

# RHEEM WATER HEATERS

## GAS<sup>①</sup>



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

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

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

**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
\$ 1,127.00	16½ x 59¾	32 / 3 / .63
1,091.00	19 x 61½	38 / 3 / .62
\$ 1,135.00	19½ x 63¼	40 / 3 / .62
1,284.00	21½ x 62½	40 / 3 / .62
2,240.00	26¼ x 64	75 / 4 / .53
\$ 1,224.00	19¾ x 49⅞	30 / 3 / .63
1,191.00	21 x 52⅞	34 / 3 / .62
\$ 1,651.00	16½ x 59⅞	32 / 3 / .63
1,752.00	18½ x 61½	34 / 3 / .62

## ELECTRIC

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

Capacity	Model	Price	Width x Height	Energy Factor
30 gal	(E30-M2)	\$ 830.00	20¼ x 37½	.95
40 gal	(E40-M2)	904.00	20¼ x 48¼	.95
50 gal	(E50-T2)	973.00	20¾ x 58⅞	.95

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

28 gal	(E28-S2)	\$ 980.00	23 x 30	.95
36 gal	(E36-S2)	985.00	24¼ x 31½	.95

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

2.5 gal	(E2-1)	\$ 554.00	+ 9¾ x 14
6 gal	(E6-1)*	655.00	* 15¾ x 15¼
10 gal	(E10-1)*	884.00	* 15¾ x 23
15 gal	(E15-1)*	991.00	* 17¾ x 24¼
20 gal	(E20-1)*	1,008.00	* 19¾ x 25¼

\*(120v & 240v Models)  
 \*2,000 Watts  
 » Side connections «

**Protection-Plus #SP20865 \$175.00**  
**Tank Warranty 4-year extension.**  
**6 year warranty ⇒ 10 year warranty**

♦ **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.**

- 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 .5 gal of water volume when heating water from 50°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 the water surface in a water tank 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	Use Next Pipe Size			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

GPM	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
				↘	4.76	1.44	45
					5.76	1.73	50
					7.97	2.42	60
					↘	4.02	80
						6.00	100