FISON

USER MANUAL

Graphite Digester

FM-GD-A100

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1. Safety Measures

1) Always operate the instrument strictly by the Manual. The user will be responsible for any issues arising from improper operation.
2) The instrument's maximum controllable temperature is 450 °C.
3) During operation, the instrument's shell may become very hot, and strong corrosive solutions (e.g., acids and alkalis) are used for digestion. Therefore, only laboratory professionals or trained personnel should operate it, wearing appropriate protective gear such as masks and gloves, and strictly following the Manual.
4) After heating, digestion, and cooling, residual chemical reagents may remain in the test tube plug. Clean these residues promptly. Prevent any chemical reagents from entering the instrument's interior. To disinfect and remove residual substances from the waste discharge pipe, regularly add distilled water to the digestion tube.
5) Do not leave the instrument unattended while it is in operation.
6) Transport the instrument carefully to avoid damage.

2. Introduction

Graphite Digester FM-GD-A100 is crafted for sample digestion, offers both curve and linear heating methods. With a capacity for 200 digestion programs, it incorporates a special anti-corrosion treatment for extended durability. Real-time temperature curve monitoring is seamlessly provided by the LCD display. Our digester incorporates overvoltage, overcurrent, and overheating alarms, complemented by reliable leakage protection.

3. Features

1) Utilizes an infrared radiation graphite conduction heating method
2) Utilizes a new ceramic fiber insulation layer and air duct insulation technology
3) Ensures operator safety with an exhaust hood and PTFE sealing cap
4) Versatile temperature range from RT+5°C to 450°C ensures flexibility
5) Incorporates a PID intelligent temperature control algorithm for Graphite Digester
6) Digestive tube cooling rack and drip tray for quick cooling of digestive tubes

4. Specifications

Model No:	**FM-GD-A100**
Temperature Range	Rt +5 °C to 450 °C
Temperature Accuracy	± 1 °C
Digestive Tube Capacity	300 ml
Capacity Per Batch	10 pcs / batch
Heating Method	Infrared heating and high-purity graphite conduction
Heating Insulation Method	Ceramic fiber split air duct insulation technology
Display	7–inch high-resolution color LCD screen
Power Consumption	1.8 KW
Power Supply	220 V ± 10 % / 50 Hz
Packing Dimension	620 × 500 × 560 mm
External Dimension	360 × 390 × 177 mm
Net Weight	30 kg
Gross Weight	36 g

5. Applications

Graphite digester serves a wide range of applications across industries including food, medicine, agriculture, forestry, environmental protection, chemical, and biochemical.

6. Instrument Introduction

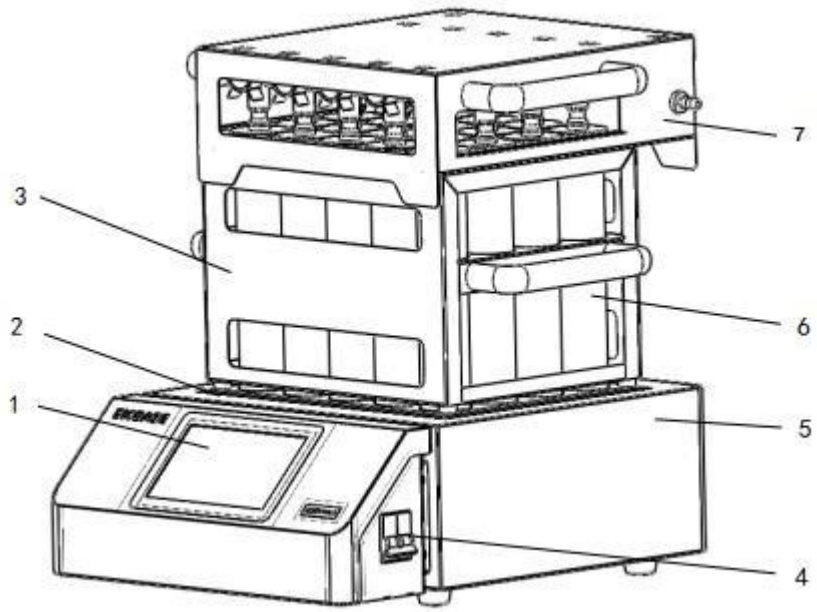

Figure-1

1 Display Screen
2 Digestion Platform
3 Digestion Tube Frame
4 Air Switch
5 Shell
6 Digestion Tube
7 Discharge System

7. Operations

7.1 Main Interface

Turn on the power supply, and the instrument switch, and the instrument displays the main interface, as shown in Figure 2.

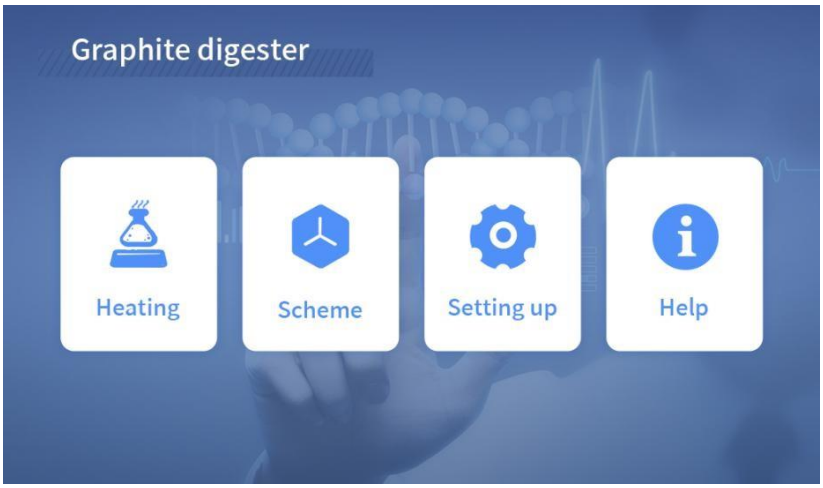

Figure-2

7.2 Heating Function

Click each function button on the main interface to enter the corresponding function interface, and click the heating function to enter the test heating interface. Click the Return button to choose different set schemes, as shown in Figure 3.

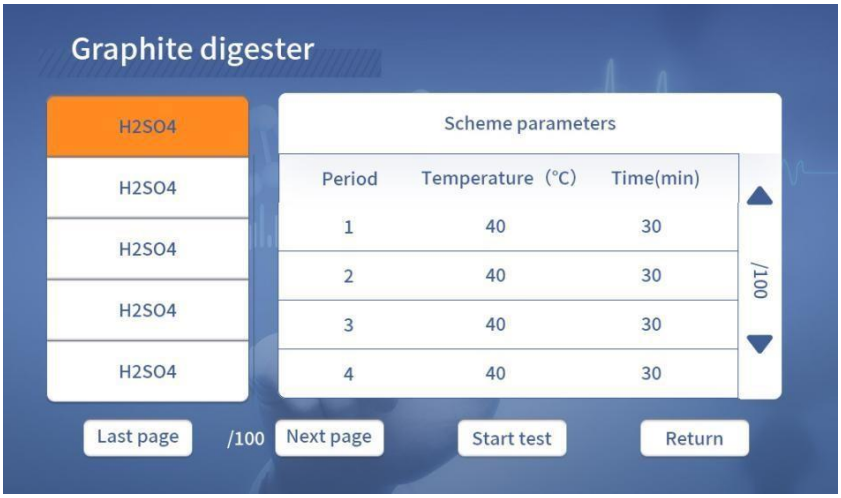

Figure 3

The displayed area on the left is the name of the edited scheme, and the parameters of the selected scheme are displayed on the right. Select the edited scheme on the left, and after determining the parameters, click Start Test to enter the real-time curve interface of the test, as shown in Figure 4.

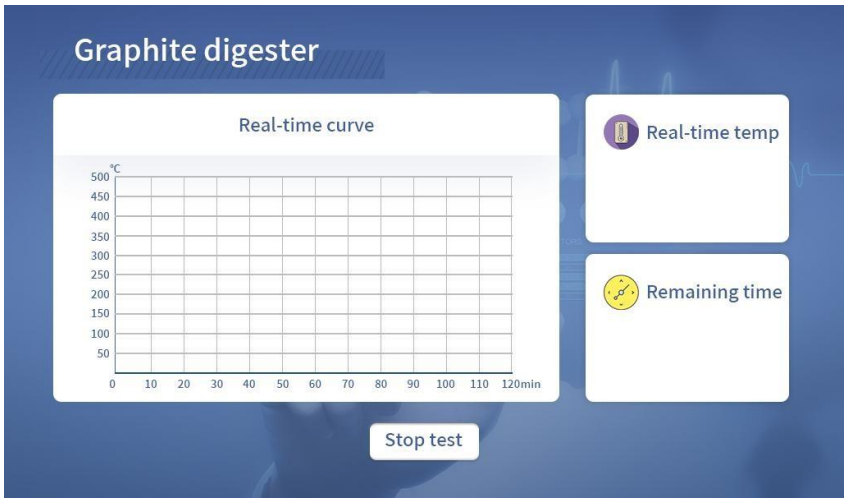

Figure 4

The left side shows the real-time curve detection during sample digestion, while the right side shows real-time temperature detection and test time. After the test is completed, it will automatically return to the homepage.

7.3 Scheme Editing

Click the scheme function button on the homepage to enter the scheme interface, as shown in Figure 5.

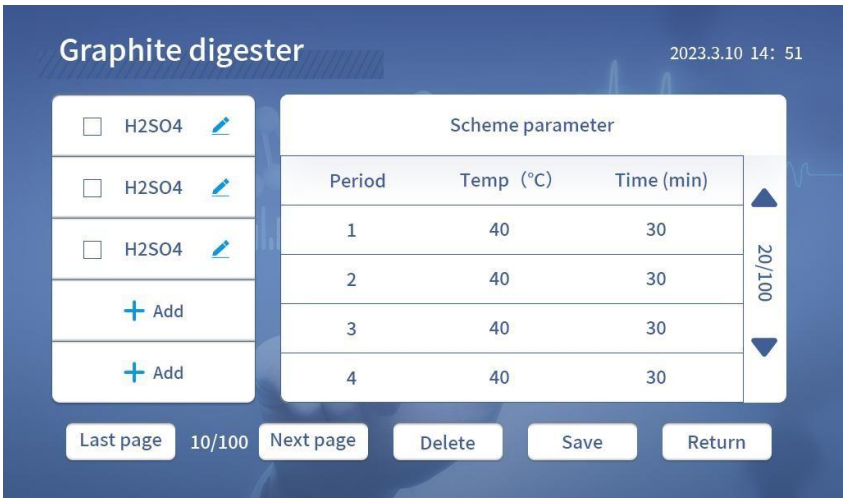

Figure 5

Note: After setting the scheme, under the current scheme selection state, by clicking the Return button, it's available to switch between different schemes.

Click the Add button on the left, enter a user-defined scheme name, and click the icon on the right to re-edit the set scheme, as shown in Figure 6.

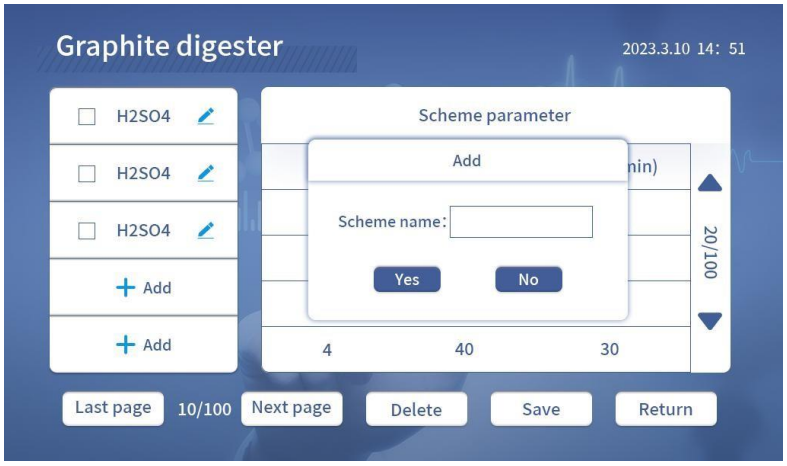

Figure 6

The right side displays the required scheme parameters for this scheme. Click the save icon to enter the save interface, then click Yes to save the current scheme, as shown in Figure 7.

Figure 7

Click the box in front of the scheme on the right to display a "√" within the box. Click the Delete button below and click Yes to delete the selected scheme, as shown in Figure 8.

Figure 8

7.4 System Setup Interface

In the homepage, click the setup button to enter the system setup interface. In the system setup interface, the user can set the actual temperature of the instrument, the timing method, the timing point, the system time, and whether to turn on the test alarm and other functions, as shown in Figure 9.

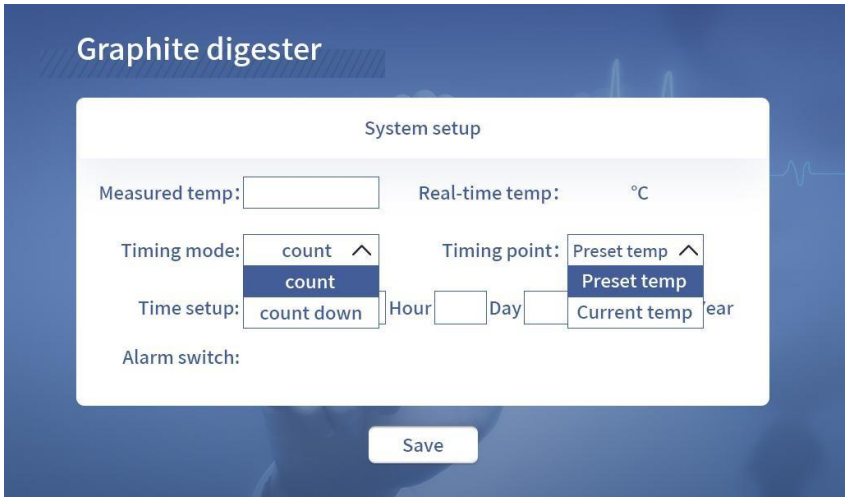

Figure-9

For the timing mode, the user can select positive timing or negative timing; Positive timing refers to the time starting from 0 and incrementing in minutes, and negative timing refers to the time starting from a preset time value and decreasing in minutes. For the timing point, the user can select “when the test begins, the timing shall begin” or “when the temperature reaches the present time, the timing shall begin ”, after which, click Save, as shown in Figure 10

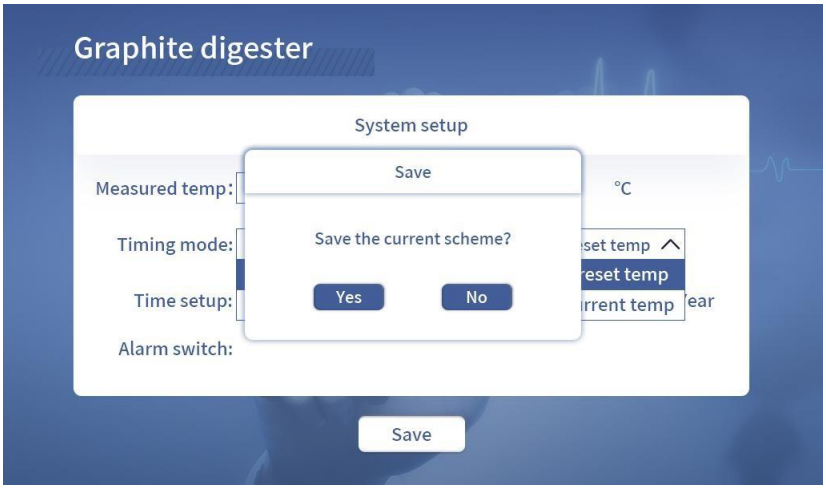

Figure-10

Click Yes to save the setup

7.5 Using

1) Connect the external power supply and switch on the instrument.
2) Use the touch screen buttons to set the desired temperature, heating time, and pre-program the test scheme.
3) After completing the test, switch off the instrument and allow it to cool before further handling.

8. Troubleshooting

Fault	Cause	Solution
The instrument cannot be powered on	• Burned-out fuse • Internal instrument fault	• Replace the fuse • Contact the after-sales department
Abnormal temperature display	• Faulty sensor detection • Loose or poor wire connection	• Replace with a new sensor • Check and secure wire connections
The instrument does not heat	Damaged heating element	Replace with a new heating element