Laboratory Equipment Manufacturer
www.mrclab.com

Operating Manual
of Rotary Sample Divider
SAD-200

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MRC. 5.24

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Notes on the Manual 1.0

This manual covers all the contents of the SAD-200 directory
In order to operate safely, please read the relevant parts of the manual.
This manual does not include repair information. If repair is needed, please contact your supplier or MRC directly.

2.0 Safety

2.1 General instructions

Please ensure that you have been authorized the use of the rotary sample divider SAD-200

Read and fully understand the safety instructions before using
Before operation new user must be familiar with safety and correct operation of the instrument. It is necessary for the operator to know the rules and regulations of the operation
Improper handling may cause personal injury and damage to the instrument
Please ensure that unqualified personnel do not operate the equipment

2.2 Warning

Please pay your attention to the content of '**Note**' in this manual to ensure your personal safety and avoid damaging to the equipment.

2.3 Repair

This operation manual does not contain any repair information. If repair is needed, please contact your supplier or MRC directly

2.4 Safety instructions

Please use it normally
MRC shall not be liable for any personal injury or damage to the equipment due to failure to comply with the safety instructions
No changes can be made to the instrument, and use the accessories and accessories approved by MRC. Otherwise, any of our warranty commitments will no longer be valid

Packaging

Please keep the packing materials during the warranty period. Otherwise, we shall not . be able to guarantee your rights in case of packing complaint

Transport

Please do not raise the equipment above the head. The machine SAD-200 may not be knocked, shaken or thrown during transport, so as not to damage the electronic and mechanical parts of the instrument

Temperature change

If SAD-200 is subjected to large temperature changes(such as in air transport), the formation of condensate should be prevented to avoid damage to electronic and mechanical components

Packing list

Upon receipt of the goods, if you find any shortage or damage of the equipment, please inform the transport company or contact the MRC (within 24 hours). Delayed complaints may not be accepted

Installation requirements

If the environment temperature is too high, too low or high humidity, it will be possible to cause damage to the electronic parts or mechanical parts of the instrument, and the performance will be unknown

Connect the power supply

Before connecting the power supply, please pay attention to the value of the nameplate on the instrument so as not to damage the electronic parts or mechanical parts of the instrument

3.0 Packing and transportation

3.1 Packing

The packing should be suitable for transportation and meet the packing requirements.

Note：

Please retain the original packing during the warranty period so that when the equipment is defective, and you need to have it shipped back intact to avoid any damage during transit.

3.2 Transportation

Please do not throw, knock or oscillate the instrument during transportation, so as not to damage the electronic and mechanical parts of the instrument.

Supply list 3.3

SAD-200：1 set

Hopper：1 pc

Sample bottles：10pcs（ 250ml）

Power cord: 1pc

Manual：1 pc

Note：

Check whether the supply is complete or not

Please inform MRC company within 24 hours if the shipment is not complete or damaged. Delayed complaints may not be accepted

3.4 Ambient temperature

When the ambient temperature exceeds or falls below that specified, the electronic and mechanical components may be damaged.

3.5 Storage during transportation

Please ensure that the SAD-200 is kept dry during storage

Technical specifications 4.0

The SAD-200 can evenly divide one sample to 6, 8, 10 uniform small samples. Each small sample has the same physical and chemical properties, and each can represent the attributes of the whole batch of samples

Electrical parameters 4.1

Rated power：15W
Rated voltage：220V,50/60Hz

4.2 Speed

80~120 rpm, adjustable.

4.3 Feed size

Below 10mm

4.4 Volume of sample bottle

500ml/250ml/100ml

4.5 Degree of protection

IP40

4.6 Instrument size and weight

Width：465mm

Depth：490mm

Height：620mm

Weight: 45kg (incl VIF-200)

5.0 Installation

5.1 Installation requirements

SAD-200 should be placed on a stable and horizontal laboratory bench

5.2 Ambient temperature

5℃ to 40℃

Note：
If the ambient temperature and humidity is too high or too low, the electronic components and mechanical components may be damaged. Work performance will not be guaranteed.

5.3 Air humidity

When the humidity is high, the electronic mechanical components may be damaged, and the performance of the instrument will be unknown.

5.4 Power connection

The voltage and frequency of the power supply have been marked on the nameplate

Please keep the instrument working at the voltage indicated on the nameplate

Please use the supplied SAD-200 power cord

5.5 Ground protection

PE grounding protection line is required for power connection.

Note:

Failure to comply with the required power supply will likely damage the electronics or mechanical parts, seriously affecting the performance of the machine.

6.0 Operation

6.1 Instrument units（Fig 6.1.1-6.1.2）

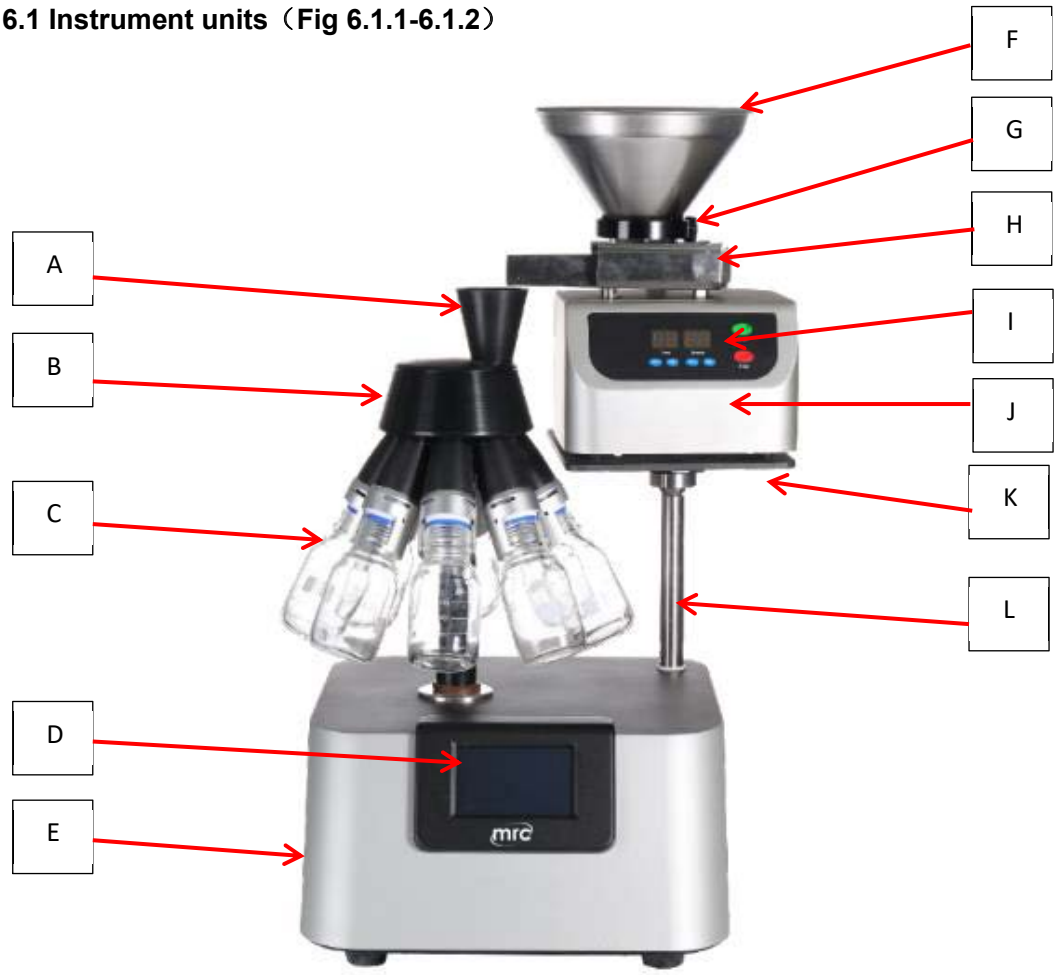


Fig. 6.1.1

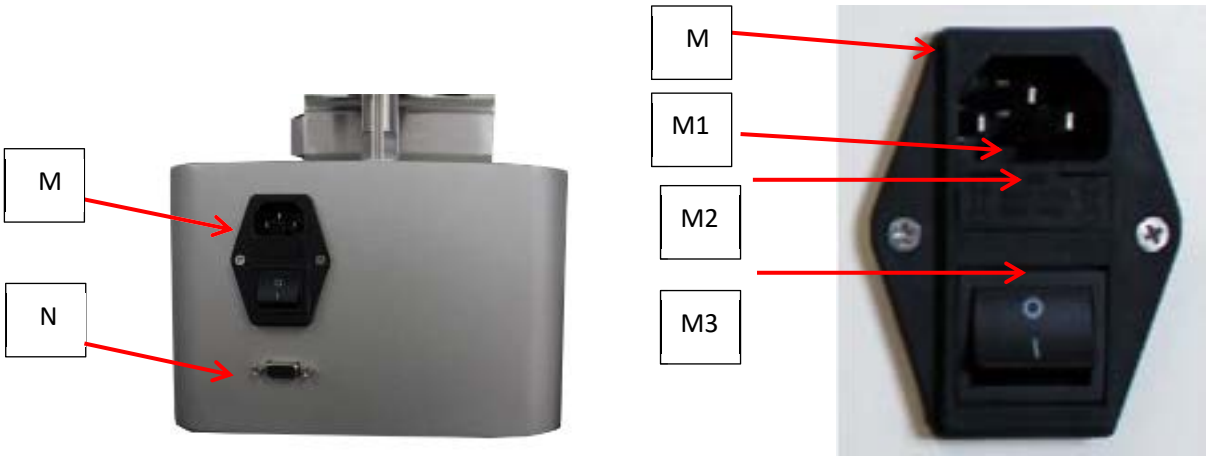
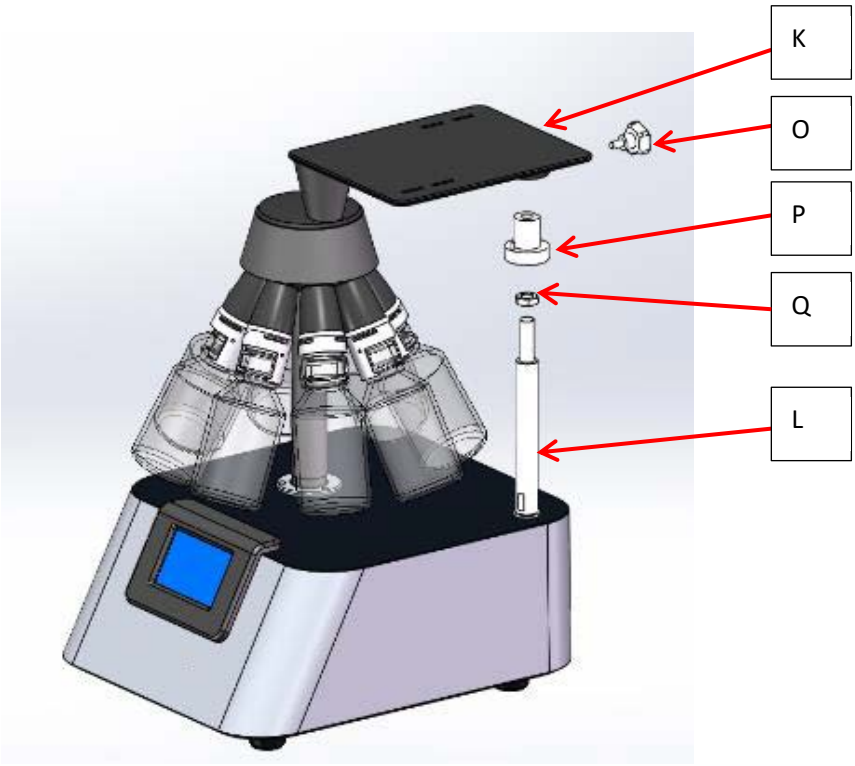


Fig. 6.1.2

6.2 Units function

Part	Description	Function
A	Dividing head hopper	Feed samples, or guides the sample material from the vibratory feeder into the tube dividers.
B	Dividing head	Divides the sample into 6/8/10 among the sample containers.
C	Sample bottle	Receiving the samples
D	Control panel	Set parameters and control the SAD-200
E	Main body	Main body of SAD-200
F	Sample funnel of VIF-200	Put in material here
G	Support stand of funnel	support the funnel
H	Feed chute	Transfer samples
I	Control panel of VIF-200	Set parameters and control the VIF-200
J	Main body	Main body of vibratory feeder VIF-200
K	Support plate	VIF-200 is placed on it
L	Support rod of vibratory feeder	Install the vibratory feeder
M	Power supply socket (3 in 1)	Switch/fuse/socket
M1	Power supply socket	Connect power supply
M2	Fuse holder	2 fuses in it
M3	Switch	Switch the instrument on or off
N	RS232 interface	Data communication
O	Hand screw	Fix the support plate of VIF-200
P	Connector	Connect the support rod and plate
Q	Nut	Adjust the height of the support plate
R	Funnel support rod	Install the funnel
S	Socket cap screws	Fix the VIF-200 on the support plate

6.3 Install the support rod of vibratory feeder VIF-200



Step 1：insert the support rod L into the hole at the right back of machine (insert it to the bottom).

Step 2：turn the support rod clockwise tightly.

Step 3：clamp the planar groove at the lower part of support rod with a wrench and tighten the rod slightly.

Step 4: put nut Q on the support rod and screw it down to the stop position. Tighten the nut with a wrench.

Step 5: place the connector P on the support rod and screw it down to the nut position by hand.

Step 6: place the support plate on the connector P and place it in position.

Step 7: fix the support plate with the hand screw O.

Note:

The position of the support plate can be adjusted by loosen the handwheel O.

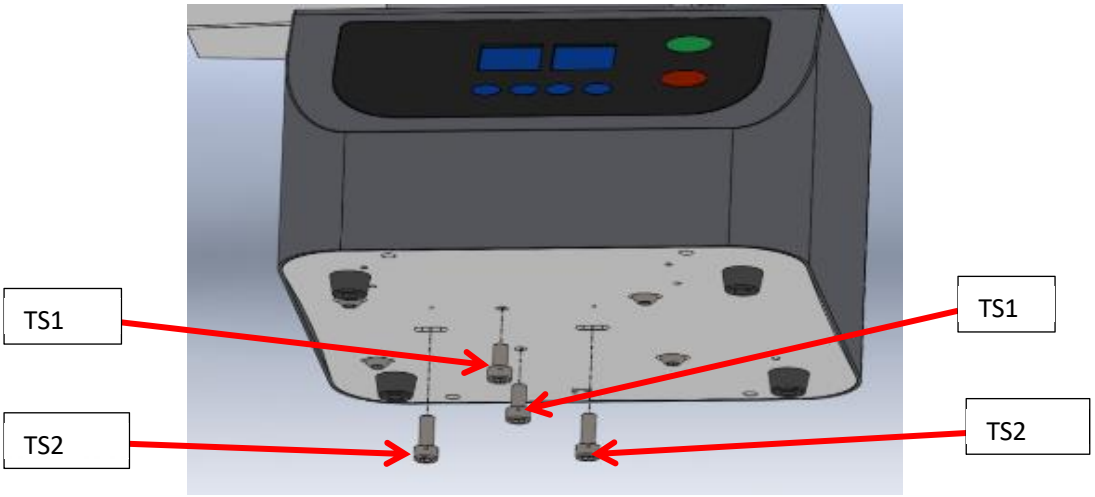
6.4 Install the vibratory feeder VIF-200

6.4.1 Remove the transport screws

Loosen and remove 4 transportation safety locking screws with a 5mm Allen wrench.

Warning:

There are 4 transport screws under the bottom of VIF-200. Please loosen and remove them before installation.



TS1×2: M6×12 socket cap screw **TS2×2**: M6×16 socket cap screw

6.4.2 Install the hopper of VIF-200

Step 1： insert the hopper rod R into the hole at the back of VIF-200 and fasten it

Step 2： install the support stand G on the rod R and then fasten it with star screws.

Step 3： insert the hopper F into the support stand G and adjust the hopper to proper height.

Note:

The feeding chute H has been installed in place when it leaves the factory.

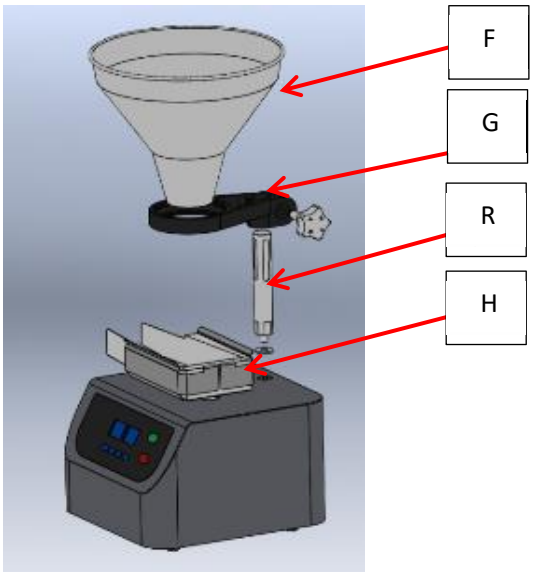


Fig. 6.4.2

Fig.6.4.3

6.4.3 Install VIF-200

Place VIF-200 on the support plate

Fix VIF-200 on the support plate K with 2 M4 x 25 socket cap screws S

6.5 Install the dividing head and sample bottles（Fig 6.5.1~6.5.2）

Step 1： insert the dividing head B into the axle of machine.

Step 2： match the feed hopper A to the dividing head B and make sure it at the right side.

Step 3： install the sample bottles A into the outlets of dividing head B.

Fig. 6.5.1

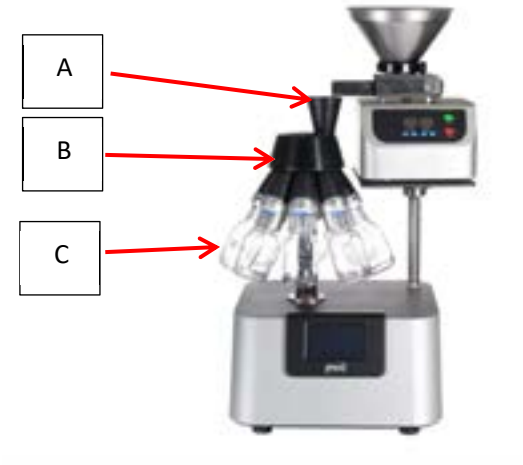


Fig.6.5.2

7.0 Control panel

7.1 Control panel of SAD-200 (Fig. 7.1

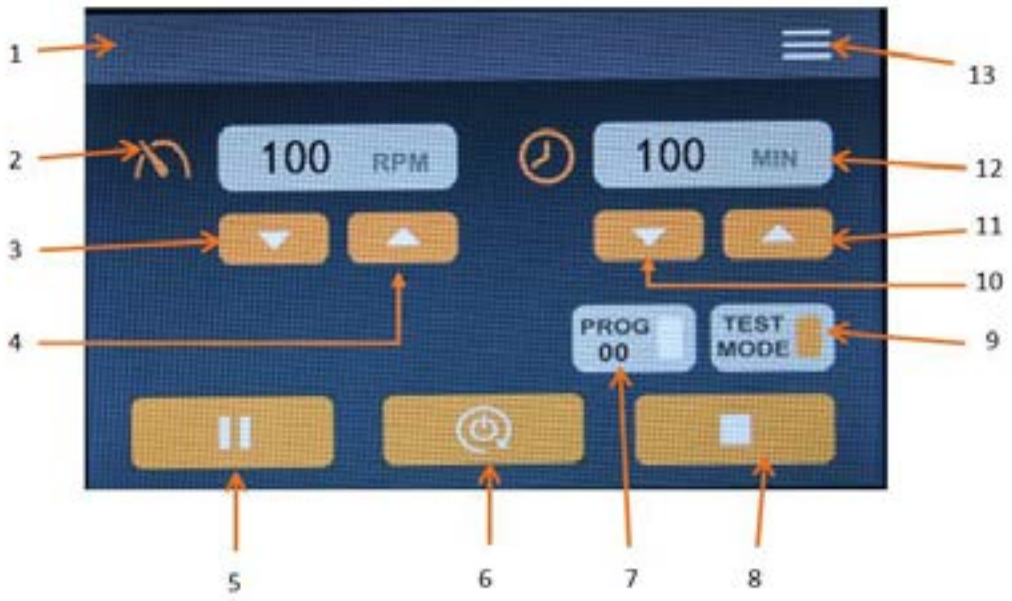


Fig. 7.1

7.2 Function of SAD-200 control panel

No	Description	Function
1	Home (screen 1)	Set the parameters and control the device
2	Speed display	Speed display：80~120rpm
3	Speed minus	Reduce speed
4	Speed plus	Increase speed
5	Pause	Click to pause the device
6	START key	Starting the device
7	PROGRAM key	Enter into program setting page
8	STOP key	Stopping the device
9	TEST MODE key	Enter into test mode, speed can be adjusted during running

10	Time minus	Reduce rotating time
11	Time plus	Increase rotating time
12	Time display	Display remaining time
13	Menu key	Enter into subordinate menu

7.3 Parameter setting (Fig.7.3.1-7.3.2)

7.3.1 Parameter setting on TEST MODE

- on the Home screen to set the time/speed.

Speed range: 80-120rpm

Time range:0-999min

- On Parameter setting page (Fig.7.3.2) to set the time/speed.

▹Two methods to enter into parameter setting page:

1) Press Time or Speed key on Home page (screen 1) to enter into screen 3 (Fig.7.3.2) and set parameters

2) Press Menu key  on Home page, enter screen 2 (Fig. 7.3.1) and click "Parameter", then enter screen 3 (Fig 7.3.2) and set parameters.

Fig. 7.3.1 (screen 2)

Fig. 7.3.2 (screen 3)

▹On screen 3 (Fig.7.3.2), click speed setting area  , through digital keyboard to enter speed value; click time setting area  , through digital keyboard to enter time value. Click saving key  , and  to confirm; press 

to cancel. See Fig.7.3.3.

▷On Fig.7.3.2 click  back to home page.

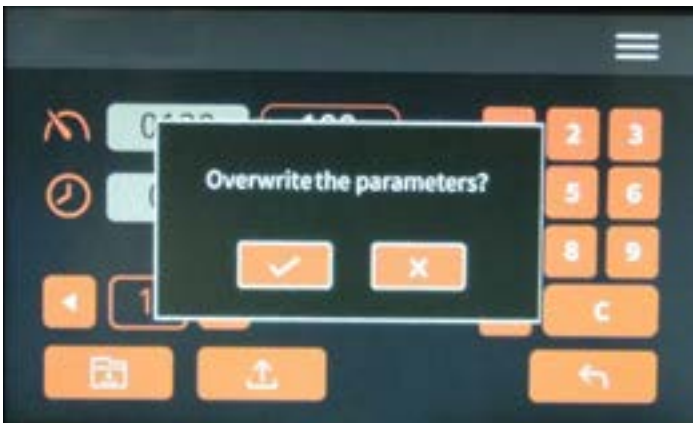


Fig. 7.3.3

7.3.2 Program mode parameter setting and program adopt

- Two methods to enter into program mode parameter setting page

1) Click  key on home page to enter into screen 4 (Fig. 7.3.4)

2) Click  key on home page into Fig.7.3.1, press  enter into screen 4 (Fig.7.3.4)

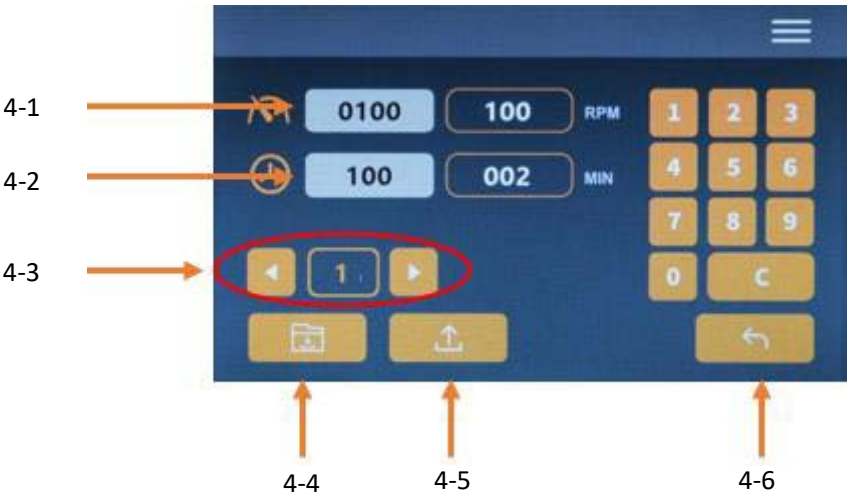


Fig. 7.3.4

- Program parameter setting

▷On Fig.7.3.4 press program area (4-3) arrow  or  to choose needed program no.;

▹On Fig.7.3.4 click speed area (4-1), time area (4-2), through digital keyboard to enter needed speed/time value.

▹Press Saving key(4-4)to save parameter

- Program adopting

▹On Fig.7.3.4 press program area (4-3) arrow or to choose the needed program No.;

▹Press Adopt key (4-5)to adopt this program;

▹Press Back key (4-6)to back to home page. The No. of the adopted program will display on the home page.

7.4 Start SAD-200

Press the START key after connecting the power and then press to confirm starting or press to cancel starting (fig. 7.4.1).

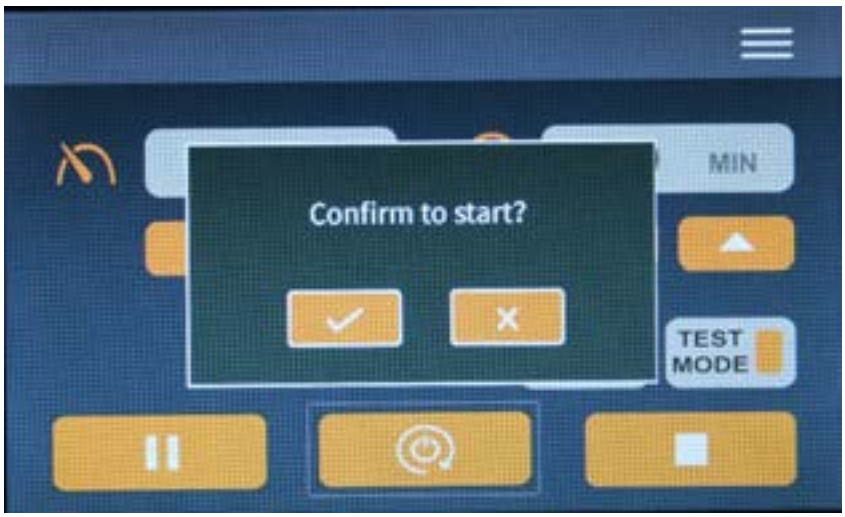


Fig. 7.4.1

7.5 Stop SAD-200

Press the STOP key to end the instrument running.

- Click Pause button to pause the device, the parameter maintains. Click Start button to continue running from where it stopped
- During running or pause state, click Stop button to stop the device.

7.6 Control panel of VIF-200

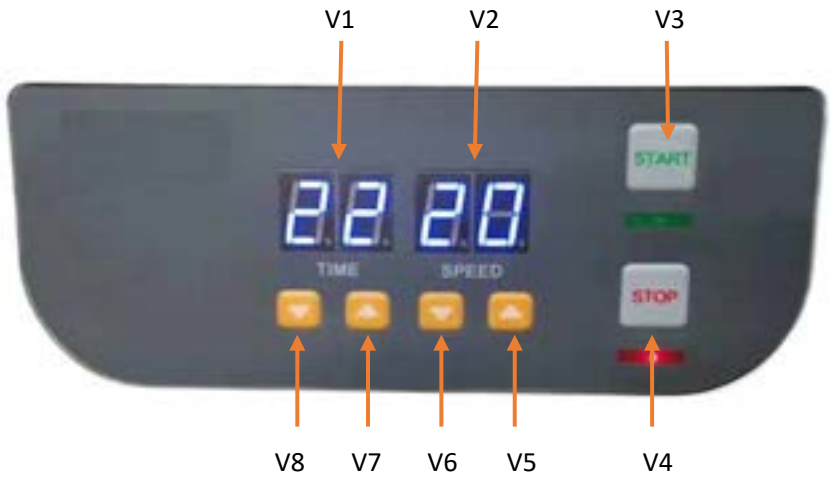


Fig 7.6

7.7 Function of VIF-200 control panel

No.	Description	Function
V1	Time display	00~99min
V2	Speed display	00~50
V3	START key	Start instrument
V4	STOP key	Stop instrument
V5	Speed plus	Increase speed
V6	Speed minus	Reduce speed
V7	Time plus	Increase time
V8	Time minus	Reduce time

7.8 Setting the running time

Time range：00~99min, press the key+/- to set the required running time.

7.9 Setting the running speed

Speed range：00~50, press the key +/- to set the required running speed.

7.10 Start VIF-200

Press the START key to start the VIF-200 after connecting the power and the green light is lighting

7.11 Stop VIF-200

Press the STOP key to end the running of VIF-200 and the red light is lighting

7.12 Replacing the fuses （SAD-200 & VIF-200

- Pull out the fuse holder M2 with screwdriver
- Replace the 2 fuses（6A/250V）
- Insert the fuse holder.

7.13 Running of SAD-200 with VIF-200

Install the bottles of SAD-200 well

Power on the SAD-200 and VIF-200

Set the running time of SAD-200 (according to the actual requirement), eg.10mins

Set the speed of SAD-200 (80~120rpm, eg.110rpm

Set the running time of VIF-200 which should be same as that of SAD-200

Set the VIF-200 speed ：00~50rpm

Feed the sample into the funnel of VIF-200 and adjust the hopper height according to the sample sizes

Start SAD-200. Then start VIF-200 when the speed of SAD-200 is stabl

Adjust the speed of VIF-200 according to the sample property, eg:30 rpm

Note

Please stop the VIF-200 first and then stop the SAD-200 after finishing the sample dividing

7.14 VIF-200 application instruction

In order to obtain the most representative samples, it’s necessary to keep uniform sample feeding during the sample separation process

Therefore, the vibratory feeder VIF-200 is recommended to facilitate the uniform and stable feeding, especially when the accuracy of the sample is highly required

8.0 Clean

.Do not clean the device under running water. Use only a damp cloth
SAD-200 is maintenance free

9.0 Copyright

10.0 Modification

Technical improvements will be made without prior notice.