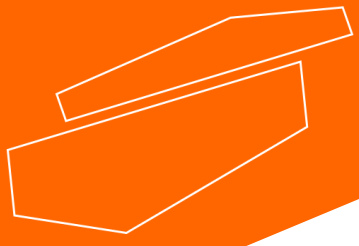
lbx instruments

SAMPLE CONCENTRATOR, H150

Please read the User Manual carefully before use, and follow all operating and safety instructions!



user manual

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User Manual

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SAMPLE CONCENTRATOR, H150

Preface

Thank you for purchasing our product. Users should read this manual carefully, follow the instructions and procedures, and beware of all the preventive measures when using this instrument.

Service

If help is needed, you can always contact your dealer or Labbox via www.labbox.com

Please, provide the customer service representative with the following information:

- Serial number
- Description of the problem
- Your contact information

Warranty

This instrument is guaranteed to be free from defects in materials and workmanship under normal use and service, for a period of 12 months from the date of invoice. The warranty is extended only to the original purchaser. It shall not apply to any product or parts that have been damaged due to improper installation, improper connections, misuse, accident or abnormal conditions of operation.

Contents

1.Important Instruction

1.1 Safety Instruction

Read this Manual carefully before using it. Read the guidelines and directions below to prevent injury and carry out countermeasure accordingly when necessary.

The operation, maintenance and repair of the instrument should comply with the basic guidelines and the remarked warning below.

If users don't comply with them, it will influence the instrument.

This is a general device produced under standard GB9706.1, only use it in door where is ventilated well.

Only a trained person can operate this instrument. Users or people who are not permitted are not allowed to open the device, which will cause electricity shock or other danger.

Please contact factory for maintenance.

For safety use, ensure the power supply with earth/ grounding socket.

Make sure the voltage supplied is complied with indication on label.

Exchange the power cable once it is damaged.

Don't place any stuff on the power cable, hold the plug head properly when pulling the cable off from the socket.

The metal heated block can reach a high temperature during heating, probably leads to sample/liquid boiling out of tubes, which may cause injury, so it is prohibited to touch metal block by any part of your body during heating procedure.

The instrument should be placed in a room with low humidity, less dust, and away from water sources, direct sunlight and strong light sources.

The room should be well ventilated, and away from heating, fire and

other heat sources, and interference of corrosive gas or strong magnetic field. Keep at least 30cm of space between other devices.

Power off when you finish your work. Pull off the connector plug when there's long time no use of the Instrument and cover it with a cloth or plastic paper to prevent from dust.

Pull the connector plug from the jack at once in the following case,

and contact the vendor:

- There is some liquid flowing into the Instrument
- Drenched or fire burned
- Abnormal operation: such as abnormal sound or smell
- Instrument dropping or outer shell damaged
- The function has obviously changed

2. Brief Introduction

This sample concentration is controlled by micro-computer and PID

Which can provide a precise temperature to samples. The adjustable airflow valve, and sealed gas distributor can distribute nitrogen to different samples evenly, quickly and continuously to make the solvent evaporate efficiently. Nitrogen flow keeps sample concentrated oxygen free.

Mainly applied in:

★ Pesticide residue analysis: Vegetables, fruit, cereal, plant tissue

★ Environmental analysis, drinking water, underground water, contaminated water

★ Biological analysis: hormone, liquid phase, gas phase, spectroscopy,

★ Food and beverage: milk, wine, beer

★ Pharmacy: drug screening

3.Product features

3.1 Working Conditions

Ambient temperature: 5°C -30°C

The relative humidity: ≤70%

Voltage: AC100-120V/ AC200-240V ,50/60Hz

3.2 Basic parameters

Model	SMPC-001	SMPC-002
Temperature Control Range	RT+5℃～150℃	
Temperature Setting Range	0℃～150℃	
Heating up rate	≤30min （20℃ to 150℃)	

Temperature stability@40℃	±0.3℃	
Temperature stability@100℃	±0.5℃	
Temperature stability@120℃	±1℃	
Block quantity	1	2
Timer	1m-99h59min/0 (infinite)	
Nitrogen airflow	0～12L/min	
Nitrogen pressure	≤0.2MPa	
Max. Power	200W	400W
Dimension WxDxH (mm)	220x290x540mm	

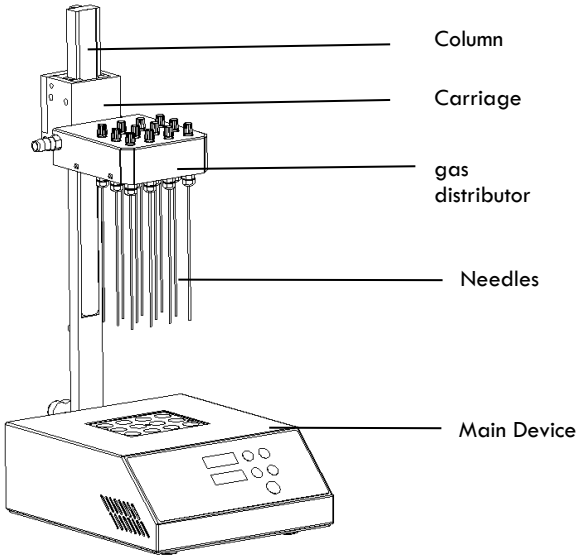
3.3 Optional blocks

Type	Tube diameter	Capacity	Block size
SMPC-A01	6 mm	12	96.5x76.5x50
SMPC-A02	10 mm	12	96.5x76.5x50
SMPC-A03	13 mm	12	96.5x76.5x50
SMPC-A04	16 mm	12	96.5x76.5x50
SMPC-A05	0.2 ml centrifuge tube	12	96.5x76.5x50
SMPC-A06	1.5 ml centrifuge tube	12	96.5x76.5x50
SMPC-A07	2.0ml centrifuge tube	12	96.5x76.5x50

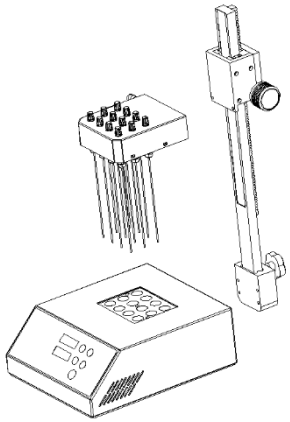
4. Operation Instruction

This chapter introduces the instrument mechanical structure, the navigation and each button's functions and some preparations before power-on. Please read it before first operation.

4.1 Structure

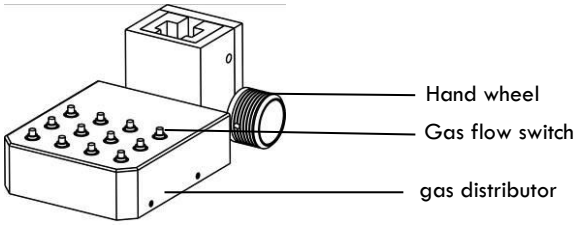


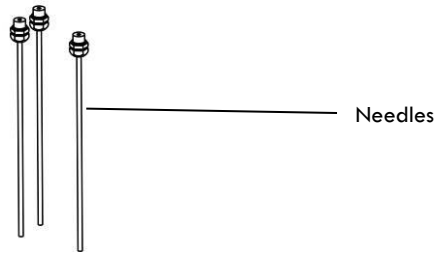
4.2 Installation steps



4.2.1 Needle installation

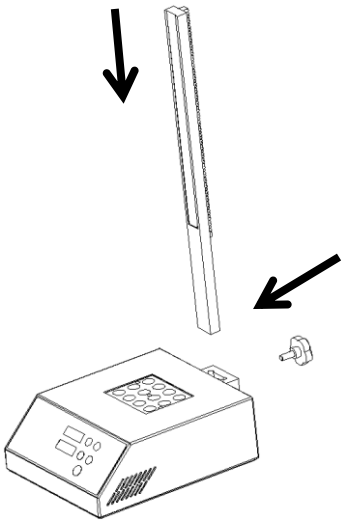
Twist needles into the holes on bottom of gas distributor according to needs, make needles aligned with the block holes. All the valves are shut before leaving factory. Turn on flow valves according to needs.





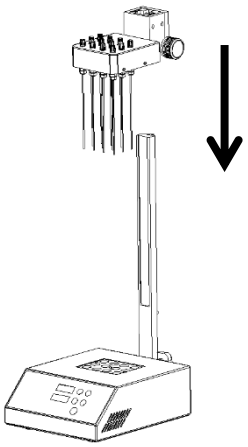
4.2.2 Column installation

Insert the column vertically into the slot at the back side of main device, fix it by column knob as picture below.



4.2.3 gas distributor installation

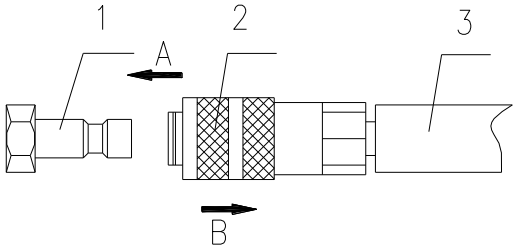
Turn the handle wheel loose to assemble the carriage and gas distributor onto the column, then tighten the handle wheel to fix the carriage on the column. Users also can adjust the height of the gas distributor by this wheel.



Note: Make sure the carriage is tightened well on the column before use.

4.2.4 Gas pipe installation

The connector between gas distributor and gas pipe is easy to assemble, please refer to steps below,

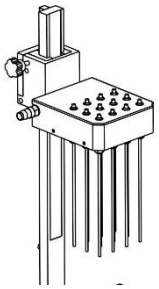


1 gas distributor connector 2 Linker 3 gas pipe

Hold part 2 (linker), connect part 2 towards part 1 gas distributor connector by A direction. Inside the linker, there is spring assembly unit which can lock part 1 and part 2 automatically.

Disconnect part 1 and part 2, hold part 2 and pull it by B direction, user can take apart easily.

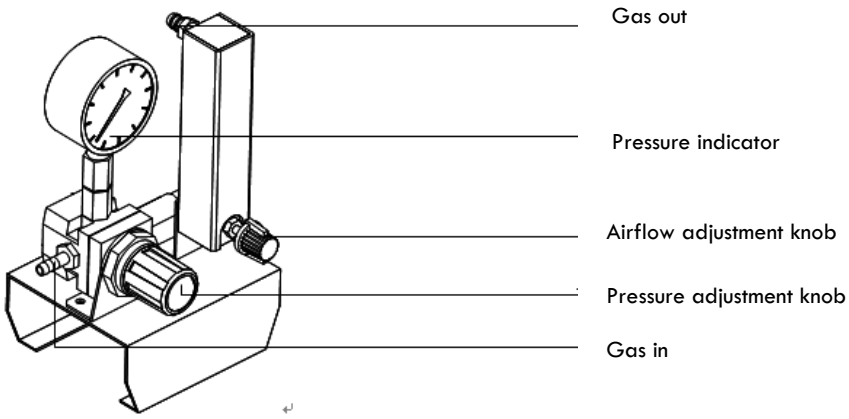
4.2.5 Needle switch adjustment.



Every switch can be adjusted; user can turn on or turn off switches according to needs.

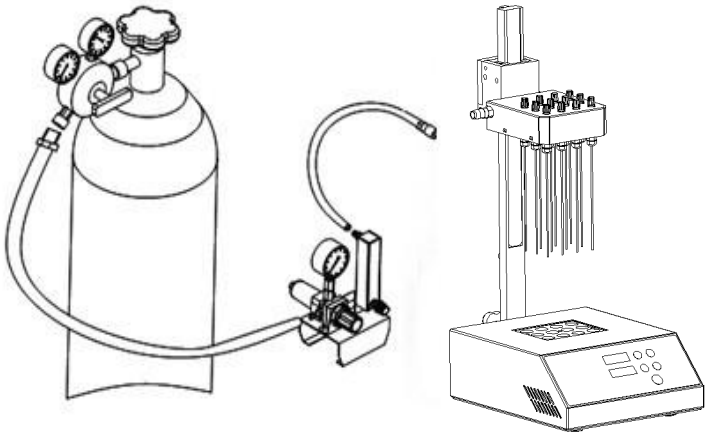
4.2.6 Air flow valve installation

1) Components of the airflow valve



Pull out the airflow adjustment knob, turn it clockwise direction to increase airflow, on the contrary, turn it anticlockwise. Push the knob again to lock it.

Note: this airflow valve is optional.



Connect the airflow valve with gas distributor by a shorter (1.5M) gas pipe, connect the airflow valve with the gas generator by a longer (3.0 M) gas pipe.

Turn on the nitrogen generator, and check the nitrogen generator pressure, which should be within 0.1MPa and 0.2MPa. Then adjust airflow valve properly which should

be around 0.02MPa according to samples quantity. (valve pressure is advised between 0.02MPa and 0.05MPa).

4.3 Face Panel

4.4 Buttons functions

Temp. 

Temperature setting
Press shortly to revise temperature setting,
Press and keep can move the cursor.

Time 

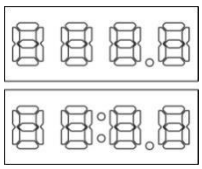
Time setting
Press shortly to revise temperature setting,
Press and keep can move the cursor.

Start/Stop. Press this button to confirm settings, and program starts to run. Press again to stop.

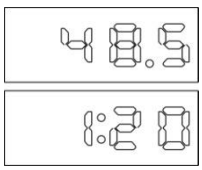
5. Operation Guides

5.1 Settings of temperature and time

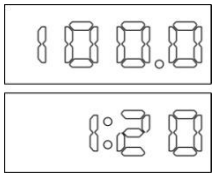
1) When the instrument powers on, it starts with the sound of “de…”



2) 2 seconds later, temperature on display showing block instant temperature of 48.5, 01:20 showing the last setting value of time.



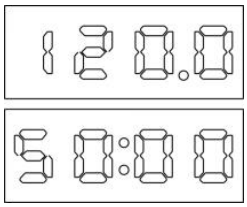
3) Press button  or  to set temperature, the temperature value shown is previous setting with cursor flickering,



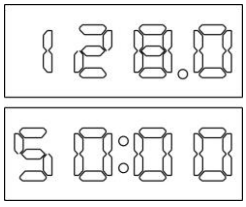
Cursor flickers in the temperature window, press or set, system will confirm new setting after 3 seconds. Set Time in a similar way as above. Pressing buttons or for 2 seconds to move cursor for quick set.

5.2 Start/Stop

1) Press button Start Stop to start program, instrument heats up and display of temperature area showing the instant temperature.

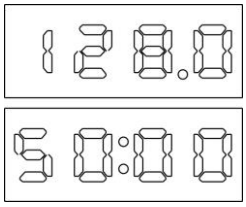


2) The dot of temperature value only stops flickering after instrument reaches target temperature. The symbol ":" of timer flickers after the temperature reaches demanded value and timer starts to count down.



3) Buzzer alarms 5 times once program is over. Press Start Stop can run the program again. During program running, press button Start Stop to stop.

Note: During program running, the instrument is unable to be set.



5.3 Temperature Calibration

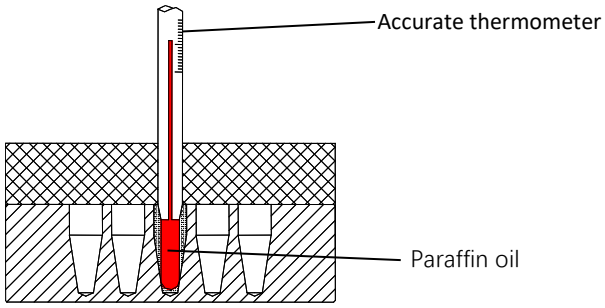
The temperature has been calibrated by the manufacturer and can be re-calibrated following the steps specified below.

Note: Please do not attempt to re-calibrate the temperature unless necessary. Please place the instrument at room temperature below 35℃ for calibration.

Steps as the following:

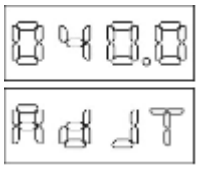
1) After the startup of the instrument, it enters waiting interface.

2) Inject olefin oil into one of the cone-shaped wells and then put a thermometer into this well (Make sure the precision of the thermometer should be within 0.1℃ and the



temperature ball should be absolutely immerged into the cone-shaped well). Heat insulation material is needed on the block to separate it from the circumstance. Seeing from Fig a.

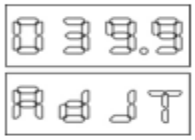
3) Press button  and  of Temp to start calibrating. Time window displays "Adjt", temperature displays the instant temperature of block with dot flickering, and instrument starts to heat up to 40.0℃.



4) The dot stops flickering once temperature reaches at 40.0℃ and keep instrument heating at this temperature at least 20 minutes and read the thermometer.

Note: Keep instrument heat at temperature of 40.0℃ at least for 20 minutes will help instrument get an accurate temperature.

Then, read thermometer, if it reads 39.9℃, press buttons   to correct the value to 39.9 for Temp. Press button  to confirm.



5) Instrument will heat up to next temperature point of 80℃, repeat steps above to calibrate.

6) Instrument will heat up to 120℃ automatically after 80 ℃ calibration. Repeat steps as above.

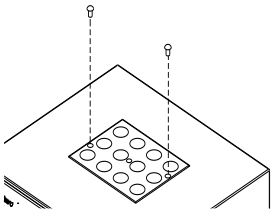
Press button 

to confirm. Calibration is completed.

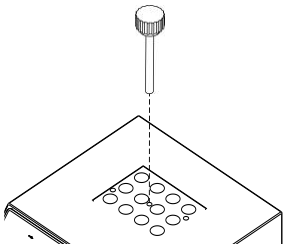
Note: During calibration, if user wants to stop, just turn off power switch to quit.

5.4 Replacement of blocks

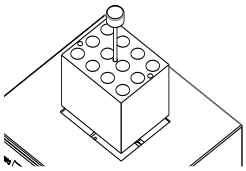
1) Remove the two screws which fix the block by the screwdriver.



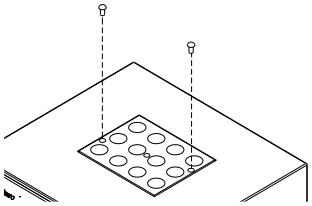
2) Fix the block lifter in the center well of the block.



3) Lift upward the block lifter and take out block.



4) Place the needed block into the instrument, fix the block screws.



6. Troubles and Shootings

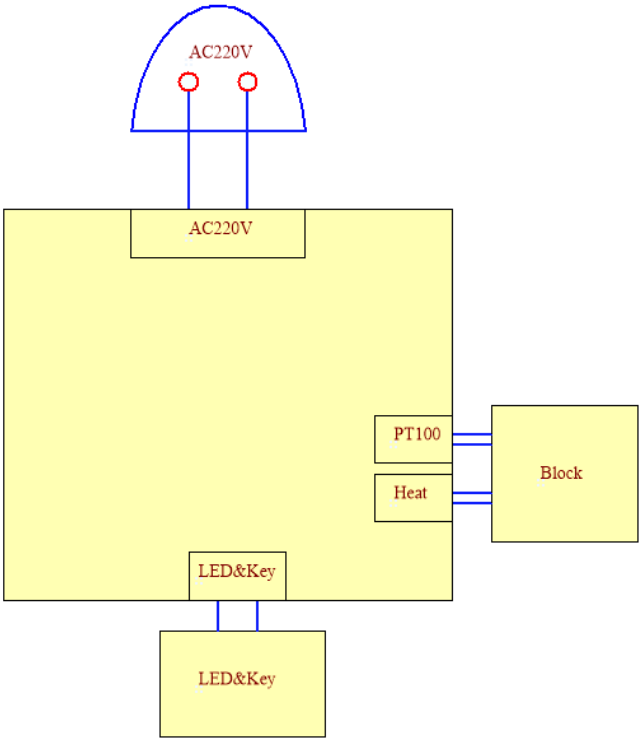
No.	Troubles	Causes	Shootings
1	Display does not work after device turned on	No power supply	Check the connection of power
		Fuse burned	Exchange fuse
		Broken switch	Exchange the switch
		Others	Contact vender
2	The actual and displayed temperatures are quite different	Broken sensor	Contact vender
3	ERR1	Block Sensor disconnected in circuit	Contact vender
4	ERR2	Block Sensor short out in circuit	Contact vender
5	ERR3	overheat	Contact vender
6	Device could not heat up to target temperature	Temperature sensor defect	Contact vender
		Heating controller IC defect	
		Heating tube defect	
7	Button not working	Broken button	Contact vender

7. Instrument Maintenance

The block and wells should be cleaned by the cloth stained with alcohol to assure good heat transmission between the block and the test tube and no pollution.

Power off when cleaning the instrument when cleaning the well, don’t drop the cleaning liquid in the well; Corrosive cleaning liquid is strongly prohibited.

Appendix 1: Wiring Diagram



Nota importante para los aparatos electrónicos vendidos en España

Instrucciones sobre la protección del medio ambiente y la eliminación de aparatos electrónicos:

Los aparatos eléctricos y electrónicos marcados con este símbolo no pueden ser eliminados en forma de residuos urbanos.

De conformidad con la Directiva 2012/19/UE, los usuarios de la Unión Europea de aparatos eléctricos y electrónicos, tienen la posibilidad de devolver sus RAEE para su eliminación al distribuidor o fabricante del equipo después de la compra de uno nuevo. La eliminación ilegal de aparatos eléctricos y electrónicos es castigada con multa administrativa.

Remarque importante pour les appareils électroniques vendus en France

Informations sur la protection du milieu environnemental et élimination des déchets électroniques :

Les appareils électriques et électroniques portant ce symbole ne peuvent pas être jetés dans les décharges.
En réponse à la règlementation, Labbox remplit ses obligations relatives à la fin de vie des équipements électriques de laboratoire qu'il met sur le marché en finançant la filière de recyclage de ecosystem dédiée aux DEEE Pro qui les reprend gratuitement (plus d'informations sur www.ecosystem.eco).
L'élimination illégale d'appareils électriques et électroniques est punie d'amende administrative.

Nota importante per le apparecchiature elettroniche vendute in Italia

Istruzioni sulla protezione ambientale e sullo smaltimento dei dispositivi elettronici:

Le apparecchiature elettriche ed elettroniche contrassegnate con questo simbolo non possono essere smaltite come rifiuti urbani.
In conformità con la Direttiva 2012/19 / UE, gli utenti dell'Unione Europea di apparecchiature elettriche ed elettroniche hanno la possibilità di restituire i propri RAEE per lo smaltimento al distributore o al produttore di apparecchiature dopo averne acquistato uno nuovo. La rimozione illegale di apparecchiature elettriche ed elettroniche è punibile con una sanzione amministrativa.

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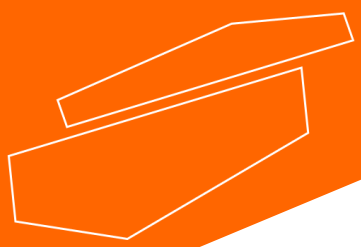

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