



Fury Rheemglas® Energy Miser® Electric Water Heater



**Get
4 MORE YEARS
with ProtectionPlus™**

Available in 30, 40, 50, 65, 80 and 120 Gallon Tall – 30 and 50 Gallon Medium – 20, 30, 38 and 47 Gallon Short Models

- ▶ 6-Year Limited Tank and Parts Warranty*
- ▶ With ProtectionPlus™ the 6-Year Limited Tank Warranty Becomes 10 Years!

- EverKleen™ self cleaning device
- Brass drain valve
- Temperature and pressure relief valve included
- Isolated tank design reduces conductive heat loss
- High efficiency resistored heating elements
- Anode rod equalizes aggressive water action
- Electric junction box located above heating elements for easy installation
- Over-temperature protector cuts off power in excess temperature situations
- Automatic thermostat keeps water at desired temperature
- Meets or exceeds requirements of the National Appliance Energy Conservation Act (NAECA)

HIGH EFFICIENCY MODELS FEATURE:

- High performance and lower operating cost
- Compliant with many electric utility incentive programs

*See Residential Warranty Information Brochure for complete warranty information.

Energy Factor and Average Annual Operating Costs based on D.O.E. (Department of Energy) test procedures. D.O.E. national average fuel rate electricity 8.41¢/KWH.



DESCRIPTION			FEATURES		ROUGHING IN DIMENSIONS (SHOWN IN INCHES)				ENERGY INFORMATION	
T Y P E	GAL. CAP.	MODEL NUMBER	FIRST HOUR RATING G.P.H.	RECOVERY IN G.P.H. @ 90° RISE	TANK HEIGHT A	HEIGHT TO WATER CONN. B	DIAMETER C	APPROX. SHIP WT. (LBS.)	ENERGY FACTOR	AVERAGE ANNUAL OPER. COST
T A L L	40	83VR40-2	55	21	46-3/4	46-3/4	22-1/4	104	0.94	\$393
	50	83VR52-2	67	21	57	57	22-1/4	123	0.94	\$393
	65	83VR66-2	71	21	58-3/4	58-3/4	23	160	0.91	\$406
	80	83VR80-2	88	21	59	59	24-1/2	181	0.91	\$410
MED.	50	83MVR52-2	63	21	46	46	24-1/4	128	0.93	\$406
T A L L	30	82V30-2	46	21	45-3/4	45-3/4	17-3/4	80	0.93	\$397
	40	82V40-2	53	21	46-1/2	46-1/2	19-3/4	95	0.92	\$401
	40	82VH40-2	53	21	59-1/4	59-1/4	17-3/4	96	0.92	\$401
	50	82V52-2	61	21	57	57	19	107	0.91	\$406
	65	82V66-2	70	21	58-1/2	58-1/2	21	150	0.89	\$415
	80	82V80-2	88	21	59	59	23	177	0.86	\$429
	120	82V120-2	100	21	62-1/2	62-1/2	28-1/4	324	0.85	\$434
MED.	30	82MV30-2	40	21	36	36	19-3/4	80	0.93	\$397
	50	82MV52-2	63	21	46	46	21-3/4	117	0.90	\$410
S H O R T	20	82SV20-2	-	21	31-1/2	31-1/2	17	62	N/A	N/A
	30	82SV30-2	41	21	30	30	22-1/4	83	0.93	\$397
	38	82SV40-2	47	21	31-1/2	31-1/2	23	108	0.92	\$401
	47	82SV50-2	55	21	32	32	26-1/4	149	0.91	\$406

- Heaters furnished with standard 240 volt AC, single phase non-simultaneous wiring, and 4500 watt upper and lower heating elements.
- If heating elements of different wattages than those shown are demanded by zone requirements, they must be specifically requested.
- Single element models available on special order (6000W max.). Substitute "-1" for "-2" in model number.
- Special Wiring Options – A limited number of special wiring options are available. Consult factory for price and availability.
- All models equipped with heat traps.

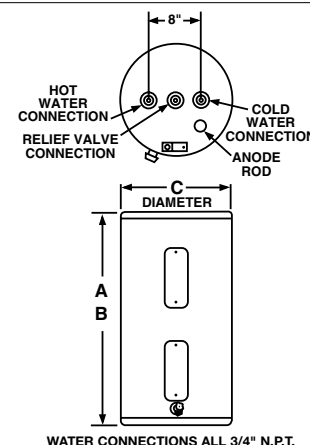
Recovery = wattage/2.42 x temp. rise °F.
 Example: $\frac{4500W}{2.42 \times 90^\circ} = 21 \text{ GPH}$

These units are designed to meet or exceed ANSI (American National Standards Institute) requirements and have been tested according to D.O.E. test procedures and meet or exceed the energy efficiency requirements of NAECA, ASHRAE standard 90, BOCA Code and all state energy efficiency performance criteria for energy consuming appliances.

Before purchasing this appliance, read important energy cost and efficiency information available from your supplier.



For more details, see form 101-7.



WATER CONNECTIONS ALL 3/4" N.P.T.

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.



Exploded View - Residential Electric (typical)

Reference Number	Part Description	Quantity
1	Dip Tube Gasket or Heat Trap Fitting Gasket (not all models)	2
2	Dip Tube	1
3	Anode Rod	1
4	Electrical Connection Plate Cover	1
5	Junction Box Electrical Connection Cover	1
6*	Upper Thermostat (on double element models only)	1
7*	Upper Thermostat Protective Cover (double element models only)	1
8*	Cavity Insulation (two required for double element models)	2
9*	Jacket Access Panel (two required for double element models)	2
10*	Heating Element Gasket (one required for each element)	2
11*	Heating Element (two required for double element models)	2
12*	Thermostat Mounting Bracket (one required for each element)	2
13	Lower Thermostat	1
14	Lower Thermostat Protective Cover	1
15	Drain Valve	1
16	Drain Valve Shroud	1
17	Temperature and Pressure Relief Valve	1
18	Hot Outlet Heat Trap (not all models)	1
19	Rating Plate location with model number and serial number	N/A

Anode Rod-

Rod made of a magnesium alloy that aids in the cathodic protection of the inner tank through the control of electrolysis. An anode rod can be made of any material that is more negative than the steel of the tank.

Dip Tube-

Non-metallic tube extending from the cold water inlet to a predetermined area near the bottom of the tank that feeds water into the system. The cold water pressure forces the hot water out of the faucet when there is a demand for hot water. The length of the dip tube will vary from product to product. It is designed to not allow stacking for short draws of water.

Drain Valve-

Valve used primarily to drain the hot water when performing periodic cleaning or replacing a part.

Cavity Insulation-

Insulation between the steel tank and the outer jacket that helps prevent heat loss to the ambient atmosphere.

Lower Heating Element-

Heating element located on the lower half of the tank. The lower heating element does most of the water heating.

Lower Thermostat-

Thermostat that controls the lower heating element. Depending on the configuration of the water heater, the lower thermostat may also have a high limit switch.

Temperature and Pressure Relief Valve-

Safety device that vents extreme pressure and exceedingly hot water outside the tank to prevent tank rupture and explosion. Commonly called the T&P valve, it is designed to operate at 150 PSI or 210° F.

Upper Heating Element-

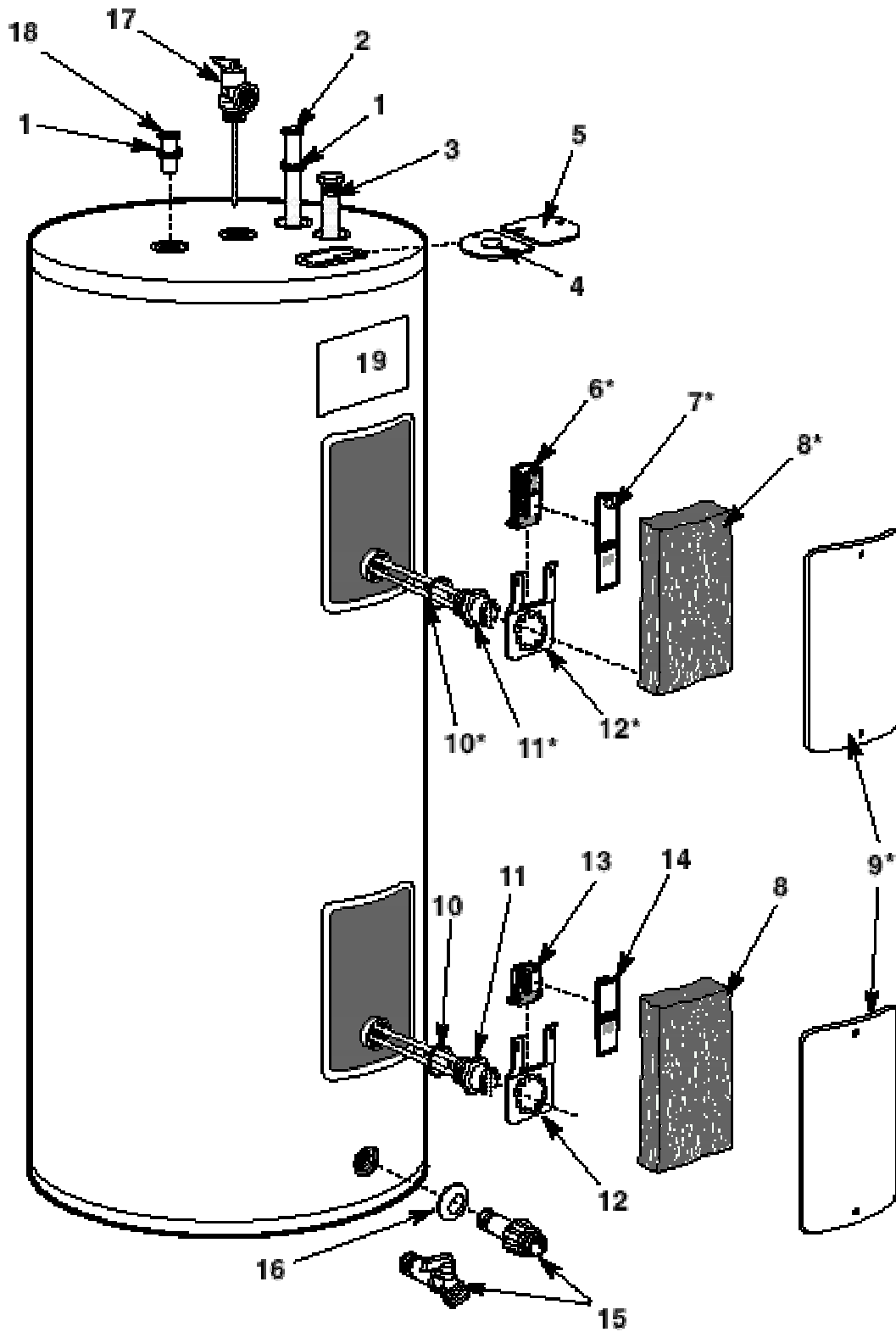
Heating element located on the upper half of the tank.

Upper Thermostat-

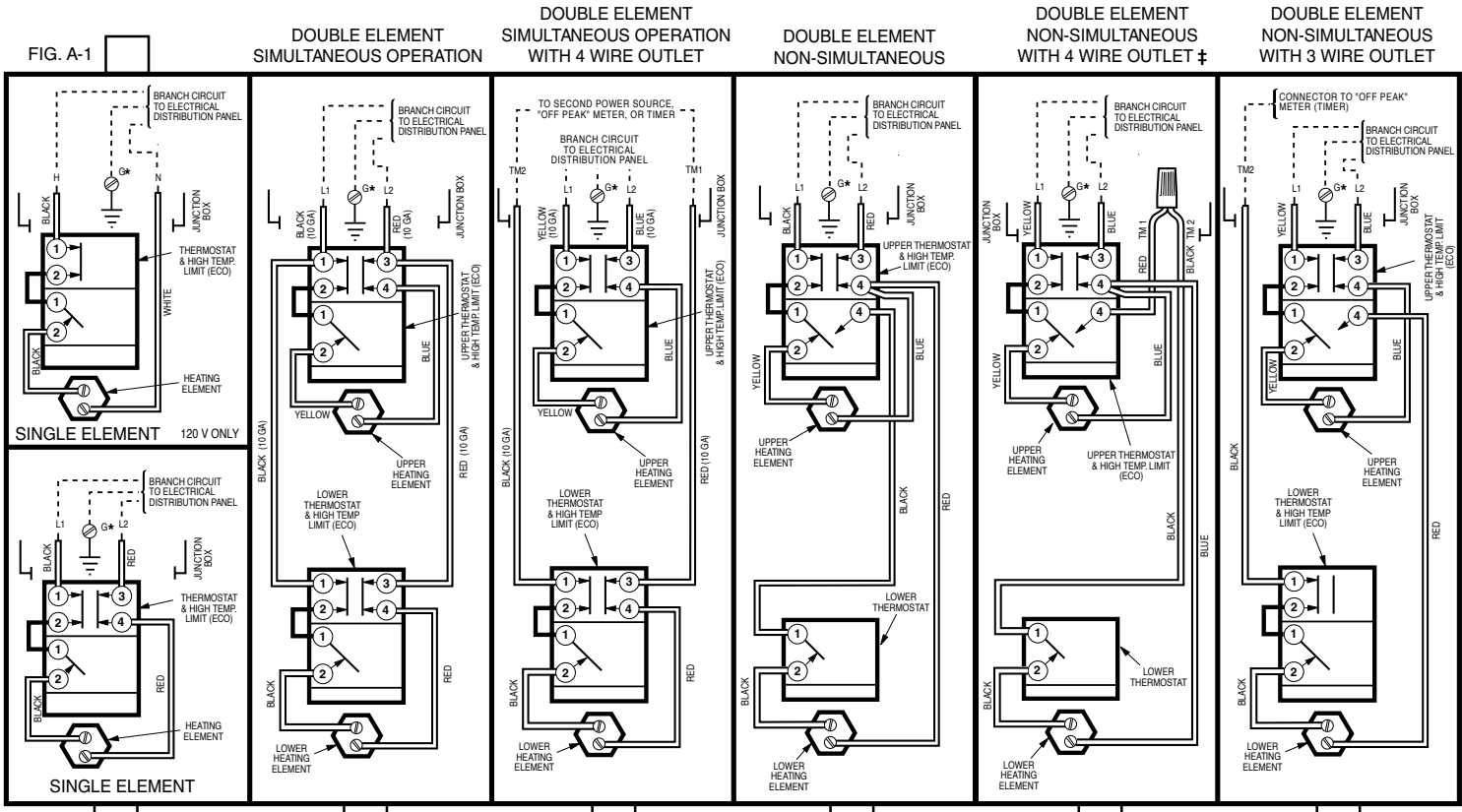
Primary controlling thermostat of the water heater. Contains a high limit safety switch and a 'swing pole' switching mechanism. In a non-simultaneous operation, the upper thermostat relays power to the upper heating element or the lower thermostat.



Exploded View - Residential Electric (typical)



Wiring Diagrams — Therm-O-Disc Thermostats (Type 59T)



* Grounding conductor may be required. Refer to Wiring Section of Manual

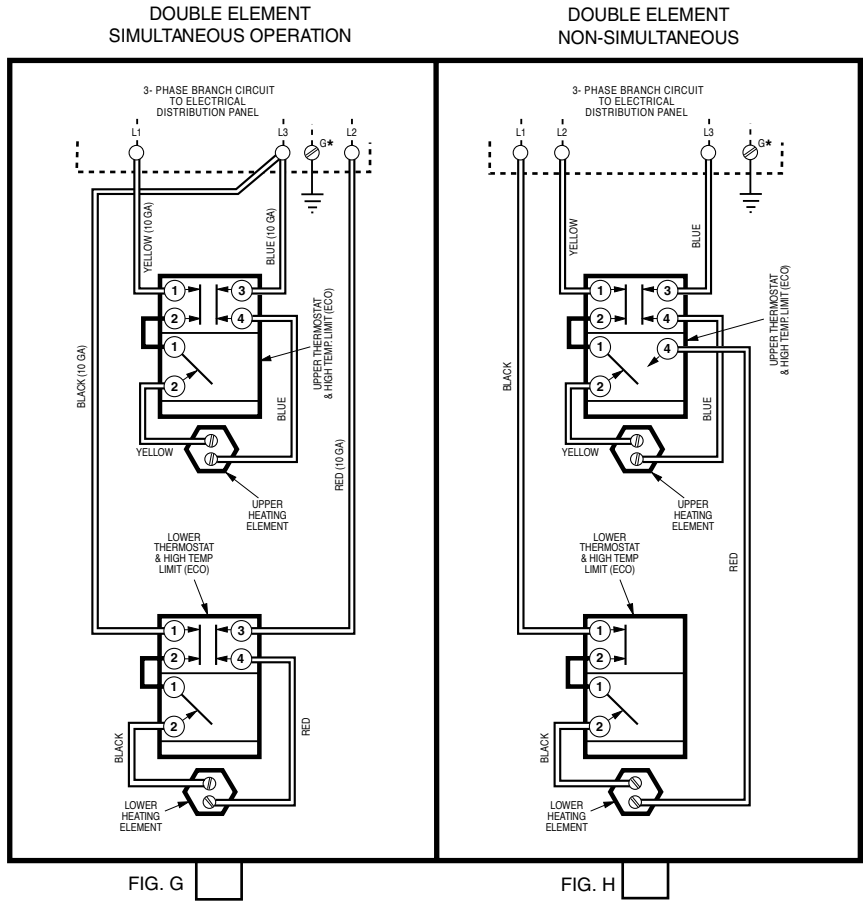
‡ This water heater is factory equipped for two (2) wire connection to electrical power. For use with "off-peak" meter (timer) remove wire nut from red and black leads and connect to "off-peak" meter (timer).

THIS ELECTRIC WATER HEATER IS WIRED AS INDICATED ABOVE OR BELOW

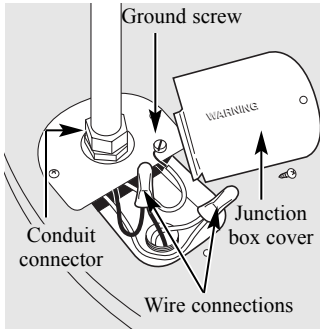
Wiring Diagrams Electric Water Heaters for 3 - Phase Applications

Therm-O-Disc Thermostats (Type 59T)

For the connection of this water heater to a 3-Phase Branch Circuit, connect field wiring to the water heater as indicated in the appropriate wiring diagram at right. A separate junction box is being supplied with this water heater (check bottom of carton) to accommodate wiring and conduit connections. Install the Junction Box as shown on the Installation/Instruction Sheet included in the plastic bag attached to the heater.



Installing the water heater.



Water heater junction box.

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.

Electrical Connections

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 water heater is completely wired to the junction box inside jacket at the top front of the water heater. An opening for 1/2" or 3/4" electrical fitting is provided for field wiring connections.

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:

- 1 Metallic conduit or metallic sheathed cable approved for use as a grounding conductor and installed with fittings approved for the purpose.
- 2 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.

Branch Circuit Sizing and Wire Size Guide

Single Phase Wiring

Total Water Heater Wattage	Recommended Over Current Protection (fuse or circuit breaker amperage rating)				Copper Wire Size AWG Based on N.E.C. Table 310-16 (75°C)			
	208V	240V	277V	480V	208V	240V	277V	480V
3,000	20	20	15	15	12	12	14	14
4,000	25	25	20	15	10	10	12	14
4,500	30	25	25	15	10	10	10	14
5,000	30	30	25	15	10	10	10	14
5,500	35	30	25	15	8	10	10	14
6,000	40	35	30	20	8	8	10	12
8,000	50	45	40	25	8	8	8	10
9,000	–	50	45	25	–	8	8	10
10,000	–	–	50	30	–	–	8	10
11,000	–	–	50	30	–	–	8	10
12,000	–	–	–	35	–	–	–	8

3 Phase Wiring

Total Water Heater Wattage	Recommended Over Current Protection (fuse or circuit breaker amperage rating)				Copper Wire Size AWG Based on N.E.C. Table 310-16 (75°C)			
	208V	240V	277V	480V	208V	240V	277V	480V
3,000	20	20	–	15	12	12	–	14
4,000	25	25	–	15	10	10	–	14
4,500	30	25	–	15	10	10	–	14
5,000	30	30	–	15	10	10	–	14
5,500	35	30	–	15	8	10	–	14
6,000	35	30	–	15	8	10	–	14
8,000	45	40	–	20	8	8	–	12
9,000	50	45	–	25	8	8	–	10
10,000	–	50	–	25	–	8	–	10
11,000	–	50	–	25	–	8	–	10
12,000	–	–	–	30	–	–	–	10