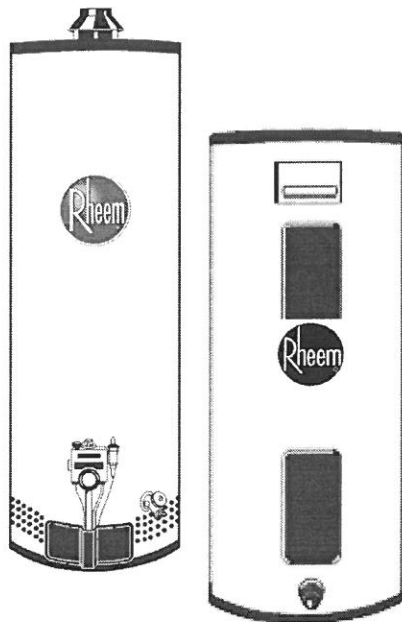


## RHEEM WATER HEATERS



### GAS<sup>①</sup>

**Classic** ♦29 gal (29-32N)  
 ♦PROG- ♦40 gal (40-38N)  
 ♦6-Year Warranty

**Classic** ♦40 gal (40-40N)  
 ♦PROG- ♦50 gal (50-40N)  
 ♦6-Year Warranty ♦75 gal (75-76N)

**LOWBOY** ♦30 gal (30S-30N)  
 ♦PROG- ♦40 gal (40S-34N)  
 ♦6-Year Warranty

**MOBILE HOME** ②  
 ♦6-Year Warranty 30 gal (30-32N)  
 40 gal (40-34N)

### 6 Year\*

Width x Height  
 to vent top Recovery/(NAT)  
 Flue Size /  
 Energy Factor

|             |           |              |
|-------------|-----------|--------------|
| \$ 859.00   | 16½ x 59¾ | 32 / 3 / .63 |
| 669.00      | 19 x 61½  | 38 / 3 / .62 |
| \$ 694.00   | 19½ x 63¾ | 40 / 3 / .62 |
| 788.00      | 21½ x 62½ | 40 / 3 / .62 |
| 1,488.00    | 26¼ x 64  | 75 / 4 / .53 |
| \$ 934.00   | 19¾ x 49¾ | 30 / 3 / .63 |
| 734.00      | 21 x 52¾  | 34 / 3 / .62 |
| \$ 1,090.00 | 16½ x 59¾ | 32 / 3 / .63 |
| 1,156.00    | 18½ x 61½ | 34 / 3 / .62 |

### ELECTRIC

**Classic**  
 ♦PROE-  
 ♦6-Year Warranty

30 gal (E30-T2)  
 40 gal (E40-M2)  
 50 gal (E50-T2)

| 6 Year*   | Width x Height | Energy Factor |
|-----------|----------------|---------------|
| \$ 767.00 | 19¼ x 47½      | .95           |
| 639.00    | 20¼ x 48¼      | .95           |
| 552.00    | 20¼ x 58¾      | .95           |

**Classic+**  
 ♦8-Year Warranty

\*50 gal (+E50-T2)

|           |           |     |
|-----------|-----------|-----|
| \$ 664.00 | 20¾ x 58¾ | .95 |
|-----------|-----------|-----|

**Classic**  
 ♦PROE-Short  
 ♦6-Year Warranty

28 gal (E28-S2)  
 36 gal (E36-S2)

|           |           |     |
|-----------|-----------|-----|
| \$ 702.00 | 23 x 31⅞  | .95 |
| 822.00    | 24¼ x 31½ | .95 |

**Classic**  
 ♦PROE-POU  
 POINT OF USE  
 ♦6-Year Warranty

2.5 gal (E2-1)  
 6 gal (E6-1)  
 10 gal (E10-1)  
 15 gal (E15-1)  
 20 gal (E20-1)

|           |             |
|-----------|-------------|
| \$ 464.00 | + 9¾ x 14   |
| 495.00    | * 15¾ x 15¼ |
| 610.00    | * 15¾ x 23  |
| 655.00    | * 17¾ x 24¼ |
| 659.00    | * 19¾ x 25¼ |

\*(120v & 240v Models)  
 » Side connections «

**Protection-Plus #SP20079 \$175.00**  
**Tank Warranty 4-year extension.**  
**6/8-year warranty ⇨ 10/12-year warranty**

♦ **NEW Guardian Gas Water Heaters**  
 Meets the new ANSI Z21.10.1 code for  
 Flammable Vapor Ignition Resistance protocols.  
 With Piezo push-button gas igniter.

\* **Tank Warranty is 6-years**  
**Parts have a 6-year warranty.**  
 The warranty on Mobile Home water heaters is  
 still 5-years on the tank & 1-year on parts.

① All Prices are for NATURAL GAS  
 For LPG add \$ 66.00 to the Retail Price.  
 ② Mobile Home is set for Natural Gas,  
 can be field converted to LPG.  
 Recovery = GPH Recovery at 90° rise.

All non-compact electric heaters have 2 interlocked  
 4500W / 240V elements w/ 21 GPH recovery @ 90°rise.  
 + = ½"ips water connections (¾"ips for relief valve).  
 \* = Tanks have ¾" side inlets for water / relief valve  
 \* = Water / relief valve does not come with these units.

### FACTS ABOUT WATER

- 1 Gal of fresh water = **8.333** lb.
- 1 cubic foot of water = **7.48** Gal

Water expands 4.34% when heated from 40°F to 212°F.  
 A 40 gal water heater will gain an extra 3/8 gal of water volume when heating water from 55°F to 120°F.  
 If a house has a check valve on the incoming cold water line, a small expansion tank might be needed to prevent the P&T valve from continuously opening.

- 1 Foot of Head = **.433** #/sq. ft
- 2.31 Feet of Head = **1** #/sq. ft
- 115.5 Feet of Head = **50** #/sq. ft

The **Static-Head** of a water system equals the height difference between a water tank (or a water pump) and the faucet in the house.

The **Dynamic-Head** of a water system equals the **Static-Head** minus the **Friction-Loss** in the piping, fittings, and valves.

A 1000' run of 1" PVC pipe from a water tank 100' higher than a house will have a **Static-Head** of 43psi. The **Dynamic-Head** will be less than 29psi @ 10gpm. For 1 1/4" Pipe the **Dynamic-Head** will be 39psi @ 10gpm.

### GAS & ELECTRICITY

- 1 kWh = **3,412** BTU
- 4,500 Watts = **15,354** BTU
- 1 HP = **745.7** Watts
- 1 kW = **1.341** HP
- 1 Gal of Propane = **91,000** BTU
- 1 Cu. Ft of Natural gas = **1,075** BTU
- 1 psi of Gas = **27.68"** Water Column
- 1 psi of Gas = **2.036"** Mercury Column
- 7" Water Column (Nat) = **4.04** Ounces/Sq. In.
- 11" Water Column (LPG) = **6.34** Ounces/Sq. In.
- 1 Therm = **100,000** BTU
- 1.05 Therm = **100** cubic feet (Nat)

### For Electric Water Heaters

$$GPH = .4096x \frac{Watts}{Temp.Rise}$$

GPH is gal / hour of hot water at a given temperature:  
 e.g. a 4500watt electric element produces 20.5 GPH @ a 90° Temperature Rise (ground water Temp ~50°F to normal water heater Temp ~ 140°F)

$$Amps = \frac{Watts}{Volts}$$

e.g. a 4500watt 240volt electric element draws **18.75 amps**,  
 a 2000watt 120volt electric element draws **16.67 amps**.

Friction Loss per 100' of PVC Pipe #/Sq. Inch

| GPM | 1/2"  | 3/4"  | 1"                        | 1 1/4" | 1 1/2" | 2"   |
|-----|-------|-------|---------------------------|--------|--------|------|
| 1   | .43   | .12   |                           |        |        |      |
| 2   | .86   | .24   | .13                       | .04    | .01    |      |
| 5   | 4.87  | 1.36  | .39                       | .12    | .06    | .02  |
| 7   | 8.95  | 2.49  | .72                       | .21    | .10    | .04  |
| 10  | 17.03 | 4.74  | 1.37                      | .40    | .20    | .07  |
| 15  | ↘     | 10.06 | 2.90                      | .85    | .43    | .14  |
| 20  |       | 17.13 | 4.94                      | 1.45   | .74    | .25  |
| 25  |       | ↘     | 7.45                      | 2.18   | 1.12   | .37  |
| 30  |       |       | 10.46                     | 3.06   | 1.57   | .52  |
| 35  |       |       | 13.91                     | 4.07   | 2.09   | .70  |
| 40  |       |       | ↘                         | 5.22   | 2.68   | .89  |
| 45  |       |       | <i>Use Next Pipe Size</i> | 6.49   | 3.33   | 1.11 |
| 50  |       |       |                           | 7.88   | 4.04   | 1.35 |
| 60  |       |       |                           | ↘      | 5.67   | 1.89 |
| 80  |       |       |                           |        | 9.68   | 3.22 |
| 100 |       |       |                           |        | 14.61  | 4.87 |

Friction Loss per 100' of Poly Pipe #/Sq. Inch

| 1/2"  | 3/4"  | 1"    | 1 1/4"                    | 1 1/2" | 2"   | GPM |
|-------|-------|-------|---------------------------|--------|------|-----|
| .56   | .15   |       |                           |        |      | 1   |
| 1.84  | .48   | .15   | .04                       |        |      | 2   |
| 9.04  | 2.38  | .76   | .21                       | .10    |      | 5   |
| 13.00 | 3.70  | 1.20  | .32                       | .18    | .05  | 7   |
| 30.95 | 8.08  | 2.56  | .69                       | .33    | .10  | 10  |
| ↘     | 16.58 | 5.25  | 1.42                      | .68    | .21  | 15  |
|       | ↘     | 8.69  | 2.36                      | 1.13   | .34  | 20  |
|       |       | 12.92 | 3.50                      | 1.67   | .51  | 25  |
|       |       | ↘     | 4.82                      | 2.31   | .70  | 30  |
|       |       |       | 6.36                      | 3.03   | .92  | 35  |
|       |       |       | 8.08                      | 3.84   | 1.17 | 40  |
|       |       |       | <i>Use Next Pipe Size</i> | 10.02  | 4.76 | 45  |
|       |       |       |                           | ↘      | 5.76 | 50  |
|       |       |       |                           | 7.97   | 2.42 | 60  |
|       |       |       |                           | ↘      | 4.02 | 80  |
|       |       |       |                           |        | 6.00 | 100 |