



Instruction Manual  
Mini Hotplate  
Mini Stirrer  
Mini Hotplate-Stirrer



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### PACKAGE CONTENTS

Mini Hotplate, Stirrer or Hotplate-Stirrer  
72" (183cm) power cord  
Spin bar (stirring models only)  
Instruction manual

### WARRANTY

Manufacturer warrants this product to be free from defects in material and workmanship when used under normal conditions for five (5) years. Register your equipment or instrument online at [www.vwrsp.com/warranty](http://www.vwrsp.com/warranty) for US residents or [www.vwrcanlab.com/warranty](http://www.vwrcanlab.com/warranty) for Canadian residents. For your reference, make a note of the serial number, date of purchase and supplier here.

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Supplier: \_\_\_\_\_

## INSTALLATION

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Upon receiving the VWR Mini Hotplate/Stirrer/Hotplate-Stirrer 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 Mini Hotplate/Stirrer/Hotplate-Stirrer 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 six (6) inches from vertical surfaces. Always place the unit on a sturdy work surface.

The Mini Hotplate/Stirrer/Hotplate-Stirrer is supplied with a 3-prong power cord that should be plugged into a standard 3-prong grounded outlet. If the cord supplied does not meet your needs, please use an approved power cord that suits local codes and electric supply. Replacement of the plug must be made by a qualified electrician.

## MAINTENANCE & SERVICING

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The Mini Hotplate/Stirrer/Hotplate-Stirrer is built for long, trouble-free, dependable service. No lubrication or other technical user maintenance is required. It needs no user maintenance beyond keeping the surfaces clean. The unit should be given the care normally required for any electrical appliance. Avoid wetting or unnecessary exposure to fumes. Spills should be removed promptly after the unit has cooled down. Do not use a cleaning agent or solvent on the front panel which is abrasive or harmful to plastics, nor one which is flammable. Always ensure the power is disconnected from the unit prior to any cleaning. If the unit ever requires service, contact your VWR representative.

## INTENDED USE

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The VWR Mini Hotplate Stirrers are intended for general laboratory use. Safety can not be guaranteed if used outside of the intended use.

## ENVIRONMENTAL CONDITIONS

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**Operating Conditions:** Indoor use only.

Temperature: 5 to 40°C (41 to 104°F)

Humidity: 20% to 85% 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 85% relative humidity, non-condensing

Installation Category II and Pollution Degree 2 in accordance with IEC 664.

## EQUIPMENT DISPOSAL

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This equipment must not be disposed of with unsorted waste. It is your responsibility to correctly dispose of the equipment at life-cycle-end by handing it over to an authorized facility for separate collection and recycling. It is also your responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect the persons involved in the disposal and recycling of the equipment from health hazards.

For more information about where you can drop off your waste of equipment, please contact your local dealer from whom you originally purchased this equipment. By doing so, you will help to conserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.

## SAFETY INSTRUCTIONS

Please read the entire instruction manual before operating the Mini Hotplate, Stirrer, Hotplate-Stirrer.



**WARNING! DO NOT** use the Mini Hotplate/Stirrer/Hotplate-Stirrer in a hazardous atmosphere or with hazardous materials for which the unit was not designed. Also, the user should be aware that the protection provided by the equipment may be impaired if used with accessories not provided or recommended by the manufacturer, or used in a manner not specified by the manufacturer.

Always operate unit on a level surface for best performance and maximum safety.

**DO NOT** lift unit by the top plate.



**CAUTION!** To avoid electrical shock, completely cut off power to the unit by disconnecting the power cord 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. **DO NOT** immerse the unit for cleaning. Alkalis spills, hydrofluoric acid or phosphoric acid spills may damage the unit and lead to thermal failure.



**CAUTION!** The top plate can reach 375°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 heater plate.

**DO NOT** operate the unit at high temperatures without a vessel/sample on the top plate.

**DO NOT** operate the unit if it shows signs of electrical or mechanical damage.

**WARNING!** Units are **NOT** explosion proof. Use caution when heating volatile materials.



Earth Ground - Protective Conductor Terminal



Alternating Current

## STANDARDS & REGULATIONS

Troemner, LLC hereby declares under its sole responsibility that the construction of this product conforms in accordance with the following standards:

### Safety standards:

IEC 61010-1

Safety requirements for electrical equipment for measurement, control and laboratory use. Part: General Requirements.

IEC 61010-2-010

Part II: Particular requirements for laboratory equipment for the heating of materials.

IEC 61010-2-051

Part II: Particular requirements for laboratory equipment for mixing and stirring.

UL Std. No. 61010-1

### EMC standards:

EN61326-1 Class A

EN61000-3-3/3-2

EN6100-4-5

EN61000-4-4

EN55022-B

EN61000-4-3

EN61000-4-11

EN61000-4-6

### Associated EU guidelines:

EMC directive 2004/108/EC

LVD directive 2006/95/EC

RoHS directive 2011/65/EU

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus complies with Canadian ICES-003.

## CONSIGNES DE SÉCURITÉ

Veuillez lire la totalité du manuel d'instruction avant d'utiliser le dispositif Mini Agitateur/Agitateur à plaque chauffante.



**AVERTISSEMENT! N'UTILISEZ PAS** le dispositif Mini Plaque chauffante/Agitateur/Agitateur à plaque chauffante dans une atmosphère dangereuse ou avec des matériaux dangereux pour lesquels l'emploi du dispositif n'a pas été conçu. L'utilisateur doit en outre toujours être conscient du fait que la protection fournie par le fabricant peut être désactivée si le dispositif est utilisé avec des accessoires non fournis ni recommandés par le fabricant ou s'il est utilisé de manière non stipulée par le fabricant.

Utilisez toujours le dispositif sur une surface à niveau pour optimiser non seulement la performance mais la sécurité.

**NE SOULEVEZ PAS** le dispositif en saisissant la plaque supérieure.



**ATTENTION!** Pour éviter un choc électrique, couper complètement l'alimentation de l'unité en débranchant le cordon d'alimentation de la prise murale. Débranchez le dispositif de l'alimentation avant d'effectuer toute opération de maintenance ou de réparation.

Les liquides renversés doivent être nettoyés tout de suite après le refroidissement du dispositif. **N'IMMERGEZ PAS** le dispositif pour le nettoyer. Les produits déversés comme les alcalis et les acides hydrofluoriques et phosphoriques peuvent entraîner un choc thermique.



**ATTENTION!** La plaque supérieure peut atteindre 375°C, **NE TOUCHEZ PAS** la surface chauffée. Faites preuve de prudence à tout moment. Tenir le dispositif loin des vapeurs explosives et des papiers, rideaux et autres substances inflammables. Tenir le cordon d'alimentation loin de la plaque chauffante.

**N'UTILISER PAS** le dispositif à des températures élevées si un récipient/échantillon n'est pas sur la plaque supérieure.

**N'UTILISEZ PAS** le dispositif s'il y a des signes de dommages électriques ou mécaniques.

**AVERTISSEMENT!** Les dispositifs **NE SONT PAS** antidéflagrants. Faites preuve de prudence lors du chauffage de substances volatiles.



Mise à la terre - Borne du conducteur de protection

Courant alternatif

## NORMES ET RÉGLEMENTATIONS

Troemner, LLC déclare par la présente sous sa seule responsabilité que la conception de ce produit répond aux exigences des normes suivantes:

### Normes de sécurité:

CEI 61010-1

Conditions de sécurité des composants électriques pour la mesure, le contrôle et l'utilisation en laboratoire. Partie: Conditions générales.

CEI 61010-2-010

Partie II: Conditions spécifiques à l'équipement en laboratoire pour le chauffage de matériaux.

CEI 61010-2-051

Partie II: Conditions spécifiques à l'équipement en laboratoire pour le mélange et l'agitation.

Norme UL No. 61010-1

### Normes EMC:

EN61326-1 Catégorie A EN61000-3-3/3-2

EN6100-4-5

EN61000-4-4

EN55022-B

EN61000-4-3

EN61000-4-11

EN61000-4-6

### Directives UE associées:

Directive CEM 2004/108/EEC

Directive LVD 2006/95/EEC

## SPECIFICATIONS

|                                                      |                                                                      |
|------------------------------------------------------|----------------------------------------------------------------------|
| <b>Overall dimensions (L x W x H):</b>               | 7.9 x 6 x 4.9"<br>(20.1 x 15.2 x 12.4cm)                             |
| <b>Top plate dimensions:</b>                         | 5 x 5" (12.7 x 12.7cm)                                               |
| <b>Top plate material:</b>                           | aluminum                                                             |
| <b>Electrical (50/60 Hz)</b>                         |                                                                      |
| Hotplate/Hotplate-Stirrer: 120 volts:                | 6 amps, 565 watts                                                    |
| 230 volts:                                           | 2.5 amps, 430 watts                                                  |
| Stirrer: 120 volts:                                  | 0.5 amps, 20 watts                                                   |
| 230 volts:                                           | 0.25 amps, 20 watts                                                  |
| <b>Fuses:</b>                                        | 5mm x 20mm, 5 amp quick acting                                       |
| <b>Temperature range:</b> Hotplate/Hotplate-Stirrer: | to 375°C                                                             |
| <b>Speed range:</b> Stirrer/Hotplate-Stirrer:        | 100 to 1200rpm                                                       |
| <b>Speed stability:</b> Stirrer/Hotplate-Stirrer:    | +/-2%                                                                |
| <b>Weight capacity:</b>                              | 1000mL                                                               |
| <b>Controls:</b>                                     | heat knob, 1 to 10 dial markings<br>stir knob, 1 to 10 dial markings |
| <b>Ship weight:</b>                                  | 4lbs (1.8kg)                                                         |



Mini Hotplate-Stirrer with glassware

## MINI HOTPLATE/HOTPLATE-STIRRER HEATING OPERATING INSTRUCTIONS

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### 1. **Get ready:**

Turn the heat knob to its extreme counter clockwise position. Plug the power cord into a properly grounded outlet. Place a vessel with solution and the appropriate accessories in the center of the top plate. This is important for heating because the vessel will be over the hottest part of the top plate.

### 2. **Set temperature:**

Turn the power on to the unit by pressing the toggle switch in the back of the unit to the 'on' position (Hotplate and Hotplate-Stirrer only). From the furthest most counter-clockwise position, turn the heat knob clockwise until pointer reaches the selected heat setting (graduations on the panel surrounding the control knob are reference marks only and do not indicate specific temperatures). Rotating the heat control to its full on position will bring the hotplate surface to its maximum temperature of about 375°C. To prevent possible damage, however, this position should not be maintained indefinitely. Do not allow the unit to operate at maximum temperature without a beaker or flask (with fluid) on the top plate.

### 3. **Adjust temperature:**

Temperature adjustments can be made without interrupting heating by turning the indicator knob clockwise to increase heat, or counter-clockwise to decrease heat.

### 4. **Turning unit off:**

To stop heating, turn the heat knob to the extreme counter-clockwise position. Your vessel can then be removed. The heat knob should be kept in the extreme counter-clockwise position when not in use. Press the toggle switch to the 'off' position. To completely cut off power to the unit, unplug the power cord from the wall outlet.

## HEATING OPERATING TIPS

Best performance will be obtained if the unit is kept as clean as possible. Accumulated deposits on the top plate will retard the uniform distribution of heat. Materials, especially insoluble gums, resins, adhesives, etc., should be quickly removed from the top plate surface before they harden. Care should be taken as well, to prevent corrosive materials from entering the housing.

**CAUTION!** Hotplates/Hotplate-Stirrers are not explosion proof. Use caution when heating volatile materials.

In the event of a power outage or hazard that will interrupt unit operation, the unit will restart at set speed and/or temperature when a power outage or hazard is restored.

## MINI STIRRER/HOTPLATE-STIRRER STIRRING OPERATING INSTRUCTIONS

The Stirrer/Hotplate-Stirrer is designed to enable stirring at very slow speeds.

### 1. **Get ready:**

The stir knob has a built in on-off switch at its extreme counter-clockwise position. Turn the stir knob to the off position. Plug the power cord into a properly grounded outlet. Place a vessel with solution and the appropriate accessories in the center of the top plate. This is important for stirring because the spin bar will be well within the magnetic field.

### 2. **Turning unit on:**

Turn the power on to the unit by pressing the toggle switch in the back of the unit to the 'on' position (Hotplate-Stirrer only). From the off position, turn the stir knob clockwise until a click is heard, then continue turning until the desired speed is obtained. The stirrer may initially have to be set at a higher speed to overcome friction in the motor and the material being stirred. Once this is done, the stirrer will maintain the approximate speed set for as long as desired.

### 3. **Set speed:**

Speed adjustments can be made without interrupting stirring by turning the stir knob clockwise to increase speed or counter-clockwise to decrease speed.

### 4. **Turning unit off:**

To stop stirring, turn the stir knob to the extreme counter-clockwise position. The unit is now in the off position. Your vessel can then be removed. The stir knob should be kept in the off position when not in use. Press the toggle switch to the 'off' position. To completely cut off power to the unit, un-plug the power cord from the wall outlet.

**PLEASE NOTE:** When using stirrer and heater simultaneously, the stir setting will need to be increased to maintain the same speed as when the heater is off. This will not effect the operation of the unit.

## STIRRING OPERATING TIPS

The stirrer increases speed at a steady rate until the set-point is reached, if the spin bar is too large or the liquid is too viscous, the stirrer may not reach its set-point. The set-point speed needs to be reduced.

### **Stirring vessels in oil baths:**

When heating and stirring a reaction vessel within an oil bath or similar set-up, the stirring function will stir up to approximately one (1) inch from the top plate. The stirring speed will vary according to liquid viscosity, spin bar length and distance from the top plate. Adjust one or all of these to achieve the desired stirring speed.

**EXAMPLE:** The closer the reaction vessel is to the top plate the stronger the magnetic connection.

In the event of a power outage or hazard that will interrupt unit operation, the unit will restart at set speed and/or temperature when a power outage or hazard is restored.



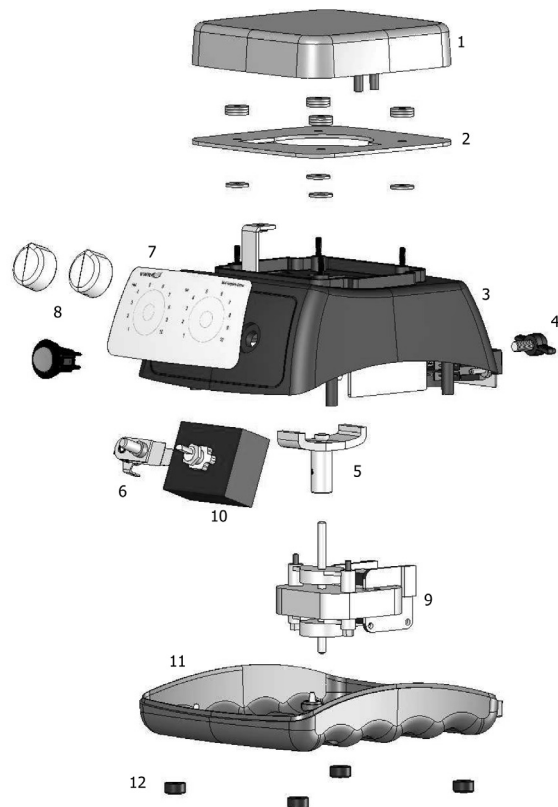
**TECHNICAL SERVICE**

For information or technical assistance contact your local VWR representative or visit [vwr.com](http://vwr.com).

**TROUBLESHOOTING**

| Problem                                 | Cause                      | Solution                                                                                               |
|-----------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------|
| Unit will not reach desired speed       | Sample volume or viscosity | Reduce volume or viscosity.<br>If problem persists, please contact your VWR representative for repair. |
| Unit will not reach desired temperature | Sample volume or viscosity | Reduce volume or viscosity.<br>If problem persists, please contact your VWR representative for repair. |
| Spin bar decouples                      | Faulty spin bar            | Replace spin bar or use alternate type.                                                                |
| Unit is excessively noisy               | Motor                      | This error cannot be fixed by the end user.<br>Please contact your VWR representative for repair.      |

## REPLACEMENT PARTS



| DESCRIPTION                                                   | PART NUMBER |
|---------------------------------------------------------------|-------------|
| 1. Top plate assembly:                                        |             |
| - Hotplate/Hotplate-Stirrer/Fixed Temp Hotplate, 120V         | 886992-00   |
| - Hotplate/Hotplate-Stirrer/Fixed Temp Hotplate, 230V         | 886993-00   |
| - Stirrer, Auto Stirrer                                       | 242503-00   |
| 2. Reflector plate                                            | 242518-00   |
| 3. Housing                                                    | 242500-00   |
| 4. Support stand thumb screw                                  | 586105-00   |
| 5. Magnet assembly                                            |             |
| - Stirrer/Auto Stirrer/Hotplate-Stirrer                       | 842005-00   |
| 6. Thermostat:                                                |             |
| - Hotplate/Hotplate-Stirrer                                   | 349202-00   |
| 7. Front panel overlay:                                       |             |
| - Hotplate Stirrer                                            | 542024-00   |
| - Hotplate                                                    | 542025-00   |
| - Stirrer/Auto Stirrer                                        | 542026-00   |
| - Fixed Temp Hotplate                                         | 542027-00   |
| 8. Controls:                                                  |             |
| - Control Knob Hotplate/Hotplate-Stirrer/Stirrer/Auto Stirrer | 287010-00   |
| - Rocker Switch: Fixed Temp Hotplate                          | 342006-00   |
| 9. Motor:                                                     |             |
| - 120V                                                        | 386027-00   |
| - 230V                                                        | 386037-00   |
| 10. Speed control:                                            |             |
| - Hotplate-Stirrer, 120V                                      | 342007-00   |
| - Stirrer/Auto Stirrer, 120V                                  | 330027-00   |
| - Hotplate-Stirrer/Stirrer/Auto Stirrer, 230V                 | 342009-00   |
| 11. Bottom housing assembly                                   | 886994-00   |
| 12. Feet                                                      | 530052-00   |
| 13. Line Filter: 230V Only (not shown)                        | 387022-00   |

## DECLARATION OF CONFORMITY



We: Troemner LLC  
201 Wolf Drive  
Thorofare, NJ 08086  
USA

Declare under our sole responsibility that the product(s)

Model/Type: 230V Mini HPS, HP, Fixed-temp, Stirrer, Auto-stirrer

984VW5AHSEU 984VW5AHPEU 984VW5ASTEU 984VW5AASTEU

984TA5AHSEU 984TA5AHPEU 984TA5ASTEU 984TA5AASTEU 984TA5AFTHPEU

To which this declaration relates are in conformity with the following:

|                                                                                                                                                                                                                    |                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| relating to safety requirements for electrical equipment for measurement, control and laboratory use – part 1: general requirements – Second Edition                                                               | IEC 61010-1                                                                                                                                                      |
| relating to safety requirements for electrical equipment for measurement, control and laboratory use – Part 2-010: particular requirements for laboratory equipment for heating of materials                       | IEC 61010-2-010                                                                                                                                                  |
| relating to safety requirements for electrical equipment for measurement, control and laboratory use – Part 2-051: particular requirements for laboratory equipment for mixing and stirring – Second Edition, 2003 | IEC 61010-2-051                                                                                                                                                  |
| relating to electromagnetic compatibility                                                                                                                                                                          | IEC 61326-1<br>IEC 61000-3-2<br>IEC 61000-3-3<br>IEC 61000-4-2<br>IEC 61000-4-3<br>IEC 61000-4-4<br>IEC 61000-4-5<br>IEC 61000-4-6<br>IEC 61000-4-11<br>CISPR 11 |

The technical documentation required to demonstrate that the products meet the requirements of these directives has been compiled and can be made available for inspection by the relevant enforcement authorities.

Date of original issue: February 23, 2015

Authorized by: Wilbert D. Abele

Signature: *Wilbert D. Abele*

According to EN 17050:2004

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