Heat Pump Water Heater Buying Guide

PROTERRA®

Rheem® Hybrid Electric Heat Pump Water Heaters

The innovative Rheem® ProTerra® Heat Pump Water Heater draws heat from the surrounding air to heat water–delivering unmatched savings and efficiency.

MORE for less

Heat pump technology provides **4x** the efficiency of standard electric tank models*

A standard electric water heater has a UEF rating of .93, whereas a heat pump water heater delivers an impressive 4.07 UEF rating.

UEF = UEF stands for Uniform Energy Factor—the US Department of Energy's (DOE) standard for measuring water heater efficiency. **The higher the UEF, the more efficient the product.**

**Based on estimated annual operating cost savings of the 40-, 50-, 65- and 80-gallon hybrid electric models compared to a standard electric water heater of like capacity with minimum efficiency.*

PROTERRA®

Save Money and Energy

- 4X the efficiency of a standard electric water heater[1]
- Universal top and side water connections
- Duct-ready design
- LeakGuard™ auto shut-off valve available
- Same diameter as a standard electric water heater
- Great option for tight spaces, like closets

[1]*Based on comparison of a 50-gallon Rheem Hybrid Electric Heat Pump and a standard electric tank of like capacity with minimum efficiency.*

PROTERRA

How a Hybrid Heat Pump Water Heater Works

A COLLECTED

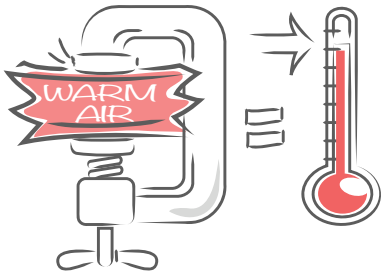
Warm air is collected and cool air is expelled

1. Fan pulls air through the upper intake port
2. Air passes through a filter
3. Eco-friendly refrigerant in the evaporator absorbs heat
4. Cool air exhausts through the side outlet

B COMPRESSED

Air is compressed which raises its temperature

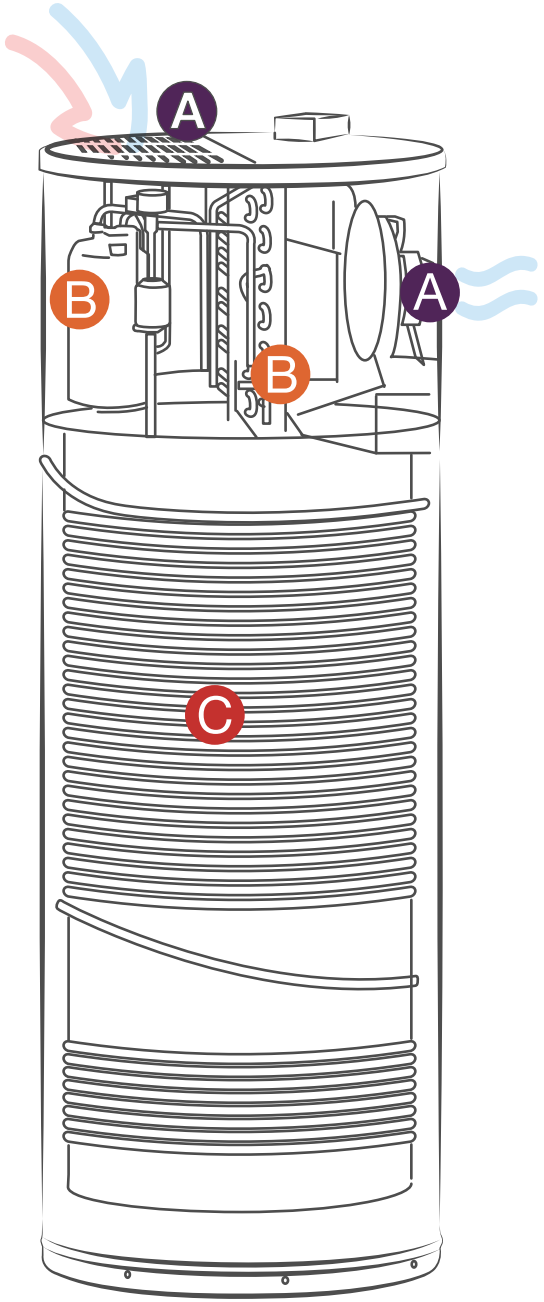
5. A compressor pumps heated refrigerant to the condenser tubing



C CONDUCTED

Heat is conducted to the tank, warming the water

6. Heat is transferred to the water in the tank via condenser tubing



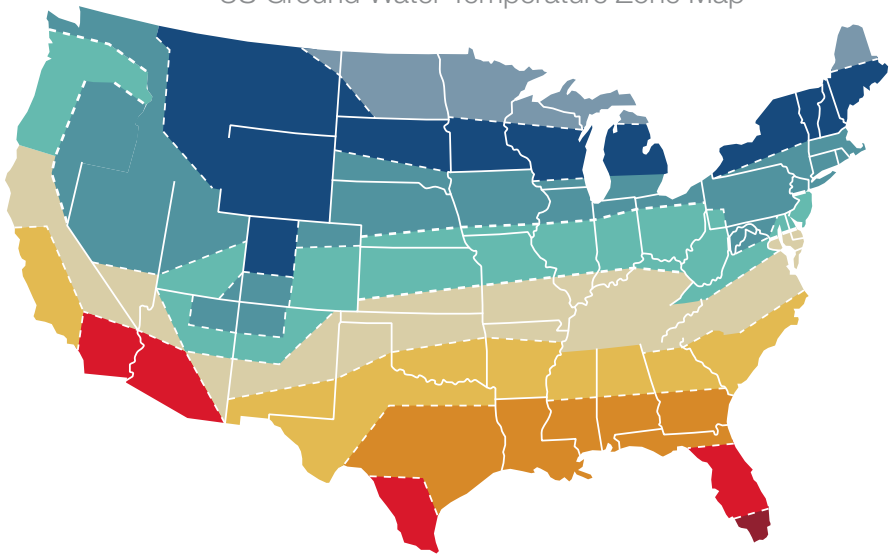
PROTERRA

Regional Considerations

When sizing a water heater, regional considerations–particularly incoming water temperature and a room's air temperature–are crucial for hybrid heat pump water heaters. Colder regions require larger water heater sizes to compensate for lower incoming water and cooler room air temperatures.

1. Select the geographic zone where you live.
2. Determine the number of back-to-back showers required for your household.
3. Select the gallon size of your Hybrid Electric Heat Pump Water Heater from the table below, matching your zone with number of back-to-back showers required for your household.

US Ground Water Temperature Zone Map



Number of Showers per Gallon Size

Gallon Capacity	Zone 1 37°F	Zone 2 42°F	Zone 3 47°F	Zone 4 52°F	Zone 5 57°F	Zone 6 62°F	Zone 7 67°F	Zone 8 72°F	Zone 9 77°F
30 AMP Models									
40	3	3	4	4	4	4	5	5	6
50	4	4	4	4	5	5	5	6	7
65	4	5	5	5	5	6	6	7	8
80	5	5	5	5	6	6	7	7	8
15 AMP Models									
40	2	2	2	2	3	3	3	3	4
50	2	2	3	3	3	3	4	4	4
65	3	3	3	3	3	4	4	4	5
80	4	4	4	4	4	5	5	5	6

The 'Number of Showers' calculation is based on an 8-minute shower using a shower head with a 2-gallon per minute (GPM) flow rate.

Sizing results are representative of peak performance for each geographical region. Performance may vary by season.

PROTERRA

Available Sizes

We offer **15** and **30** Amp water heaters in four different model sizes

40 GALLON*

- 36 Gallon Actual Hot Water Storage
- Dimensions: H 62 5/16" x W 20 1/4"

50 GALLON*

- 45 Gallon Actual Hot Water Storage
- Dimensions: H 61 3/4" x W 22 1/4"

65 GALLON*

- 59 Gallon Actual Hot Water Storage
- Dimensions: H 64 3/4" x W 24 1/4"

80 GALLON*

- 72 Gallon Actual Hot Water Storage
- Dimensions: H 74 3/16" x W 24 1/4"

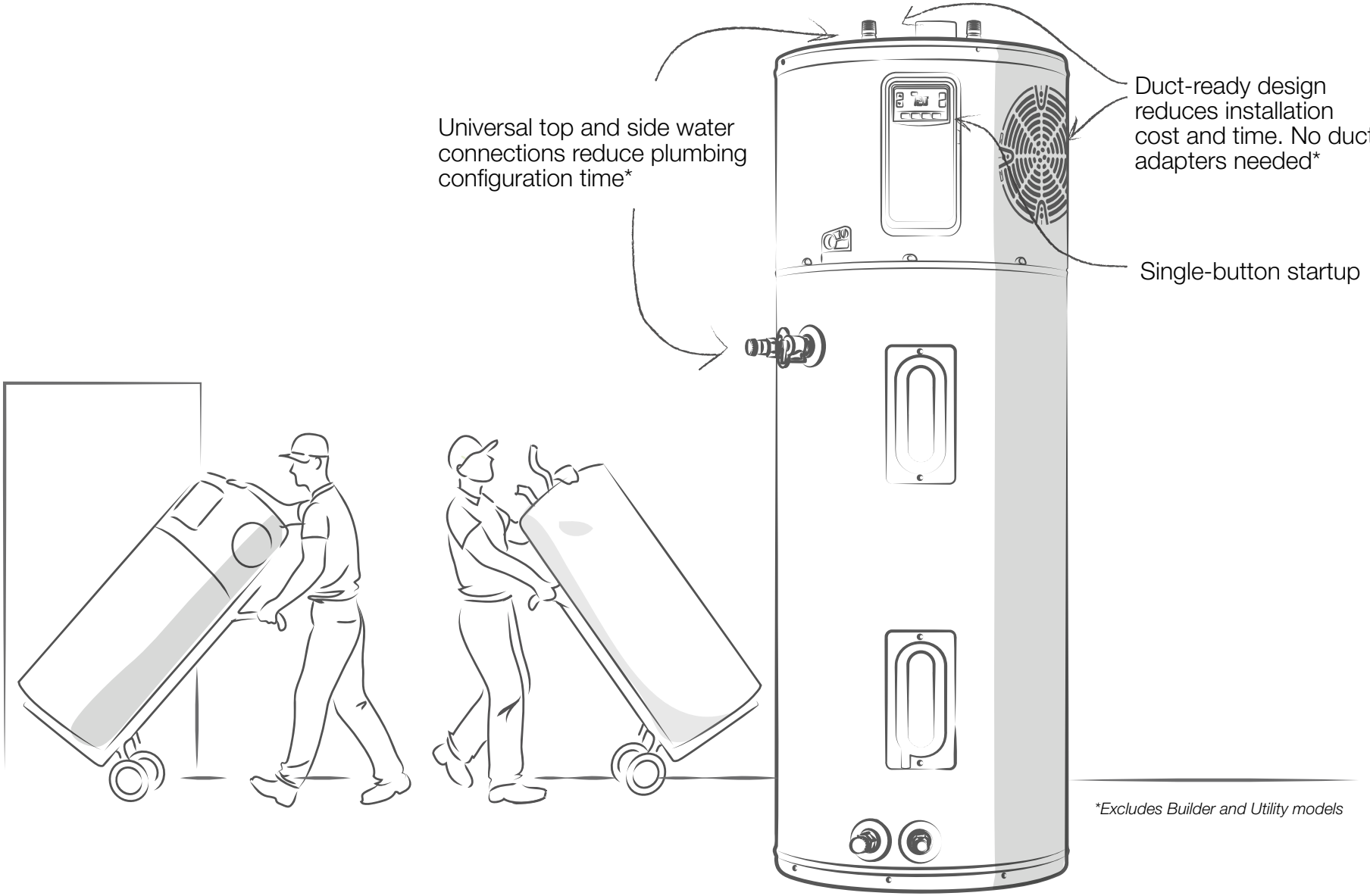
Choose a larger water heater capacity for high demand needs

**Nominal Capacity*

PROTERRA

Installation Made Easier

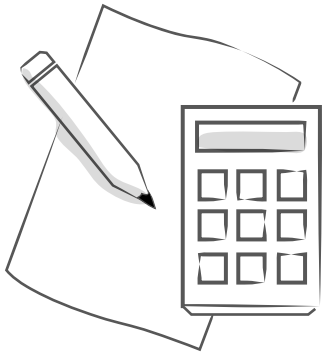
Our heat pump water heaters are engineered with innovative features to make them an easier replacements for traditional tank water heaters.



*Excludes Builder and Utility models

PROTERRA

Need to Know Before Installation



calculating **FREE AIR SPACE**

Multiply Length by Width by Height then subtract substantial size objects (car, washing machine, cabinets, etc.)

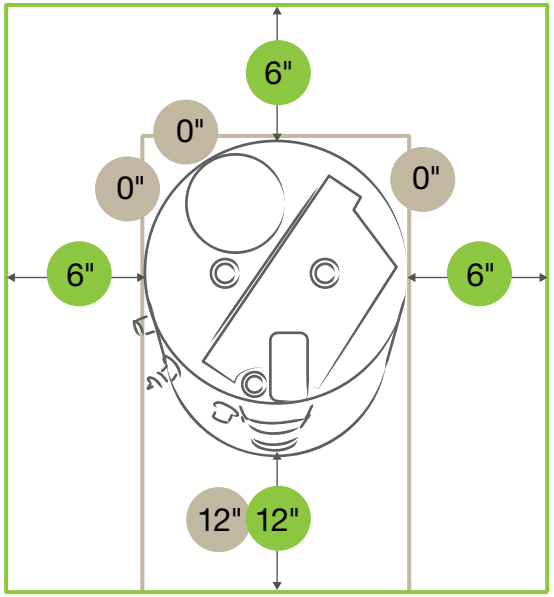
What's left is the **FREE AIR SPACE**

Example: A 12'x12'x10' single-car garage is 1,440 cubic ft.
Subtract a mid-size car (130 cubic ft.) and the water heater (20 cubic ft.).

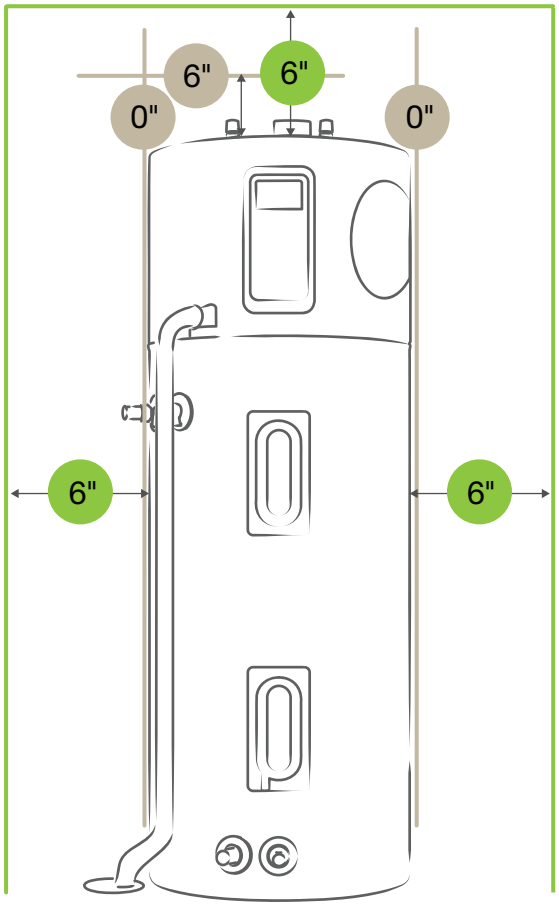
1,440-130-20=1,290 cu. ft.

This example meets **FREE AIR SPACE** requirements (1,290 cubic ft.)

Top View



Front View



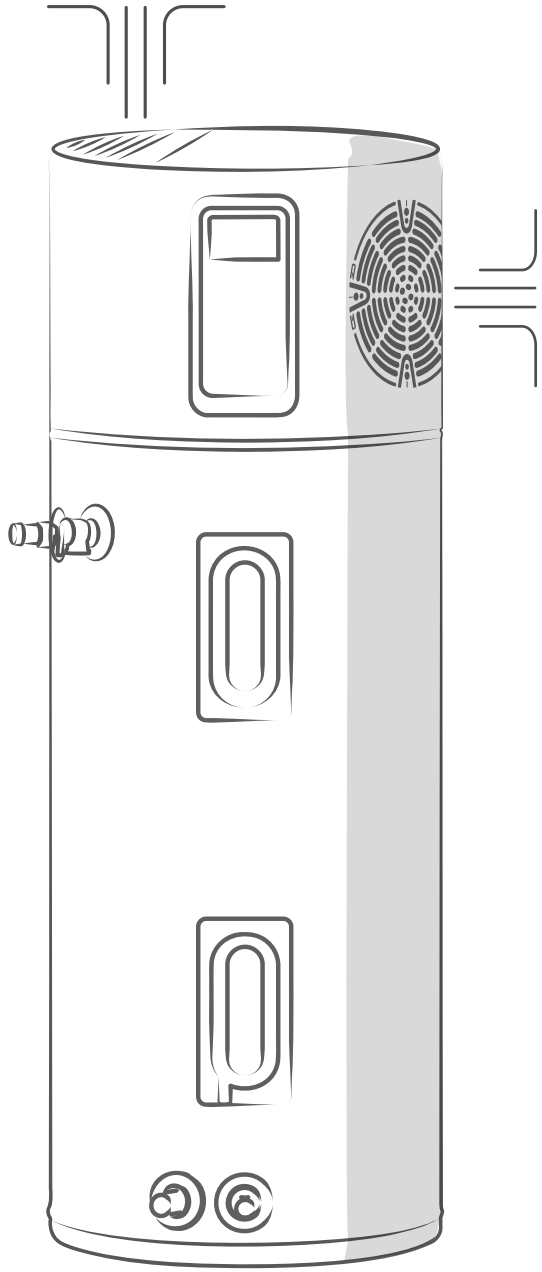
Clearance

for tight spaces

Minimum Easier Serviceability

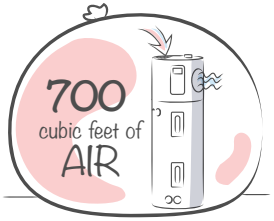
PROTERRA

Ventilation Basics

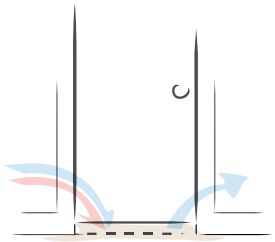


Air Space

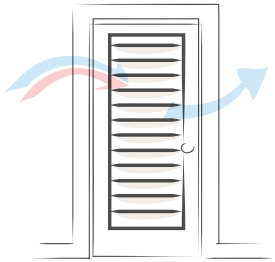
Our heat pump water heaters require a minimum of 700 cubic feet of air space. Unless your water heater is in an open space, like a garage or basement, some ventilation may be required. This can be as simple as a louvered door, or a door with a 3/4" inch air gap on a utility closet or storage room.



amount of air



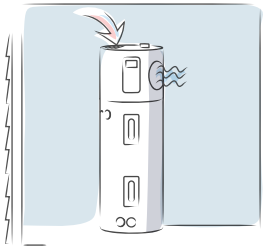
door gap
(3/4" min.)



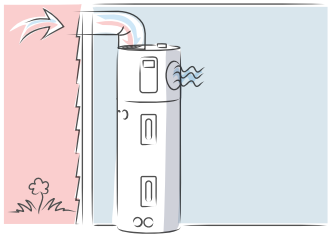
louvers

Intake

Room temperature air works just fine, but warmer is better. So, if your water heater is in an air conditioned space, using intake ducting to a warmer, unconditioned space can boost performance.



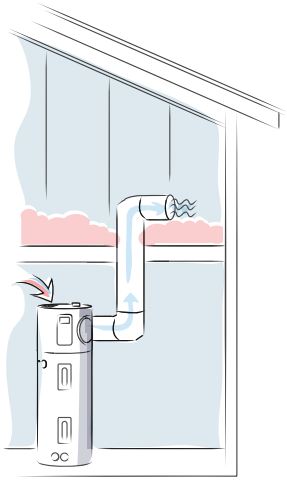
indoor intake



outdoor intake

Exhaust

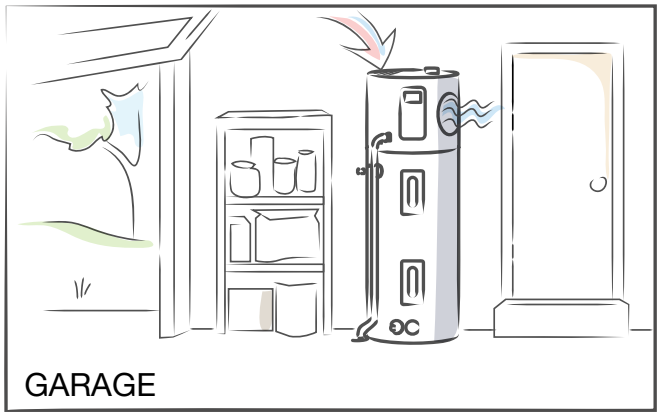
Heat pumps expel cooled air. So, you may want to vent to the outdoors, like your clothes dryer. In warmer climates, venting the cooled air to an unconditioned attic can have the added benefit of helping to cool your home.

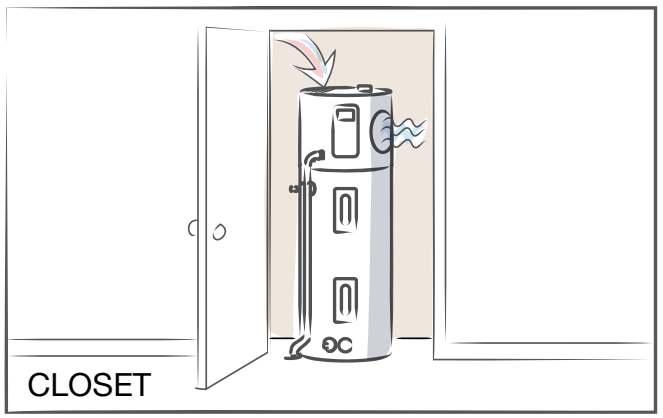


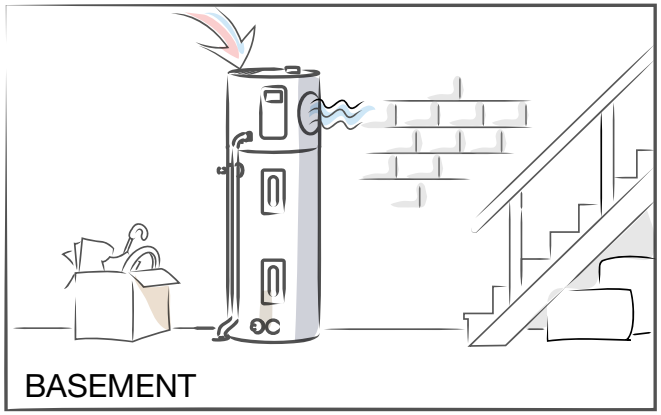
cooled air exhaust

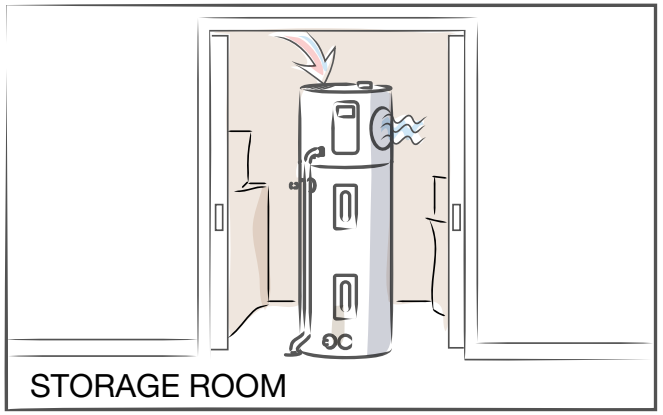
PROTERRA

Location and Airflow

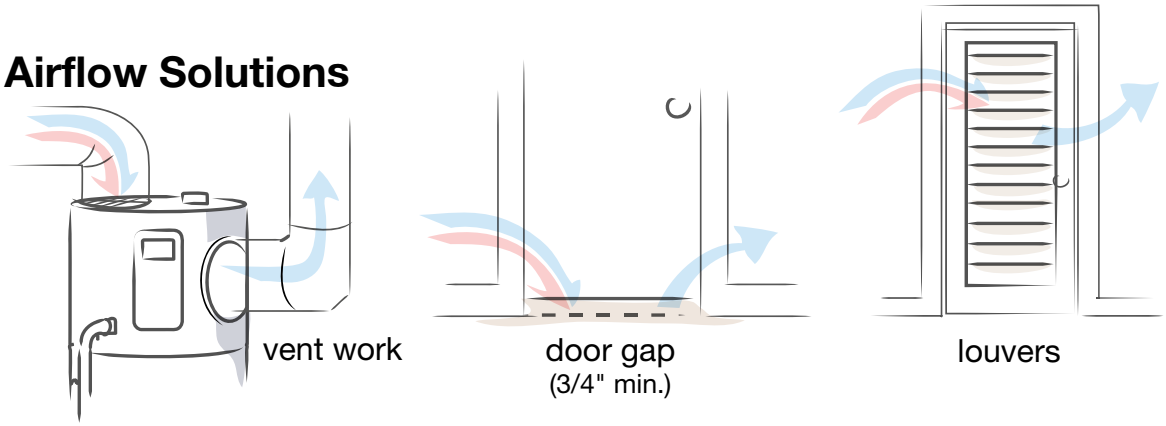








Airflow Solutions



Ambient Air Temperature

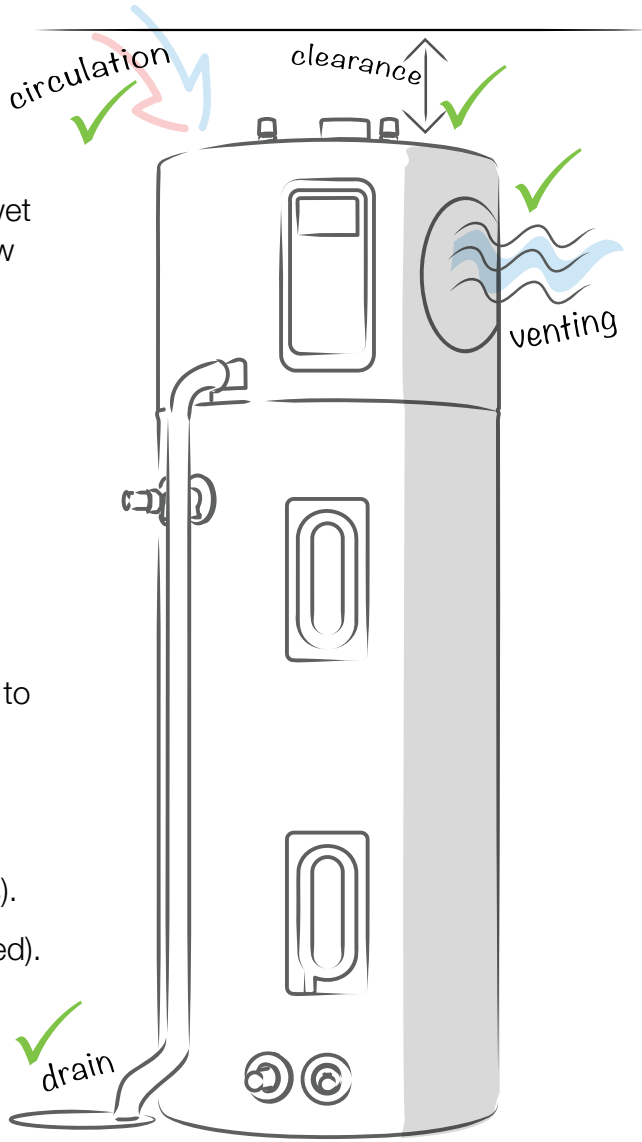
The average temperature in a space should fall between 37° and 145°F

PROTERRA

Location and Wiring

Water Heater Location

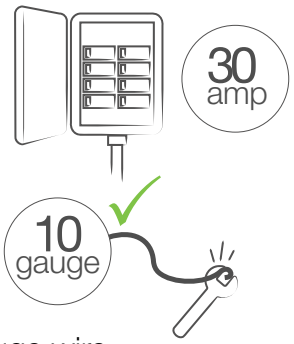
- ☐ Close to area of heated water demand.
- ☐ Indoors and protected from moisture, wet conditions, freezing temperatures (below 37°F (2.7°C)) and high temperatures (above 145°F (62.7°C).
- ☐ Area free of flammable vapors.
- ☐ Provisions for air circulation (louvered doors on ducting).
- ☐ Provisions made to protect area from water damage.
- ☐ Sufficient room to service heater.
- ☐ Six inches (6") of clearance from ceiling to top of hybrid heat pump water heater to allow for filter maintenance.
- ☐ Access to condensate disposal.
- ☐ Vibration isolate kit (non-concrete floors).
- ☐ Hybrid earthquake isolation kit (if required).



Wiring

- ☐ Power supply voltage agrees with water heater rating plate.
- ☐ Branch circuit wire to add fusing, or add a circuit breaker for proper size (15 AMP Breaker for 15 AMP models, or 30 AMP breaker for 30 AMP models).

Breaker Panel



- ☐ 10 gauge wire.
- ☐ Electrical connections tight and unit properly grounded.

Rheem Manufacturing Company | Water Heating Division
1115 Northmeadow Parkway, Roswell, GA 30076

Customer Service: 800-995-0982
Email: CustomerService@Rheem.com
www.rheem.com/heatpumpwaterheater

PROTERRA®