Use & Care Manual
With Installation Instructions for the Installer

Electric Tankless

Water Heaters

The purpose of this manual is twofold: one, to provide the installer with the basic directions and recommendations for the proper installation and adjustment of the water heater; and two, for the owner–operator, to explain the features, operation, safety precautions, maintenance and troubleshooting of the water heater. This manual also includes a parts list.

It is imperative that all persons who are expected to install, operate or adjust this water heater read the instructions carefully so they may understand how to perform these operations. If you do not understand these instructions or any terms within it, seek professional advice.

Any questions regarding the operation, maintenance, service or warranty of this water heater should be directed to the seller from whom it was purchased. If additional information is required, refer to the section on "If you need service."

Do not destroy this manual. Please read carefully and keep in a safe place for future reference.

Recognize this symbol as an indication of Important Safety Information!

California Proposition 65 Warning: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

MET® US
Complies with UL 499.

Printed in USA.

AP15447 (10/10)

Safety Information

Safety Precautions 3, 4

Installation Instructions

Location 5

Heater Installation 6

Mounting the Heater 7

Water Connections 8

Electrical Connections. . . . 9

Operating Instructions

Preparing for Operation . . . 11

Water Temperature 11

Care and Cleaning

Maintenance. 12

Troubleshooting Tips

Before You Call For Service. 14

If You Need Service 16

FOR YOUR RECORDS

Write the model and serial numbers here:

#

#

You can find them on a label on the appliance.

Staple sales slip or cancelled check here.

Proof of the original purchase date is needed to obtain service under the warranty.

READ THIS MANUAL

Inside you will find many helpful hints on how to use and maintain your water heater properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your water heater.

You'll find many answers to common problems in the Before You Call For Service section. If you review our chart of Troubleshooting Tips first, you may not need to call for service at all.

READ THE SAFETY INFORMATION

Your safety and the safety of others are very important. There are many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

This is the safety alert symbol. Recognize this symbol as an indication of Important Safety Information! This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word "DANGER", "WARNING", "CAUTION" or "NOTICE".

These words mean:

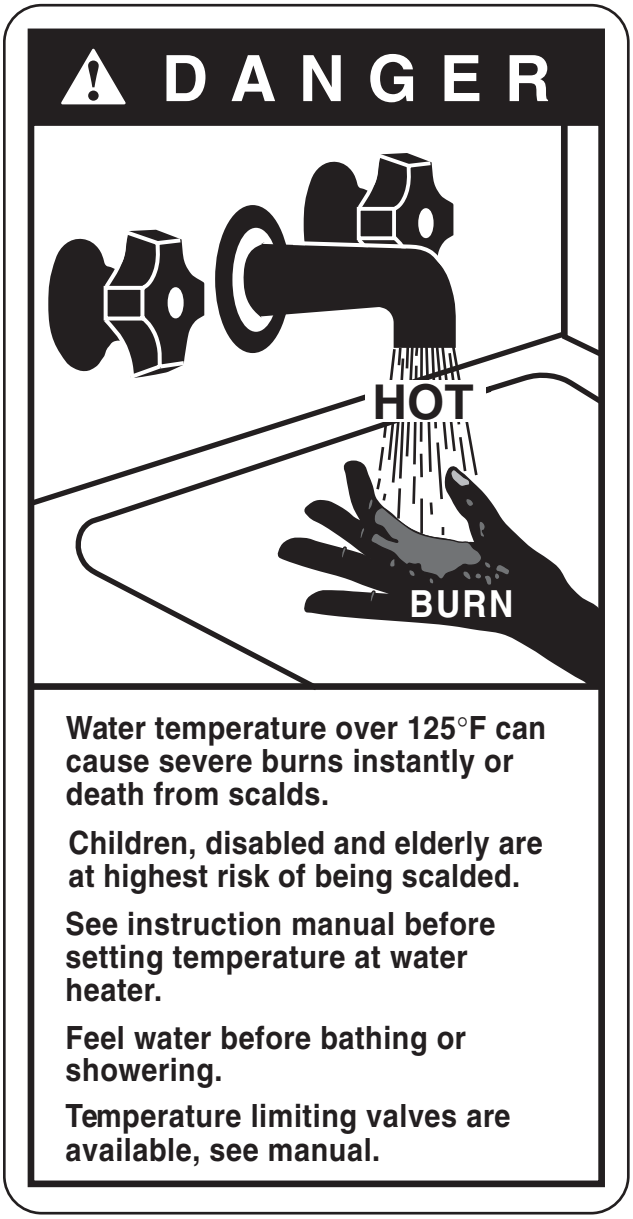
⚠ DANGER	**An imminently hazardous situation that will result in death or serious injury.**
⚠ WARNING	**A potentially hazardous situation that could result in death or serious injury and/or damage to property.**
⚠ CAUTION	**A potentially hazardous situation that may result in minor or moderate injury.**
Notice:	**Attention is called to observe a specified procedure or maintain a specific condition.**

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING.

⚠DANGER!

WATER TEMPERATURE SETTING

Safety and energy conservation are factors to be considered when selecting the water temperature setting of water heater's thermostat. Water temperatures above 125°F can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined on the label pictured below. This label is also located on the water heater near the thermostat access panel.



NOTICE: Mixing valves are available for reducing point of use water temperature by mixing hot and cold water in branch water lines. Contact a licensed plumber or the local plumbing authority for further information.

Time/Temperature Relationship in Scalds

Temperature	Time To Produce a Serious Burn
120°F	More than 5 minutes
125°F	1½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1½ seconds
155°F	About 1 second

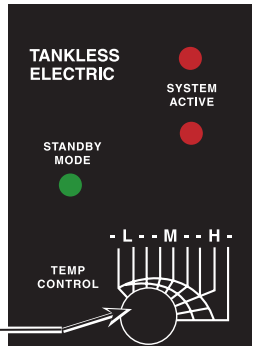
Table courtesy of Shriners Burn Institute

The chart shown above may be used as a guide in determining the proper water temperature for your home.

⚠DANGER: Households with small children, disabled, or elderly persons may require a 120°F or lower thermostat setting to prevent contact with "HOT" water.

The temperature of the water in the heater is regulated by the electronic control on the front of the water heater. To comply with safety regulations the thermostat was set at the lowest factory setting before the water heater was shipped from the factory.

The illustration below shows the temperature adjustment dial used for setting the water temperature.



Thermostat dial pointer

Refer to the Operating Instructions in this manual for detailed instructions in how to adjust the thermostat(s).

⚠DANGER: Hotter water increases the potential for Hot Water SCALDS.

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING.

⚠ WARNING!

For your safety, the information in this manual must be followed to minimize the risk of fire or explosion, electric shock, or to prevent property damage, personal injury, or loss of life.

Be sure to read and understand the entire Use and Care Manual before attempting to install or operate this water heater. It may save you time and cost. Pay particular attention to the Safety Instructions. Failure to follow these warnings could result in serious bodily injury or death. Should you have problems understanding the instructions in this manual, or have any questions, STOP, and get help from a qualified service technician, or the local electric utility.

FOR INSTALLATIONS IN THE STATE OF CALIFORNIA

California Law requires that residential water heaters must be braced, anchored or strapped to resist falling or horizontal displacement due to earthquake motions. For residential water heaters up to 52 gallon capacity, a brochure with generic earthquake bracing instructions can be obtained from: Office of the State Architect, 1102 Q Street, Suite 5100, Sacramento, CA 95814 or you may call 916-445-8100 or ask a water heater dealer.

However, applicable local codes shall govern installation. For residential water heaters of a capacity greater than 52 gallons, consult the local building jurisdiction for acceptable bracing procedures.

SAFETY PRECAUTIONS

Have the installer show you the location of the circuit breaker and how to shut it off if necessary. Turn off the circuit breaker if the water heater has been subjected to overheating, fire, flood, physical damage or if the ECO fails to shut off.

- Read this manual entirely before installing or operating the water heater.
- Use this appliance only for its intended purpose as described in this Use and Care Manual.
- Be sure your appliance is properly installed in accordance with local codes and the provided installation instructions.
- **Do not** attempt to repair or replace any part of your water heater unless it is specifically recommended in this manual. All other servicing should be referred to a qualified technician.

READ AND FOLLOW THIS SAFETY INFORMATION CAREFULLY.

SAVE THESE INSTRUCTIONS

Installing the water heater.

The location chosen for the water heater must take into consideration the following:

Local Installation Regulations

This water heater must be installed in accordance with these instructions, local codes, utility codes, utility company requirements or, in the absence of local codes, the latest edition of the National Electrical Code.

It is available from some local libraries or can be purchased from the National Fire Protection Association, Batterymarch park, Quincy, MA 02269 as booklet ANSI/NFPA 70.

Location

Locate the water heater in a clean dry area as near as practical to the area of greatest heated water demand. Long uninsulated hot water lines can waste energy and water.

The water heater and water lines should be protected from freezing temperatures. Do not install the water heater in outdoor, unprotected areas.

Inspect Shipment

Inspect the water heater for possible damage.

Check the markings on the rating plate of the water heater to be certain the power supply corresponds to the water heater requirements.

Installing the water heater.

1. Thank you for your purchase of the Electric Tankless Water Heater. This is a quick reference guide to installation. Remember you must consult a licensed electrician and plumber for guidance.
2. Remove the unit from the box before continuing. Please check to make sure all mounting hardware and instruction manuals are present. DO NOT continue until you have all these items.
3. Shut off all water supply lines to the existing water heater. (If this is a new installation, make sure the water is completely shut off.)
4. Remove the water heater to expose pipes. Locate and mark the spot where you plan to install the tankless water heater.
5. Mount unit to wall at selected location.(See Figure 1)
6. Install the water lines to the tankless water heater using supplied compression fittings. (See Figure 2.)
7. Open the main water valve and let the water run for 2 minutes through the unit to remove all air in the line. Close water tap after 2 minutes and check for leaks.
8. Check existing electrical code for appropriate wire gauge and breaker size. (This step should be done by a qualified electrician to avoid electrical problems.)
9. Once the electrical connection is complete, turn on breaker and verify the green "Stand-By" light is on.
10. Electrical connections may be completed without accessing inside components of the water heater.
11. Turn on hot water tap and check that the red "Activation" lights come on.
12. Set the temperature knob to the desired water temperature. (See Figure 3.)

Location of Unit

NOTICE: Unit must be installed in a vertical position ONLY with the water fittings pointing horizontally, Do not install the unit where it would routinely be splashed with water. Electric shock may result.

1. Install the tankless water heater as close as possible to the hot water draw-off point, for example, directly beneath the sink or next to the shower stall.
2. Install the tankless water heater in a frost free area. If frost may occur, remove the unit before freezing temperatures set in.
3. Leave a minimum of 12" of clearance on top and bottom of the unit for servicing.

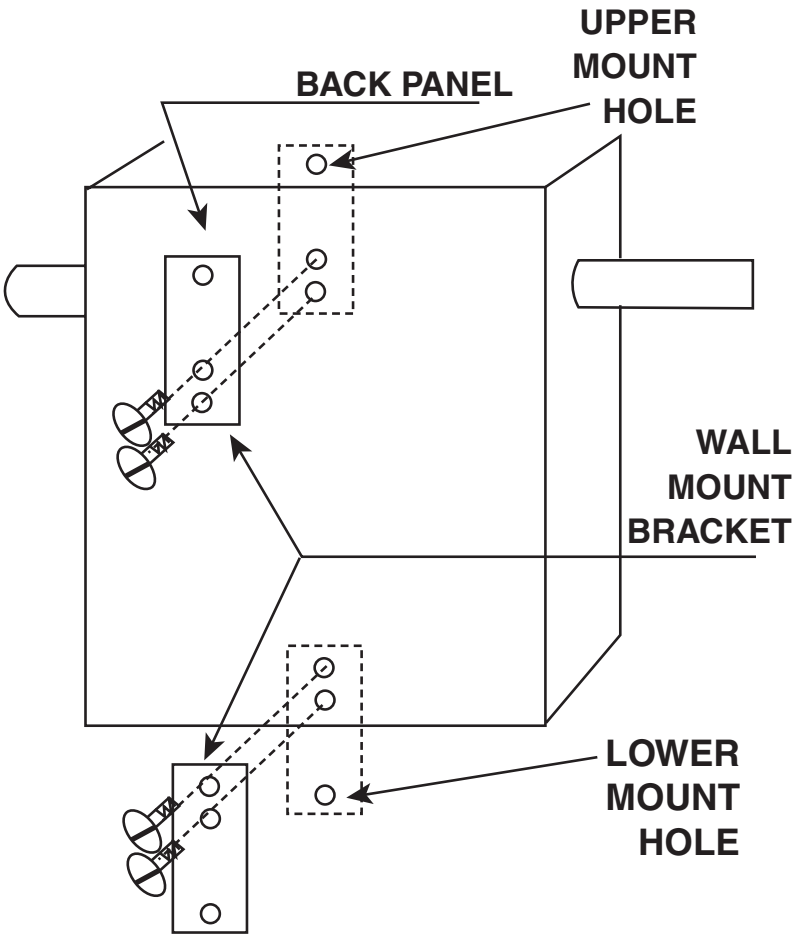
Mounting The Water Heater

Mounting kit contains sheet metal screws and supporting brackets in a plastic bag.

These brackets can be attached to the back of the heater and allows the installer to secure the heater to the wall without the need to open the front cover.

Make sure to use only the brackets and screws that are provided in the mounting kit. The use of longer screws may damage the unit and void your warranty.

Figure 1



Installing the water heater.

Water Connections

1. All plumbing work must comply with national applicable state and local plumbing codes.
2. Make certain that the cold water supply line has been flushed to remove any scale and dirt.
3. Install isolating valve in cold water line to allow the unit to be isolated for maintenance purposes.
4. Cold water connection (inlet) is on the right side of the unit, hot water connection (outlet) is on the left side of unit.

NOTICE: Excessive heat from soldering on copper pipes near the tankless water heater may cause damage.

5. Tankless water heaters are not required to be equipped with a Pressure and Temperature Relief Valve (PTRV). If the local inspector will not pass the installation without a PTRV, it should be installed on the hot water outlet side of unit.
6. When all plumbing work is completed, check for leaks and take corrective action before proceeding.

Very Important

Use only the compression fitting ring and nut provided with each unit as shown in drawing.

Important

Test the installation for leaks before connecting the electrical supply. Check with a professional electrician for required breaker and wire gauge.

Compression fittings are designed exclusively for this unit. Do not use a different type of threaded coupling.

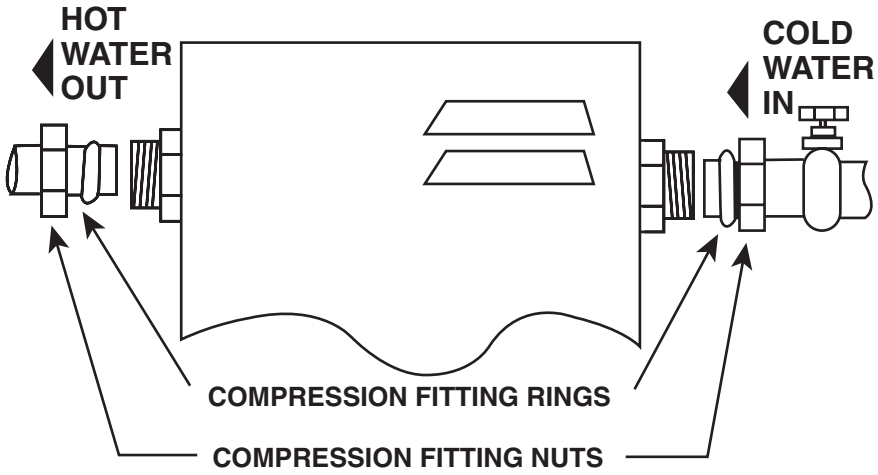


Figure 2

⚠ WARNING: The heater chamber must be full of water before the water heater is turned on. The water heater warranty does not cover damage or failure resulting from operation with an empty or partially empty heater chamber.

Purge Air From System

After the unit is installed, open the shut-off valve in the cold water supply line.

Open each hot water faucet slowly to allow the air to vent from the water heater and piping.

A steady flow of water from the hot water faucet(s) indicates a full water heater.

Electrical Connections

⚠ CAUTION: The presence of water in the piping and water heater does not provide sufficient conduction for a ground. Non-metallic piping, dielectric unions, flexible connectors etc. can cause the water heater to be electrically isolated.

A separate branch circuit with copper conductors, overcurrent protective device and suitable disconnecting means must be provided by a qualified electrician.

All wiring must conform to local codes or latest edition of National Electrical Code ANSI/NFPA 70.

The voltage requirements and wattage load for the water heater are specified on the rating plate on the front of the water heater.

The branch circuit wiring should include either:

Metallic conduit or metallic sheathed cable approved for use as a grounding conductor and installed with fittings approved for the purpose.

Non-metallic sheathed cable, metallic conduit or metallic sheathed cable not approved for use as a ground conductor shall include a separate conductor for grounding. It should be attached to the ground terminals of the water heater and the electrical distribution box.

NOTICE: This guide recommends minimum branch circuit sizing and wire size based on National Electric Code. Refer to wiring diagrams in this manual for field wiring connections.

⚠ WARNING: Before beginning any work on the electric installation, be sure that main breaker panel switch is "OFF" to avoid any danger of electric shock. All mounting and plumbing must be completed before proceeding with electrical hook-up. Where required by local, state or national electrical codes the circuit should be equipped with a "Ground fault interrupter".

1. All electrical work must comply with national and applicable state and local electrical codes.

2. The tankless heater should be connected to a properly grounded dedicated branch circuit of proper voltage rating. In installations with several tankless units, each unit requires an independent circuit. Please refer to th technical data table for the correct wire and circuit breaker size.

⚠ Warning: As with any electric appliance, failure to electrically ground unit may result in serious injury or death.

Installation Checklist

A. Water Heater Location

- ❑ Close to area of heated water demand.
- ❑ Indoors and protected from freezing temperatures.
- ❑ Area free of flammable vapors.
- ❑ Sufficient room to service heater.

B. Water Supply

- ❑ Water heater completely filled with water.
- ❑ Air purged from water heater and piping.
- ❑ Water connections tight and free of leaks.

D. Wiring

- ❑ Power Supply voltage agrees with water heater rating plate.
- ❑ Branch circuit wire and fusing or circuit breaker of proper size.
- ❑ Electrical connections tight and unit properly grounded.

Operating the water heater.

Safety Precautions

- **A** Do turn off power to water heater if it has been subjected to over heating, fire, flood, physical damage.
- **B** Do Not turn on water heater unless it is filled with water.
- **C** Do Not turn on water heater if cold water supply shut-off valve is closed.
- **D** If there is any difficulty in understanding or following the Operating Instructions or the Care and Cleaning section, it is recommended that a qualified person or serviceman perform the work.

Operating the water heater.

⚠WARNING: If the water heater has been subjected to flood, fire, or physical damage, turn off power and water to the water heater.

Do not operate the water heater again until it has been thoroughly checked by qualified service personnel.

Preparing the Water Heater for Operation

⚠ Warning: Open hot water faucet for a few minutes until water flows in continuous and all air is purged from water pipes.

1. Turn temperature knob to lowest setting.
2. Turn on circuit breaker to bring electrical power to the unit.
3. Open hot water faucet to a degree so that water flow is "typical" i.e. until the water flow is the same as that encountered during normal use.
4. Wait twenty seconds until temperature has stabilized. Then check water temperature. If temperature is too low, increase temperature setting on heater thermostat.

Water Temperature Setting

⚠DANGER: There is a hot water scald potential if the thermostat is set too high. Households with small children, disabled, or elderly persons may require a 120°F or lower thermostat setting to prevent contact with HOT water.

The temperature of the water in the water heater can be regulated by setting the temperature dial.

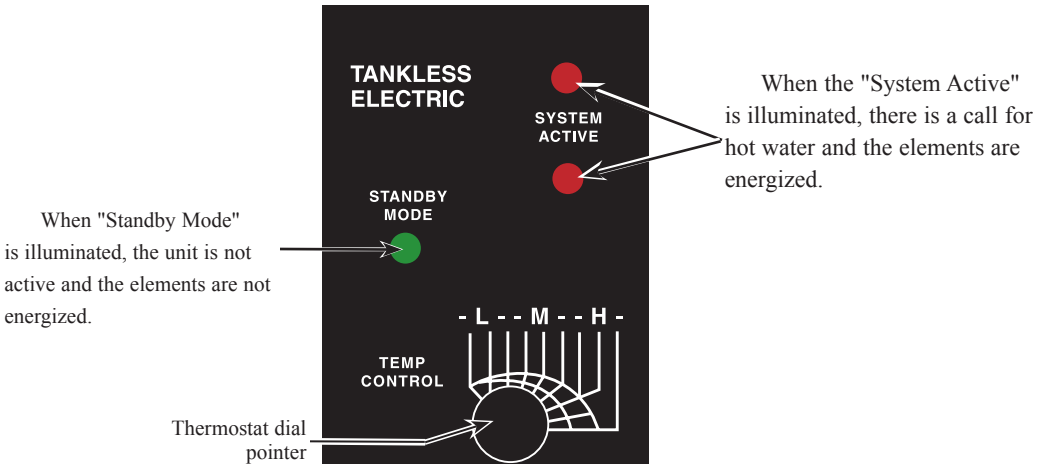
Safety and energy conservation are factors to be considered when selecting the water temperature setting of the water heater's thermostat(s). The lower the temperature setting, the greater the savings in energy and operating costs.

Water temperatures above 125°F can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined in this manual and on the label on the water heater.

Mixing valves for reducing point of use water temperature by mixing hot and cold water in branch water lines are available. Contact a licensed plumber or the local plumbing authority for further information.

The chart on top of the next page may be used as a guide in determining the proper water temperature for your home.

Temperature Adjustment



Time/Temperature Relationship in Scalds

Temperature	Time To Produce a Serious Burn
120°F	More than 5 minutes
125°F	1½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1½ seconds
155°F	About 1 second

Table courtesy of Shriners Burn Institute

Normal Maintenance

Tankless water heaters are designed for a very long service life.

Actual life expectancy will vary with water quality and use. The unit itself does not require any regular maintenance.

However, to ensure consistent water flow, it is recommended to periodically remove scale and dirt that may build up at the aerator of the faucet or in the shower head.

Routine Preventative Maintenance

Properly maintained, your water heater will provide years of dependable trouble-free service.

It is suggested that a routine preventive maintenance program be established and followed by the user.

Notes:

Before You Call For Service…

Troubleshooting Tips
Save time and money! Review the chart on this page first and you may not need to call for service.

Problem	Possible Causes	What To Do
Not enough or no hot water	A fuse is blown or a circuit breaker tripped.	● Replace fuse or reset circuit breaker.
	Electric supply may be off.	● Make sure electric supply to water heater and disconnect switch, if used, are in the ON position.
	The thermostat may be set set too low.	● See the Temperature regulation of the water heater section of this manual.
	Leaking or open hot water faucets.	● Make sure all faucets are closed.
	Electric service to your home may be interrupted.	● Contact the local electric utility.
	Improper wiring.	● See the Installing the water heater section of this manual.
	Manual reset limit (ECO).	● See the Temperature regulation of the water heater section of this manual.
	Cold water inlet temperature may be colder during the winter months.	● This is normal. The colder inlet water takes longer to heat.
Water is too hot	The thermostat is set too high.	● See the Temperature regulation of the water heater section of this manual.

⚠**CAUTION: For your safety DO NOT attempt repair of electrical wiring, thermostats, heating elements or other safety devices. Refer repairs to qualified service personnel.**

Specifications:

ELECTRICAL SPECIFICATIONS **DIMENSIONS (inches / pounds)**

KW	VOLTS	REQ. BREAKER	MAX POWER (AMP)	AWG WIRE	LENGTH	WIDTH	WEIGHT
3	110	30	29	10	10-1/4	5-3/8	6
7	240	30	29	10	10-1/4	5-3/8	6
9	240	40	38	8	10	7-1/4	8
13	240	60	54	6	10	7-1/4	8
18	240	(2) 40	75	(2) 8	10-1/2	11-1/4	12
27	240	(2) 60	112	(2) 6	10-1/2	11-1/4	12

• Plumbing connections: 1/2 NPT • Minimum flow rate: 1/2 gal. min.

TEMPERATURE RISE AND GPM FLOW

KW	MINIMUM ACTIVATION FLOW RATE (GPM)	MAX. FLOW RATE (GPM)	KW @ 240V	TEMPERATURE RISE CHART (F°) AND FLOW RATES BY MODEL								
				20°	30°	40°	50°	60°	70°	80°	90°	100°
3	0.4	1.5	–	1.5	1.0	0.7	0.5					
7	0.4	2.5	7	2.5	2.4	1.6	1.1	0.8	0.5			
9	0.4	3	9	3.0	3.0	2.2	1.5	1.0	0.7	0.5		
13	0.4	4	13	4.0	4.0	3.0	2.1	1.4	1.0	0.7	0.4	
18	0.4	5	18	5.0	5.0	3.9	2.6	1.8	1.2	0.8	0.6	
27	0.4	5	27	5.0	5.0	5.0	4.0	2.7	1.8	1.2	0.9	0.6

IF YOU NEED SERVICE

1. Should you have any questions about your new water heater, or if it requires adjustment, repair, or routine maintenance, it is suggested that you first contact your installer, plumbing contractor or previously agreed upon service agency. In the event the firm has moved, or is unavailable, refer to the telephone directory, commercial listings or local utility for qualified service assistance.

2. Should your problem not be solved to your complete satisfaction, you should then contact the Manufacturer's National Service Department at the following address:

   1241 Carwood Court
   Montgomery, Alabama 36117
   Phone: 1-800-432-8373.

   When contacting the manufacturer, the following information will be requested:

a. Model and serial number of the water heater as shown on the rating plate attached to the jacket of the heater.
b. Address where the water heater is located and physical location.
c. Name and address of installer and any service agency who performed service on the water heater.
d. Date of original installation and dates any service work was performed.
e. Details of the problems as you can best describe them.
f. List of people, with dates, who have been contacted regarding your problem.