

Retrofit-Ready Heat Pump Water Heater Specification

Presented at the 2019 ACEEE Hot Water Forum

Session 5A

Retrofit-ready Heat Pump Water Heaters

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Credits

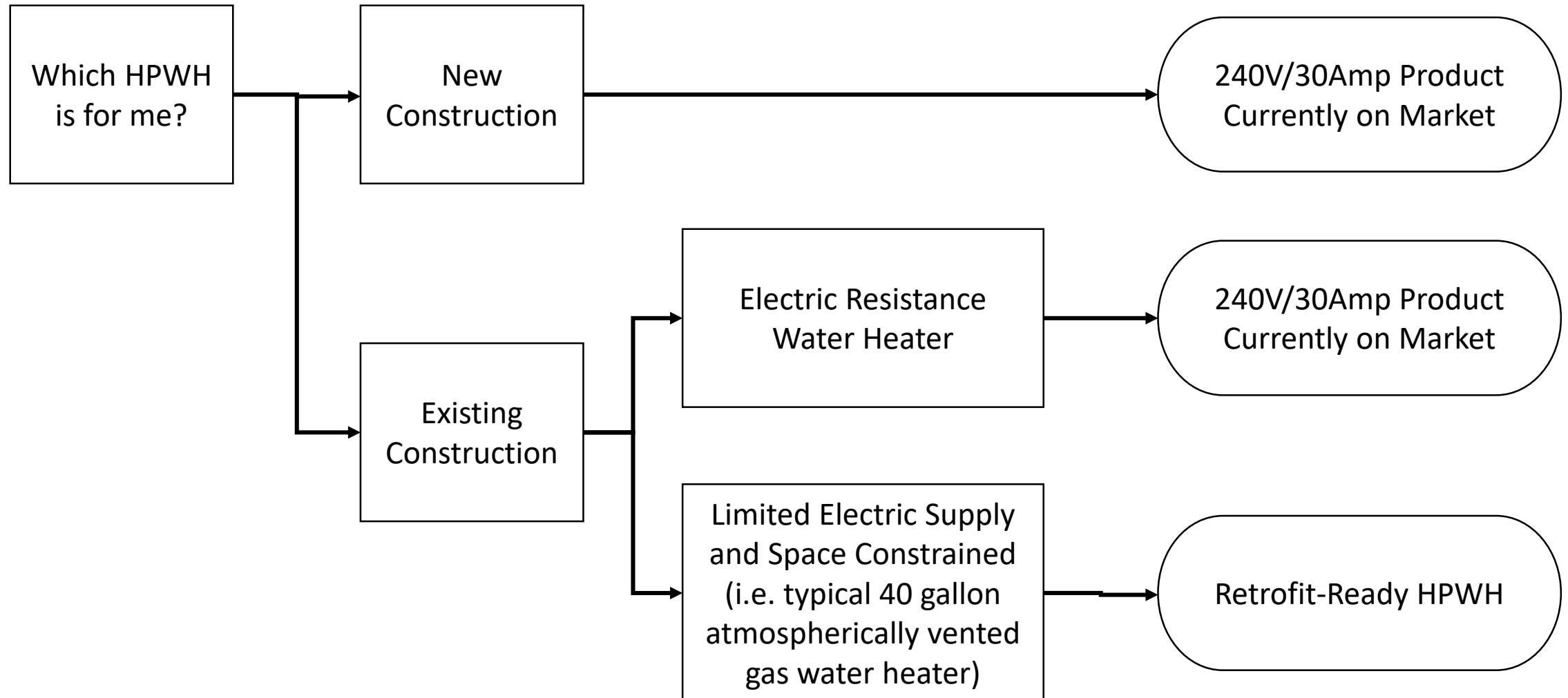
- Credit goes to the technical working group

Status

- Nearing final form
- Clarifications to language still forthcoming
- Pouring concrete any day now

Disclaimer: Presentation does not speak for the working group. It attempts to summarize the current, near-final draft of the specification.

Is this product for you?



Installation Barriers

- Electrical
 - Electrical Panel Ampacity Limited
 - No 240V/30Amp Circuit at Water Heater Location
- Space
 - Not Enough Room

Specification

Electrical

Electrical Constraints	Unit shall be able to operate on a shared 120 Volt / 15 Amp circuit.
Electrical Connections	Unit shall have a cord allowing plug in to standard 120V receptacle.

Space Constraints

Two Paths

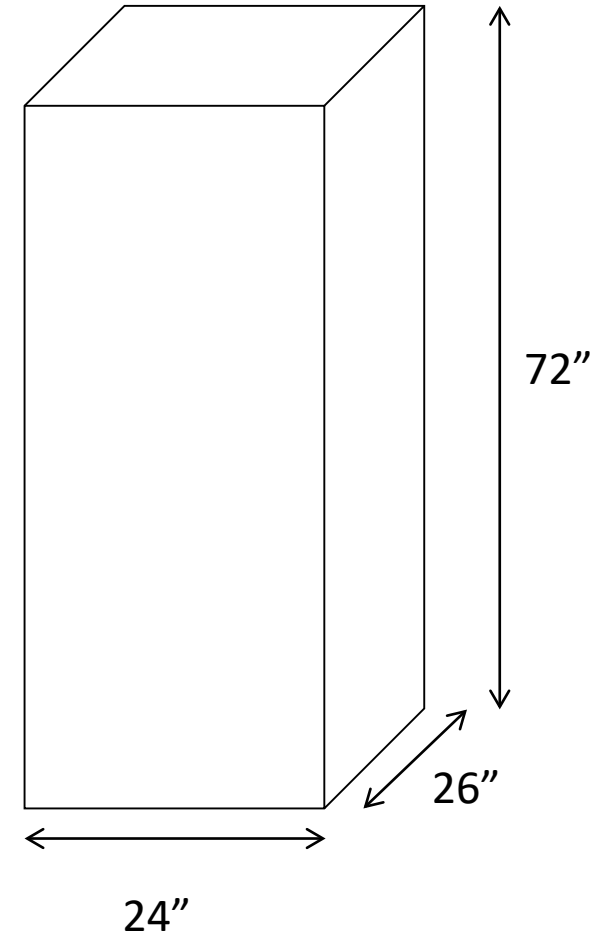
1) **Unconstrained:** no limitations on install space

2) **Constrained:**

To qualify as a “space constrained” product, the unit shall

- fit within a space of 24” x 26” x 72” inclusive of drain pan and all plumbing connections and*
- be able to fit through an opening of minimum size as specified by the manufacturer and listed on the Qualified Products List.*

If larger than these dimensions, the product will be listed without the space constrained mark.



Energy Performance

Energy Performance	If First Hour Rating \geq 51 gallons: Northern Climate UEF \geq 2.6 If First Hour Rating $<$ 51 gallons: Northern Climate UEF \geq 2.4
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- Difference in UEF test draw pattern leads to different requirements based on first hour rating
- Will meet California Title 24 requirements for prescriptive water heater replacement
- Goal is to see energy performance comparable to, or better than, current HPWHs on market

Sound Level

Sound Level	dBA < 55
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Warranty

Warranty	10 year parts. 1 year labor.
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Demand Response

- Will be optional in first version of specification. Exact language still under development.

Demand Response Connectivity	<i>Optional</i> – CTA-2045 or equivalent and complying with the proposed California 2019 Title 24 requirements for electric water heater demand management. To be revisited on next specification revision.
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Documentation

Documentation	<p>Installation manual shall contain necessary references to NEC, UPC, and describe a list of approved installation locations and electrical connection scenarios.</p> <p>It is strongly recommended that manufacturers create technical bulletins, or similar, to assist with installations in various locations and housing stock.</p>
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Other Items Referenced from Advanced Water Heating Spec

- 4.2 – ENERGY STAR Compliance*

 - *still working on alignment with respect to first hour rating

- 4.8 – Installation Guidance

 - Requires an installation manual with instructions

- 5.4 – Condensate Management

 - Requires good condensate collection, drainage, and notification practices

- 6.3 – Air Filters

 - Requires air filter cleaning/changing notification

Testing

Testing Requirements

- DOE Test Requirements and...
- 24 hour simulated use test at 50F ambient air / 50F inlet water
- Compressor Cut-off Temperature
- Sound Pressure Measurement Test

Using the Spec

Putting the Spec in to Operation

- Specification finalization and hosting
- Self-certification of product
- Product assessment worksheet
- Qualified Product List

Reporting Requirements

Heat Pump Water Heater Product Assessment

For use in conjunction with "Retrofit Ready Heat Pump Water Heater Specification"

03/14/2019

General Information

Manufacturer:	
Unit model/size: <i>Note: a separate assessment must be provided for each model/size.*</i>	Model number:
	Size (gallons):
Assessor name/title/contact info: (person filling out this Assessment, not necessarily the same as the certification or test lab)	
Date of assessment:	

Product Specifications

Unit Dimensions and Weight	
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Q & A

- Thanks!