BRADFORD WHITE®
WATER HEATERS

ELECTRIC REPLACEMENT PARTS LIST

Residential Energy Saver (RE1U) Utility Models
Commercial Energy Saver (LE1U) Utility Models

RE16U61NAL ✔

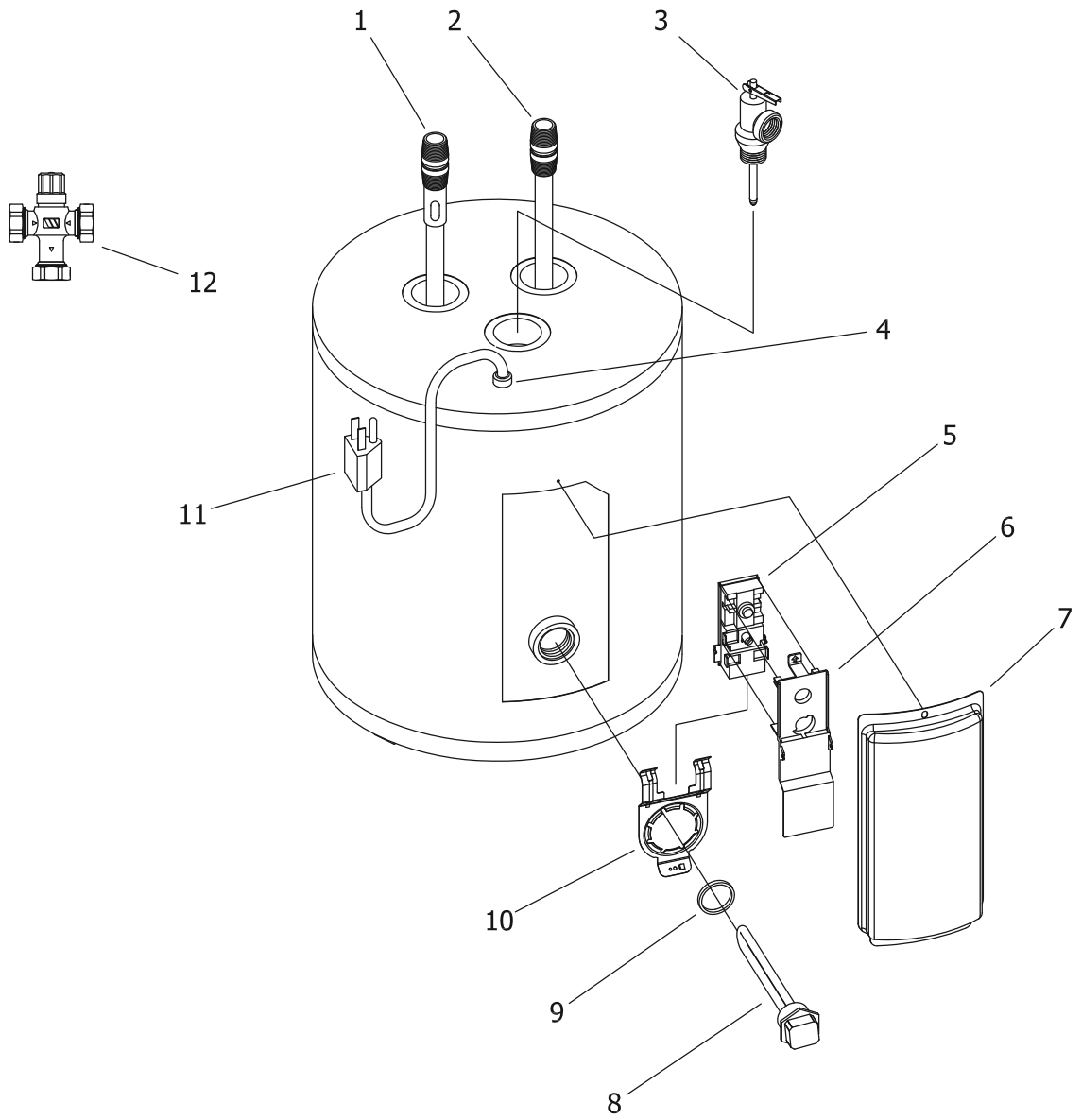
Includes Hydrojet®
Total Performance System

Effective: April, 2015
ECO 7950

NOTE: BOTH MODEL AND SERIAL NUMBERS ARE REQUIRED FOR ORDERING REPLACEMENT PARTS

Dimensions and specifications subject to change without notice.

Parts Book #238-51592-00A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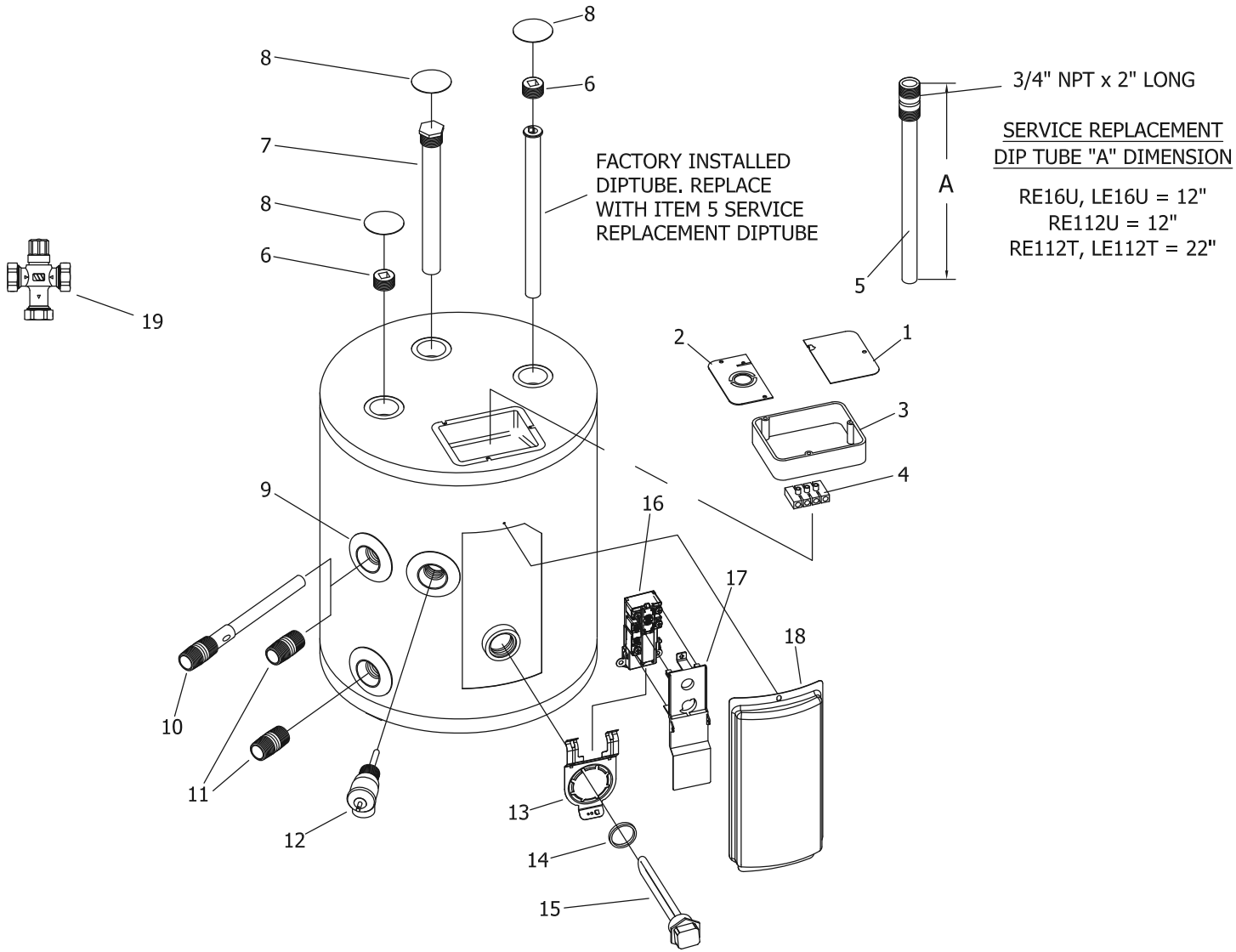
Item	Description	Model RE12U*
1	Hot Water Outlet Anode (Magnesium)#	224-47776-20
	Hot Water Outlet Anode (Aluminum)#	224-47778-20
	Hot Water Outlet Anode (A420 Aluminum)#	224-49560-08
2	Cold Water Inlet Dip Tube (PEX)	229-51534-15
3	T&P Relief Valve	265-40594-02
4	Strain Relief Bushing	239-80372-00
5	Thermostat ■	265-50691-00
6	Thermostat Protector	223-50125-00
7	Access Cover	239-44929-00
8	Heating Element (120V/1500W Copper)** ♦	265-42540-02
	Heating Element (120V/1500W Incoloy)** ♦	265-42541-02
9	Element Gasket	223-34019-00
10	Thermostat Mounting Bracket	239-50689-00
11	Power Cord	239-38846-00
12	ASSE Approved Mixing Valve (Optional)	239-43740-01

■ Protector (Item #6) and mounting bracket (Item# 10) included in kit
♦ Gasket (Item #9)included with this kit
* Applies to all warranties
** For other wattages/voltages, consult residential Heating Element Replacement Parts List.
\# Anode may need to be cut to length

BRADFORD WHITE® WATER HEATERS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FACTORY INSTALLED
DIPTUBE. REPLACE
WITH ITEM 5 SERVICE
REPLACEMENT DIPTUBE
8
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19
3/4" NPT x 2" LONG
SERVICE REPLACEMENT
DIP TUBE "A" DIMENSION
RE16U, LE16U = 12"
RE112U = 12"
RE112T, LE112T = 22"
A
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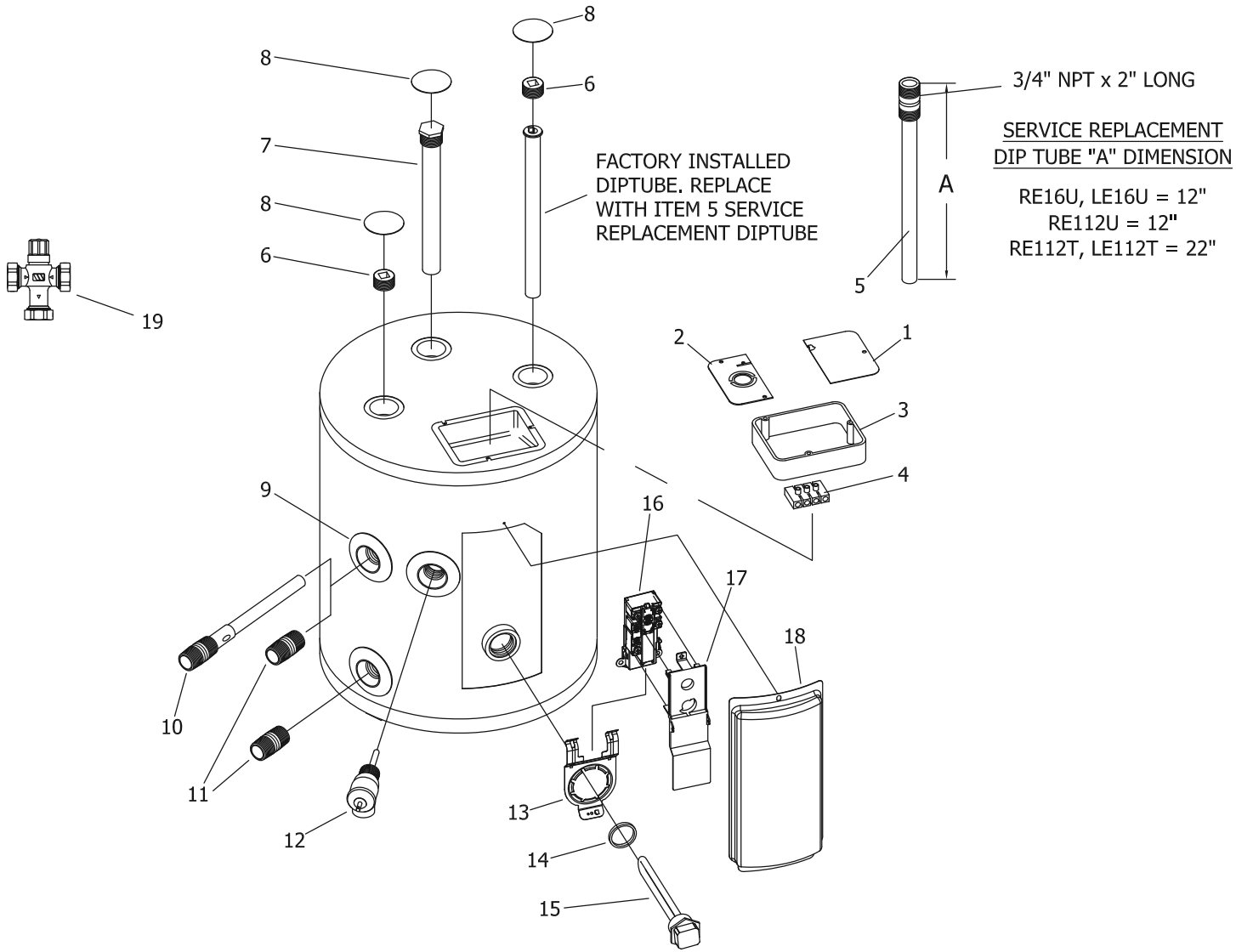
Item	Description	Model RE16U*	Model LE16U*	Model RE120U*	Model LE120U*
1	Junction Box Cover	243-39452-00	239-39450-00	243-39452-00	243-39452-00
2	Bracket-Grounding/Conduit	243-39451-00	243-39451-00	243-39451-00	243-39451-00
3	Junction Box Extender	---	239-40587-00	---	239-40587-00
4	Terminal Block 4-Pole	---	243-49908-00	---	243-49908-00
5	Service Replacement Dip Tube (PEX)	243-51612-01	243-51612-01	---	---
6	Pipe Plug 3/4 NPT	239-11638-00	239-11638-00	---	---
7	Anode Rod Plug Type (Magnesium)#	224-47782-12	224-47782-12	---	---
	Anode Rod Plug Type (Aluminum)#	224-47783-08	224-47783-08	---	---
	Anode Rod Plug Type (A420 Aluminum)#	224-49559-04	224-49559-04	---	---
8	Hole Closure	239-31547-02	239-31547-02	---	---
9	Escutcheon	239-41336-00	239-41336-00	239-41336-00	239-41336-00
10	Hot Water outlet Anode (Magnesium)	---	---	224-47776-14	224-47776-14
	Hot Water outlet Anode (Aluminum)#	---	---	224-32999-33	224-32999-33
	Hot Water outlet Anode (A420 Aluminum)#	---	---	224-49560-08	224-49560-08
11	Inlet/Outlet Nipple	229-32762-03	229-32762-03	229-32762-03	229-32762-03
12	T&P Relief Valve	265-40594-02	265-42540-02	265-42540-02	265-42540-02
13	Thermostat Mounting Bracket	239-50689-00	239-50689-00	239-50689-00	239-50689-00
14	Element Gasket	223-34019-00	223-34019-00	223-34019-00	223-34019-00
15	Heating Element 1500W, 120V Copper**♦	265-42540-02	265-42540-02	265-42540-02	265-42540-02
	Heating Element 1500W, 120V Incoloy**♦	265-42541-02	265-42541-02	265-42541-02	265-42541-02
16	Thermostat ■	265-50691-00	265-50691-00	265-50691-00	265-50691-00
17	Thermostat Protector	223-50125-00	223-50125-00	223-50125-00	223-50125-00
18	Access Cover	243-36618-02	243-36618-02	243-36618-02	243-36618-02
19	ASSE Approved Mixing Valve (Optional)	239-43740-01	239-43740-01	239-43740-01	239-43740-01

■ Protector (Item# 17) and mounting bracket (Item# 13) included in kit
♦ Gasket (Item# 14) included with this kit
* Applies to all warranties
** For other wattages/voltages, consult residential Heating Element Replacement Parts List.
\# Anode may need to be cut to length

BRADFORD WHITE® WATER HEATERS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FACTORY INSTALLED
DIPTUBE. REPLACE
WITH ITEM 5 SERVICE
REPLACEMENT DIPTUBE
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19
3/4" NPT x 2" LONG
SERVICE REPLACEMENT
DIP TUBE "A" DIMENSION
A
RE16U, LE16U = 12"
RE112U = 12"
RE112T, LE112T = 22"
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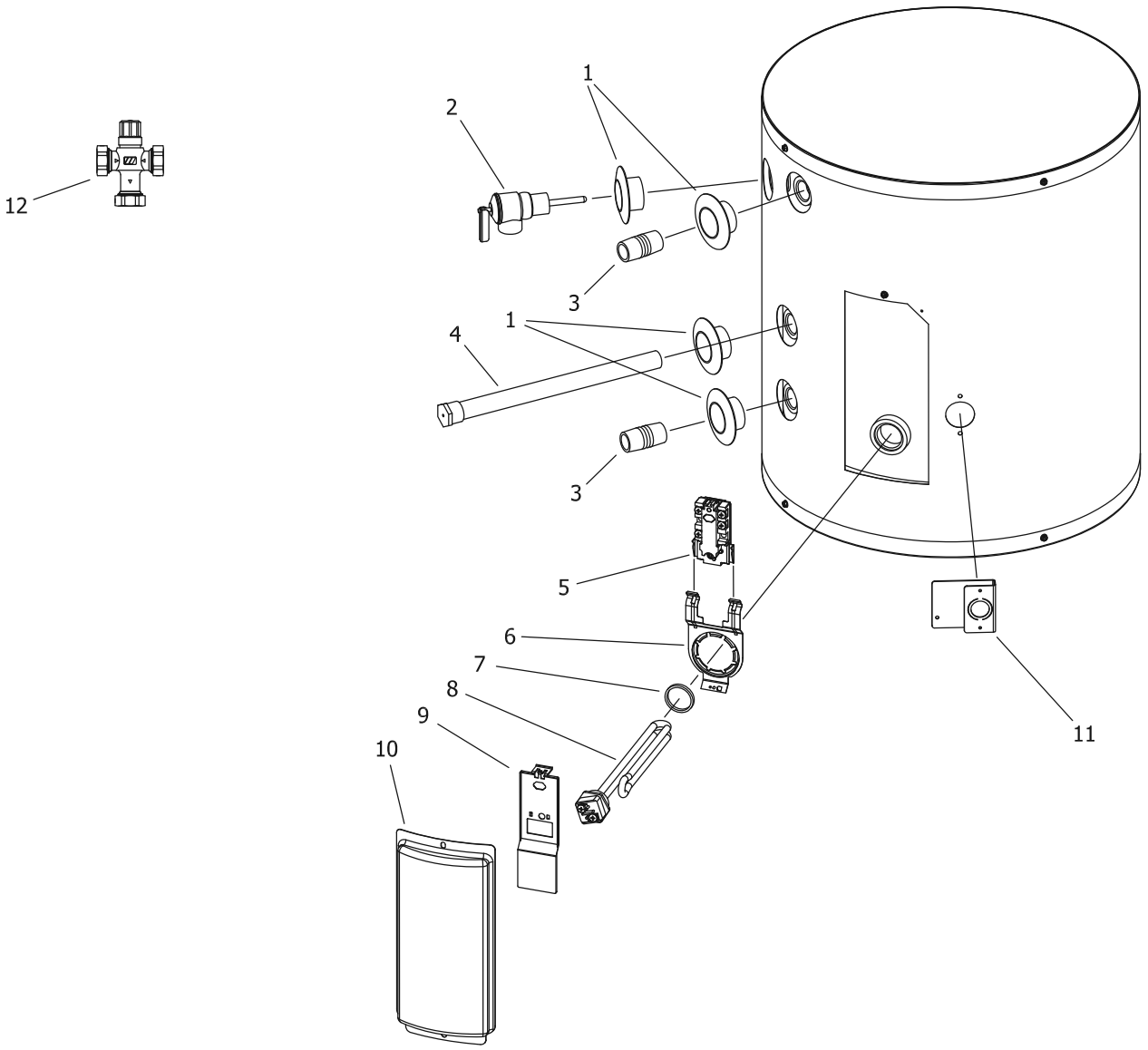
Item	Description	Model RE112U*	Model RE112T	Model LE112T
1	Junction Box Cover	243-39452-00	243-39452-00	243-39452-00
2	Bracket-Grounding/Conduit	243-39451-00	243-39451-00	243-39451-00
3	Junction Box Extender	---	---	239-40587-00
4	Terminal Block 4-Pole	---	---	243-49908-00
5	Service Replacement Dip Tube (PEX)	243-51612-02	243-51612-02	243-51612-02
6	Pipe Plug 3/4 NPT	239-11638-00	239-11638-00	239-11638-00
7	Anode Rod Plug Type (Magnesium)	224-47782-12	224-47782-12	224-47782-12
	Anode Rod Plug Type (Aluminum)	224-47783-08	224-47783-08	224-47783-08
	Anode Rod Plug Type (A420 Aluminum)#	224-49559-04	224-49559-04	224-49559-04
8	Hole Closure	239-31547-02	239-31547-02	239-31547-02
9	Escutcheon	239-41336-00	239-41336-00	239-41336-00
10	Hot Water outlet Anode (Magnesium)	---	---	---
	Hot Water outlet Anode (Aluminum)#	---	---	---
	Hot Water outlet Anode (A420 Aluminum)#	---	---	---
11	Inlet/Outlet Nipple	229-32762-03	229-32762-03	229-32762-03
12	T&P Relief Valve	265-40594-02	265-40594-02	265-40594-02
13	Thermostat Mounting Bracket	239-50689-00	239-50689-00	239-50689-00
14	Element Gasket	223-34019-00	223-34019-00	223-34019-00
15	Heating Element 1500W, 120V Copper**♦	265-42540-02	265-42540-02	265-42540-02
	Heating Element 1500W, 120V Incoloy**♦	265-42541-02	265-42541-02	265-42541-02
16	Thermostat ■	265-50691-00	265-50691-00	265-50691-00
17	Thermostat Protector	223-50125-00	223-50125-00	223-50125-00
18	Access Cover	243-36618-02	243-36618-02	243-36618-02
19	ASSE Approved Mixing Valve (Optional)	239-43740-01	239-43740-01	239-43740-01

■ Protector (Item# 17) and mounting bracket (Item# 13) included in kit
♦ Gasket (Item# 14) included with this kit
* Applies to all warranties
** For other wattages/voltages, consult residential Heating Element Replacement Parts List.
\# A420 Aluminum Anode may need to be cut to length

BRADFORD WHITE® WATER HEATERS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Item	Description	Model RE110U*	Model LE110U*	Model RE115U*	Model LE115U*
1	Escutcheon	239-41336-00	239-41336-00	239-41336-00	239-41336-00
2	T&P Relief Valve	265-40594-02	265-40594-02	265-40594-02	265-40594-02
3	Inlet/Outlet Nipple	229-32762-03	229-32762-03	229-32762-03	229-32762-03
4	Anode Rod Plug Type (Magnesium)#	224-47782-12	224-47782-12	224-47782-12	224-47782-12
	Anode Rod Plug Type (Aluminum)#	224-47783-08	224-47783-08	224-47783-08	224-47783-08
	Anode Rod Plug Type (A420 Aluminum)#	224-49559-04	224-49559-04	224-49559-04	224-49559-04
5	Thermostat ■	265-50691-00	265-50691-00	265-50691-00	265-50691-00
6	Thermostat Mounting Bracket	239-50689-00	239-50689-00	239-50689-00	239-50689-00
7	Element Gasket	223-34019-00	223-34019-00	223-34019-00	223-34019-00
8	Heating Element 1500W, 120V Copper** ♦	265-42540-02	265-42540-02	265-42540-02	265-42540-02
	Heating Element 1500W, 120V Incoloy** ♦	265-42541-02	265-42541-02	265-42541-02	265-42541-02
9	Thermostat Protector	223-50125-00	223-50125-00	223-50125-00	223-50125-00
10	Access Cover	243-36618-02	243-36618-02	243-36618-02	243-36618-02
11	Bracket-Grounding/Conduit	239-46167-00	239-46167-00	239-46167-00	239-46167-00
12	ASSE Approved Mixing Valve (Optional)	239-43740-01	239-43740-01	239-43740-01	239-43740-01

■ Protector (Item #9) and mounting bracket (Item# 6) included in kit.
♦ Gasket (Item # 7) included with this kit.
* Applies to all warranties.
\# Anode may need to be cut to length.

BRADFORD WHITE® WATER HEATERS

NOTES

NOTES

BRADFORD WHITE®
WATER HEATERS
Ambler, PA

For U.S. and Canada field service,
contact your professional installer or
local Bradford White sales representative.

Sales/**800-523-2931**
*Fax/**215-641-1670***
*Parts Fax/**215-641-2180***

Technical Support/**800-334-3393**
*Fax/**269-795-1089***

Warranty/**800-531-2111**
*Fax/**269-795-1089***

International:
Telephone/**215-641-9400**
*Telefax/**215-641-9750***

BRADFORD WHITE-*CANADA® INC.*
Mississauga, ON

Sales/**866-690-0961**
905-238-0100

*Fax/**905-238-0105***

Technical Support/**800-334-3393**

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parts@bradfordwhite.com
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www.bradfordwhite.com

ELECTRIC WATER HEATER

A Spanish language version of these instructions is available by contacting the manufacturer listed on the rating plate.
La version espanola de estas instruccions se puede obtener al escribirle a la fábrica cuyo nombre aparece in la placa de especificaciones.

INSTALLATION & OPERATING INSTRUCTION MANUAL

THE WARRANTY ON THIS WATER HEATER IS IN EFFECT ONLY WHEN THE WATER HEATER IS INSTALLED AND OPERATED IN ACCORDANCE WITH LOCAL CODES AND THESE INSTRUCTIONS. THE MANUFACTURER OF THIS HEATER WILL NOT BE LIABLE FOR ANY DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE INSTRUCTIONS. READ THESE INSTRUCTIONS THOROUGHLY BEFORE STARTING.

For your family's comfort, safety and convenience, it is recommended this water heater be installed and serviced by a plumbing professional.

238-44422-00N REV5/14

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CONGRATULATIONS!

You have just purchased one of the finest water heaters on the market today!

This installation, operation and instruction manual will explain in detail the installation and maintenance of your new Electric Water Heater. We strongly recommend that you contact a plumbing professional for the installation of this water heater.

We require that you carefully read this manual, as well as the enclosed warranty, and refer to it when questions arise. If you have any specific questions concerning your warranty, please consult the plumbing professional from whom your water heater was purchased. For your records we recommend that you write the model, serial number and installation date of your water heater in the maintenance section in the back of this manual.

This manual should be kept with the water heater.

GENERAL INFORMATION

This electric water heater's design is certified by INTERTEK (ETL) and listed in accordance with UL 174. CETL listed in accordance with Canadian National Standard C22.2, No. 110-M90.

Water heaters with a capacity of 19 gallons through 119 gallons are evaluated by INTERTEK in accordance with Part 280.707(d) (1) of HUD Mobile Home Construction and Safety Standards for Energy Efficiency. For mobile home installations, these water heaters must be installed in accordance with Section 3280.709 of HUD Mobile Home Construction and Safety Standards for Installation of Appliances.

This water heater must be installed in accordance with local codes. In the absence of local codes, install this water heater in accordance with the N.E.C. Reference Book (latest edition).

The warranty for this water heater is in effect only when the water heater is installed, adjusted, and operated in accordance with these Installation and Operating Instructions. The manufacturer will not be held liable for damage resulting from alteration and/or failure to comply with these instructions.

This water heater has been designed and certified for the purpose of heating potable water. The installation and use of this water heater for any purpose other than the heating of potable water, may cause damage to the water heater and create a hazardous condition and nullify the warranty.

⚠ CAUTION

Incorrect operation of this appliance may create a hazard to life and property and will nullify the warranty.

Do not use this appliance if any part has been submerged in water. The plumbing professional responsible for the installation of this water heater should be contacted to inspect the appliance and to replace any part of the control system, including thermostat, which has been submerged in water.

Make sure that the rating plate on the water heater is referenced for certainty that the correct voltage is being supplied to the water heater.

⚠ DANGER

Do not store or use gasoline or other flammable, combustible, or corrosive vapors and liquids in the vicinity of this or any other appliance.

A sacrificial anode is used to extend tank life. Removal of this anode, for any reason, will nullify the warranty. In areas where water is unusually active, an odor may occur at the hot water faucet due to a reaction between the sacrificial anode and impurities in the water. If this should happen, an alternative anode may be purchased from the supplier that installed this water heater. This will minimize the odor while protecting the tank. Additionally, the water heater should be flushed with appropriate dissolvers to eliminate any bacteria.

IMPORTANT

Before proceeding, please inspect the water heater and it's components for possible damage. DO NOT install any damaged components. If damage is evident, please contact the supplier where the water heater was purchased or the manufacturer listed on the rating plate for replacement parts.

INSTALLATION

Locating The Water Heater

⚠ WARNING

Water heaters are heat producing appliances. To avoid damage or injury, there shall be no materials stored against the water heater and proper care shall be taken to avoid unnecessary contact (especially by children) with the water heater. **UNDER NO CIRCUMSTANCES SHALL FLAMMABLE MATERIALS, SUCH AS GASOLINE OR PAINT THINNER BE USED OR STORED IN THE VICINITY OF THIS WATER HEATER OR ANY LOCATION FROM WHICH FUMES COULD REACH THE WATER HEATER.**

This water heater MUST be installed indoors out of the wind and weather.

This water heater shall NOT be installed in any location where gasoline or flammable vapors are likely to be present, unless the installation is such to eliminate the probable ignition of gasoline or flammable vapors.

The location this water heater is to be installed is of utmost importance. Before installing this water heater, consult the installation section of these instructions. After reading these installation and operating instructions, select a location for the water heater where the floor is level and is easily accessible to a power supply and water connections. It is recommended that the water heater be located near the center of greatest hot water usage to prevent heat loss through the pipes.

DO NOT locate the water heater where water lines could be subjected to freezing temperatures. Locate the water heater so that access panels and drain valves are accessible.

Locating The Water Heater continued-

Some models are not equipped with a drain valve. For those models, install a drain tee in the cold water inlet as close as practical to the water heater.

Water heater corrosion and component failure can be caused by the heating and breakdown of airborne chemical vapors. Examples of some typical compounds that are potentially corrosive are: spray can propellants, cleaning solvents, refrigerator and air conditioning refrigerants, swimming pool chemicals, calcium or sodium chloride, waxes and process chemicals. These materials are corrosive at very low concentration levels with little or no odor to reveal their presence.

NOTE: DAMAGE TO THE WATER HEATER CAUSED BY EXPOSURE TO CORROSIVE VAPORS IS NOT COVERED BY THE WARRANTY. DO NOT OPERATE THE WATER HEATER IF EXPOSURE HAS OR WILL OCCUR. DO NOT STORE ANY POTENTIALLY CORROSIVE COMPOUNDS IN THE VICINITY OF THE WATER HEATER.

This water heater must be located in an area where leakage of the tank or water line connections and the combination temperature and pressure relief valve will not result in damage to the area adjacent to the water heater or to lower floors of the structure. When such locations cannot be avoided, a suitable drain pan must be installed under the water heater. The drain pan must have a minimum length and width of at least 4 in. (10.2 cm) greater than the diameter of the water heater. The drain pan, as described above, can be purchased from your plumbing professional. The drain pan must be piped to an adequate drain. The piping must be pitched for proper drainage.

CLEARANCES

1. Minimum clearance to combustible material is 0 inches for the Top, Sides, Front, and Rear of this water heater. However, it is recommended that **at least 18 inches (45.7 cm) from the Top, and 24 inches (61 cm) from the Front.** Clearance for servicing may be reduced down to minimum clearance to combustible material, but service time and effort may be greatly increased.
2. Increase distances to provide clearances for servicing.

To comply with NSF requirements this water heater is to be:

a) Sealed to the floor with sealant, in a smooth and easily cleanable way, or
b) Installed with an optional leg kit that includes legs and/or extensions that provide a minimum clearance of 6” beneath the water heater.

Note: For California installation this water heater must be braced, anchored, or strapped to avoid falling or moving during an earthquake. See instructions for correct installation procedures. Instructions may be obtained from DSA Headquarters Office, 1102 Q Street, Suite 5100, Sacramento, CA 95811.

Water Connections

NOTE: BEFORE PROCEEDING WITH THE INSTALLATION, CLOSE THE MAIN WATER SUPPLY VALVE.

After shutting the main water supply valve, open a faucet to relieve the water line pressure to prevent any water from leaking out of the pipes while making the water connections to the water heater. After the pressure has been relieved, close the faucet. The COLD water inlet and HOT water outlet are identified on top of the water heater. The fittings at the cold water inlet and hot water outlet are dielectric waterway fittings with 3/4" NPT tapered male threads. Make the proper plumbing connections between the water heater and the plumbing system in the house. Install a shut-off valve in the cold water supply line.

⚠ CAUTION

If sweat fittings are to be used, **DO NOT** apply heat to the nipples on top of the water heater. Sweat the tubing to the adapter before fitting the adapter to the water connections. It is imperative that heat is not applied to the nipples containing a plastic liner.

IMPORTANT

FAILURE TO INSTALL AND MAINTAIN A NEW, LISTED 3/4" X 3/4" TEMPERATURE-PRESSURE RELIEF VALVE WILL RELEASE THE MANUFACTURER FROM ANY CLAIM WHICH MIGHT RESULT FROM EXCESSIVE TEMPERATURE AND PRESSURES.

If this water heater is installed in a closed water supply system, such as the one having a back-flow preventer in the cold water supply, provisions shall be made to control thermal expansion. DO NOT operate this water heater in a closed system without provisions for controlling thermal expansion. Your water supplier or local plumbing inspector should be contacted on how to control this situation.

After installation of the water lines, open the main water supply valve and fill the water heater. While the water heater is filling, open several hot water faucets to allow air to escape from the water system. When a steady stream of water flows through the faucets, close them and check all water connections for possible leaks. **NEVER OPERATE THE WATER HEATER WITHOUT FIRST BEING CERTAIN IT IS FILLED WITH WATER.**

⚠ WARNING

For protection against excessive temperatures and pressure, install temperature and pressure protective equipment required by local codes, but not less than a combination temperature and pressure relief valve certified by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials, as meeting the Requirements for *Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22*, and the Standard *CAN1-4.4 Temperature, Pressure, Temperature and Pressure Relief Valves and Vacuum Relief Valves*. The combination temperature and pressure relief valve shall be marked with a maximum set pressure, not to exceed the maximum working pressure of the water heater. The combination temperature and pressure relief valve shall also have an hourly rated temperature steam BTU discharge capacity not less than the hourly input rating of the water heater.

Install the combination temperature and pressure relief valve into the opening provided and marked for this purpose on the water heater

Note: Some models may already be equipped or supplied with a combination temperature and pressure relief valve. Verify that the combination temperature and pressure relief valve complies with local codes. If the combination temperature and pressure relief valve does not comply with local codes, replace it with one that does. Follow the installation instructions above on this page.

Install a discharge line so that water discharged from the combination temperature and pressure relief valve will exit within six (6) inches (15.3 cm) above, or any distance below the structural floor and cannot contact any live electrical part. The discharge line is to be installed to allow for complete drainage of both the temperature and pressure relief valve and the discharge line. The discharge opening must not be subjected to blockage or freezing. **DO NOT** thread, plug or cap the discharge line. It is recommended that a minimum of four (4) inches (10.2 cm) be provided on the side of the water heater for servicing and maintenance of the combination temperature and pressure relief valve.

Do not place a valve between the combination temperature and pressure relief valve and the tank.

⚠ WARNING

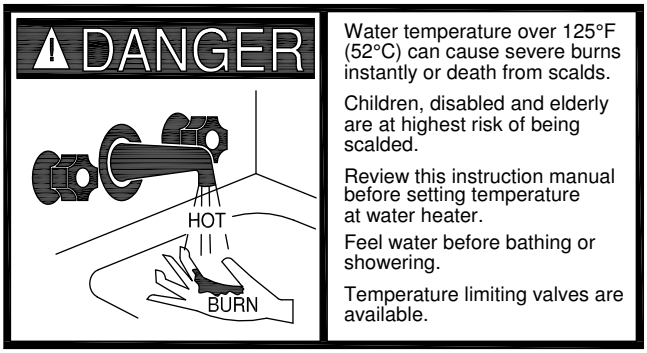
Hydrogen gas can be produced in a hot water system served by this water heater that has not been used for a long period of time (generally two weeks or more). Hydrogen gas is extremely flammable. To reduce the risk of injury under these conditions, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. If hydrogen is present, there will probably be an unusual sound such as air escaping through the pipe as the water begins to flow. There should be no smoking or open flame near the faucet at the time it is open.

⚠ CAUTION

INCREASING THE THERMOSTAT SETTING ABOVE THE PRESET TEMPERATURE MAY CAUSE SEVERE BURNS AND CONSUME EXCESSIVE ENERGY. HOTTER WATER INCREASES THE RISK OF SCALD INJURY.

Water Connections continued-

This water heater can deliver scalding temperature water at any faucet in the system. Be careful whenever using hot water to avoid scalding injury. Certain appliances, such as dishwashers and automatic clothes washers, may require increased temperature water. By setting the thermostat on this water heater to obtain increased temperature water required by these appliances, you may create the potential for scald injury. To protect against injury, you should install an ASSE approved mixing valve in the water system. This valve will reduce point of discharge temperature by mixing cold and hot water in branch supply lines. Such valves are available from the manufacturer of this water heater or a local plumbing supplier. Please consult with a plumbing professional.



APPROXIMATE TIME/TEMPERATURE RELATIONSHIPS IN SCALDS	
120°F *(49°C)*	More than 5 minutes
125°F *(52°C)*	1½ to 2 minutes
130°F *(54°C)*	About 30 seconds
135°F *(57°C)*	About 10 seconds
140°F *(60°C)*	Less than 5 seconds
145°F *(63°C)*	Less than 3 seconds
150°F *(66°C)*	About 1½ seconds
155°F *(68°C)*	About 1 second

Upright Models (See Figures 1A & 1B)

The hot and cold water connections are identified on the top of the water heater (See figure 1A). For bottom inlet models (-503 models), the cold water inlet is located on the side of the drain valve (see figure 1B). Connect the hot and cold water lines to the installed nipples using unions. Install a listed temperature-pressure relief valve in the opening on the side of the water heater.

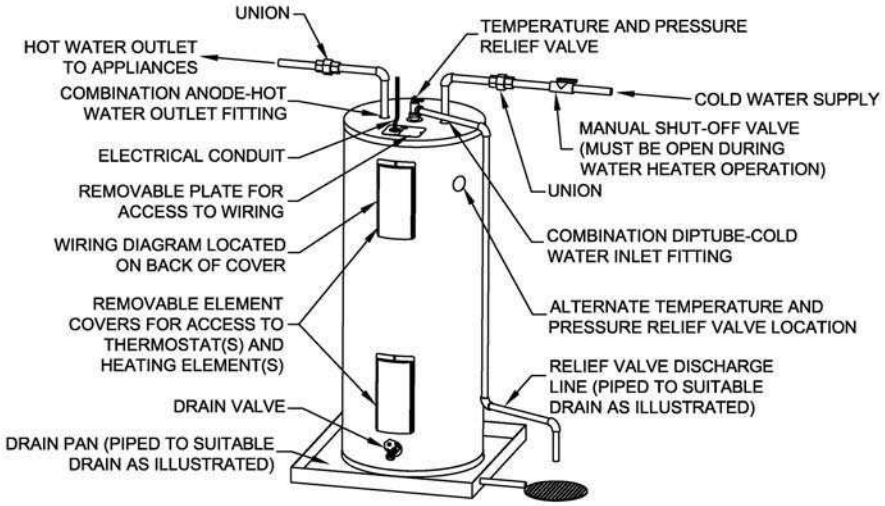


Figure 1A (Top Inlet Models)

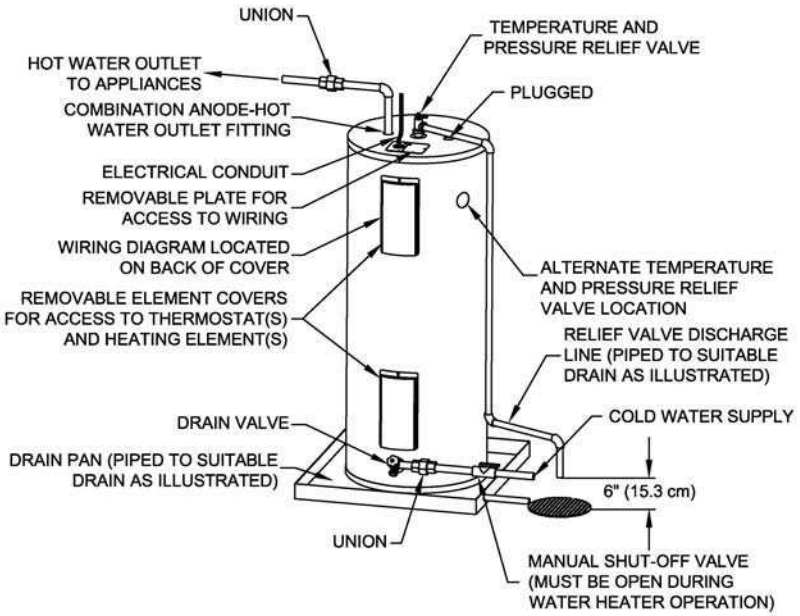


Figure 1B (Bottom Inlet Models)

Utility Models (See Figure 2)

All utility models are supplied with inlet and outlet nipples located in a plastic bag attached to the water heater. The hot and cold water locations are identified on the side of the water heater. Apply appropriate amount of thread sealant to the provided nipples and install nipples into the side of the tank. For 20 gallon utility models, install the supplied anode/nipple combination at the HOT outlet location. Connect the hot and cold water lines to the nipples using unions. Install a listed temperature-pressure relief valve in the opening on the side of the water heater. Install a vacuum relief anti-siphon device in the cold water inlet line when using side cold water connection.

The 6 and 12 gallon models are equipped for installation with either side or top water connections. They are shipped from the factory with the alternate top connections plugged. The alternate top inlet is supplied with a dip tube. If the top water connections are needed, remove pipe plugs from the alternate top connections, apply appropriate amount of thread sealant to the provided nipples and install nipples in desired top location. Apply appropriate amount of thread sealant to the pipe plugs and install pipe plugs in the side locations. Install a vacuum relief anti-siphon device in the cold water inlet line when using side cold water connection.

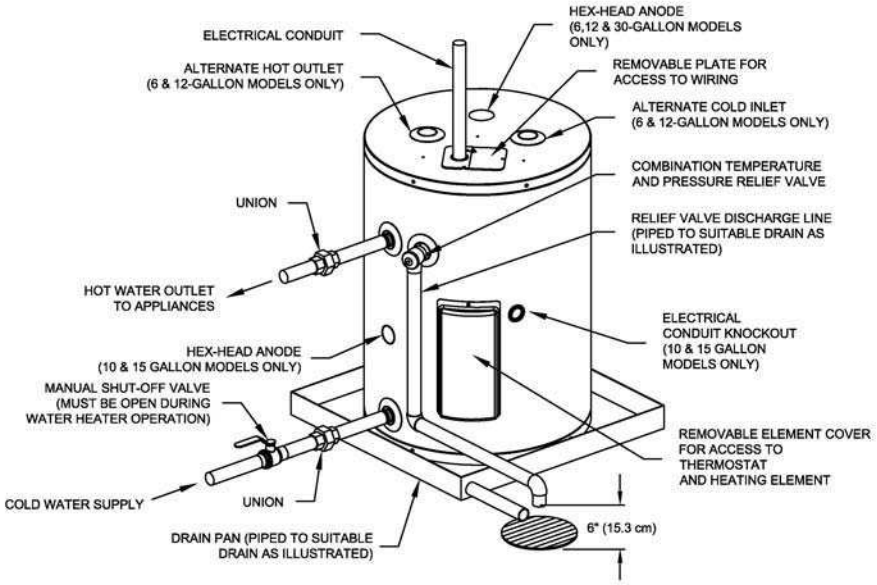


Figure 2

Table Top Models (See Figure 3) The hot water outlet and cold water inlet are identified on the back panel of the water heater. Referring to figure 3, remove the two screws that are holding the service access panel in place. Remove front panel for access. Wedge a flat bladed screwdriver into the front joint between the top and side panels and force the top panel upward. This will separate the top panel from the water heater and allow further access to the water heater.

Check drain valve to make sure that it is closed. Part the top fiberglass insulation to allow access to the plumbing and electrical connections. Connect the cold water supply line and hot water outlet lines using elbows, nipples and unions as shown in the diagrams. Install a shutoff valve in the cold water inlet. A listed temperature-pressure relief valve has been factory installed. Plumb the discharge as shown.

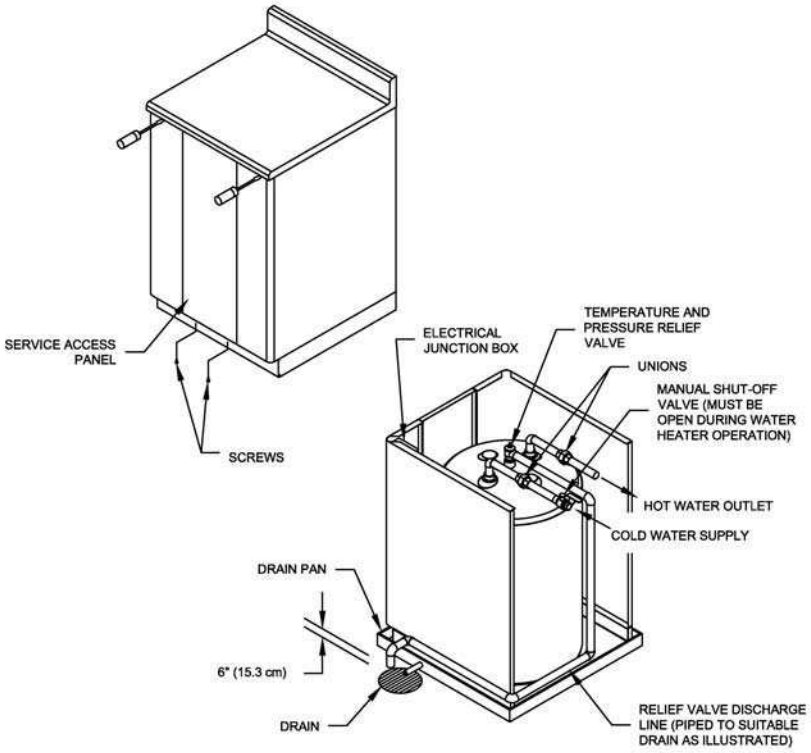


Figure 3

Electrical Connections

Before any electrical connections are made, be sure that the water heater is full of water and that the manual shut-off valve in the cold water supply line is open. Check the rating plate and wiring diagram before proceeding. This electric water heater was built and wired in accordance with the INTERTEK testing approvals requirements. The temperature limiting device is of the manual reset, trip-free type and has been factory installed to interrupt all ungrounded power supply conductors in the event of thermostat failure. Thermostats are factory set and wired in accordance with the wiring diagram fastened to the inside of the top access panel. The plumbing supplier in your area ordered this heater wired at the factory to comply with existing area codes, but local utility codes may require or allow other circuitry. Consult your local power company to determine the correct electrical hook-up in order to meet local utility and building codes and in order to obtain the most economical rates. Also check to find out if you are required to obtain a permit before starting the installation. The following chart shows the recommended fuse size for the maximum water heater wattage. The maximum wattage and rated voltage are shown on the water heater data plate. The water heater must be well grounded. A green ground screw is provided at the electrical connection point for connecting a ground wire. Ground screw on 10 & 15-gallon models is located under the removable element cover.

Recommended Fuse size					
	Voltage				
Max. Watts	120v	208v	240v	277v	480v
1000	15A	10A	10A	10A	10A
1250	15A	10A	10A	10A	10A
1500	20A	10A	10A	10A	10A
2000	25A	15A	15A	10A	10A
2500	30A	15A	15A	15A	10A
3000	35A	20A	20A	15A	10A
3500	---	25A	20A	20A	10A
4000	---	25A	25A	20A	15A
4500	---	30A	25A	25A	15A
5000	---	30A	30A	25A	15A
5500	---	35A	30A	25A	15A
6000	---	40A	35A	30A	20A

GENERAL OPERATION

Before closing the switch to allow electric current to flow to the water heater, make certain that the water heater is full of water and that the cold water inlet valve is open. Complete failure of the heating element(s) will result if they are not totally immersed in water at all times. Failure of the element(s) due to dry-firing is not covered by warranty.

When the switch is closed, the operation of this electric water heater is automatic. The thermostats are preset to the "HOT" setting to provide a water temperature of approximately 120°F *(49°C)* to reduce the risk of scald injury.

⚠ CAUTION

Scalding may occur within five (5) seconds at a temperature setting of 140°F *(60°C).*

Care must be taken whenever using hot water to avoid scalding injury. Certain appliances require high temperature hot water (such as dishwashers and automatic clothes washers).

TO FILL THE WATER HEATER

1. Close the water heater drain valve (if provided) by inserting a standard flat head screwdriver into the slot and turning clockwise.
2. Open the cold water supply shut-off valve.
3. Open several hot water faucets to allow air to escape from the system.
4. When a steady stream of water flows from the faucets, the water heater is filled. Close the faucets and check for water leaks at the water heater drain valve, combination temperature and pressure relief valve and the hot and cold water connections.

TO DRAIN THE WATER HEATER

Should it become necessary to completely drain the water heater, make sure you follow the steps below:

1. Disconnect the power supply to the water heater. Consult the plumbing professional or electric company in your area for service.
2. Close the cold water supply shut-off valve.
3. Open the drain valve (if provided) on the water heater by inserting a standard flat head screwdriver into the slot and turning counter-clockwise. The drain valve has threads on the end that will allow connection of a standard hose coupling. For those models not equipped with a drain valve, disconnect cold water inlet piping at a convenient connection location as close to an adequate drain as possible.
   CAUTION! THIS WATER MAY BE HOT.
4. Open a hot water faucet to allow air to enter the system.

To refill the water heater, refer to "TO FILL THE WATER HEATER."

Thermostat Adjustment

⚠ CAUTION

Before adjusting thermostat(s), turn off power supply to the water heater.

The temperature of the water can be changed by adjusting the thermostat(s). Before any work is done on the water heater, disconnect all power to the water heater by opening the switch at the main electrical circuit breaker or fuse box. Remove the access panels or front panel on table tops, fold the insulation outward away from the controls. Set the thermostat(s) to the desired water temperature using a screwdriver to move the thermostat dial. The thermostat has been factory preset to approximately 120°F *(49°C).* Rotate the temperature dial clockwise to increase water temperature. Replace the insulation making sure that the controls are well covered and that the plastic terminal shield has not been displaced; replace the access panel. The water heater is now ready for operation and the main switch can be closed.

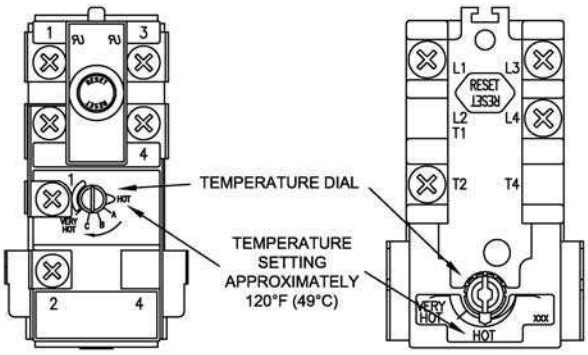


Figure 4

⚠ DANGER

Hotter water increases the risk of scald injury. Scalding may occur within five (5) seconds at a temperature setting of 140°F *(60°C).* To protect against hot water injury, install an ASSE approved mixing valve in the water system. This valve will reduce point of discharge water temperatures by mixing cold and hot water in branch water lines. A licensed plumbing professional or local plumbing authority should be consulted.

Note: This water heater is equipped with an energy cut out device to prevent overheating. Should overheating occur, turn off the electrical supply to the water heater and contact a qualified service technician.

MAINTENANCE

IMPORTANT

The water heater should be inspected at a minimum of annually by a qualified service technician for damaged components. **DO NOT** operate this water heater if any part is found damaged.

Shut off the electric power whenever the water supply to the water heater is off. Shut off the electric power and water supply, drain the water heater completely to prevent freezing whenever the building is left unoccupied during the cold weather months. In order to insure efficient operation and long tank life, drain the water heater at least once a month through the drain valve until the water runs clear. Failure to do this may result in noisy operation and lime and sediment buildup in the bottom of the tank. Check the temperature-pressure relief valve to insure that the valve has not become encrusted with lime. Lift the lever at the top of the valve several times until the valve seats properly without leaking and operates freely.

⚠ WARNING

When lifting lever of temperature-pressure relief valve, hot water will be released under pressure. Be certain that any released water does not result in bodily injury or property damage. The magnesium anode rod should be inspected periodically and replaced when necessary to prolong tank life.

The following maintenance should be performed by a qualified service technician at the minimum periodic intervals suggested below. In some installations, the maintenance interval may be more frequent depending on the amount of use and the operating conditions of the water heater. Regular inspection and maintenance of the water heater will help to insure safe and reliable operation.

1. Annually, check the operation of the thermostat(s).

2. Bi-annually, check the seal around the heating elements for leaks. If there is any sign of leaking, disconnect the power supply to the water heater and contact the plumbing professional that installed this water heater or a qualified service technician.

3. At least once a year, check the combination temperature and pressure relief valve to insure that the valve has not become encrusted with lime. Lift the lever at the top of the temperature-pressure relief valve several times until the valve seats properly without leaking and operates freely.

⚠ WARNING

When lifting lever of temperature-pressure relief valve, hot water will be released under pressure. Be certain that any released water does not result in bodily injury or property damage.

4. If the combination temperature and pressure relief valve on the appliance discharges periodically, this may be due to thermal expansion in a closed water supply system. Contact the water supplier or local plumbing inspector on how to correct this situation. Do not plug the combination temperature and pressure relief valve outlet for any reason.

5. Monthly, drain off a gallon of water from the water heater to remove silt and sediment.

⚠ WARNING! THIS WATER MAY BE HOT.

6. A combination sacrificial anode rod/hot water outlet nipple has been installed to extend tank life. The anode rod should be inspected periodically (every 2 years) and replaced when necessary to prolong tank life. Water conditions in your area will influence the time interval for inspection and replacement of the anode rod. Contact the plumbing professional who installed the water heater or the manufacturer listed on the rating plate for anode replacement information. The use of a water softener may increase the speed of anode consumption. More frequent inspection of the anode is needed when using softened (or phosphate treated) water.

⚠ CAUTION

FOR YOUR SAFETY, **DO NOT** ATTEMPT TO REPAIR THERMOSTAT(S), HEATING ELEMENTS, OR ELECTRICAL WIRING. REFER SUCH REPAIRS TO A QUALIFIED SERVICE TECHNICIAN.

Contact your local plumbing supplier or plumbing professional for replacement parts or contact the company at the address displayed on the rating plate of the water heater.

For faster and better service, please provide the part name, model, and serial number(s) of the water heater(s) when ordering parts.

READ THE WARRANTY FOR A FULL EXPLANATION OF THE LENGTH OF TIME THAT PARTS AND THE WATER HEATER ARE WARRANTED.

Manufactured under one or more of the following U.S. Patents: 5,277,171; 5,341,770; 5,372,185; 5,485,879; 5,574,822; 5,596,952; 5,660,165; 5,682,666; 5,761,379; 5,943,984; 5,954,492; 5,988,117; 6,056,542; 6,142,216; 6,442,178; 6,684,821; 6,935,280; 7,063,132; 7,063,133; 7,007,748; 7,270,087; 7,334,419; 7,337,517; 7,409,925; 7,458,341; 7,559,293; 7,621,238; 7,634,976; 7,650,859; 7,665,210; 7,665,211; 7,699,026; 7,866,168; 7,900,589; 7,971,560; 7,992,526 8,082,888; 8,146,772; Other U.S. and Foreign patent applications pending. Current Canadian Patents: 2,092,105; 2,107,012; 2,108,186; 2,112,515; 2,143,031; 2,239,007; 2,262,174; 2,314,845; 2,409,271; 2,476,685; 2,504,824; 2,548,958

Complete the following information and retain for future reference:

Model No:_____

Serial No:_____

Service Phone Days: _____Nights:_____

Address:_____

Supplier:_____

Supplier Phone No:_____

NOTES

NOTES

BRADFORD WHITE CORPORATION

LIMITED RESIDENTIAL WATER HEATER WARRANTY

WHAT DOES THIS LIMITED WARRANTY COVER?

This limited warranty covers both the glass-lined tank and component parts for leakage or other malfunction caused by defects in materials and/or workmanship. It extends to the first buyer and to any subsequent owner(s) as long as the water heater remains installed at its original place of installation in the USA, CANADA or Puerto Rico. For other countries please see chart on reverse side.

WHAT DOES THIS LIMITED WARRANTY NOT COVER?

1. This limited warranty does not cover leakage or other malfunction caused by:
   a) Excessive use and specifically, non residential use.
   b) Defective Installation, and specifically, any installation which is made:
      i. in violation of applicable state or local plumbing, housing or building codes, or
      ii. without a certified American Gas Association, ASME, or comparable combination temperature and pressure relief valve, or
      iii. contrary to the written instructions furnished with the unit.
   c) Adverse local conditions, and specifically, sediment or lime precipitate in the tank or corrosive elements in the atmosphere.
   d) Misuse, and specifically, operation, and maintenance contrary to the written instructions furnished with the unit, removal of magnesium anode, disconnection, alteration or addition of non-approved components or apparatus, operation with fuels or at settings other than those set forth on the rating plate or accidental or other exterior damage.
2. This warranty also does not cover:
   a) Production of noise, taste, odors, discoloration or rusty water.
   b) Incidental property damage, loss of use, inconvenience or other incidental or consequential costs.
   c) Costs associated with the replacement and/or repair of the unit, including:
      i. any freight, shipping or delivery charges
      ii. any removal, installation or re-installation charges
      iii. any material, and/or permits required for installation, re-installation or repair
      iv. charges to return the defective water heater and/or component part to the manufacturer.

WHAT IS THE PERIOD OF COVERAGE?

This limited warranty runs from date of installation (or without proof of installation, from three (3) months after the date of manufacture) for the period specified on the following chart. To determine length of coverage, check model number listed on the rating plate of appliance against this chart.

USA, CANADA AND PUERTO RICO

MODEL NUMBER PREFIX	LIMITED TANK** WARRANTY	LIMITED PARTS** WARRANTY
JI, MI, M3, MS, (U)DS, MIMH, MIMS, MII, M4, (U)DH1, M1XR, (M,U)2XR, (U)PDX2, M2, M1, AST, (M,U)1TW, (M,U)2TW, GX, CDW, CSW, U1, U2, U4, SSW, SDW, SDC, (U)PDX1, D4, (M,U)4TW, (M,U)4XRTW, HE4, (U)PDX4, WH, (U)RG, RE	1, 2, 3, 5, 6, 8 or 10 YRS	1 or 6 YRS*
M-III, M2HE, RE2H	6 or 10 YRS	6 or 10 YRS*

NOTE: The duration of the tank warranty will be found in the model number.
i.e.; RG240T1FBN has a 1 Year tank warranty
RG240T2FBN has a 2 Year tank warranty
RG240T6FBN has a 6 Year tank warranty
RG240T10FBN has a 10 Year tank warranty

* All (1) year tank warranted units only have a one year parts warranty. All MIII, M2HE (6) year tank warranted units have a (6) year parts warranty. All MIII, M2HE, RE2H (10) year tank warranted units have a (10) year parts warranty.

** Any (1) to (8) year tank warranted water heater used for other than a single family housing unit will be covered for only one year on tank and parts regardless of any other warranty period specified. Any (10) year warranted water heater used for other than a single family housing unit will be covered for three years on tank and one year on parts regardless of any other warranty period specified. All replacement water heaters and parts carry the balance of the original warranty, i.e. if an original (10) year tank warranted water heater develops a leak due to defects in materials/workmanship after only (9) years, the replacement unit is warranted for only the balance remaining from the original (10) year warranty, or (1) year in this example.

WHAT IS THE DURATION OF THE IMPLIED WARRANTY?

ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY IMPOSED ON THE SALE OF THE WATER HEATER UNDER THE LAWS OF THE STATE OF SALE ARE LIMITED IN DURATION TO ONE YEAR FROM DATE OF ORIGINAL INSTALLATION.

HOW DOES STATE LAW RELATE TO THE WARRANTY?

Some states do not allow:

1. Limitations on how long an implied warranty lasts.
2. Limitations on incidental or consequential damages.

So the above limitations or exclusions 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.

•Restrictions are not applicable to implied warranties in California. See "Special State Provisions" on reverse side.

LIMITED RESIDENTIAL WATER HEATER WARRANTY (CONTINUED)

WHAT WILL WE DO TO CORRECT PROBLEMS?

If a defect occurs within the warranty period, we will:

1. Provide a replacement water heater of our manufacture (or at our option repair) any unit which develops a leak in the steel tank within the tank warranty period. To obtain a replacement, you must forward the rating plate from the defective unit to us. If government regulations require the replacement water heater to have features not found in the defective water heater, you will be required to pay the difference in price represented by those government required features.
2. Provide a replacement part (or at our option repair) any part which fails to function within the parts warranty period. To obtain a replacement, you must forward the defective part to us. If government regulations require the replacement part to have features not found in the defective part, you will be required to pay the difference in price represented by those government required features.

We do reserve the right to verify any claims of defect by inspection.

WHAT WILL WE NOT DO?

We will not:

1. Repair or replace any water heater, or part, subject to conditions outlined in "What Does This Limited Warranty Not Cover?"
2. Reimburse any costs associated with repair and/or replacement.
3. Replace and/or repair any water heater without complete model/serial number.
4. Replace any water heater without prior receipt of actual rating plate from appliance.

HOW DO YOU GET WARRANTY ASSISTANCE?

Upon discovering a defect or problem, you should:

1. Contact either the installer or dealer, or
2. Contact us:

   BRADFORD WHITE CORPORATION
   WARRANTY SUPPORT GROUP
   200 LAFAYETTE
   MIDDLEVILLE, MI 49333
   (800) 531-2111

WHAT SHOULD YOU DO TO KEEP THE WARRANTY IN EFFECT?

To facilitate warranty assistance, you should:

1. Follow all instructions enclosed with the product.
2. Retain all bills of sale or receipts for proof of installation, etc.
3. Contact your installer, dealer or our Warranty Department as soon as any problem or defect is noticed.
4. When necessary, allow us, or our chosen representative, to inspect the unit.
5. For your reference, fill in the Model and Serial Number found on the unit's Rating Plate:

Model Number_____

Serial Number _____

Date of Installation_____

SPECIAL STATE PROVISIONS

For water heaters installed in California or Oregon, paragraphs 2 (c), (i) and (iv) of the paragraph "WHAT DOES THIS WARRANTY NOT COVER?" do not apply.

All other terms and conditions of this warranty apply as stated.

FOR INSTALLATIONS OUTSIDE THE USA, CANADA OR PUERTO RICO (All other terms and conditions of the Limited Warranties apply)

MODEL NUMBER PREFIX	LIMITED TANK** WARRANTY	LIMITED PARTS** WARRANTY
JI, MI, M3, MS, (U)DS, MIMH, MIMS, MII, MIII, M4, (U)DH1, M1XR, (M,U)2XR, (U)PDX2, M2, M1, M2HE, AST, (M,U)1TW, (M,U)2TW, GX, CDW, CSW, U1, U2, U4, SSW, SDW, SDC, (U)PDX1, D4, PE, (M,U)4TW, (M,U)4XRTW, HE4, (U)PDX4, WH, RE2H, (U)RG, RE	1, 2, 3, 5, 6, 8 or 10 YRS	1 or 2 YRS*

NOTE: The duration of the tank warranty will be found in the model number.

i.e.; RG240T1FBN has a 1 Year tank warranty
RG240T2FBN has a 2 Year tank warranty
RG240T6FBN has a 6 Year tank warranty
RG240T10FBN has a 10 Year tank warranty

* All (1) year tank warranted units only have a one year parts warranty.

** ***Any*** water heater used for other than a single family housing unit will be covered for only one year on tank and parts regardless of any other warranty period specified. All replacement water heaters and parts carry the balance of the original warranty, i.e. if an original ten (10) year tank warranted water heater develops a leak due to defects in materials/workmanship after only nine (9) years, the replacement unit is warranted for only the balance remaining from the original ten (10) year warranty, or one (1) year in this example.

PLEASE RETAIN THIS WARRANTY IN A SAFE LOCATION FOR FUTURE REFERENCE.