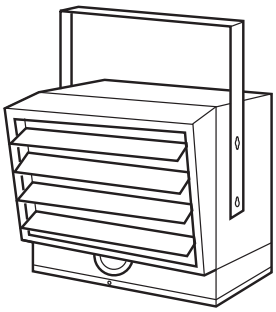
Fahrenheat®
The Choice of Professionals

FUH Series
Unit Heater



Installation, Operation & Maintenance Instructions

Specifications

FUH 54C

Heater Rating and Voltage	BTU per Hr.	Phase	Contactor Built-in	Mounting Height, ft. (mm)				Min. Distance from Horizontal Air Throw, ft. (mm)	Mounting Hole to Wall, in (mm)
				Vertical Installation		Horizontal Installation			
				Min.	Max.	Min.	Max.		
*5000 W @ 240V 4165W @ 240V 3332W @ 240V 2500W @ 240V	17,065 14,215 11,365 8,533	1	No	6' (1829)	11' (3353)	6' (1829)	8' (2438)	18' (5472)	**13" (330)
*3750W @ 208V 3123W @ 208V 2500W @ 208V 1874W @ 208V	12,799 10,659 8,533 6,396	1	No	6' (1829)	11' (3353)	6' (1829)	8' (2438)	18' (5472)	**13" (330)

FUH 724A

Heater Rating and Voltage	BTU per Hr.	Phase	Contactor Built-in	Mounting Height, ft. (mm)				Min. Distance from Horizontal Air Throw, ft. (mm)	Mounting Hole to Wall, in (mm)
				Vertical Installation		Horizontal Installation			
				Min.	Max.	Min.	Max.		
*7500 W @ 240V 6250W @ 240V 5000W @ 240V 3750W @ 240V	25,598 21,331 17,065 12,799	1	No	6' (1829)	11' (3353)	6' (1829)	8' (2438)	18' (5472)	**13" (330)
*5625W @ 208V 4685W @ 208V 3750W @ 208V 2812W @ 208V	19,198 15,990 12,799 9,598	1	No	6' (1829)	11' (3353)	6' (1829)	8' (2438)	18' (5472)	**13" (330)

*Heater is shipped from factory wired for these wattages. Heater can be field adjusted to the other wattages (Refer to Table 2 "Adjusting the Heat Output".)

**48" (1219 mm) when heater air flow is between 45° downward and vertical.

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.
3. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
4. 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.
6. To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel.
7. 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.
9. 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. If you see the light on, immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occurred. **DO NOT OPERATE THE HEATER WITH THE ALARM LIGHT ILLUMINATING.**
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.
14. For safe and efficient operation, and to extend the life of your heater, keep your heater clean - See MAINTENANCE INSTRUCTIONS.

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

⚠ WARNING ⚠

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

1. Disconnect all power coming to heater at main service panel before wiring or servicing.
2. 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.
5. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.
6. When heater is to be wall or ceiling mounted, the anchoring provisions must be of sufficient strength to support the total weight of the heater plus the weight of the mounting provisions. Failure to properly secure the supporting members of the building structure could allow the heater to fall.
7. The following minimum clearances must be maintained:

   For Vertical Airflow, Bottom of Heater to Floor:
   6' (1829 mm) minimum, 11'(3353 mm) maximum

   Horizontal Aiflow, Bottom of Heater to Floor:
   6' (1829 mm) minimum, 8'(2438 mm) maximum

   Sides of heater to adjacent wall :
   Airflow from Horizontal to 45° downward: 13" (330 mm) - Airflow from 45° downward to straight down 48" (1219 mm).

   Discharge to any object: 36" (915 mm) minimum
8. Do not use this heater for dry out as the paint, plaster, sawdust and drywall sanding dust will permanently damage the heater and must be kept out of the heater.

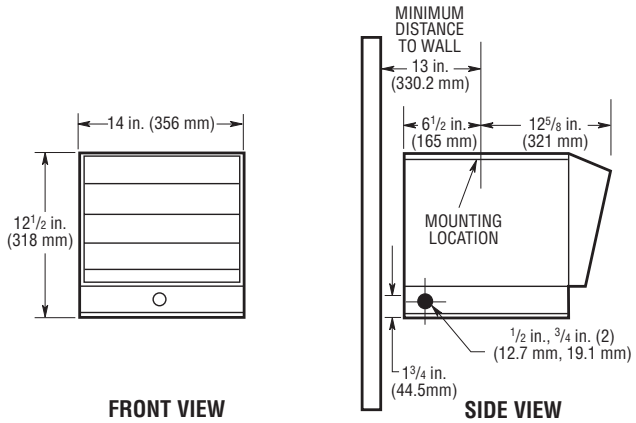


Figure 1 - Dimension Data

Unpacking Your New Heater

Remove the heater from the box and inspect it for any damage. If it appears to be damaged, immediately return it to the store from which you purchased it.

Tools Needed

You will need the following tools to install your FUH Series electric heater:

• Screwdriver • Needle nose pliers • Pliers

• Electric Drill and 1/4" (6.35 mm) bit •Adjustable wrench

Hardware Needed

You will also need the following hardware for installation:

- Enough 10 ga. min. insulated copper conductor (with ground) wire to run power from the breaker/ fuse to the heater. Only use copper wire rated at least 75° C. Do not use aluminum wire with this unit.
- Proper size fuses and circuit breakers in accordance with the National Electrical Code. Also see Table 2 Heat Output Adjustments
- Screw wood, 3/8" x 2" (9.5 mm x 50 mm) Lag bolts (Qty. 1 or 2).
- Washer, 3/8" (9.7 mm) (Qty. 2)
- Wire connectors sized to your application.

NOTE: For certain applications, conduit may be required (see Figure 2). Check local electrical codes. If wiring is run in conduit, be sure there is enough flexible conduit to allow the heater to be turned if necessary.

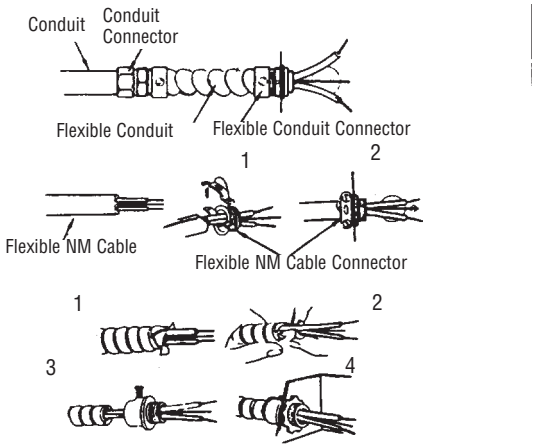


Figure 2 - Connectors, cable, and hardware used to wire the UH-524TA

Locating the Heater

The heater should be installed out of traffic areas and at least 6' off the floor. The direction of air flow should not be restricted (ie: by columns or machinery) and the air flow should wipe exposed walls, rather than blowing directly at them. When more than one heater is used in an area, the heaters should be arranged so that the air discharge of each heater supports the air flow of the others to provide best circulation of warm air, as indicated in Figure 3, below.

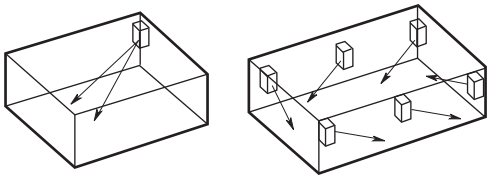


Figure 3

Mounting

1. Remove the mounting bracket from the heating unit by loosening the bracket screws with a wrench and slipping the handle off over the screw heads.
2. Locate a stud in the ceiling and attach the mounting bracket to the ceiling joist as shown in Figures 4-A or 4-B. Place a washer on the screw between the bracket and the ceiling to act as a spacer and screw them into the stud. Tighten the screws enough to securely hold the heating unit with the air flow pointed in the proper direction.

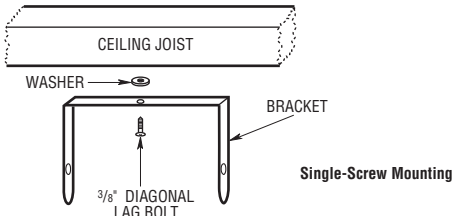


Figure 4-A **Single-Screw Mounting**

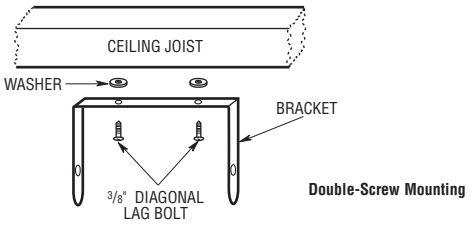


Figure 4-B **Double-Screw Mounting**

3. Lift the heater up and into the mounting bracket. Align the screws on each side of the heater with the keyhole slots in the mounting brackets. If the heater is to be tilted, it must be positioned in the lower keyhole slots (see Figure 5). Tighten the bracket screws so the unit is securely suspended at the desired position.

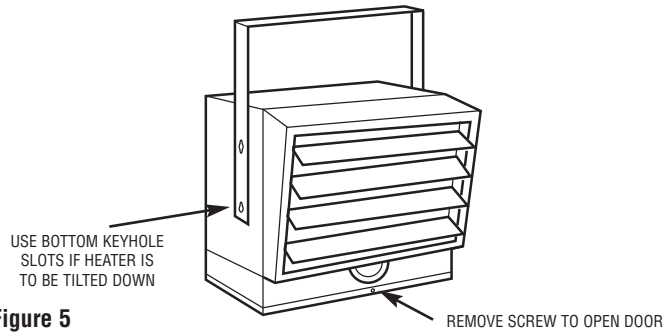


Figure 5

Wiring

1. To connect the power to the heater, simply remove the screw from the front of the unit. This allows the hinged bottom to open, providing access to the electrical wiring and connectors. (See Figure 5)
2. Attach the cable connectors to the unit (See Figure 2) and slide the 10 gauge wire through the cable connector. Pull enough wire through the connector to work with when making the the connections.

NOTE: Wiring compartment volume: 370 in^3 (6063 cm^3)

3. Connect the wire to the power terminal block located in the base of the heater (See Figure 6).

NOTE: Unit is 240/208 volts. When wiring a two conductor cable with ground the white wire must be marked black by adding a piece of black electrical tape to the wire near the point of connection.

NOTE: To decrease the heat output of the heating unit, see Adjust the Heat Output, Table 2 and Wiring Diagrams Figure 7.

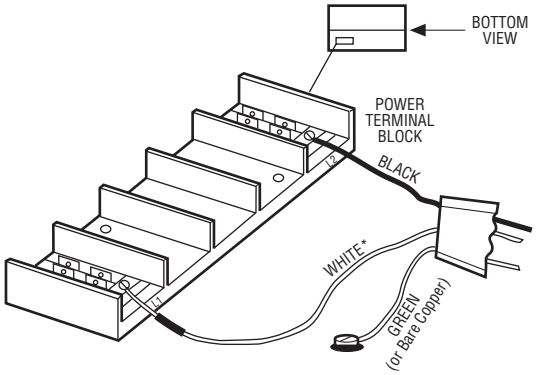


Figure 6

***NOTE:** 240/208 volts. When wiring with a two conductor cable with ground, the white wire must be marked black.

⚠ WARNING ⚠

TO PREVENT POSSIBLE ELECTRIC SHOCK, DISCONNECT POWER TO THE HEATER AT THE MAIN SERVICE BOX BEFORE ATTEMPTING TO ADJUST THE HEAT OUTPUT OF THIS UNIT.

Adjusting the Heat Output

Heat output can be increased or decreased by switching wires at the wattage change terminal board. The heater is factory wired to deliver a heat output of 17,065 BTU per hour. Should your particular application require less heat output, refer to Table 2 below and change the wires at the wattage change terminal board as shown in Wiring Diagram Figure 7A or 7B.

Table 2 - Heat Output Adjustments FUH54C

BTU/HR	VOLTS	WATTS	MAX FUSE SIZE	HEATER AMPS	MOVE JUMPERS FROM C-D TO A-B
17065	240	5000	30	20.9	NONE
14215	240	4165	25	17.4	BLUE
11365	240	3332	20	13.9	BLUE & YELLOW
8533	240	2500	15	10.4	BLUE, YELLOW & RED
12799	208	3750	25	18.0	NONE
10659	208	3123	20	15.0	BLUE
8533	208	2500	15	12.0	BLUE & YELLOW
6396	208	1874	15	9.0	BLUE, YELLOW & RED

FUH724A

BTU/HR	VOLTS	WATTS	MAX FUSE SIZE	HEATER AMPS	MOVE JUMPERS FROM C-D TO A-B
25,598	240	7,500	45	31.3	NONE
21,331	240	6,250	35	26.1	BLUE
17,065	240	5,000	30	20.9	BLUE & YELLOW
12,799	240	3,750	20	15.7	BLUE, YELLOW & RED
19,198	208	5,625	40	27.1	NONE
15,990	208	4,685	30	22.3	BLUE
12,799	208	3,750	25	18.1	BLUE & YELLOW
9,598	208	2,812	20	13.6	BLUE, YELLOW & RED

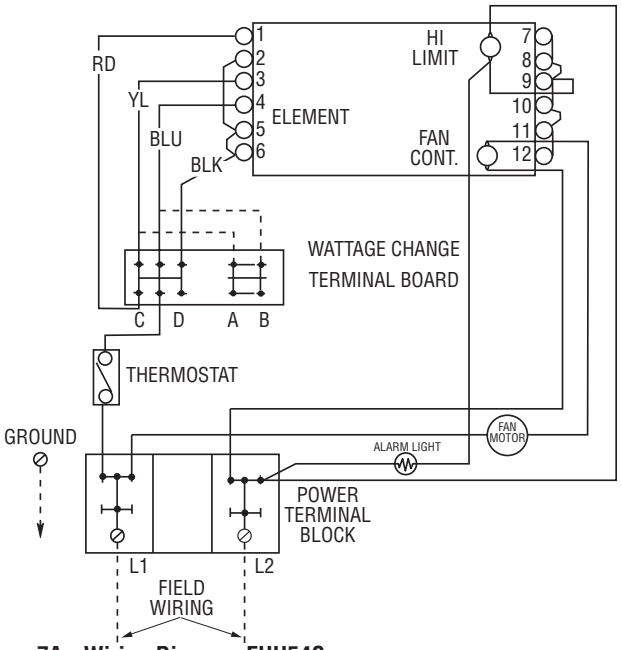


Figure 7A - Wiring Diagram FUH54C

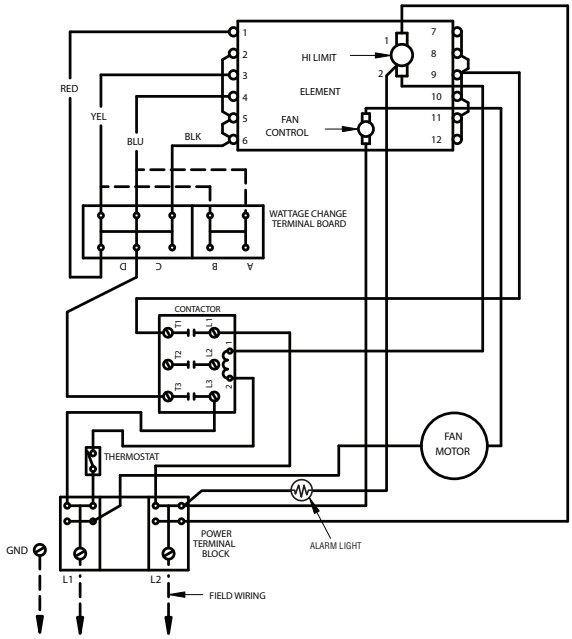


Figure 7B - Wiring Diagram FUH724A

OPERATING INSTRUCTIONS

1. Heater must be properly installed before operation.
2. After heater is completely assembled, rotate thermostat knob counterclockwise until control stops. This is the minimum heat setting.
3. Turn power supply to heater "ON" at main switch panel.
4. Heater should not operate. If it operates disconnect power and recheck wiring.
5. Rotate thermostat clockwise until it stops (maximum heat setting).
6. Heater should turn on after a brief delay (see Automatic Fan Delay below). If heater and fan do not come on, disconnect power and check wiring.

NOTE: The first time you operate the unit, it may smoke slightly. This is due to the residual cleaning agents used to clean the element when the heater is manufactured. This is normal and does not indicate a problem with the unit. This condition will stop after the heater has been in operation for a few minutes.

7. Allow heater to continue to operate until room temperature reaches desired comfort level. Then rotate thermostat knob counterclockwise slowly until thermostat clicks off. (Note that the fan delay will keep the fan running until the elements cool.) Heater will cycle on and off to maintain room temperature.
8. It may be necessary to readjust thermostat a time or so until exact comfort level is attained. Rotation in the clockwise direction will increase the amount of time the heater will produce heat. Rotation in the counterclockwise direction will reduce the amount of time the heater is on.

Automatic Fan Delay: The FUH Series has an automatic fan delay. When the thermostat calls for heat, fan action is delayed momentarily until the heating elements warm. This prevents the circulation of cold air. When the heater raises the temperature of the room to the thermostat set point, the heating element is turned off but the fan will continue to run until the heating element cools down. This prevents exposing the unit to residual heat, provides a higher comfort level and prolonged element life.

Automatic Thermal Limit: FUH Series is equipped with a thermal limit which will automatically shut off the heater in the event of overheating. Should the thermal limit activate an alarm light will be visible on the front of the heater next to the thermostat knob. The heater will turn on when the operating temperature returns to normal. Should the unit overheat and activate the thermal limit, the cause of the overheating should be determined before further operation.

⚠ WARNING ⚠

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

CAUTION ⚠

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

NOTE: If the unit is installed in an area where the temperature is below 50° F, the fan may cycle on and off until the temperature in the room rises above 50° F, this is normal and does not indicate a problem with the unit. As soon as the heater warms the air in the room above 50°, the fan will operate continually until the thermostat has reached the room set point.

Adjusting Air Flow Direction

You can adjust the direction of air flow by:

1. Turning the unit. If the unit has been installed with a single lag bolt, as shown in Figure 8, simply turn the entire unit as needed to adjust air flow.

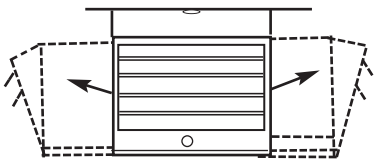


Figure 8

2. Tilting the unit. Loosen the bracket screws, tilt the heater to the desired position, and re-tighten the bracket screws (see Figure 4).

NOTE: To tilt the heater it must be mounted in bottom key hole slots of mounting bracket to maintain adequate clearance and prevent possible overheating.

3. Adjusting the louvers to the desired position.

NOTE: The louvers are designed so they can not be completely closed. Do not attempt to defeat this feature, damage to the unit can result.

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:

1. 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.
2. With a damp cloth, wipe dust and lint from grille and exterior surfaces.
3. 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. After completing the cleaning and servicing, the heater should be checked for proper operation.

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.

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3. 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. After completing the cleaning and servicing, the heater should be checked for proper operation.

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 **1-800-642-4328**
2. Purchase Replacement Parts **1-800-654-3545**
3. General Product Information **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

Marley Engineered Products

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Bennettsville, SC 29512 USA