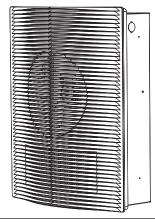


ARWH Series Smart Series Architectural Wall Heater





Installation, Operation & Maintenance Instructions

Table 1. Specifications

MODEL	VOLTS	PHASE	WATTS	AMPS	MIN. SUPPLY WIRE GAUGE
ARWH1802	120	1	540-1800	15	12
ARWH4808	208	1	1440-4800	23.1	10
ARWH4804	240	1	1440-4800	20.0	10
ARWH4807	277	1	1440-4800	17.3	12

NOTE: The model numbers shown are Northern White color. Add suffix to the model number for the following colors: AL = Aluminum, BZ = Bronze, W = Navajo White.

IMPORTANT INSTRUCTIONS



WARNING



WHEN USING ELECTRIC APPLIANCES, BASIC PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND INJURY TO PERSONS, INCLUDING THE FOLLOWING:

- 1. Read all instructions before installing or using this heater.
- 2. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, etc. and curtains at least 3 feet (0.9 m) from the front of the heater.
- Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
- Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before using.
- 5. Do not use outdoors.
- To disconnect heater, turn controls to OFF, and turn OFF power to heater circuit at main disconnect panel.
- Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
- 8. To prevent a possible fire, do not block air intake or exhaust in any manner.
- A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable liquids are used or stored.

- 10. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
- 11. This heater is provided with a red alarm light that will illuminate only if the heater has turned off as a result of overheating. Should the sensor register an overheat condition, the heater will stop generating heat and the fan will turn off. The red alarm light will turn ON, and ALL BUTTONS WILL BE DISABLED. Once the heater is safe for resetting, the red alarm light will blink/flash. DO NOT OPERATE THE HEATER WITH THE ALARM LIGHT ILLUMINATED. See TO RESET THERMAL LIMIT CONTROL in OPERATING INSTRUCTIONS section.
- 12. This heater is intended for comfort heating applications and not intended for use in special environments. Do not use in damp or wet locations such as marine or greenhouse or in areas where corrosive or chemical agents are present.
- 13. When installing, see INSTALLATION INSTRUCTIONS for additional warnings and precautions.
- For safe and efficient operation, and to extend the life of your heater, keep your heater clean - See MAINTENANCE INSTRUCTIONS.

SAVE THESE INSTRUCTIONS

ECR 39603 11/12 5200-11074-001

INSTALLATION INSTRUCTIONS

↑ WARNING **↑**

To prevent a possible fire, injury to persons or damage to the heater, adhere to the following:

- Disconnect all power coming to heater at main service panel before wiring or servicing.
- All wiring procedures and connections must be in accordance with the National and Local Codes having jurisdiction and the heater must be grounded.
- 3. Verify the power supply voltage coming to heater matches the ratings as shown on the heater nameplate.

CAUTION: ENERGIZING HEATER AT A VOLTAGE GREATER THAN THE VOLTAGE PRINTED ON THE NAMEPLATE WILL DAMAGE THE HEATER AND VOID THE WARRANTY AND COULD CAUSE A FIRE.

- 4. CAUTION High temperature, risk of fire, keep electrical cords, drapery, furnishings, and other combustibles at least 3 feet (0.9 m) from front of heater. Do not install heater behind doors, below towel racks, or in an area where it is subject to being blocked by furniture, curtains or storage materials. Hot air from the heater may damage certain fabrics and plastics.
- To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.
- For wall mounting only with air discharge downward. Do NOT install in floor, ceiling, upside down (air discharge upward), or sideways.
- 7. The following minimum clearances must be maintained:

Bottom of heater to floor - 12" (305 mm).

Sides of heater to adjacent wall - 12" (305 mm).

Top of heater to ceiling - 36" (915 mm).

- 8. Do not operate the heater without the back box.
- Do not use this heater for dry out purposes as the paint, plaster, sawdust and drywall sanding dust will permanently damage the heater and must be kept out of the heater.
- Remove motor shipping bracket and yellow tag prior to operating this heater.

The heater is designed for recessed installation in 2" x 4" (50 mm x 101 mm) studs or larger wall sections using the back box provided. The heater may be wired with standard building wire (60°C). Refer to "Specifications" and heater nameplate for correct supply voltage and wire size.

NOTE: The optimum mounting height for this heater is 18" to 24" (450 mm to 600 mm) from floor to bottom of back box. DO NOT install closer than 12" (305 mm) from the floor.

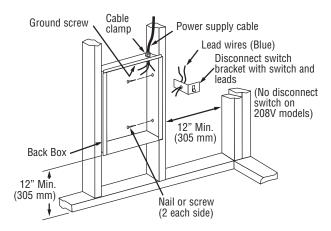


Figure 1: Locating Back Box in New Construction Mounting Clearances

CAUTION A

TO PROVIDE FOR SAFE OPERATION, THE FOLLOWING CLEARANCES MUST BE MAINTAINED.

Wall Mounting Only:

- a. Minimum twelve (12) inches (305 mm) to floor;
- b. Minimum twelve (12) inches (305 mm) to adjacent walls;
- c. Minimum thirty six (36) inches (915 mm) to ceiling.

TO PREVENT HAZARD OF FIRE OR ELECTRICAL SHOCK, DO NOT INSTALL WITHOUT BACK BOX.

CAUTION /

TO PREVENT POSSIBLE DAMAGE TO POWER WIRING, USE ONLY THE KNOCKOUTS PROVIDED IN BACK BOX.

Installation of Back Box in New Construction (See Figure 1).

NOTE: If the finished wall surface is already up, follow instructions for "Installation of Back Box in Existing Construction."

 Place the back box between two 16" (406 mm) center-tocenter wall studs at the desired mounting height but no closer than 12" (305 mm) to adjacent wall or floor.

NOTE: If wall studs are spaced greater than 16" (407 mm) on center, additional framing supports may be necessary.

- Align back box such that the bottom and sides will be flush with finished wall surface (top flange of back box should protrude approximately 1/2" (12.7 mm) from finished wall surface (You must know the thickness of the finished wall when installing).
- 3. Secure the back box in position with wood screws or nails as shown in Figure 1.
- 4. Run a power supply cable into the knockout area in the upper right hand corner of the back box (see Figure 1). All wiring must be in accordance with National and Local Electrical Codes. Refer to Specifications for correct wire size.
- 5. Remove disconnect switch bracket by loosening two screws on the right side.
- Install a cable clamp in the knockout in the top of the back box.

7. Insert power supply cable through cable clamp, allowing at least 6" (152 mm) of leads to extend inside the back box. Connect the blue lead wires of disconnect switch to the supply wire leads using wire connectors (see Figure 4, Wiring Diagram).

NOTE: If power supply is provided by standard non-metallic sheathed cable (Romex) and the supply voltage is 240 or 208 volts (two power wires), the white wire color must be changed using black electrical tape to comply with the NEC. White is only allowed for a Neutral conductor.

- 8. Connect building ground conductor to the back box using the green screw located in the inside top of the back box.
- Secure disconnect switch bracket in place by tightening screws.

WARNING **A**

POWER SUPPLY VOLTAGE MUST BE THE SAME AS HEATER VOLTAGE RATING SHOWN ON HEATER NAME-PLATE. CONNECTING TO A VOLTAGE IN EXCESS OF NAMEPLATE RATING WILL DAMAGE HEATER AND VOID WARRANTY.

ALL CONNECTIONS MUST BE MADE WITH APPROPRIATELY SIZED LISTED WIRE CONNECTORS.

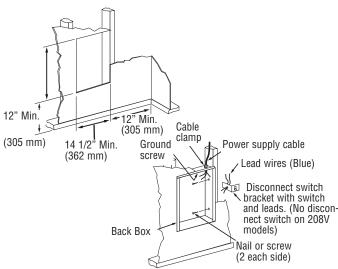


Figure 2: Locating Back Box in Existing Construction

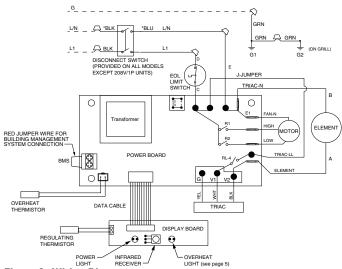


Figure 3- Wiring Diagram

Installation of Recessed Back Box in **Existing Construction**

- 1. Provide a wall opening 14-3/4" (375 mm) wide by 18-1/2" (470 mm) high at the desired mounting height, but no closer than 12" (305 mm) from floor. (See Figure 2.) Locate so at least one side of opening is at wall stud.
- 2. Run a power supply cable into the knockout area in the upper right hand corner of the wall opening (see Figure 2). All wiring must be in accordance with National and Local Electrical Codes. Refer to Specifications for correct wire size.
- 3. Remove disconnect switch bracket by loosening two screws on the right side.
- 4. Install a cable clamp in the knockout in the top of the back box.
- 5. Insert power supply cable through cable clamp, allowing at least 6" (152 mm) of leads to extend inside the back box. Connect the blue lead wires of disconnect switch to the supply wire leads using wire connectors (see Figure 4, Wiring Diagram).

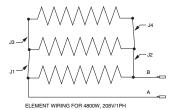
NOTE: If power supply is provided by standard non-metallic sheathed cable (Romex) and the supply voltage is 240 or 208 volts (two power wires), the white wire color must be changed using black electrical tape to comply with the NEC. White is only allowed for a Neutral conductor.

- 6. Connect building ground conductor to the back box using the green screw located in the inside top of the back box.
- Secure disconnect switch bracket in place by tightening screws.
- 8. Insert back box in wall opening being careful not to damage the supply wiring. Secure the back box in place with wood screws or nails.

⚠ WARNING

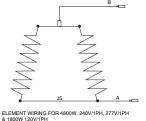
POWER SUPPLY VOLTAGE MUST BE THE SAME AS HEATER VOLTAGE RATING SHOWN ON HEATER NAME-CONNECTING TO A VOLTAGE IN EXCESS OF NAMEPLATE RATING WILL DAMAGE HEATER AND VOID WARRANTY.

ALL CONNECTIONS MUST BE MADE WITH APPROPRIATELY SIZED LISTED WIRE CONNECTORS.



BES "C". "F" AND JUMPER "J" AR

EOL BMS G1, G2 END OF LIFE SWITCH GROUND SCREWS JUMPER MANUAL RESET BELAY B1. B2



Building Management Systems (BMS)

To utilize the BMS capabilities of this unit, remove the red jumper wire between terminals A and B on the control terminal board (see figure 3, wiring diagram). Connect two wires from a dry contact (no voltage) in the BMS system to terminals A and B.

NOTE: DO NOT REMOVE THE RED JUMPER UNLESS THE UNIT IS BEING CONTROLLED BY A BUILDING MANAGEMENT SYSTEM (BMS).

When BMS takes control, heater functions will not work, the touch screen is locked, BMS light on the heater touchscreen blinks.

When BMS releases control, heater functions are available, heater resumes operating at previously programmed settings. Refer to Operations Manual for programming options and details.

Installation of Grille and Control Wire Connector

- 1. Push disconnect switch into ON position.
- 2. Position the grille in front of the heater assembly, insert the control shelf edges into the notches on either side of the back box at the same time hooking the tabs on the bottom corners of the grille assembly over the bottom flange of the back box (see Figures 4 and 5). With the top of the grille assembly leaning forward, supported by the first notch in control shelf, extend the control wires from the back of the electronic control at the top of the grille and connect to the wires of the disconnect switch assembly according to Wiring Diagram Figure 3.

CAUTION A

THE HEATER ASSEMBLY MUST BE CAREFULLY POSITIONED TO ENSURE THE CONTROL WIRES ARE NOT TRAPPED BETWEEN THE HEATER ASSEMBLY AND THE BACK BOX.

- 3. Lift and rotate the the grille assembly into the backbox carefully to ensure the control wire is not trapped between the grille assembly and back box. Insert two screws at the top edge of grille assembly on either side of the control panel as shown in Figure 6.
- 4. Install (2) plastic bezels (left and right) on either side of the control panel by inserting the wide tab under the flange on the control panel as shown in Figure 7, rotating the narrow end down and pressing firmly so the clip snaps into place.

OPERATION INSTRUCTIONS

Initial Setup Instructions (Performed by Installer)

NOTE: After installation, the installer should perform the following procedures to ensure proper operation of the heater (see Figure 8 for Control Panel Layout). Refer to the **OPERATIONS MANUAL** for details on programming and activating other features of the heater.

 Turn ON power to the unit at the main service panel. When the heating unit is first powered up, it will default to ON. The green power indicator LED will illuminate as long as there is power to the heating unit.

NOTE: If the unit does not beep and the display does not light, turn off power at the main service panel and check that the Control Wire is connected and the Disconnect Switch is in the ON position.

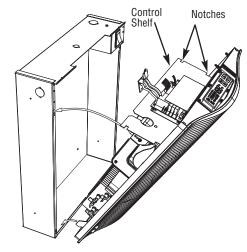


Figure 4- Installation of Heater/Grille Assembly

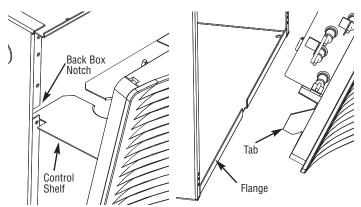


Figure 5- Grille Assembly Detail, Grille Supported for Wiring

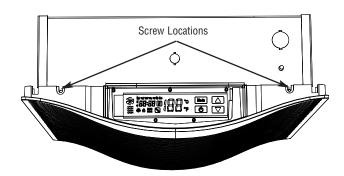


Figure 6- Securing Grille Assembly

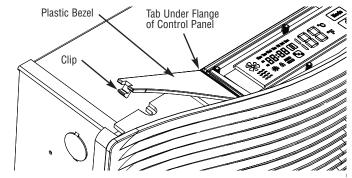


Figure 7- Securing Plastic Bezel

2 If the heating unit is OFF, touch the POWER button to turn the unit ON (The display is a touch screen and does not respond to pressure). The display should illuminate showing the current room temperature and default program number,

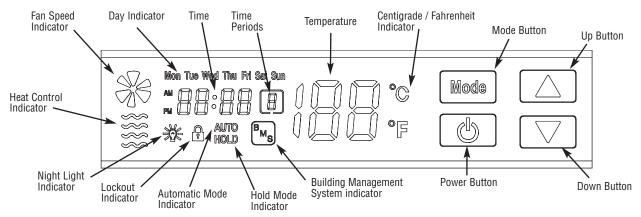


Figure 8 - Control Panel Layout

AUTO icon and time. If the screen is in the activated state, and no buttons are touched for 30 seconds the display backlight will turn OFF (standby mode).

NOTE: If heating unit is in the stand by mode (where display backlight is OFF), touching any button will illuminate the backlight and display operating buttons. Touching the POWER button when the heater is in stand by mode will illuminate the backlight, touching the POWER button again will turn the heater OFF. Please note power is live to heating unit when the unit is OFF.

3. Set Day and Time:

NOTE: For the following setup procedures, the display will automatically save the setting after a 30 second pause and return to the previous operating setting. If this occurs, start back at Step a of the Set Day and Time procedure.

a. Simultaneously touch and hold the UP button and DOWN button for 1.5 seconds. A beep will sound and the Day indicator at the top of the display will flash (the buttons on the display respond to touch, not pressure).

NOTE: If user touches the POWER button at any point during setup procedure, the display will automatically save settings and return to the previous operating setting.

- Using the UP or DOWN buttons, adjust to appropriate DAY of week.
- c. Touch the MODE button. AM / PM indicator will flash. Use the UP and DOWN buttons to set appropriate time. AM / PM will change automatically once you pass 12:00.
- d. Touch the MODE button, MINUTES will flash. Use the UP and DOWN buttons to set MINUTES to the appropriate time
- e. After the last parameter is set, touch the MODE button to lock in your settings.
- 4. Once the installer has performed the initial setup, power down the unit by touching the POWER button if no other programming will be done at this time.

NOTE: The unit is programmed with default time and temperature settings for the Automatic Mode (see below). If these settings are satisfactory, then no other programming needs to be done. Refer to the OPERATIONS MANUAL for instructions on other useful options and features.

Default settings for Automatic Mode:

Period	Time	Setpoint
1. Wake Up	6:00 AM	70°F (21°C)
2. Daytime	8: 00 AM	62°F (17°C)
3. Evening	6:00 PM	70°F (21°C)
4. Sleep Time	10:00 PM	62°F (17°C)

Operational Notice

This heater is equipped with a manual reset thermal limit control that will automatically turn OFF the heater if it overheats to prevent a fire. A red warning light will illuminate, error code and overheat temperature will flash on the display, and an audible alarm (beep) will sound to alert that this control has activated (see Troubleshooting under Maintenance for a list of error codes). Once activated the heater will turn OFF and the display will lock. Once the unit has cooled to a normal operating temperature the display will unlock and the user will be able to reset the thermal limit control.

CAUTION A

THE ACTIVATION OF THE THERMAL LIMIT CONTROL AND RED WARNING LIGHT OCCURS WHEN THE HEATER OVER-HEATS. CHECK HEATER TO MAKE SURE IT IS NOT BLOCKED – IF SO, REMOVE THE BLOCKAGE. IF THERE IS NO BLOCKAGE, IT IS RECOMMENDED THAT THE HEATER BE INSPECTED BY A REPUTABLE ELECTRICIAN OR REPAIR SERVICE TO ENSURE THE HEATER IS NOT DAMAGED. DO NOT CONTINUE TO USE HEATER IF IT REPEATEDLY CYCLES OFF ON THIS THERMAL LIMIT.

TO RESET THERMAL LIMIT CONTROL

After the unit has cooled to a safe operating temperature, the red warning light will begin to flash, and the display will become active. The heater is now ready to be reset. In order to reset the thermal limit control, press the POWER and UP buttons and hold for 1.5 seconds, the unit will return to normal operation.

DO NOT TAMPER WITH OR BYPASS ANY THERMAL LIMITS INSIDE HEATER.

CAUTION A

CAUTION - DO NOT CONTINUE TO ATTEMPT TO USE THE HEATER IF THE THERMAL LIMIT CONTROL REPEATEDLY OPERATES AFTER BEING RESET. TO DO SO COULD PERMANENTLY DAMAGE THE HEATER OR CREATE A FIRE OR SAFETY HAZARD.

NOTE: The unit is provided with an End of Life "oneshot" protective device. This serves as a back up protector in extreme conditions when the electronic overheat protector fails during an overheat condition. If the protector opens (no light or sound on the display controller) and the power is connected and the unit does not come ON, the the heater is no longer functional and has to be replaced.

MAINTENANCE INSTRUCTIONS

It is important to keep this heater clean. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.

↑ WARNING **↑**

ALL SERVICING BEYOND SIMPLE CLEANING THAT REQUIRES DISASSEMBLY SHOULD BE PERFORMED BY QUALIFIED SERVICE PERSONNEL.

⚠ WARNING ⚠

TO REDUCE RISK OF FIRE AND ELECTRIC SHOCK OR INJURY, DISCONNECT ALL POWER COMING TO HEATER AT MAIN SERVICE PANEL AND CHECK THAT THE ELEMENT IS COOL BEFORE SERVICING OR PERFORMING MAINTENANCE.

User Cleaning Instructions:

- After the heater has cooled, a vacuum cleaner with brush attachment may be used to remove dust and lint from exterior surfaces of the heater including the grille openings.
- With a damp cloth, wipe dust and lint from grille and exterior surfaces.
- Return power to heater and check to make sure it is operating properly.

Maintenance Cleaning Instructions:

(To be performed only by Qualified Service Personnel)

At least annually, the heater should be cleaned and serviced by a qualified service person to assure safe and efficient operation. This should include the removal of the grille/heater assembly as necessary from the backbox to clean residue from the unit. After completing the cleaning and servicing, the heater should be fully reassembled and checked for proper operation.

Error Codes

In the event of overheating or other malfunction the heater will display one of the error codes below:

E1 E1 is displayed if the regulating thermistor is OPEN. A red warning light will illuminate, the alarm will beep 10 times and E1 will continue to flash on the display. The user should disconnect power at the main circuit panel and call Technical Support: 800-642-4328.

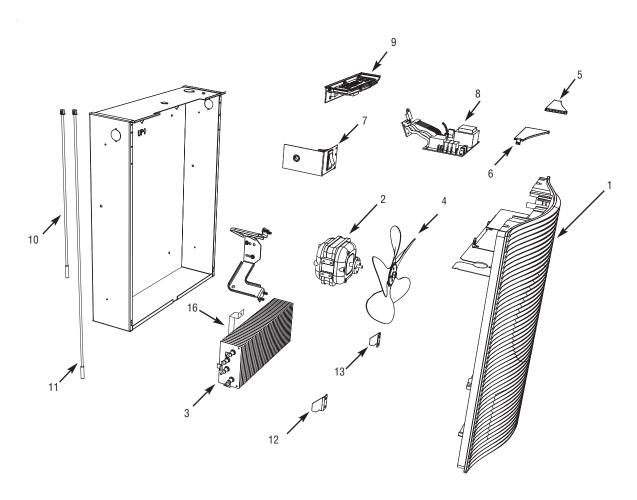
E2 E2 will be displayed if the regulating thermistor has malfunctioned. A red warning light will illuminate, the alarm will beep 10 times and E2 will continue to flash on the display. The user should disconnect power at the main circuit panel and call Technical Support: 800-642-4328.

ES ES will be displayed if the Thermal Limit Control has malfunctioned. A red warning light will illuminate, the alarm will beep 10 times and ES will continue to flash on the display. The user should disconnect power at the main circuit panel and call Technical Support: 800-642-4328.

ES/Temperature will toggle back and forth on the display if there is an overheat condition. A red warning light will illuminate, the alarm will beep 10 times and ES/Temperature will continue to flash on the display. See To Reset Thermal Limit Control on page 5.

ES (E1/E2) ES will toggle back and forth with E1/E2 on the display if there is a malfunction with one of the thermistors. A red warning light will illuminate, the alarm will beep 10 times and ES and E1/E2 will continue to flash on the display. The user should disconnect power at the main circuit panel and call Technical Support: 800-642-4328.

REPAIR PARTS



Repair Parts List

Ref		Part Number			
No	Description	ARWH4804	ARWH4808	ARWH4807	ARWH1802
1	Grille	2501-11019-VAR*	2501-11019-VAR*	2501-11019-VAR*	2501-11019-VAR*
2	Motor	3900-11026-000	3900-11026-000	3900-11026-001	3900-11026-002
3	Element	302012810	1802-2075-801	302012811	302012828
4	Fan Blade	490030103	490030103	490030103	490030103
5	Right Bezel	1219-11009-001	1219-11009-001	1219-11009-001	1219-11009-001
6	Left Bezel	1219-11009-000	1219-11009-000	1219-11009-000	1219-11009-000
7	Disconnect Switch	410170001	N/A	410170001	410170001
8	Control Power Board	1414-11033-000	1414-11033-000	1414-11033-001	1414-11033-002
9	Display Bezel	1016-11188-000	1016-11188-000	1016-11188-000	1016-11188-000
10	Thermistor	5262-11007-000	5262-11007-000	5262-11007-000	5262-11007-000
11	Over Heat Sensor	5262-11009-000	5262-11009-000	5262-11009-000	5262-11009-000
12	Grille Bracket Left	1215-11070-000	1215-11070-000	1215-11070-000	1215-11070-000
13	Grille Bracket Right	1215-11070-001	1215-11070-001	1215-11070-001	1215-11070-001
14	Remote (not shown)	1414-11037-000	1414-11037-000	1414-11037-000	1414-11037-000
15	Parts Kit (not shown)	1205-11023-000	1205-11023-000	1205-11023-000	1205-11023-000
16	Element Bracket	1215-11090-000	1215-11090-000	1215-11090-000	1215-11090-000

*NOTE: The standard color is Northern White. Add suffix to the model number for the following colors: AL = Aluminum, BZ = Bronze, W = Navajo White. Call Factory for part number.

LIMITED WARRANTY

All products manufactured by Marley Engineered Products are warranted against defects in workmanship and materials for one year from date of installation, except heating elements which are warranted against defects in workmanship and materials for five years from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment improperly installed or wired or maintained in violation of the product's installation instructions. All claims for warranty work must be accompanied by proof of the date of installation.

The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs, and shipping costs incurred to return products to Marley Engineered Products Service Center. Within the limitations of this warranty, inoperative units should be returned to the nearest Marley authorized service center or the Marley Engineered Products Service Center, and we will repair or replace, at our option, at no charge to you with return freight paid by Marley. It is agreed that such repair or replacement is the exclusive remedy available from Marley Engineered Products.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID EXPRESSED WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS AGREEMENT. MARLEY ENGINEERED PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES ARISING WITH RESPECT TO THE PRODUCT, WHETHER BASED UPON NEGLIGENCE, TORT, STRICT LIABILITY, OR CONTRACT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For the address of your nearest authorized service center, contact Marley Engineered Products in Bennettsville, SC, at 1-800-642-4328. Merchandise returned to the factory must be accompanied by a return authorization and service identification tag, both available from Marley Engineered Products. When requesting return authorization, include all catalog numbers shown on the products.

HOW TO OBTAIN WARRANTY SERVICE AND WARRANTY PARTS PLUS GENERAL INFORMATION

1. Warranty Service or Parts
2. Purchase Replacement Parts
3. General Product Information

1-800-642-4328
1-800-654-3545
www.marleymep.com

Note: When obtaining service always have the following:

- 1. Model number of the product
- 2. Date of manufacture
- 3. Part number or description



470 Beauty Spot Rd. East Bennettsville, SC 29512 USA