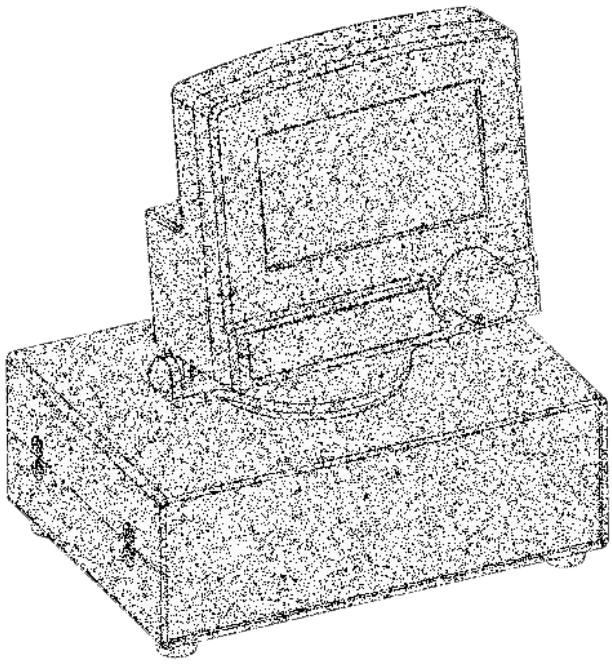
VACUUM CONTROLLER

INSTRUCTION MANUAL

NO：VC-2311001



USALAB

Content

I. Product introduction

Vacuum controller VC-001 is a product developed by our company independently based on user needs. This product can control a minimum range of 0.1kpa, which can realize the precise adjustment of saturation pressure in decompression reactions to meet customer's different applications.

This product needs to match with diaphragm vacuum pumps, rotary vane vacuum pumps, circulating water vacuum pumps, or other vacuum equipment for usage.

II. Introduction to System Interface

2.1 Main interface

In the manual control state, the word "Manual" is displayed in the upper port of screen; In the program control state, the word "Program" is displayed in the upper port of screen.

When vacuum control is on, this icon displays "start", and when turned off, it displays "stop".

The system pressure in manual mode can be released by jogging or long pressing this button. (FINE means Fine-turning)

This button is used for releasing system pressure. Press once to return to normal pressure and press stop to cancel. During the pressure release process, the controller stops controlling the vacuum. （Decom means Decompression）

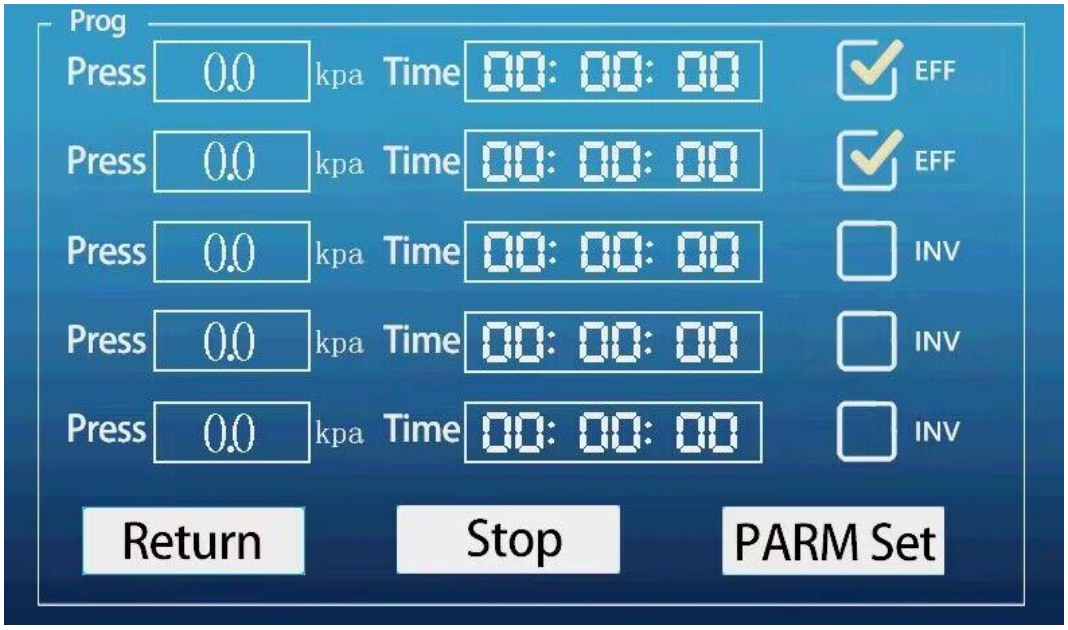
This screen displays the actual vacuum absolute pressure value and the setting vacuum value; The bottom indicates the current atmospheric pressure.


This icon is a menu key that can enter the program control screen and background parameter adjustment screen.


Press “+” can increase the setting vacuum value, press “-” can decrease the vacuum value. You can slide the middle section quickly to increase or decrease the target value.

The bottom right corner of the screen shows the temperature of the vacuum sensor.

2.2 Program control interface



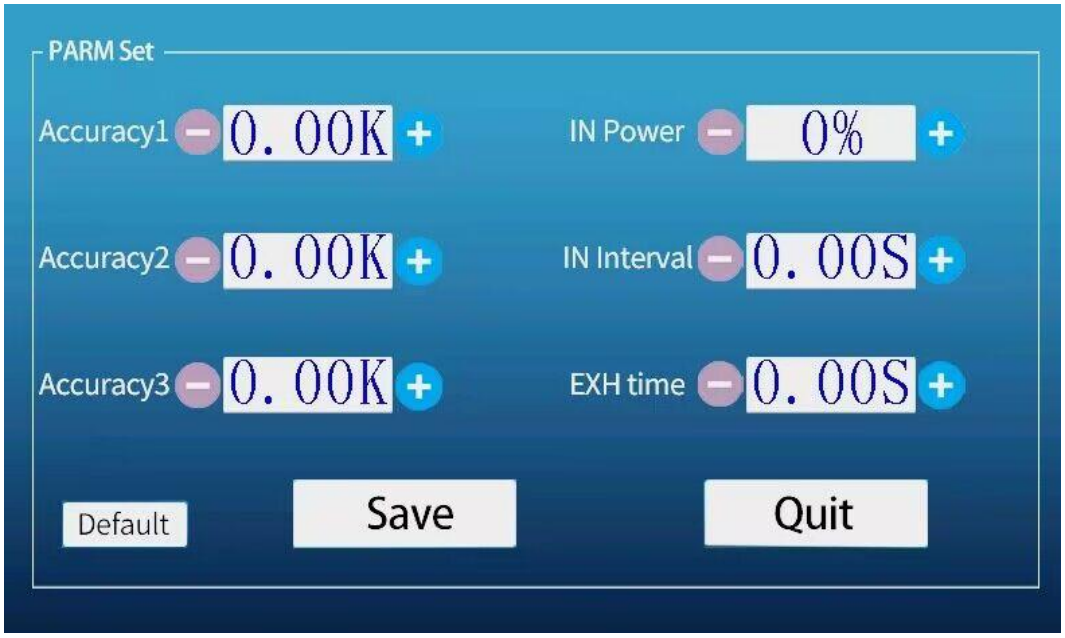
Under this interface, 5 programs, including pressure values and running time can be set. After that, it will work according to the programs in sequence.When the countdown ends, the program will jump to the next program automatically (which must be selected as valid). If the program is not selected, it will be automatically skipped; If there is no program, the program control will be automatically end.

Return: Return to the main interface

Start/Stop: Start program control or stop program control

PARM Set: Enter the back end parameters adjustment interface

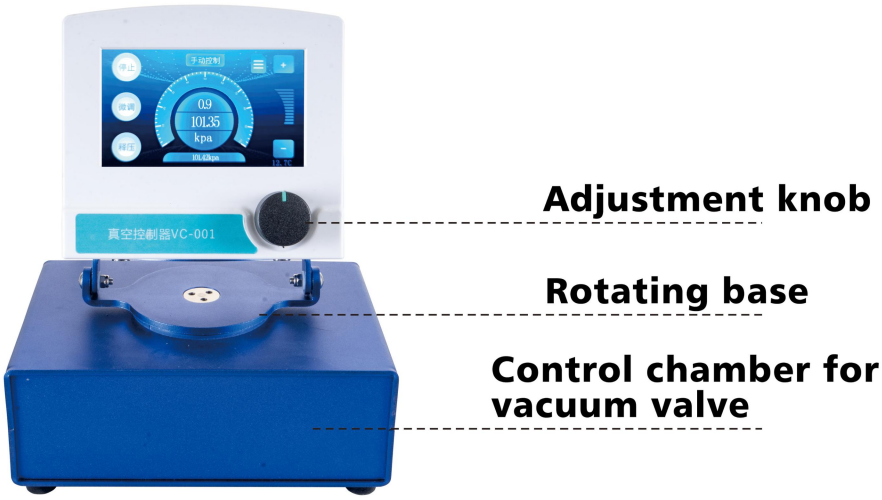
2.3 Parameter setting interface



Note: IN Power means Intake Valve Power, IN Interval means Intake Interval, EXH time means Exhaust Pulse Width.

It is not recommended to adjust the default parameters. If adjustments are needed, please contact our staff. **（Prohibit to press the button "Default" in this interface）**

III. Front view introduction



3.1 Adjustment knob

Rotating the knob clockwise can increase the value and decrease the value counterclockwise. When the vacuum controller is running, press the button will stop the operation; press the button again to continue the working.

3.2 Rotating base

The display part can be rotated 360 ° clockwise or counterclockwise. The screen display elevation angle can be adjusted front-ward and backward (30 ° ≤ 60 ° ≤ 150 °). When the angle adjustment of the rotating base can't work, the two M4 screw caps  can be tightened.

3.3 Control chamber for vacuum valve

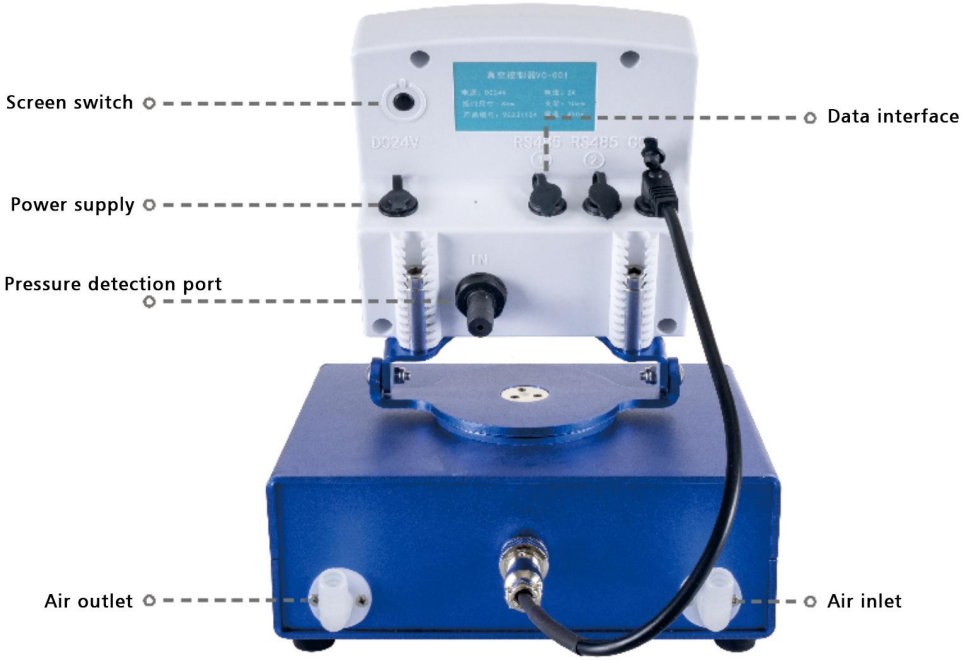
Control chamber for vacuum valve is used for discharging air from the container, which uses a 24V fully corrosion-resistant solenoid valve. The maximum ventilation diameter is 6mm, and the internal gas pipeline is made of PTFE material.

3.4 Screen switch

Under bright screen conditions, press the button to turn off the screen， press again to turn on the screen.

3.5 Data interface

The data interface TPC-1 can be used for the interconnection control with the rotary evaporator(single control system not available); TPC-2 can be used as an external extension accessory control; COM interface is used to connect the base solenoid valve.



3.6 Power supply

Connecting 24V DC power supply here.

3.7 Pressure detection port

Connecting the pipeline with φ 8mm inner hole, PTFE nozzle.

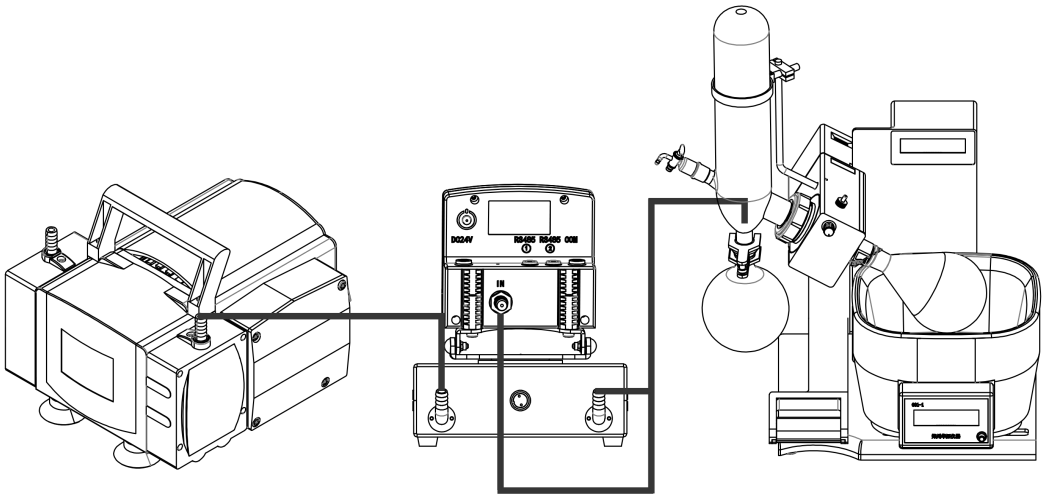
3.8 Air inlet

Connecting to the vacuum pump with aperture φ8mm pipeline, PVDF air nozzle.

3.9 Air outlet

Connecting to the gas container with aperture φ 8mm pipeline, PVDF air nozzle.

IV. Pipeline Connection Diagram



V. Notes

- It is not allowed to use mismatched power supplies. Please use the original standard 24V 2A power supply.
- It is not allowed to use organic solvents to wipe equipment.
- Filtration of powdered materials is not allowed.
- After starting up, please check if the pipeline connection is correct and if there is any air leakage.
- After starting up, please check if the circuit connection is correct.
- Operating environment temperature -5 ℃ ≤ 0 ≤ 40 ℃, ambient humidity around 70%.

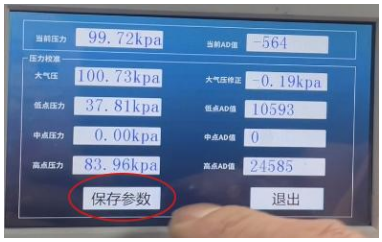
- If the main interface is chinese version, when customer sets for english version,must do it according to following steps

Press Main Interface

Press Second Interface

Press Third Interface

Display A Password Window, And Input“1333”， Then Click “OK”



Press the left button to store the parameters, customer must press the left button, or else the vacuum values will be recovered to Default Value. The vacuum would be wrong!