

Type HP2600 Hot Plate

OPERATION MANUAL AND PARTS LIST

Series 26

| <u>Model #</u> | <u>Voltage</u> |
|-----------------------|-----------------------|
| HP2625R | 100 |
| HP2624R | 240 |
| HP2620R | 240 |
| HP2620R-26 | 120 |

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IMPORTANT INFORMATION

This manual contains important operating and safety information. The user must carefully read and understand the contents of this manual prior to the use of this equipment.

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Safety Information

Alert Signals



Warning

Warnings alert you to a possibility of personal injury.



Caution

Cautions alert you to a possibility of damage to the equipment.



Note

Notes alert you to pertinent facts and conditions.



Hot Surface

Hot surfaces alert you to a possibility of personal injury if you come in contact with a surface during use or for a period of time after use.



Caution

This unit is not recommended for use in highly corrosive atmospheres. Corrosive spills and fumes may damage top and internal components. Space unit 12 inches away from combustible materials under any conditions.

Your Thermolyne Hot Plate has been designed with function, reliability, and safety in mind. It is the user's responsibility to install it in conformance with local electrical codes. For safe operation, please pay attention to the alert signals throughout the manual.

Warnings

To avoid personal injury:

1. Do not immerse unit for cleaning.
2. As with all laboratory equipment, appropriate safety clothing, glasses, gloves and coats should be worn when operating hot plates. Always use appropriate hand and eye protection when handling hazardous chemicals.
3. DO NOT remove or modify grounded power plug. Use only properly grounded outlets to avoid shock hazard. Not rated for use in hazardous atmospheres.
4. Do not use in the presence of flammable or combustible chemicals; top surface and element can reach the "Flash Point Temperature" of many chemicals. These hot plates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.
5. "Caution: Hot Surface. Avoid Contact." The surface of the hot plate will remain hot without visual indication for some time after use.

To avoid electrical shock:

1. Always use a properly grounded electrical outlet with correct voltage and current handling capacity.
2. Always disconnect the unit from the power supply prior to maintenance and servicing.
3. Refer servicing to qualified personnel.

SAFETY INFORMATION



Warning

Refer servicing to qualified personnel.

Please note the following WARNINGS:

Warning

This warning is presented for compliance with California Proposition 65 and other regulatory agencies and only applies to the insulation in this product. This product contains refractory ceramic, refractory ceramic fiber or fiberglass insulation, which can produce respirable dust or fibers during disassembly. Dust or fibers can cause irritation and can aggravate preexisting respiratory diseases. Refractory ceramic and refractory ceramic fibers (after reaching 1000°C) contain crystalline silica, which can cause lung damage (silicosis). The International Agency for Research on Cancer (IARC) has classified refractory ceramic fiber and fiberglass as possibly carcinogenic (Group 2B), and crystalline silica as carcinogenic to humans (Group 1).

The insulating materials can be located in the door, the hearth collar, in the chamber of the product or under the hot plate top. Tests performed by the manufacturer indicate that there is no risk of exposure to dust or respirable fibers resulting from operation of this product under normal conditions. However, there may be a risk of exposure to respirable dust or fibers when repairing or maintaining the insulating materials, or when otherwise disturbing them in a manner which causes release of dust or fibers. By using proper handling procedures and protective equipment you can work safely with these insulating materials and minimize any exposure. Refer to the appropriate Material Safety Data Sheets (MSDS) for information regarding proper handling and recommended protective equipment. For additional MSDS copies, or additional information concerning the handling of refractory ceramic products, please contact the Customer Service Department at Barnstead International at 1-800-553-0039.

Introduction

Intended Use

The Type 2600 hot plate is a heavy duty hot plate intended for procedures requiring temperatures from 425°F to 900°F (482°C). These hot plates are not to be used in the presence of explosive vapors; this device contains components which may ignite such materials.

The unit consists of 1) a heated plate, 2) a four position temperature switch and, 3) a three wire cord and plug. See Figure 1 for the overall shape and general features of the unit.

Principles of Operation

The top metal plate is heated by a resistance heater embedded in a refractory material. The plate is made of cast iron to withstand heavy loads and is suitable for use with glass or metal vessels. The temperature of the plate is controlled by a four position temperature switch. This switch is used to select varying resistive loads that will vary the watts input. The case supports the top plate, and houses insulation, electrical connections, and temperature control switch.

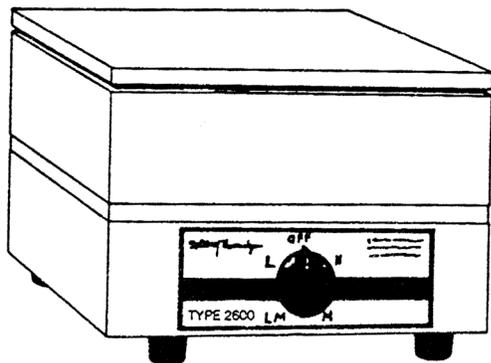


Figure 1: Type HP2600 Hot Plate

General Specifications

| Model Number | HP2620R | HP2620R-26 | HP2624R | HP2625R |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|
| <u>Dimensions in.(cm)</u> | | | | |
| Top Plate | 9 x 9 (23 x 23) |
| Overall | | | | |
| Width | 9 (23) | 9 (23) | 9 (23) | 9 (23) |
| Height | 6.25 (15.9) | 6.25 (15.9) | 6.25 (15.9) | 6.25 (15.9) |
| Depth | 10 (25.4) | 10 (25.4) | 10 (25.4) | 10 (25.4) |
| Weight lb. (kg) | 14.25 (6.4) | 14.25 (6.4) | 14.25 (6.4) | 14.25 (6.4) |
| <u>Electrical Ratings</u> | | | | |
| Volts | 240 | 240 | 100 | 120 |
| Amps | 4.5 | 4.5 | 9.8 | 9.0 |
| Watts | 1080 | 1080 | 975 | 1080 |
| Phase | 1 | 1 | 1 | 1 |
| Frequency | 50/60 | 50/60 | 50/60 | 50/60 |
| Max. Temp. | 900°F (482°C) | 900°F (482°C) | 900°F (482°C) | 900°F (482°C) |



Note

- All models supplied with 3-wire cord and plug.
- (-26 model) supplied with a European cord set.
- The cast iron top plate used on all models is suitable for use with glass or metal vessels.

Installation



Caution

Allow at least three inches of space between the hot plate and any vertical surface. This permits the heat from hot plate to escape so as not to create a possible fire hazard.

Gross weight of items placed on top of the hot plate should not exceed 35 lb.



Warning

To avoid electrical shock, this unit must always use a properly grounded electrical outlet with correct voltage and current handling capacity.

Site Selection

Install hot plate on a sturdy surface and allow space for ventilation.

The electrical specifications are listed on the specification plate on the side of the hot plate. Consult Barnstead International if your electrical service is different than those listed on the specification plate. Prior to connecting your Type 2600 hot plate to your electrical supply, be sure the dial switch is in the OFF position.

Operation



Warning

Do not use in the presence of flammable or combustible chemicals; top surface and element can reach the “Flash Point Temperature” of many chemicals. These hot plates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.



Hot Surface

“Caution: Hot Surface. Avoid Contact.” The surface of the hot plate will remain hot without visual indication for some time after use.

Dial (Power) Switch

The power is turned ON or OFF by means of the dial switch. The hot plate is ON with either a clockwise or counterclockwise movement of the dial beyond the OFF mark.

Dial (Control) Switch

The control knob has four heating positions and an OFF position. Position “L” holds approximately 425°F (218°C), “LM” - 600°F (316°C), “M” 675°F (357°C), and “H” - 900°F (482°C). If fast heating is desired, turn the knob to “H” until the required temperature is attained, then to the proper lower setting. If slow heating is desired, start with the knob on “L” and increase to higher settings gradually. To turn off hot plate, turn dial fully clockwise or counterclockwise to the OFF position.

Maintenance and Servicing



Warning

To avoid electrical shock, always disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.



Note

Perform only maintenance described in this manual. Contact an authorized dealer or our factory for parts and assistance.

Control Switch Replacement

1. Disconnect hot plate from power supply.
2. Turn hot plate upside down and remove bottom cover.
3. Remove the knob and the nut securing control.
4. Disconnect six wires from control switch. Identify or mark wires disconnected to ensure proper placement and connection when reinstalling. Remove defective control switch.
5. Reconnect the wires removed in step (4) to the new control switch. Secure control switch with the nut and the knob.
6. Replace bottom cover and secure with four screws.
7. Turn hot plate upright and reconnect to power supply.

Heating Element Replacement

1. Disconnect hot plate from power supply.
2. Turn hot plate upside down and remove bottom cover.
3. Remove the knob and the nut securing control.
4. Disconnect six wires from control switch. Identify or mark wires disconnected to ensure proper placement and connection when reinstalling. Remove the control switch.
5. Bend the element leads straight up and then remove in order, the control case, insulating spacer, top section of case, insulating plate, and insulating block.
6. Remove defective heating element and insert new element in the same position. Remove

MAINTENANCE AND SERVICING

glass sleeving from element leads. (See exploded view for placement of insulators, nuts and washers).

7. Bend element leads straight up and replace in this order, the insulating block, insulating plate, top section of case, insulating spacer, and bottom section of case.
8. Replace glass sleeving on element leads. (Two inside leads are black, the two outside leads are red.)
9. Reconnect the wires removed in step (4) to the control switch. Secure control switch with the nut and the knob.
10. Replace bottom cover and secure with four screws.
11. Turn hot plate upright and reconnect to power supply.

Troubleshooting

The Troubleshooting Tips section is intended to aid in defining and correcting possible service problems. When using the chart, select the problem category that resembles the malfunction, then proceed to the possible causes category and take necessary corrective action.

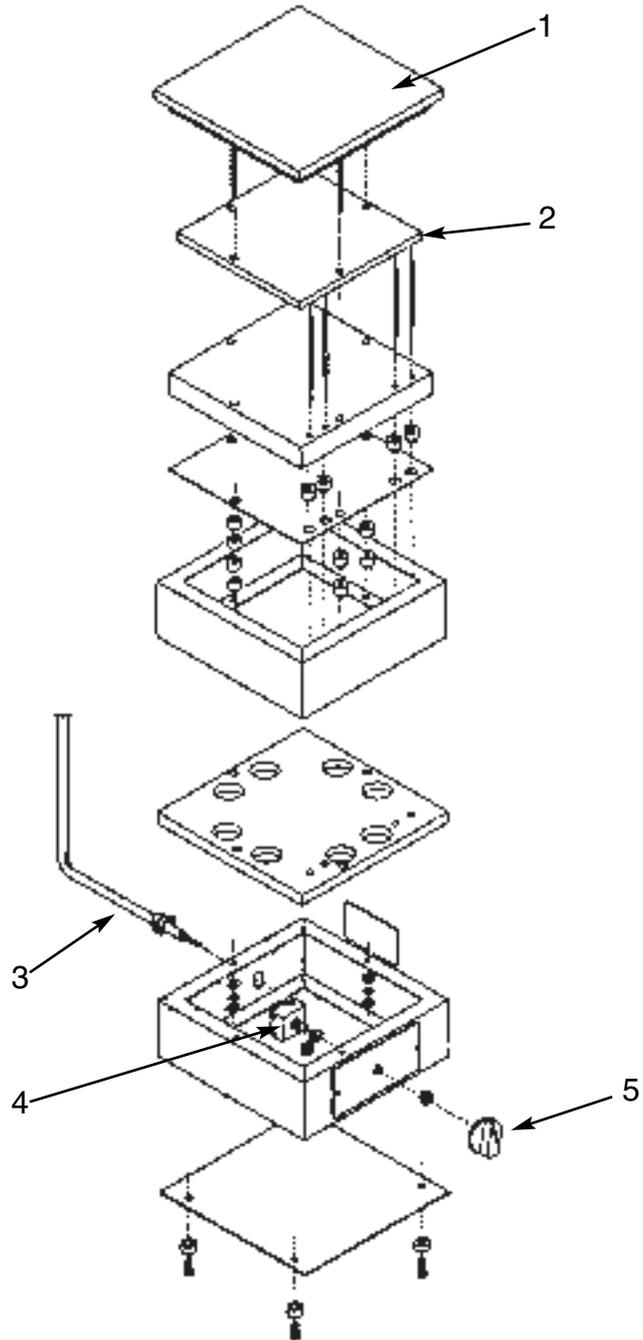
| <u>Problem</u> | <u>Possible Causes</u> | <u>Solutions</u> |
|-------------------------------------|---|--|
| Hot Plate does not heat. | 1. No power. 2. Defective electrical hookup. 3. Burned out heating element. 4. Defective control switch. | 1. Check power source and fuse. 2. Repair electrical hookup. 3. Replace defective heating element. 4. Replace control switch. |
| Hot Plate does not hold temperature | 1. Defective control switch | 1. Replace control switch. |

Exploded View



Note

When ordering replacement parts be sure to order by part numbers - not by key numbers.



Replacement Parts

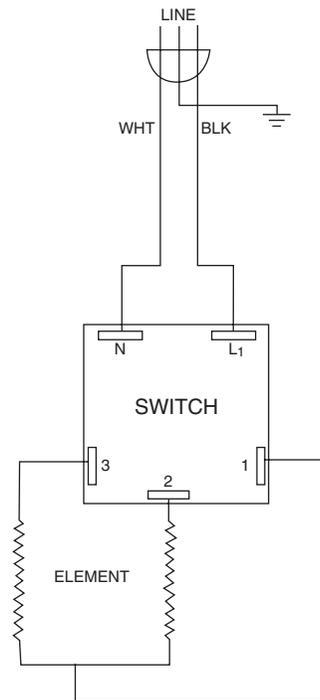
Model Type: HP2600
Product Name: Thermolyne Hot Plate
Series Number: 26

| <u>Key</u> | <u>Part #</u> | <u>Description</u> |
|------------|---------------|--|
| 1 | PT26X1B | Plate Assembly |
| 2 | EL26X1 | Element for HP2625R, 120V |
| | EL26X2 | Element for HP2620R & HP2620R-26, 240V |
| | EL26X5 | Element for HP2624R, 100V |
| 3 | CR25X1 | Cord Set for HP2625R 120V |
| | CR26X1 | Cord Set for HP2620R 240v |
| | CR25X1 | Cord Set for HP2624R, 100V |
| | CR26X2 | Cord Set for HP2620R-26, 240V |
| 4 | SWX9 | Switch |
| 5 | KBX1 | Knob |



Warning

To avoid electrical shock, always disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.



Ordering Procedures

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from the Barnstead International dealer from whom you purchased this unit or can be obtained promptly from the factory. When service or replacement parts are needed we ask that you check first with your dealer. If the dealer cannot handle your request, then contact our Customer Service Department at 563-556-2241 or 800-553-0039.

Prior to returning any materials to Barnstead International, please contact our Customer Service Department for a "Return Materials Authorization" number (RMA). Material returned without a RMA number will be refused. Minimum invoice: \$25.

Two Year “Bumper to Bumper” Warranty

Barnstead International (“BARNSTEAD”) warrants that a product manufactured by Barnstead shall be free of defects in materials and workmanship for two (2) years from the first to occur of (i) the date the product is sold by BARNSTEAD or (ii) the date the product is purchased by the original retail customer (the “Commencement Date”). Except as expressly stated above, BARNSTEAD MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS AND EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF DESIGN, MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

An authorized representative of BARNSTEAD must perform all warranty inspections. In the event of a defect covered by BARNSTEAD’s warranty, BARNSTEAD shall, as its sole obligation and exclusive remedy, provide free replacement parts to remedy the defective product. In addition, for products sold by BARNSTEAD within the continental United States or Canada, BARNSTEAD shall provide provide free labor to repair the products with the replacement parts, but only for a period of ninety (90) days from the Commencement Date.

BARNSTEAD’s warranty provided hereunder shall be null and void and without further force or effect if there is any (i) repair made to the product by a party other than BARNSTEAD or its duly authorized service representative, (ii) misuse (including use inconsistent with written operating instructions for the product), mishandling, contamination, overheating, modification or alteration of the product by any customer or third party or (iii) use of replacement parts that are obtained from a party who is not an authorized dealer of BARNSTEAD.

Heating elements, because of their susceptibility to overheating and contamination, must be returned to the BARNSTEAD factory and if, upon inspection, it is concluded that failure is due to factors other than excessive high temperature or contamination, BARNSTEAD will provide warranty replacement. As a condition to the return of any product, or any constituent part thereof, to BARNSTEAD’s factory, it shall be sent prepaid and a prior written authorization from BARNSTEAD assigning a Return Materials Number to the product or part shall be obtained.

IN NO EVENT SHALL BARNSTEAD BE LIABLE TO ANY PARTY FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR ANY DAMAGES RESULTING FROM LOSS OF USE OR PROFITS, ANTICIPATED OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THE SALE, USE OR PERFORMANCE OF ANY PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), ANY THEORY OF STRICT LIABILITY OR REGULATORY ACTION.

The name of the authorized Barnstead International dealer nearest you may be obtained by calling 1-800-446-

 **BarnsteadInternational**

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