



Advanced Intelligent Magnetic Stirring Heating Mantle

Model YR01ZNCLTS250 // YR0ZNCLTS500

Instruction Manual

Thank you very much for purchasing our Kalstein's Advanced Intelligent Magnetic Stirring Heating Model YR0ZNCLTS250 // YR0ZNCLTS500

Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the "Warranty" at a hand place for future reference.



Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.



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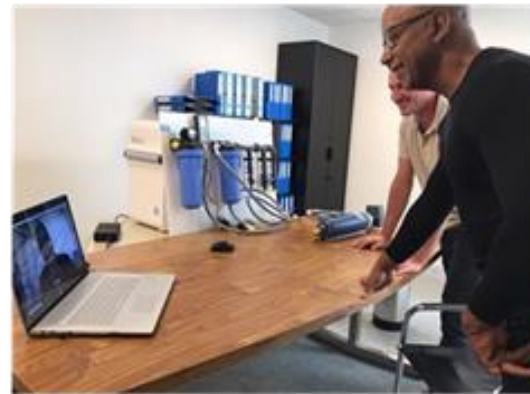
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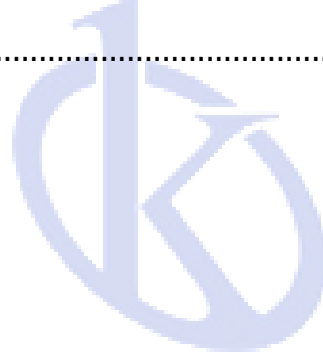
With more than 25 years growing with our customers, Kalstein's multiformat and modern content, is now present in more than 10 countries and increasing.





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Chapter 1 Introduction

1.1 Installation

Upon receiving the heating mantle, check to ensure that no damage has occurred in shipment. It is important that any damage that occurred in transport is detected at the time of unpacking. If you do find such damage the carrier must be notified immediately. After unpacking, place the heating mantle on a level bench or table, away from explosive vapors. Ensure that the surface on which the unit is placed will withstand typical heat produced by the unit and place the unit a minimum of 30 cm from vertical surfaces. Always place the unit on a sturdy work surface.

The heating mantle can be plugged into a properly grounded outlet. The 110V unit plugs into a 110-volt, 50/60 Hz source. The 220V unit plugs into a 220-volt, 50/60 Hz source.

1.2 Intended Use

These heating mantles are intended for general laboratory heating and stirring use.

1.3 Environmental Conditions

Operating Conditions: Indoor use only.

Temperature: 5 to 40°C (41 to 104°F)

Humidity: 20% to 80% relative humidity, non-condensing

Altitude: 0 to 6,562 ft (2000 M) above sea level

Non-Operating Storage:

Temperature: -20 to 65°C (-4 to 149°F)

Humidity: 20% to 80% relative humidity, non-condensing



1.4 Safety Instructions

Please read the entire instruction manual before operating the heating mantle.





10000ml- 20000ml

Model	YR0ZNCNLS250	YR0ZNCNLS500
Size (ml)	250	500
Voltage	220V,50HZ	220V,50HZ
Power (w)	250	400
Temp Control	PID Control with Thermo probe	PID Control with Thermo probe
Temp Range	Ambient to 450 °C	Ambient to 450 °C
Accuracy	±1 °C	±1 °C
Stir Speed Range	100~ 1800rpm	100~ 1800rpm
Stir Speed Display	Digital Display	Digital Display
Stir speed Accuracy	+/-1rpm	+/-1rpm
Heat Material	Alkali-free glass fiber.	Alkali-free glass fiber.
Shell Material	Superfine Metal, anti-aging, anti-corrosion, blue color or white color.	Superfine Metal, anti-aging, anti-corrosion, blue color or white color.
Net Weight	1.9kg	1.8kg
Glass Weight	3kg	2.9kg
Packing Size	30x30x21cm	30x30x21cm
Overheat protection function	Yes	Yes



Chapter 2 Operating Instructions

2.1 Getting ready:

- a. Fix the support rod into the screw hole (at the back of the instrument as following photo) ; Adjust the height of the cross clip and fasten the glassware tightly with clip .



- b. Place a vessel with solution and the appropriate accessories in the center of the heating mantle.
- c. Plug power cord into a properly grounded outlet.
- d. Put the inner thermocouple on the machine.



(Inner Thermocouple)

2.2 Operating Instruction for Temperature Adjustment



- A. PV windows displays the measured temperature value of the plate
- B. SV windows displays the settled temperature value.
- C. Heating Power Button
- D. R/min windows display the stir speed value.
- E. Set button: to set temperature value and stir speed
- F. Self-tuning Button / Translocated button
- G. Reduce stir speed and temperature Button
- H. Add Stir speed and temperature button
- I. Stir Power Button

A. Heating Power Button

B. Stir Power Button

C. Set button: to set temperature value and stir speed

D. Self-tuning Button / Translocated button

E. Reduce stir speed and temperature Button

F. Add Stir speed and temperature button


G. PV windows displays the measured temperature value of the plate

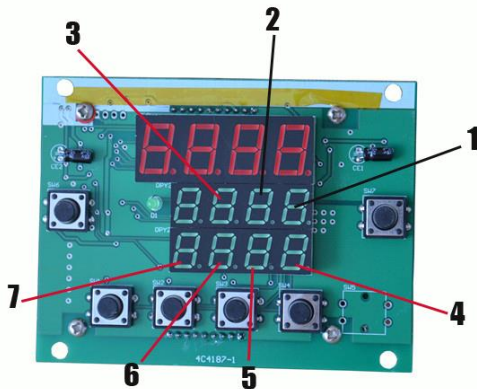
H. SV windows displays the settled temperature value.

I. R/min windows display the stir speed value.



2.3 How to Set Temperature Value




Turn on the power button in the lateral

Press  button, PV windows display the ambient temperature, and SV display the settled temperature last time. (Notice: The hotplate stirrer can reach the settled temperature automatically, if you don't set the temperature you need.)






Press  button 3 seconds, The last figure flashes in the SV windows located 1 display

d. Press  or  to for more than 2 seconds quickly to set the temperature you required. The SV windows displays the changed value, PV windows display the ambient temperature.

e. Press Self-tuning button / translocated button 2 seconds again when the 1 temperature finished if you need higher temperature. Then 2 flashes, press  or  to set the temperature you required for tens digit. The SV windows displays the changed value, PV windows display the ambient temperature. (Note: Press  again if you don't need the tens digit temperature, then settled temperature is finished)

F. Press Self-tuning button / translocated button 2 seconds again when the 2-temperature finished if you need higher temperature.



Then 3 flashes, press  or  to set the temperature you required for hundreds digit. The SV windows displays the changed value, PV windows display the ambient temperature. (Note: Press  again if you don't need the hundreds digit temperature, then settled temperature is finished)

G: Press  again when three digits finished their set. Then The SV windows displays the settled value, PV windows display the ambient temperature.

2.4 How to Use the Self-Tuning Function

- ✓ Turn off the power button in the lateral when the PV windows temperature is increasing higher than settled temperature.
- ✓ Wait for the machine temperature return to ambient temperature.
- ✓ Press self-tuning 8 seconds until your settled temperature flashes.
- ✓ 4. Self-tuning function is finished when the SV window stop flashing, then temperature value of PV windows is the same as SV windows.





2.5 Measured the Liquid Temperature Adjustment

Pull out the inner thermocouple at the back of the heating mantle by hand. The PV windows displays HHH, SV windows displays the settled temperature last time. (As following)




(Outer thermocouple)

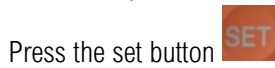


(Inner Thermocouple)

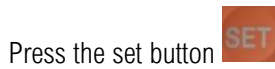
- b. Connect the outer thermocouple 4 holes with the heating mantle 4 spins
PV windows display ambient temperature, and SV display the settled temperature.
 - c. Put another stainless-steel part of outer thermocouple into the liquid you measured
PV windows display the changed temperature and SV display the settled temperature.
 - d. Burn out protection Function, when outer thermocouple disconnected, window display ""hhh", green light off, heating mantle stops working. When this occurred check it before using.
 - e. Pull out the outer thermocouple and put on the inner thermocouple again when you don't need to operate the temperature.
- Stirring Speed Operation (Two conditions)
1. When the Heating Function is working



Press the  button for stirring on. (Notice: The r/min windows display the changed stir speed until reaching the settled stir speed if you don't set again.)








Press the set button  2 seconds, The last figure flashes in the SV windows





Press the set button  2 seconds again, The last figure flashes in the r/ min windows







d. Press  or  to for more than 2 seconds quickly to set the stir speed you required. The r/min windows display the settled stir speed. The SV windows displays the changed value, PV windows display the ambient temperature. (Notice: the settled stir speed can be reached quickly, if you press  or  to for long time)

e. Press  button 2 seconds again when the settled temperature finished. Then the r/min windows display the changed stir speed. And the figure can be stored next time if you don't set the stir speed again. When the Heating Function isn't working Turn on the power button in the lateral (as the following photos).

b. Press the  button for stirring on. The r/min window display the stir speed (Notice: The r/min windows display the changed stir speed until reaching the settled stir speed if you don't set again.)







c. Press the set button  2 seconds again, The last figure flashes in the r/ min windows.

d. Press  or  to for more than 2 seconds quickly to set the stir speed you required. The r/min windows display the settled stir speed. The SV windows displays the changed value, PV windows display the ambient temperature. (Notice: the settled stir speed can be reached quickly, if you press  or  to for long time)

e. Press  button 2 seconds again when the settled temperature finished. Then the r/min windows displays the changed stir speed. And the figure can be stored next time if you don't set the stir speed again.



Chapter 3 Standard Accessories

Photos	Item	Quantity
	Can be Removed Holder Length 380mm Diameter 10mm Material: stainless steel.	1 PC
	Clamp with screw	1 PC
	Inner Thermocouple 4 -spin	1 PC
	Outer K TYPE Thermocouple 4-spins Stainless Steel Length: 235mm Wire length: 1000mm	1 PC
	magnetic stir bar White PTFE-coated	1 PC
	Metal Clip	1PC

Optional accessories

One PS clip



Warmings

- ✓ Use an electrical outlet that operates with a fuse or circuit breaker and a ground fault interrupt circuit (GFCI)
- ✓ Disconnect the mantle from the power supply prior to maintenance and servicing
- ✓ To avoid personal injury:
- ✓ Don't use in the presence of flammable or combustible materials, fire or explosion may result.
- ✓ Refer servicing to qualified personal only.
- ✓ Flask or vessels should be handled with care. Appropriate safety clothing, glasses, gloves, and coats should be worn when operating all mantles.
- ✓ CAUTION! To avoid electrical shock, completely cut off power to the unit by disconnecting
- ✓ the power cord from the unit or unplug from the wall outlet. Disconnect unit from the power supply prior to maintenance and servicing. Spills should be removed promptly after the unit has cooled down.
- ✓ CAUTION! The heating mantle can reach 450°C, DO NOT touch the heated surface. Use caution at all times. Keep the unit away from explosive vapors and clear of papers, drapery and other flammable materials. Keep the power cord away from the heating mantle.
- ✓ DO NOT operate the unit at high temperatures without a vessel/sample into the heating mantle. Turn the heating power button off firstly, and then the stirring power button when heating mantle cooled down. Smoke and pungent smell will be occurred when first time using, it is normal for the changed color of inner heating mantle.