 3 seconds and take effect.

8. Key interlock instructions

Parameter 3 central gating function (NF): when gating function is available, open the fan in open state and sterilization in closed state; if there is no restriction, no gating function.

Interlock function (LF) in Parameter 3:

0: There is no interlocking limit for sterilization, lighting, socket and fan;

1: Sterilization and lighting interlock;

2: Sterilization and lighting, socket and fan interlocking.
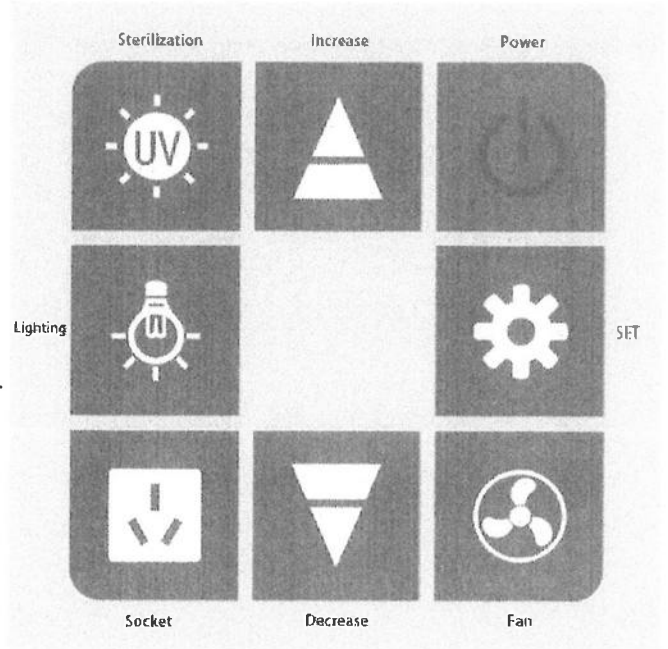
VIII. Parameter 1 (Password 1)

Indicator	Parameter name	Parameter declaration	Factory value(Range) ()(range)
PA	password	View and parameter values can be modified when PA=1	0
UT	The sterilization setting time	Set time for sterilization on	30 (0~999 points)

IX. Parameter 2 (Password 3)

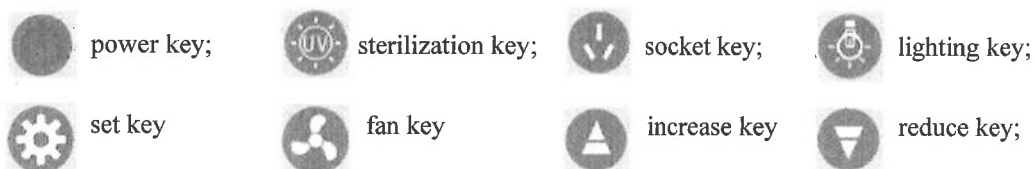| Indicator	Parameter Name	Parameter Declaration	Factory Value(Range)(range)
PA	password	View and parameter values can be modified when PA=3	0
Hb	Ring temperature deviation correction	Deviation correction of the ambient temperature	0(-10~10℃)
HF	Environmental temperature function	Whether the ambient temperature function is turned on 0: Close, 1: On	1(0~1)
UPT	The sterilization is long by time	It takes a long press to turn on the sterilization Note: At 0, click to start sterilization	3 (0~10 seconds)
UET	Sterilization ends with the buzzer duration	Time of buzzer sound after the sterilization timing Note: buzzer does not sound at 0; buzzer rings at 999 requiring manual noise	60 (0~999 seconds)
UC	Clear the UV lamp usage duration	0: Cancel, 1: OK	0(0~1)
FC	Clear the filter usage time	0: Cancel, 1: OK	0(0~1)

X. Parameter 3 (Password 27)

Indicator	Parameter Name	Parameter Declaration	Factory Value (range)
PA	password	The parameter values can be viewed and modified when PA=15	0
UST	UV lamp set life	Set life time for the UV lamp Note: This function is not valid for 0	100 (0~300 One hundred hours)
FST	Filter-set-life	Set life time of the filter Note: This function is not valid for 0	100 (0~300 One hundred hours)
OUT	Output mode of fan	0: Relay output, 1: Silo-controllable output	0(0~1)
Pn	Minimum output percentage of the fan	Minimum output percentage of the fan	50(30~90%)
FAN	Fan gear	The fan output has several gears	3(3~10)
H	supply frequency	0: 50Hz, 1: 60Hz	0(0~1)
NF	Door control function	0: No gating function, 1: with gating function	0(0~1)
LF	Interlock function	See five.Description of the key interlock for the 8	1(0~2)

XI.Parameter 4 (Password 67)

Designator	Parameter name	Parameter Declaration	Factory Value (range)
PA	password	The parameter values can be viewed and modified when PA=67	0
rST	Initialize the parameter	Initialize all of the parameters	0(0~1)

XII. Remote Control Key Description

power key;   sterilization key;   socket key;   lighting key;

set key   fan key   increase key   reduce key;

Note: The remote control button operation is the same as the panel button operation.

XIII. Hookup

Note: Electric   : No electric output

Display board interface

Power Supply Board

Internally connected

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

N(C)   L
220VAV or
110VAV   Socket sterilization   lighting   Fan Fan Fan   C Fan thyristor Reservation
                                          1   2   3
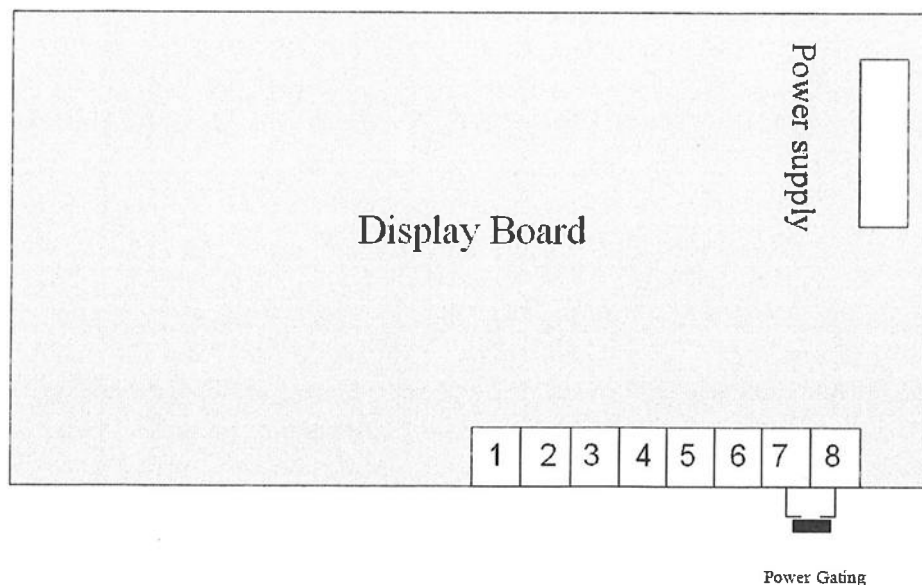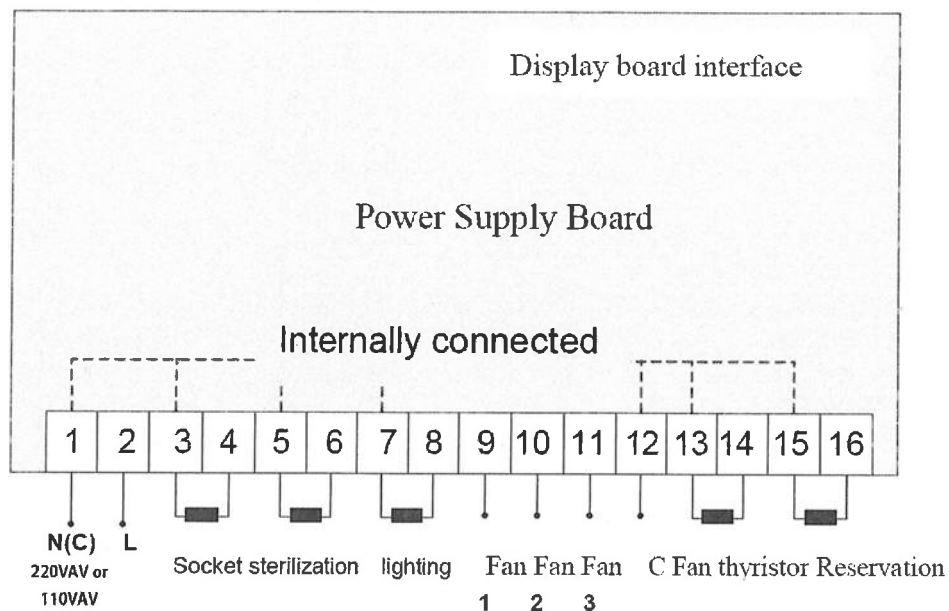
Display Board

Power supply

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Power Gating

XIV. Uses

1. While using the worktable, start the machine 5 minutes in advance, and turn on the ultraviolet sterilization light. Shut off the sterilization light after 30 minutes, and then turn on the air blower, the operation can be start 20 minutes later, open the fluorescent lamp while operating.

2. If the worktable is newly installed or has not been used for a long time, clean it and surrounding environment with dust catcher or the tool that will not produce fiber before using, and then use medicine sterilization or the ultraviolet sterilization method to deal with sterilization.

XV. Maintenance

1. According to clean degree of environment, dismount the filter cloth to wash or change periodic (usual two-three months).

2. Sterilize the environment periodically (usual one week), Use the gauze with alcohol to sterilization constantly. At the same time, keep the surface clean. Otherwise, it will influence sterilization result.

3. When the wind file is adjusted to the highest degree, the wind speed in the operation region will not reach 0.2m/s, so change the high-efficient air filter.

4. While changing the high-efficient filter, open the top cover, pay attention to the arrow sign on the filter, the direction of arrow indicates the laminar flow. Check carefully while changing the filter, make sure the frame is sealed well all around; otherwise, the filter result will be influenced.

5. Change the light and ultraviolet sterilization light when they reach service life.

XVI. Fault Treatment

Phenomena	Cause	Treatment
No power supply	1. The plug and socket are poorly connected 2. The fuse is burnt.	1. Adjust the plug and socket, or check the circuit. 2. Change the fuse.
The air blower does not work	The control does not work or the air blower breaks down.	Change the control panel or check the air blower.
The light does not work	The light socket is broken down. The light tube is burnt.	Adjust the lamp socket or change the light tube.
Cannot reach required wind speed	The high-efficient filter wears out.	Change the filter.

XVII. Storage

Keep it in dry environment with good ventilation, the gradient should be kept less than 45 degrees while carrying, forbid keeping flat or handstand.