



Vacuum oven

FM-VO-A203

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1. Introduction

Vacuum oven FM-VO-A203 comes with 90 L chamber capacity and dual layer tempered glass door for clear observation of the sample during process. It offers microprocessor PID controller system with over temperature alarm and timing function ensures precise and reliable Control. Designed with rotary vane vacuum pump as optional accessory and LCD digital display to observe temperature. The outer of the oven is made using 304 stainless steel sheets that are enamel and painted to prevent from corrosion. Designed for drying of materials that are heat sensitive, reactive with oxidation reactions, prone to contamination due to excess water level. For the rapid drying of the materials, the controlled atmosphere can be created using the inert gases.

2. Features

- ✓ Designed with rotary vane vacuum pump as optional accessory
- ✓ Independent temperature controlling shelves
- ✓ PID controller system with over temperature alarm and timing function ensures precise and reliable control
- ✓ Designed with LCD display
- ✓ Chamber material used 304 Stainless Steel
- ✓ Offers effective, gentle drying without damaging the material being dried
- ✓ Vacuum drying minimizes the risk of scaling and for formation of oxidation residues
- ✓ Door with handle, double layer explosion proof glass, and observation window for ease of operation
- ✓ Silicon rubber strip offers tight sealing, good elasticity, and high temperature resistant, non-aging
- ✓ Temperature range is from RT+10 to 250°C
- ✓ Shock proof, anticorrosion and antimagnetic analog vacuum gauge shows stable, precise reading of vacuum with range 0 to 0.1 MPa
- ✓ Equipped with uniform heat distribution from block type heater attached to the chamber exterior to anodized aluminum shelves
- ✓ Vacuum tube makes room temperature uniform, avoids organic connection with fire burning
- ✓ Microprocessor PID controller system, Temperature calibration and automatic tuning
- ✓ Monitoring and timing are more accurate and stable
- ✓ Over temperature and ground protection are provided

3. Specifications

Model No.	FM-VO-A203
Chamber volume	90 L
Temperature range	RT+10 to 200°C (250°C)
Working temperature	+5 to 40°C
Temperature resolution	0.1°C
Temperature stability	±0.1°C
Chamber material	304 Stainless Steel
Shelves	2 pcs
Shelves material	Spray-paint Anti-corrosion
Power	2000 W
Power supply	220V, 50 Hz /110V, 60 Hz
Interior dimension (W × D × H)	450 × 450 × 450 mm
Overall dimension (W × D × H)	610 × 680 × 710 mm
Net weight	80 kg
Gross weight	115 kg

4. Applications

Vacuum Oven used in mining, medical, pharmacy, biology, agriculture, biochemical, chemical industry, scientific research across for drying powder and other material, baking, disinfecting and sterilizing of all kinds of glass wares and the complex composition of easily oxidized material items for fast and efficient drying.

5. Instrument Introduction

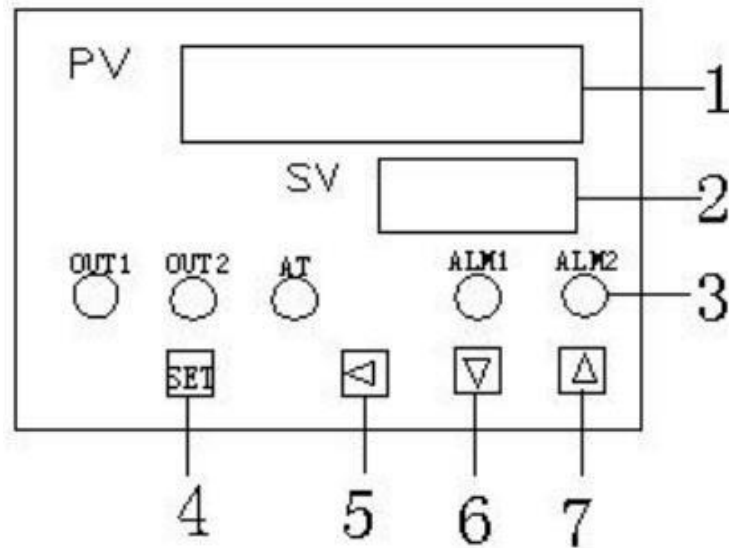


Fig.1

1. PV monitor (the measured displayed)
2. SV monitor (the set display)
3. Indicator light
 - OUT 1 means instrument output 1
 - OUT 2 means instrument output 2
 - AT-self-control light, light in working
4. ALM1 ALM2 Alarm l
5. Function button
6. Cursor shift keys
7. + / - button

6. Installation

Environmental Requirement

1. Environmental temperature: 5°C ~ 40°C, relative humidity ≤ 85%.
2. Strong vibration source and a strong electromagnetic field around.
3. Should be placed in a stable room, with no serious dust, no direct sunlight and no corrosive gas.
4. Around the products should have enough space and should not be placed below the fire alarm.
5. Power supply requirement: AC 220V ±10% 50 Hz.

7. Operations

Vacuum pumping debugging method

1. Close the door and tighten the hand handle in position to turn **OFF** the release valve (make the hole on the rubber stopper and the hole on the release valve twist 90 degrees)
2. Use the random accessories vacuum connecting tube (internal diameter 16mm, thickness 10mm) to contact the vacuum drying oven exhaust connection port (external diameter 16mm)
3. Connect the vacuum pump over start pumping gas when the vacuum meter indicator reaches 0.1 Mpa close the vacuum valve first and then the vacuum pump power in case the vacuum pump oil flows back into the studio the work chamber is in the vacuum condition now.

Vacuum oven debugging

1. Turn **ON** the vacuum oven to power the power indicating the light should be bright and the temperature began to power **ON** and the power indicating light should be bright the temperature began to power **ON** and self-check the PV screen display.
temperature set when leaving the factory.
2. The corresponding indicating light **ON** the temperature controller bright means the instrument begins to heat.

Modify the set temperature

Press the function key SET on the temperature controller PV screen displays after the SP character can use the shift key, plus or reduce key to modify the set temperature

Timing set

1. During the process of the instrument working, press the reduce or plus key SVscreen display time (minute) left then press the plus or reduce key to back.
2. The modification of timing time must enter the system parameter to proceed and it will take effect after the instrument restart.
3. If the humidity of drying material inside the working chamber is high and the water vapor will affect the performance of the vacuum pump it is advised to add adrying/ filter between the drying pump oven and vacuum
4. When the temp is close to the set temp in the working room, OUT 1 is light or dark which means heating stepping into PID controlling the instrument measured temp sometimes exceeds the set temp and sometimes is below the set temp which is normal.
5. When the measured temp is close to or equal to the measured the working room comes into a constant temp state after waiting 1-2 hours then the material is in the drying stage.

8. Accessories

Accessories no.	Name
1	Rotary Vane Vacuum Pump



Fison Instruments Ltd
272 Bath Street Glasgow G2 4JR UK
Email: info@fison.com | Website: www.fison.com