

555 Hotplate
565 Magnetic Stirrer
575 Hotplate-Stirrer



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PACKAGE CONTENTS

Hotplate, Stirrer, or Hotplate-stirrer with mounting bracket
Instruction manual
Power Cord
J-type thermocouple, (provided Hotplate-stirrer)
Teflon stirbar (provided with Hotplate-stirrer and Stirrer)

CONTROL PANEL

The front panel of the Series 500 hotplate/stirrer/hotplate-stirrer contain all switches, controls and displays needed to operate the unit.

Rocker switch: Press left side to turn power on, right side to shut off power.

Time display: Shows how long the unit has been heating (continuous mode) or how much time is left to heat (timed mode). The display range is from 0 to 9,999 minutes in one second increments.

Speed display: Shows the speed of the stirrer. up/down arrows for setpoint control. On/Off button starts/stops stirring feature. Speed range is from 60 to 2000rpm

Temperature display: Shows the actual/setpoint temperatures, up/down arrows for setpoint control, On/Off button starts/stops the heating feature.

Plate indicator light: Lights when the external temperature probe is not being used. The actual temperature displayed is the top-plate temperature.

Probe indicator light: Lights when the external temperature probe is plugged in. The actual temperature displayed is the probe temperature, not the top-plate temperature.

Actual indicator light: Lights when the temperature displayed is the actual temperature of the top-plate/temperature probe.

Setpoint indicator light: Lights when the setpoint temperature is displayed.

Plate hot indicator light: Lights when the top-plate temperature is above 40°C.



INSTALLATION

After unpacking, place your VWR Series 500 microprocessor-controlled hotplate/stirrer/hotplate-stirrer on a level bench or table, away from explosive vapors. Be sure the unit is well clear of papers, drapery and curtains, and other flammable materials.

The 120v and 230v units are supplied with a 3-prong power cord that should be plugged into a standard 3-prong grounded outlet.

PLEASE NOTE: If you observed any damage to the carton or now see any shipping damage to the unit, contact the carrier immediately to file a claim.


MAINTENANCE & SERVICING


Your VWR Series 500 Microprocessor-controlled hotplate/stirrer/hotplate-stirrers are built for long, trouble-free, dependable service. It needs no user maintenance beyond keeping the surface of the top plate and the control panel clean. Spills should be removed promptly after the unit has cooled down. Do not use any cleaning agent or solvent on the front panel which is abrasive or harmful to plastics, nor one which is flammable. If the unit ever requires service, contact your VWR International sales office for repairs at 1-800-932-5000.


TEMPERATURE PROBE:


Use J-type thermocouple VWR International Cat. No. 333918-341. The probe plugs into the back of the hotplate and hotplate-stirrer.


SAFETY INSTRUCTIONS


 **CAUTION!** The top plate of the Series 500 hotplate/hotplate-stirrers can reach 450°C. DO NOT TOUCH the heated surface. Use caution at all times. Keep the unit away from other objects. Place the unit a minimum of six (6) inches from vertical surfaces.

 **Caution!** Keep the unit away from explosive vapors, and clear of papers, drapery, curtains, and other flammable materials.

 **CAUTION!** Do not operate the unit at high temperature without a vessel on the top plate.

 **CAUTION!** Always operate the unit on a level surface for best performance and maximum safety.

 **CAUTION!** Keep the electrical cord away from the heater plate

 **WARNING!** Do not use the Series 500 hotplate/stirrer/hotplate-stirrers in a hazardous atmosphere or with hazardous materials. Also, the user should be aware that the protection provided by the equipment might be impaired if used with accessories not provided or recommended by manufacturer, or used in a manner not specified by the manufacturer.

SAFETY FEATURES:

When the external temperature probe is being used, the actual temperature shown on the display is the temperature of external temperature probe, **NOT** the plate temperature. The plate temperature can heat up to 450°C while trying to heat the liquid in the container. If you are working with a flammable substance, set the plate over-temperature limit below the flash point of that substance as follows:

Example: Change the plate over-temperature limit from the current 450°C to 200°C

1. Start with the unit off.
2. Press and hold the On/Off button below the temperature display while turning the unit on (press the left side of the rocker switch). The temperature displayed is the current plate over-temperature limit setting, 450°C. Press the up/down arrows until the display reads 200°C.
3. After approximately 2 seconds, the display will blink off, then on again to store the new setting.
4. The new over-temperature limit is now set for 200°C. Turn the unit off before using.

When you turn the unit on, the temperature setpoint can still show up to 400°C, but the unit will not heat above the new over-temperature limit you have stored. *This new setting will remain until you re-programmed it.*

If the unit heats above the plate over-temperature limit (factory programmed 450°C or re-programmed limit) the heater will automatically shut off, the unit will still stir if that function has been programmed. The unit will automatically start to heat again when the top-plate has cooled to below the plate over-temperature limit.

If the setpoint stirring speed cannot be reached in 2-1/2 minutes, the heater will be turned off. If the unit reaches the setpoint speed, but cannot maintain it, the heater will be turned off. The stirrer stays on and keeps trying to reach the setpoint speed. The display flashes to show the time of the failure. The stirring speed setpoint needs to be reduced if this occurs.

ENVIRONMENTAL CONDITIONS

Non-Operating Storage:

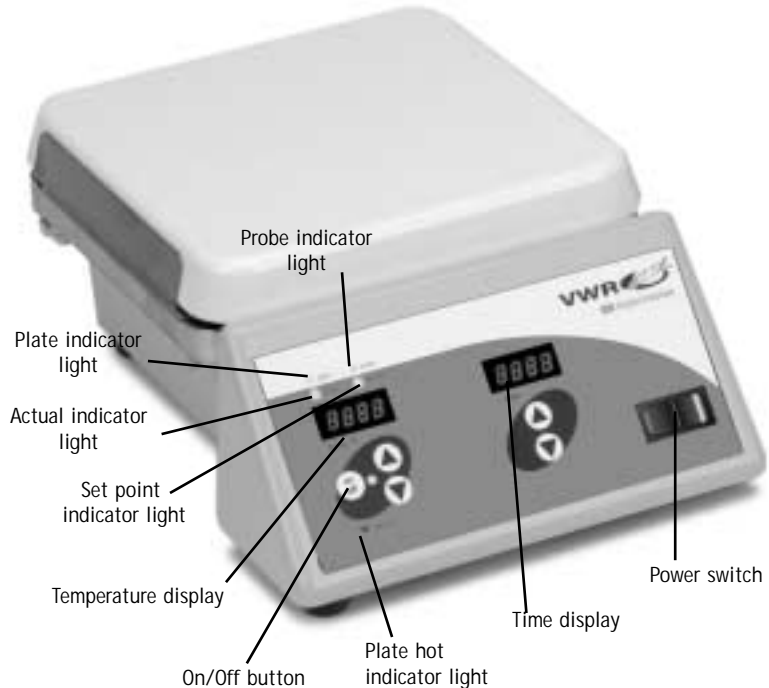
Temperature: -20 to 65°C (-4 to 149°F)
Humidity: 20% to 85% RH, non-condensing

Operating Conditions:

Indoor use only
Temperature: 10 to 40°C (50 to 104°F)
Humidity: 20% to 85% RH, non-condensing
Altitude: 0 to 6,562 ft. (2000M) above sea level

Installation Category II and pollution degree 2 in accordance with IEC 664

555 Hotplate



Specifications:

Catalog No: 14217-600 - 120v
14217-606 - 230v

Dimensions: W x H x D
8-1/4" x 5" x 12"
(20.96cm x 12.7cm x 30.48cm)

Weight Capacity: 25 lbs.

Top plate: Ceramic 7 x 7

Voltage: 120V/230V

Current: 120v - 7 amps
230v - 4 amps

Fuses: 120v - 5mm x 20mm 10 amp quick acting
230v - 5mm x 20mm, 5 amp quick acting

Power: 800 watts

Temp. Accuracy: +/- 3% at 400°C w/temperature probe
+/- 1% below 100°C w/temperature probe

Controls: 2-way rocker switch

Timer: Digital, LED, 1 second to 9999 minutes (increased in 1 second increments)
Up/Down Keypad for setpoint control

Temperature: ambient to 400°C
Digital, LED,
Up/Down Keypad for setpoint control
On/Off keypad

Ship weight: 10.5 lbs. (5kg)

OPERATION

1. **Get ready:** Place a vessel with the solution and the appropriate accessories in the **center of the top plate**. It is important because the vessel should be over the hottest part of the top-plate.
2. **Power:** Press the left side of the rocker switch to the "Run" position. The Time and Temperature displays will light. On power-up, allow the unit approximately 30 seconds to stabilize before accurate temperature readings are displayed.
3. **Set Timed:** Press the up/down arrow below the time display until you reach the desired time. When the unit is started by pressing the "ON/OFF" button under the temperature display, the unit will run for the selected time and shut off automatically. To repeat for the same time, simply depress the "ON/OFF" button again. To interrupt an automatic timing cycle before it is complete, press the "ON/OFF" button below the temperature display.
4. **Set Continuous:** To accumulate time on the display set timer to zero (0) using the up/down arrows below time display. When the unit is started by pressing the "ON/OFF" button under the temperature display, the unit time display will show actual running time. To stop, press the "ON/OFF" button under the temperature display.
5. **Set Temperature:** Press the up/down arrows below the temperature display until you reach the desired temperature.
6. **Adjust Temperature:** Temperature adjustments can be made to the temperature setpoint without interrupting heating using the up/down arrows below the temperature display
7. **Stop:** To stop heating, press the "ON/OFF" button below the temperature display. **To turn the unit off**, press the power switch to the right.

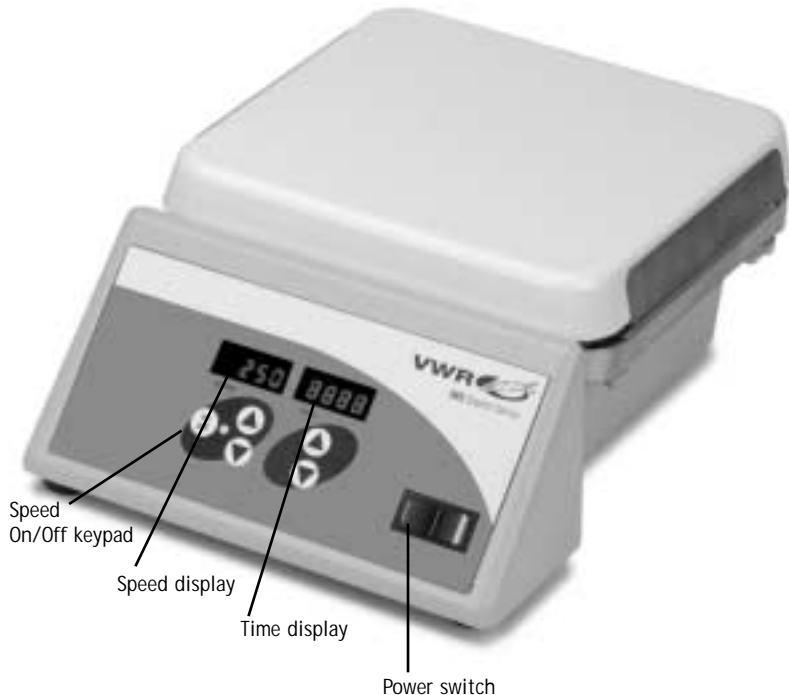
OPERATING TIPS:

The heater is designed to climb at a steady rate until it reaches the setpoint. It may overshoot by up to 5°C before finally stabilizing at the setpoint. Two methods are suggested to minimize overshoot.

1. Metal containers minimize overshoot.
2. If a glass vessel is used, anticipate overshoot. Start with a setting 5 - 10°C below the desired temperature. When the temperature stabilizes at this lower setting, program the unit to go to the final temperature, using the up arrow. Overshoot is then reduced to about 1°C.

The plate sensor shows the actual temperature of the plate, the vessel being heated may be at a lower temperature depending on the size and insulating qualities of the vessel. It may be beneficial to monitor the temperature of the vessel contents and adjust the setpoint temperature accordingly.

565 Magnetic Stirrer



Specifications:

Catalog No: 14217-602 - 120v
14217-608 - 230v

Dimensions: W x H x D
8-1/4" x 5" x 12"
(20.96cm x 12.7cm x 30.48)

Weight Capacity: 25 lbs

Top plate: Ceramic 7 x 7

Voltage: 120v/230v

Current: 1 amp

Fuses: 5mm x 20mm 5 amp quick actng

Power: 50 watts

Speed: 60 to 2000rpm

Controls: 2 way rocker switch

Timer: Digital, LED, 1 second to 9999 minutes (increased in 1 second increments)
Up/Down Keypad for setpoint control

Speed: 60 to 2000rpm
Digital, LED,
Up/Down Keypad for setpoint control
On/Off Keypad

Ship weight: 10.5 lb (5kg)

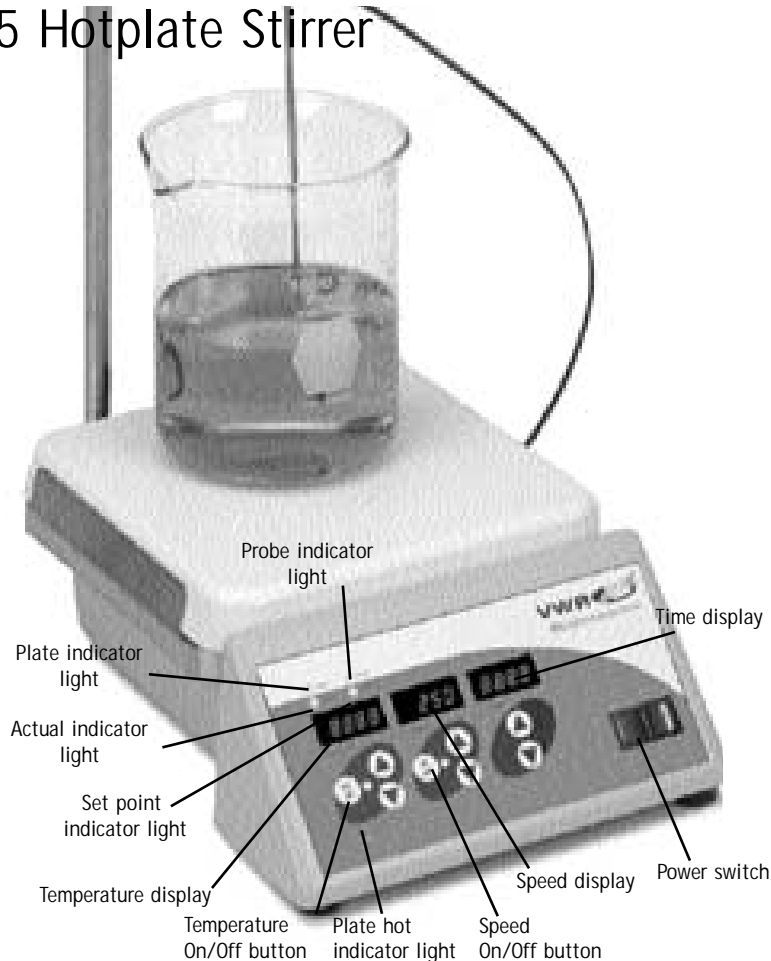
OPERATION

1. **Get Ready:** Place a vessel with the solution and the appropriate accessories in the **center of the top plate**. It is important for stirring, the stir-bar will be well within the magnetic field.
2. **Power:** Press the left side of the rocker switch to the "Run" position. The Time and Speed displays will light.
3. **Set Timed:** Press the up/down arrow below the time display until you reach the desired time. When the unit is started by pressing the "ON/OFF" button below the speed display, the unit will run for the selected time and shut off automatically. To repeat for the same time, simply depress the "ON/OFF" button again. To interrupt an automatic timing cycle before it is complete, press the "ON/OFF" button below the speed display.
4. **Set Continuous:** To accumulate time in the display set timer to zero (0) using the up/down arrows below time display. When the unit is started by pressing the "ON/OFF" button under the speed display, the time display will show actual running time. To stop, press the "ON/OFF" button below the speed display.
5. **Set Speed:** Press the up/down arrow below the speed display until you reach the desired speed.
6. **Adjust Speed:** Speed adjustments can be made to the speed setpoint while in use, by pressing the up/down arrows below the speed display.
7. **Stop: To turn the unit off,** press the power switch to the right.

OPERATING TIPS:

The model 565 stirrer increases speed at a steady rate until the setpoint is reached, if the stir-bar is larger than 1 inch long or the liquid is too viscous, the stirbar may not reach its setpoint. The setpoint speed needs to be reduced.

575 Hotplate Stirrer



Specifications:

Catalog No: 14217-604 - 120v
14217-610 - 230v

Dimensions: W x H x D
8-1/4" x 5" x 12"
(20.96cm x 12.7cm x 30.48)

Weight Capacity: 25 lbs

Top plate: Ceramic 7 x 7

Voltage: 120v/230v

Current: 120v - 7 amps
230v - 4 amps

Fuses: 120v - 5mm x 20mm, 10 amp quick acting
230v - 5mm x 20mm, 5 amp quick acting

Power: 800 watts

Speed: 60 to 2000rpm

Temp. Accuracy: +/- 3% at 400°C w/temperature probe
+/- 1% below 100°C w/temperature probe

Controls: 2 way rocker switch
Timer: Digital, LED, 1 second to 9999 minutes (increased in 1 second increments)
Up/Down Keypad for setpoint control

Speed: 60 to 2000rpm
Digital, LED,
Up/Down keypad for setpoint control
On/Off button

Temperature: ambient to 400°C
Digital, LED,
Up/Down Keypad for setpoint control
On/Off button

Ship weight: 10.5 lbs. (5kg)

OPERATION

1. **Get Ready:** Place a vessel with the solution and the appropriate accessories in the **center of the top plate**. It is important for two reasons: for heating, the vessel will be over the hottest part of the top-plate; for stirring, the stir-bar will be well within the magnetic field.
2. **Power:** Press the left side of the rocker switch to the "Run" position. The Time, Speed and Temperature displays will light. On power-up, allow the unit approximately 30 seconds to stabilize before accurate temperature readings are displayed.
3. **Set Timed:** Press the up/down arrow below the time display until you reach the desired time. When the unit is started by pressing the "ON/OFF" button below the temperature or speed display, the unit will run for the selected time and shut off automatically. To repeat for the same time, simply depress the "ON/OFF" button again. To interrupt an automatic timing cycle before it is complete, press the "ON/OFF" button below the temperature or speed display.
4. **Set Continuous:** To accumulate time in the display set timer to zero (0) using the up/down arrows below time display. When the unit is started by pressing the "ON/OFF" button under the temperature or speed display, the time display will show actual running time. To stop, press the "ON/OFF" button below the temperature or speed display.
5. **Set Temperature:** Press the up/down arrows below the temperature display until you reach the desired temperature.
6. **Adjust Temperature:** Temperature adjustments can be made to the temperature setpoint without interrupting heating using the up/down arrows below the temperature display
7. **Set Speed:** Press the up/down arrow below the speed display until you reach the desired speed.
8. **Adjust Speed:** Speed adjustments can be made to the speed setpoint while in use, by pressing the up/down arrows below the speed display.
9. **Stop:** To stop heating, press the "Off" button below the temperature display. **To turn the unit off**, press the power switch to the right.

OPERATING TIPS:

The heater is designed to climb at a steady rate until it reaches the setpoint. It may overshoot by up to 5°C before finally stabilizing at the setpoint. Two methods are suggested to minimize overshoot.

1. Metal containers minimize overshoot.
2. If a glass vessel is used, anticipate overshoot. Start with a setting 5 - 10°C below the desired temperature. When the temperature stabilizes at this lower setting, program the unit to go to the final temperature, using the "up" arrow. Overshoot is then reduced to about 1°C.

The plate sensor shows the actual temperature of the plate, the vessel being heated may be at a lower temperature depending on the size and insulating qualities of the vessel. It may be beneficial to monitor the temperature of the vessel contents and adjust the setpoint temperature accordingly if required.

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