Heat Pump Water Heater Permitting and Inspection Checklist

For Permitting and Inspecting of Unitary Heat Pump Water Heaters in Single Family and Duplex Homes

2020 National Electrical Code

2021 I-Codes

Credit: NEEA

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Acknowledgments

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Acknowledgment and Disclaimer

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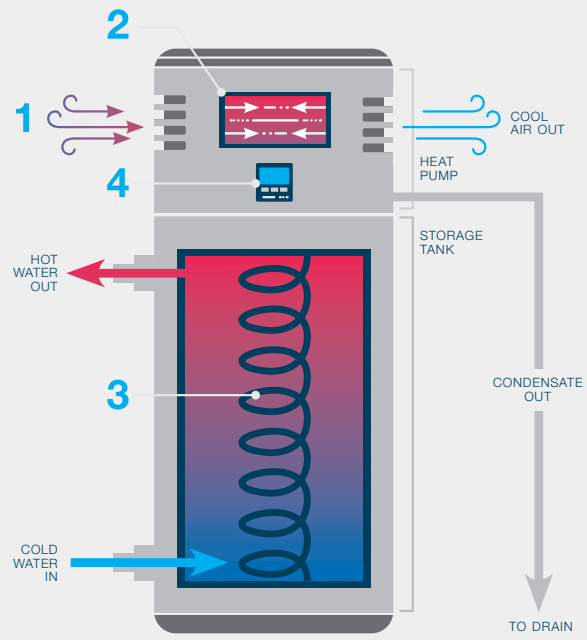
Introduction

Heat pump water heaters (HPWHs) use electricity to move heat from one place to another rather than generating their own heat. This makes them three times more efficient than other water heaters, according to the Department of Energy.[1] The installation and operation of residential HPWHs throughout the country is a key strategy for increasing building energy efficiency, electrifying building energy loads and reducing greenhouse gas emissions in support of climate goals. Installation of HPWHs requires special considerations that are not applicable to traditional electric-resistance water heaters.

The two major markets for HPWHs are single-family and multi-family residences, with over 118 million water heaters currently installed. More than 25 million of these systems are over 10 years old and will need to be replaced in the next five years, providing an opportunity to reduce the carbon footprint of water heating substantially.[2] In August 2022, President Biden signed the Inflation Reduction Act (IRA) into law, marking the most significant action Congress has taken on clean energy and climate change in the nation's history. The Inflation Reduction Act offers, among other things, incentives that support the transition to all-electric homes. The purpose of this guide is to provide recommendations to streamline the permitting process for local jurisdictions and provide solutions for the challenges associated with the installation of unitary heat pump water heaters. By providing a specific and replicable list of permitting requirements, local jurisdictions can reduce informational barriers and ensure the design and installation of residential HPWHs are consistent and code-compliant.

This permitting and inspection checklist references the most applicable requirements from the 2020 National Electrical Code (NEC), 2021 International Residential Code (IRC), 2021 International Energy Conservation Code (IECC), 2021 International Building Code (IBC), and 2021 International Plumbing Code (IPC) as they apply to air source heat pump installations in residential buildings. Although not all requirements are covered by these checklists, they do include the most important life and safety requirements of the installation and can be used to highlight "common mistakes" made by installers. While these guidelines are geared primarily toward implementing the 2020 NEC and 2021 I-codes, jurisdictions enforcing and contractors using earlier editions of these codes can make use of these guidelines.



1 Heat pump pulls warmth from air into refrigerant.

2 Refrigerant is compressed and heated.

3 Heat is transferred from refrigerant to water.

4 Smart grid connectivity controls help manage energy use.

Source: Advanced Water Heating Initiative (AWHI)

1 https://www.energy.gov/energysaver/heat-pump-water-heaters

2 https://www.advancedwaterheatinginitiative.org/about-heat-pump-water-heaters

How to Use this Guide

The building department may conduct a plan review and inspection for residential HPWH installations using this guide as a starting point. Designers, contractors, and building owners can use this guide to know what to expect during the permitting and inspection processes. Each project and jurisdiction is unique, and additional requirements may need to be enforced as deemed appropriate.

This guide was designed with limitations on its scope and applicability in mind, including:

- X This permitting guide only addresses unitary HPWH applications and does not address any other applications at this time.
- X This permitting guide does not include any service upgrades or other electrical work. If the electrical load calculations demonstrate a service upgrade is needed, this permitting and inspection guide cannot be used to determine compliance with code requirements for a service upgrade.
- X This permitting guide does not include any structural upgrades that may be needed for the relocation of a water heater or for an increase in water heater capacity. If relocation requires structural upgrades, this guide cannot be used to determine compliance with code requirements for those upgrades.
- X This permitting guide is for water heaters utilized for supplying potable hot water only and cannot be used to determine compliance with code for systems that provide hot water for space heating purposes.
- X This permitting guide is for domestic and service hot water only and cannot be used to determine compliance with code for systems that provide hot water for pools and spas.
- ✓ This recommended process is for a 3-in-1 model (mechanical, electrical, and plumbing) that charges a flat rate for up to three items. This makes the process more uniform and creates a universal and simpler format for permitting projects.

Preparation Considerations

Space & Location Requirements:

- Heat pump water heaters take up more space than a conventional gas water heater—450 cubic feet or more with 6-inch clearance above and around is usually recommended for adequate airflow.
- Heat pump water heaters are typically installed in a garage, basement, indoor-outdoor closet, or attic so that they are in semi-conditioned or conditioned areas with minimum ventilation requirements.
- Heat pump water heaters will cool and dehumidify the space it is in. Venting cold air outdoors or into another part of the home can be an option with many models.
- The system produces water that needs a small water pipe routed outside or to a drain or sink.
- The unit size should be factored into location selection to ensure easy access for future servicing.
- The system should be centrally located to reduce the piping length and the speed of hot water delivery.

Sound Considerations:

- Heat pump water heaters have a fan and compressor, both of which make a modest amount of noise.

Permit Submission Requirements

To apply for a permit, submit the following:

1. Combination permit application (electrical, mechanical, and plumbing)
2. HPWH type, size, and efficiency
3. Floor plan drawn to scale showing:
    a. Labeled location of existing water heater, if applicable
    b. Labeled proposed location of new HPWH
    c. Labeled location of electric panel(s)
4. Electrical line diagram including (required if electrical service to water heater needs to be upgraded from 120V to 240V or if water heater is being relocated):
    a. Wiring methods and design
    b. Connections
    c. Grounding
    d. Installation specifications
5. Mechanical and plumbing piping design including: *(Note: retrofit requirements may vary)*
    a. Heat traps on service water heating inlet and outlet lines
    b. Installation specifications
    c. Locations, sizes, and installation specifications for ductwork exhaust and intake air, including insulation and sealing
    d. Condensate drain line installation specifications (depending on location, some systems could require a condensate pump)
    e. Equipment and system controls
6. Completed electrical load calculations
7. Equipment manufacturer specifications and installation manual(s)

Permitting and Inspection Checklist

	Plan	Inspection

Minimum Installation and Labeling Requirements

1.	HPWH is installed according to manufacturer's installation instructions. (IPC 502.1) (IRC M2005.1)		❑
2.	HPWH is suitable for the environment in which it will be installed. (IRC M1305 and IRC P2801.4)	❑	❑
3.	HPWH is third-party certified. (IPC 501.5)	❑	❑
4.	HPWHs and storage tanks have the maximum allowable working pressure permanently attached and clearly stamped in the metal or marked on a plate. (IPC 501.7)		❑
5.	HPWHs have a nameplate with identifying name and rating in volts and amperes or in volts and watts. (NEC 422.60)		❑
6.	HPWHs complies with UL 174. (IRC M2005.1)	❑	❑
7.	HPWH meets capacity and efficiency ratings in plans.		❑
8.	If the HPWH is replacing a gas water heater, the gas outlets are capped gastight. (IFGC 404.15)		❑

Location Requirements

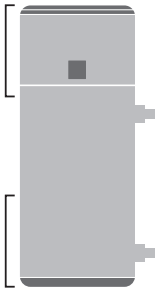
9.	HPWH clearances meet the industry standard of 7 X 7 X 3 or as specified in the manufacturer's installation specification and listing. (Manufacturer recommendation)	❑	❑
10.	HPWH is installed according to manufacturer instructions. (IRC M2005.1)		❑

a. The space where the HPWH is installed has unrestricted airflow and minimum installation space of 450 cubic feet with 6" clearance above (depending on size of system). (Manufacturer recommendation)

b. Where a HPWH is installed in a closet or utility room, there is adequate thermal air circulation means or thermal venting of cooled air (ducts or vented doors or door edges trimmed up). (Manufacturer recommendation)

c. The HPWH is installed where the ambient air temperature is within specified operating conditions. (Manufacturer recommendation)

	Plan	Inspection
11. Access to the HPWH is provided for inspection, service, repair, or replacement without compromising the operation of a fire-resistance-rated assembly or removing permanent building fixtures, other appliances, or piping ducts that are not related to the appliance being inspected, serviced, repaired, or replaced. (IPC 502.5)		❑
12. A level service space at the front or side of the HPWH is at least 30 inches (762 mm) in length and 30 inches (762 mm) in width. (IPC 502.5).		❑
13. HPWHs supported from the ground are level and firmly supported on a concrete slab or other approved material 3 inches above ground. HPWHs suspended from the floor have a clearance of not less than 6 inches from ground. (IRC M1305.1.3.1)	❑	❑
14. Where a HPWH is located in an attic: a. An opening and unobstructed passageway large enough to allow removal of the HPWH is provided. b. The passageway is at least 30 inches (762 mm) in height and 22 inches (559 mm) in width and less than 20 feet (6096 mm) in length. c. The passageway has continuous solid flooring at least 24 inches (610 mm) wide. d. A clear access opening dimensions are not less than 20 inches by 30 inches (508 mm by 762 mm) where such dimensions are large enough to allow removal of the HPWH. (IPC 502.3)	❑	❑
15. If the HPWH is installed in a location where leakage from the tank will cause damage: a. Pan materials: 1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness. 2. Plastic not less than 0.036 inch in thickness. 3. Other approved materials. (IPC 504.7) b. Size: The pan is not less than 1½ inches in depth and is of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan is drained by an indirect waste pipe having a diameter of not less than ¾ inch. (IPC 504.7.1) c. The pan drain extends full size and terminates over a suitably located indirect waste receptor or floor drain, or extends to the exterior of the building and terminates not less than 6 inches and not more than 24 inches above the adjacent ground surface. Where a pan drain was not previously installed, a pan drain is not required for a replacement water heater installation. (IPC 504.7.2)		❑

	Plan	Inspection
16. Where earthquake loads are applicable:	❑	❑
a. HPWH supports are designed and installed for the seismic forces according to the International Building Code. (IPC 502.4)		
b. In Seismic Design Categories D_0, D_1, D_2 and townhouses in Seismic Design Category C, HPWH is anchored or strapped in the upper one-third and in the lower one-third of the appliance to resist a horizontal force equal to one-third of the operating weight of the water heater, acting in any horizontal direction, or according to the appliance manufacturer's recommendations. (IRC P2801.8) 		
17. If the HPWH is relocated, the new length of hot water piping from the HPWH to fixtures that require hot water must not exceed 50 feet. (IPC 607.2)	❑	❑
18. HPWH is located to provide protection between the HPWH and adjacent combustible materials. (NEC 422.17)	❑	❑
19. If installed in a garage, HPWH is protected from vehicular impact. (NEC 110.27(b))	❑	❑
20. HPWH installation location matches approved floor plan.		❑

Electrical Requirements

Panel Capacity

21. For HPWH installations, the electrical service rating is greater than or equal to the electrical service load as demonstrated by electrical service load calculations. (NEC 220)	❑	❑
22. The HPWH branch circuit is properly identified on the electrical panelboard. (NEC 408.4)		❑

Water Heater

23. The rating of the branch circuit serving the water heater is not less than either (NEC 422.10A, NEC 422.13):	❑	❑
a. 125% of the marked rating on the water heater		
b. The marked rating on the water heater where the branch circuit device and its assembly are listed for continuous loading		
24. Appropriately sized overcurrent protection (e.g., circuit breaker) is provided for the branch circuit serving the HPWH. (NEC 240.4)	❑	❑

	Plan	Inspection
25. The branch circuit overcurrent device may serve as the disconnecting means where the switch or circuit breaker is within sight from the appliance or be capable of being locked in the open position. (NEC 422.31)	❑	❑
26. A means for disconnecting an electric hot water supply system from its energy supply is provided according to NFPA 70. A separate valve shall be provided to shut off the energy fuel supply to all other types of hot water supply systems. (IPC 504.3)	❑	❑
27. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground have ground-fault circuit interrupter (GFCI) protection if HPWH is installed outdoors, in crawlspaces or basements, or in indoor damp and wet locations such as in laundry rooms or in bathrooms. (NEC 210.8)	❑	❑

Plumbing Requirements

Water Heater

28. The method of connecting a circulating water heater to the tank provides proper circulation of water through the water heater. The pipe or tubes required for the installation of appliances that will draw from the water heater or storage tank comply with the provisions for material and installation. (IPC 503.2)		❑

System

29. All piping is properly installed, sealed, and protected from exposed elements. (IRC M2101, IPC Chapter 6)		❑
30. The cold water branch line from the main water supply line to the HPWH is provided with a valve located near the equipment and serving only the hot water storage tank or water heater. The valve does not interfere or cause a disruption of the cold water supply to the remainder of the cold water system. The valve is provided with access on the same floor level as the water heater served. (IPC 503.1)		❑
31. Hot water supply systems are equipped with automatic temperature controls capable of adjustments from the lowest to highest acceptable temperature settings for the intended temperature operating range. (IPC 501.8)		❑
32. The HPWH is protected by one of the following two relief valve types which have a minimum rated capacity for the HPWH, conform to ANSI Z21.22, and meet discharge pipe requirements: (IRC P2804.1, IRC P2804.2, IRC P2804.6.1) a. A separate pressure-relief valve and a separate temperature-relief valve b. A combination pressure- and temperature relief valve.	❑	❑

	Plan	Inspection
33. The following hot water piping applications are insulated with a minimum R-3: (IECC R403.5.2) a. Piping ¾ inch (19.1 millimeters) and larger in nominal diameter. b. Piping located outside the conditioned space. c. Piping from the water heater to distribution manifold. d. Piping located under a floor slab. e. Buried piping. f. Supply and return piping in recirculation systems other than demand recirculation systems.	❑	❑
34. Connections are inspected for leaks or drips.		❑

Mechanical Requirements

Exhaust

35. Direct exhaust away from any thermostats if present or within ten feet. (best practice)	❑	❑
36. Exhaust openings that terminate outdoors are protected with corrosion-resistant screens, louvers or grilles. Openings in screens, louvers and grilles are not less than ¼ inch and not larger than ½ inch. (IRC R303.6)	❑	❑

Condensate

37. Condensate from cooling coils and evaporators is drained from the drain pan outlet to an appropriate place of disposal (e.g., not a street, walkway, crawl space, above outdoor equipment, or other area where it would cause a nuisance). The condensate drain piping slopes downhill with a minimum 1-percent slope (1/8 unit vertical in 12 units horizontal). (IPC 314.2.1)	❑	❑
38. Condensate drains are not directly connected to any plumbing drain, waste or vent pipe. Condensate drains are not discharged into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe is not to be considered as discharging to a plumbing fixture. Except where discharging to grade outdoors, the point of discharge of condensate drains is located within the same occupancy, tenant space or dwelling unit as the source of the condensate. (IPC 314.2.1)	❑	❑

	Plan	Inspection
39. Components of the condensate disposal system are ABS, cast iron, copper and copper alloy, CPVC, cross-linked polyethylene, galvanized steel, PE-RT, polyethylene, polypropylene, PVC or PVDF pipe or tubing. Components are selected for the pressure and temperature rating of the installation. Joints and connections are made according to the applicable provisions of Chapter 7 of the International Plumbing Code relative to the material type. Condensate waste and drain line size are not less than ¾-inch pipe size and do not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipes or tubing are sized according to Table 314.2.2. (IPC 314.2.2)	❑	❑
40. A secondary drain or auxiliary drain pan is installed for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. (IPC 314.2.3)	❑	❑
a. The secondary condensate drain piping is not less than ¾-inch pipe sizing and maintains a minimum horizontal slope in the direction of discharge of not less than ⅛ unit vertical in 12 units horizontal (1 percent slope). (IMC 307.2.1)	❑	❑
b. The secondary drain or auxiliary drain pan uses one of the following methods: (IPC 314.2.3)	❑	❑
i. An auxiliary drain pan with a separate drain installed under the coils on which condensation will occur. The auxiliary pan drain discharges to a conspicuous point of disposal so that occupants are aware of a stoppage of the primary drain. The pan is at least 1.5 inches deep, is at least 3 inches larger than the unit or the coil dimensions in width and length, and is constructed of corrosion-resistant material.		
ii. A separate overflow drain line connected to the drain pan installed with the equipment. This overflow drain discharges to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line connects to the drain pan at a higher level than the primary drain connection.		
iii. An auxiliary drain pan without a separate drain line installed under the coils on which condensation will occur. This pan is equipped with a water level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The pan is equipped with a fitting to allow for drainage. The auxiliary drain pan is constructed according to section i.		
iv. A water-level detection device conforming to UL 508 is installed that will shut off the equipment served in the event that the primary drain is blocked. The device is installed in the primary drain line, the overflow drain line or the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.		
c. On down-flow units and other coils that do not have secondary drains or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device is installed inside the primary drain pan. This device shuts off the equipment served in the event that the primary drain becomes restricted. Devices are not installed in the drain line. (RC M1411.3.1.1)	❑	❑

Resources

NFPA 70: National Electrical Code 2020

2021 International Fuel Gas Code (IFGC)

2021 International Plumbing Code (IPC)

2021 International Residential Code (IRC)

Appendix: Example Permit Application

❑ New Application ❑ Revised Application

SECTION 1: General Info

Project Address

( ) -

Property Owner's Name | Phone Number | E-mail

Property Owner's Mailing Address (if different from Project Address)

SECTION 2: Project Details

❑ Single-Family ❑ Multi-family ❑ Other: _____

Project Scope:

Make & Model #:	Gallons Storage:
Model Volts and Ampacity:	Uniform Energy Factor:
Tank Size:	NEEA Tier:

Location:

- ❑ In conditioned space
- ❑ In conditioned space with venting
- ❑ Garage or basement
- ❑ Attic

Venting origin and destination: _____ _____

Dimensions of room or closet: _____ _____

Installed in the location of the existing tanked water heater: ❑ Yes ❑ No

SECTION 3: Contractor Information

Business Address

( ) -

Contractor Contact Name | Phone Number | E-mail

Contractor Business Name | Contractor License Number

Electrician/Subcontractor Business Name	Electrician/Subcontractor License Number
Business Address	
Electrician/Subcontractor Contact Name	Phone Number ( ) - E-mail

SECTION 4: Permit Fee

[Include fee schedule/options and/or instructions for calculating fee, directions on how and when to submit the permit fee.]

SECTION 5: Important Notice

A permit must be obtained for all installations or alterations of electrical equipment BEFORE WORK STARTS. Refer to the Permitting Checklist for additional documents required. Failure to provide all required documents will delay permit approval. All permits expire six (6) months after date of issuance. Failure to start the work authorized by a permit within this six-month period renders the permit invalid, and a new permit must be obtained. Once work begins, noticeable progress must continue until completion. All work must be completed within eighteen (18) months of a permit issue date.

Please submit the following additional documents with the HPWH Permit Application

- ❑ Site Plan or Floor Plan
- ❑ Electrical Load Calculations
- ❑ Structural Load Calculations (if required)
- ❑ Equipment Manufacturer Specifications
- ❑ Energy Compliance Forms
- ❑ [Additional Document—edit or delete as necessary]

Submit Permit Application

[Describe the submission process, how should the permits be submitted? In-person, on-line, e-mail, fax, etc.]

SECTION 6: Applicant Signature

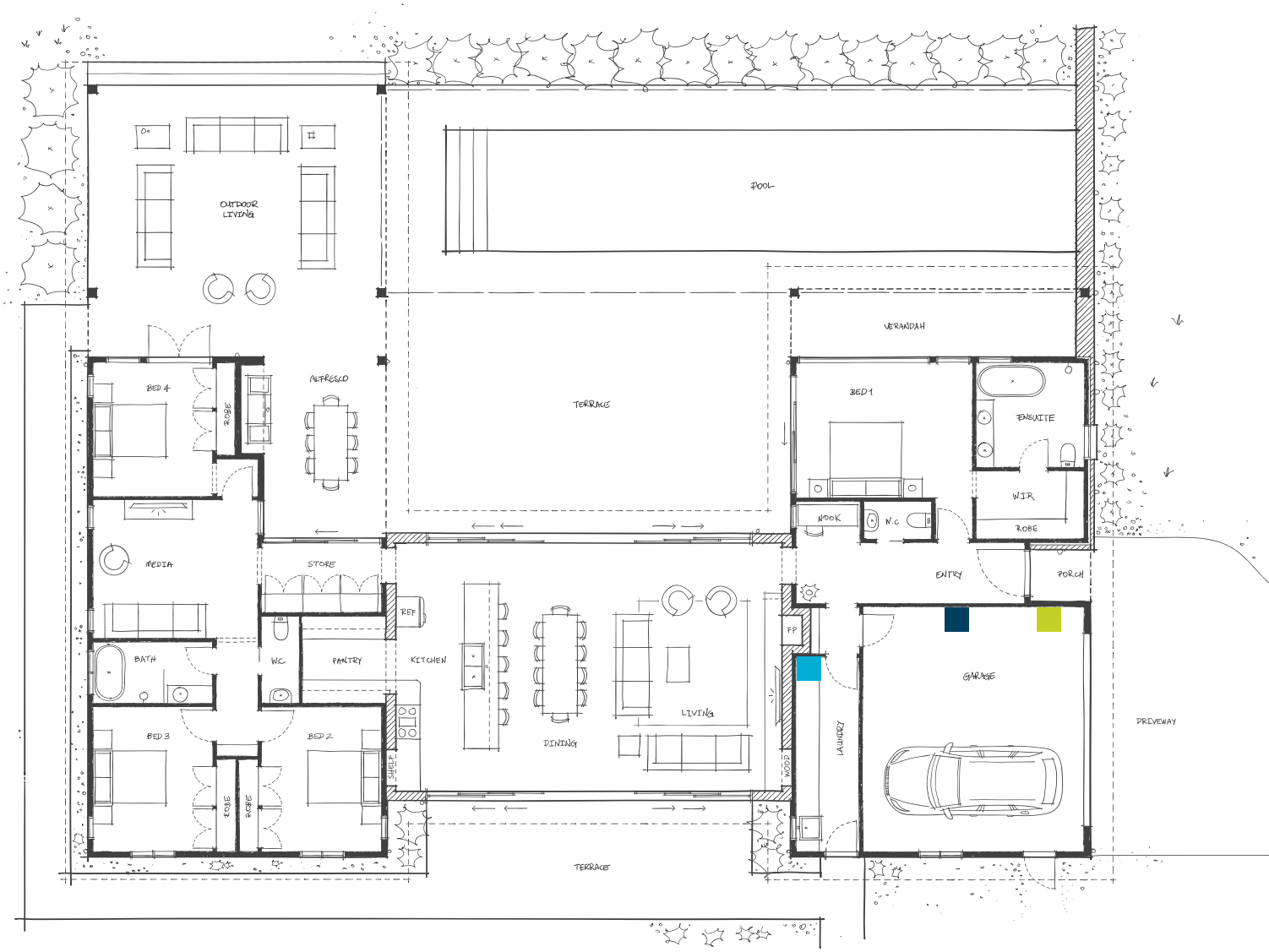
I, the undersigned, certify that I have proper authority to apply for this permit, that the Contractor has obtained a signed contract from the Property Owner for the specified work, that all contractors have consented to being listed, and that all the information contained on this application is true and accurate to the best of my knowledge.

Name	Title
Signature	Date

For Office Use Only

Application Number:	Date Applied:
Permit Number:	Date Issued:
Issued By:	

Appendix: Example Site or Floor Plan



location of existing water heater

proposed location of new HPWH

location of electric panel(s)

Appendix: Example Equipment Manufacturer Specifications

Water | Residential Electric
Professional *Prestige* ProTerra Hybrid Water Heaters

The new degree of comfort.®

Professional *Prestige*® ProTerra™ Hybrid Electric with LeakGuard™ is the most efficient water heater available

Efficiency
- Up to 4.07 UEF reduces operating cost
- ENERGY STAR® rated
- Title 24 Compliant (JA13 Ready)

Performance
- Delivers hot water faster than most standard electric water heaters
- Ambient operating range: 37-145° F is widest in class, offering more days of HP operation annually; designed to meet Northern Climate Spec (Tier 4)

Easy Installation
- Easy access side connections
- Quick access to electrical junction box
- Easily replaces a standard electric water heater

Integration
- LED Screen with built-in water sensor alert with audible alarm[1]
- Integrated EcoNet® WiFi-connected[2] technology and free mobile app gives users control over water heater, allowing for customizable temperature, vacation settings, energy savings and system monitoring at home or away
- Demand Response Ready with built-in EcoPort (CTA-2045 Port)
- LeakGuard™ and LeakSense™ integrated leak detection and prevention system with factory installed auto water shut-off valve limits leaks to no more than 20 ounces of water[1, 3]

Operation Modes
- Energy Saver
- Heat Pump
- High Demand
- Electric
- Vacation/Away: 2-28 days (or placed on hold indefinitely)

Plus…
- Premium grade anode rod with resistor extends the life of the tank
- 3/4" NPT water inlet and outlet; 3/4" condensate drain connections
- Incoloy stainless steel resistor elements
- Dry-fire protection
- Easy access, top mounted washable air filter
- 2" Non-CFC foam insulation
- Enhanced flow brass drain valve
- Temperature and pressure relief valve installed
- Design certified to NSF/ANSI 372 (Lead Content)

Warranty
- 10-Year limited tank and parts warranty
  See Residential Warranty Certificate for complete information

Units meet or exceed ANSI requirements and have been tested according to D.O.E. procedures. Units meet or exceed the energy efficiency requirements of NAECA, ASHRAE standard 90, ICC Code and all state energy efficiency performance criteria.

Professional *Prestige* ProTerra Hybrid
40, 50, 65 and 80-Gallon Capacities
208-240 Volt / 1 PH Electric

LEED Points = 3

[1]Available with select models. [2]WiFi broadband internet connection required. [3]Source: Rheem Leak-Sensing Data; testing under a vacuum lock using 50-gallon tank, no expansion tank, average tank pressure of 40 psi, assuming no additional faucets are opened.

See specifications chart on next page.

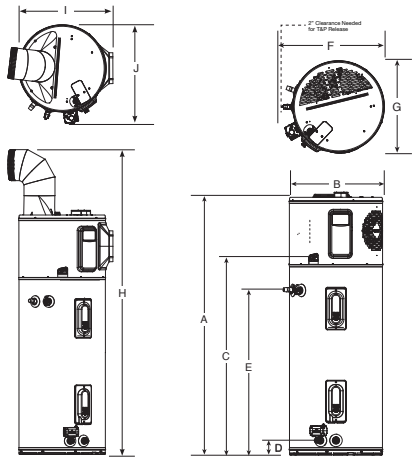
INTEGRATED HOME COMFORT

12/22 WP FORM NO. HP-375-SO Rev. 2

Professional *Prestige*® ProTerra Hybrid Specifications

DESCRIPTION					ENERGY INFO	FEATURES						SHIPPING WEIGHTS	
NOMINAL GALLON CAPACITY	RATED GALLON CAPACITY	MODEL NUMBER	MODEL VARIANT	ELECTRIC BREAKER SIZE	UNIFORM ENERGY FACTOR (UEF)	COMPRESSOR BTU/H	UEF FIRST HR. RATING G.P.H.	RECOVERY @ G.P.H. 90° F RISE	ELEMENT WATTAGE	TOTAL UNIT WATTAGE	MAX AMPS	UNIT WT. (LBS)	APPROX. SHIP WT. (LBS)
ProTerra with LeakGuard													
40	36	PROPH40 T2 RH375-SO	700646	30	3.83	4,200	60	26	4,500	5,000	21	157	174
50	45	PROPH50 T2 RH375-SO	700643	30	3.88	4,200	67	27	4,500	5,000	21	178	218
65	59	PROPH65 T2 RH375-SO	700644	30	4.05	4,200	75	27	4,500	5,000	21	225	262
80	72	PROPH80 T2 RH375-SO	700645	30	4.07	4,200	87	27	4,500	5,000	21	244	281

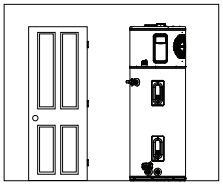
Uniform Energy Factor and rated gallon capacity based on Department of Energy (DOE) requirements.
All units have integrated WiFi control board.



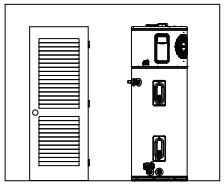
DESCRIPTION		DIMENSIONS (SHOWN IN INCHES)									
NOMINAL GALLON CAPACITY	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J
40	PROPH40	62-5/16	20-1/4	47	3-5/8	39-5/8	25-3/8	20-1/2	78-7/8	22-3/8	23-1/4
50	PROPH50	61-3/4	22-1/4	47	3-5/8	39-5/8	27-3/8	22-1/2	78-5/8	24-3/8	25-9/16
65	PROPH65	64-3/16	24-1/4	49	3-7/8	42-3/8	29-1/2	24-5/8	81-1/8	26-1/2	28-1/16
80	PROPH80	74-3/16	24-1/4	59	3-7/8	42-3/8	29-1/2	24-5/8	91	26-1/2	27-3/8

Hybrid Water Heater Installation Guidelines to Provide Optimal Efficiency

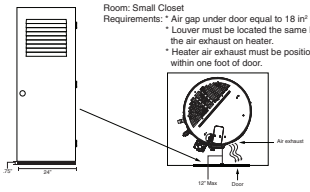
Heater: Not Ducted
Room size: Larger than 700 ft³ (e.g. 7' x 10' x 10').
Requirements: No additional ventilation needed.



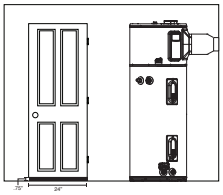
Heater: Not Ducted
Room size: Smaller than 700 ft³ (e.g. 7' x 10' x 10').
Requirements: Full louvered door OR two louvers top and bottom. See below.



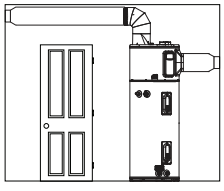
Heater: Not ducted
Room: Small Closet
Requirements: * Air gap under door equal to 18 in² (0.75" clearance).
* Louver must be located the same height on door as the air exhaust on heater.
* Heater air exhaust must be positioned towards louver within one foot of door.



Heater: Ducted with inlet OR outlet duct
Room size: Any size room
Requirements: Air gap under door equal to 18 in² (0.75" clearance)



Heater: Ducted with inlet AND outlet duct
Room size: Any size room
Requirements: No additional ventilation needed.



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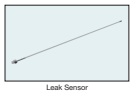
Hybrid Accessories List

PART NUMBER	DESCRIPTION	USE FOR
AP19134	Leak Sensor	Automatic detection of internal and external leaks
AP2018D	Shutoff Valve	Automatic shut off of water supply to unit
SP21105	Inlet Duct Adapter Kit	Allows for ducting to be connected on the top inlet
SP17829	Outlet Duct Adapter Kit	Allows for ducting to be connected to the unit
SP20882	Earthquake Isolation Kit	Installations in seismic regions
SP20883	Vibration Isolation Kit	Installation on non-concrete floors
SP20884	8" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 8" diameter
SP20885	7" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 7" diameter
SP20886	6" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 6" diameter
SP20887	5" Diameter UL Certified Termination Kit	Termination to the outside or to the attic with 5" diameter
SP20888	8" Rheem Approved Damper Kit	Exhaust only to the outside ducting configuration (no inlet duct)
SP20889	25' Flexible 8" Diameter Duct Kit	For up to 25' of ducting
SP20890	Rigid Elbow Duct Kit	Installation in tight places where space needs to be minimized


Leak Sensor


Shutoff Valve


Inlet Duct Adapter Kit

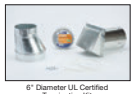

Outlet Duct Adapter Kit


Earthquake Isolation Kit


Vibration Isolation Kit


8" Diameter UL Certified Termination Kit


7" Diameter UL Certified Termination Kit


6" Diameter UL Certified Termination Kit


5" Diameter UL Certified Termination Kit


8" Rheem Approved Damper Kit


25' Flexible 8" Diameter Duct Kit


Rigid Elbow Duct Kit

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

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12/22 WP FORM NO. HP-375-SO Rev. 2

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