Durawatt®

Emission-Free Electric Storage Water Heater

AquaPLEX®
Engineered Duplex Alloy

9 to 234 kW | 150 to 2000 Gallon Tanks | 25-year Warranty

PVI.com

PVI®
A WATTS Brand

Superior Durability and Zero Emissions

Durawatt is an energy-efficient, emission-free electric water heater with storage capacity. It is designed to support a wide range of building electrification and decarbonization projects.

Whether as a stand-alone, fully electric water heating plant, in combination with gas-fired water heaters for a versatile energy mix, or in a heat pump water heating system for backup, recirculation and storage, Durawatt is an ideal choice to meet local codes and regulations effectively.

Underscored by an industry-leading warranty, Durawatt offers a durable, reliable electric water heating solution that is simple to maintain. The AquaPLEX storage tank, fabricated with duplex stainless steel, is highly corrosion-resistant and allows for higher storage temperatures, while the design of individual incoloy sheathed heating elements simplifies maintenance and protects from damaging corrosive media.

Durawatt is available from 9kW to 234kW, equivalent to ~31 to 799 MBH input, and tank sizes ranging from 150 to 2000 gallons. It can also be combined with additional energy sources in the same tank, including gas, oil, steam, solar or boiler water. Customization, including larger tank size and higher kW power input, is available upon request.

Zero emissions and near 100% efficiency

Durable design for maximum reliability

Easy to maintain and to access for service

Extremely quiet and safe operation

Configurable and custom options

Great for backup and recirc in heat pump systems

Backed by an Industry-leading Warranty

- ✓ Pressure Vessel: 25 years*
- ✓ Electric Elements: 1 year
- ✓ Parts: 1 year
- ✓ Labor: 1 year

*Prorated. 100% for the initial 15 years.

Unlock the Benefits of Electric Water Heating

Electric power is key to moving towards a more sustainable future. Durawatt is a reliable and durable domestic water heating solution that effectively addresses a variety of efforts to decarbonize and electrify the built environment.

Meet Building Electrification and Decarbonization Requirements

Where building codes require building electrification, Durawatt is a perfect choice as it is 100% electric, burns no fuel, and is an extremely environmentally friendly solution when electricity is sourced from renewables. Its storage capacity means it can meet a wide range of hot water demand without the need for an additional water heating solution.

Save Time and Money on Installation

Durawatt requires no venting for air intake and exhaust and, since it runs on electricity, no fuel piping is needed either. The result is a quicker, less expensive, and simpler installation process that can save time and money and a water heater that takes up a smaller footprint in the mechanical room due to a space-efficient design.

Simplify Maintenance and Ensure Reliability

With no gas line, venting or consumables and fewer moving parts that can break down or need regular servicing, Durawatt generally requires less maintenance than gas or oil-fueled water heater to save on labor and replacement costs. Durawatt is also designed with individual flange-mounted heating elements as opposed to the typical “bundled” elements where all heating elements need to be replaced in case one fails, which is not very cost-effective.

Combine with Heat Pump Water Heater

Durawatt and its unique design and features can serve as the perfect in addition to a heat pump system to maximize the ability to deliver domestic hot water efficiently and reliably by providing backup heating, mitigate recirculation losses and hot water storage.

Customize It to Match Specific Needs

PVI offers a range of options to customize the Durawatt water heater to match site-specific needs for an ideal water heating solution:

- Input: up to 360 kW
- Tank sizes: up to 3,000 gallons
- Energy source: dual fuel in the same tank
- Electropolished Incoloy for more aggressive potable water
- Custom fabrication for deionized and reverse osmosis water

Key Features of Durawatt

Durawatt is a commercial, medium-to-large capacity electric water heater with a design that avoids large, high-kilowatt tube "bundles" that can be difficult to maintain. Instead, individual heating elements rated at 9 or 18kW are combined for higher recovery requirements and to simplify maintenance.

Key Features

- 98% thermal efficiency
- 9kW to 234kW input (customizable up to 360kW)*
- 150 to 2000-gallon AquaPLEX storage tank (customizable up to 3000 gl.)
- Incoloy sheathed heating elements in 40 or 80 watt density
- Incoloy heating elements can be energized in up to 10 stages
- Supply voltages of 208/1, 240/1, 208/3, 240/3, 380/3, 480/3 (standard) or 600/3
- Modbus connectable electronic operating controls
- Electronic controls for BAS communication (optional)
- Proportional sequencing of heating elements (optional)
- Industry-leading warranty

Designed for Simpler, Cost-Effective Maintenance

Durawatt uses individual flange-mounted heating elements with an input of 9 or 18kW. This design makes Durawatt simpler and more cost-effective to maintain when compared to a typical design that "bundles" high kW elements where all elements must be replaced if one fails due to the fact that they are bundled.

Electronic Controls for BAS Communication

Durawatt can be connected to the Building Automation System (BAS) to monitor and control the operation through Modbus RTU protocol.
Control operation set point (onsite and remote), temperature, and alarm status for operational efficiency. Programmable parameters also includes nighttime and weekend temperature adjustments to optimize energy usage according to building needs. Custom communication gateways for BACNet BAS is possible.

*Equivalent to 31 to 799 MBH input (customizable up to 1228 MBH)

Built for Maximum Durability

The storage tank of the Durawatt water heater is fabricated entirely from AquaPLEX duplex stainless steel. This makes it highly resistant to the corrosive forces of heated water for greater durability and enables the storage of water at higher temperatures for more cost effective water heating operations.

What is AquaPLEX?

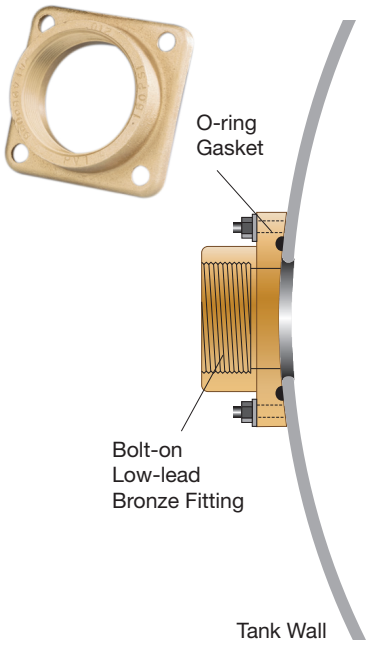
AquaPLEX is a revolutionary, engineered material that blends austenitic and ferritic steels to combine the advantages of both 300 and 400 series stainless steel for unequalled corrosion protection. This synergy makes AquaPLEX very strong and highly resistant to aqueous corrosion in addition to chloride stress corrosion cracking, which is a known failure mode of 316L and 304L stainless steel in potable water. It provides a long service life in all potable water conditions at any temperature without the need for tank linings or anode rods, which are both non-permanent methods that require service over time.

Features and Benefits

- Superior corrosion resistance – no tank lining needed
- More durable than 316L or 304L stainless steel in potable water
- Highly resistant to chloride stress corrosion cracking
- Inherently resistant to aqueous corrosion in potable water
- No anode rods or impressed current anodes are required
- Capable of storing water >200°F year after year with no effect

Corrosion-Proof Tank Fittings

Durawatt comes with an inherently corrosion-proof, non-ferrous fitting where other manufacturers typically use carbon steel fittings lined with glass or epoxy that provide only temporary corrosion protection as is evidenced by the requirement to use dielectric nipples when connecting their heaters to copper piping.



Three Ways Durawatt Enhances Heat Pump Systems

As decarbonization and electrification initiatives spread across North America, the utilization of heat pump technology to generate domestic hot water is becoming more prominent. Durawatt and its unique design and features can serve as the perfect addition to maximize the ability of a heat pump system to deliver domestic hot water efficiently and reliably by providing backup heating, mitigating recirculation losses and adding hot water storage.

1 Backup or Supplementary Heating

Durawatt can play a particularly important role in heat pump water heating systems where backup heating is required. This could either be for redundancy purposes to ensure a continuous supply of hot water during peak usage periods, during heat pump maintenance downtime, or to support operation at times when the source temperatures fall outside the operating range of the heat pump. In such cases, incorporating Durawatt can be a cost-effective addition that ensures greater hot water reliability and energy efficiency.

2 Hot Water Storage

With a storage tank capacity ranging from 150 to 2000 gallons, the Durawatt electric water heaters offer a 2-for-1 solution when combined with a heat pump system: heating and storage. Hot water storage is key to a cost-effective heat pump water heating system to maximize the energy efficiency, reduce space requirements and ensure hot water demand is met. Having the ability to store heated water allows for continuous heat pump operation, the support of load shifting strategies to times when utility rates are lower and reduce the BTU output needs by being able to “bank” the BTUs in the form of stored hot water. The unique characteristics of the AquaPLEX tank construction featured in Durawatt enables water to be stored at higher temperature for additional energy efficiency gains and greater pathogen mitigation.

3 Building Recirculation Losses

Adding a Durawatt water heater to a heat pump system can help to support building recirculation losses. Functioning as a “recirc tank”, Durawatt improves system efficiency by providing just enough heat to offset the thermal loss through the building recirculation piping which maximizes energy efficiency. These losses are often too small to be supported by central heat pump water heaters which makes Durawatt an ideal solution to support such smaller loads.

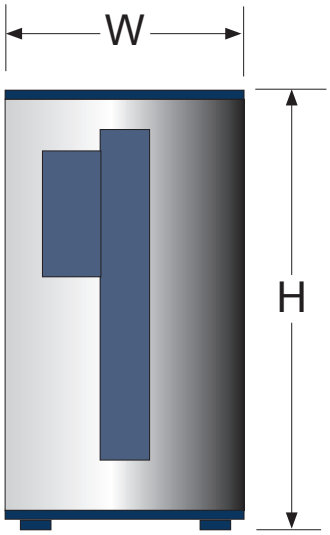
Specifications and Dimensions

Model	kW Input	BTU Input	Recovery Rate Gallon per Hour		Amps			
			40° to 120°F	40° to 140°F	240V, 3ø	380V, 3ø	480V, 3ø	600V, 3ø
45	9	30,709	46	37	24	16	13	11
90	18	61,419	92	74	46	29	24	19
140	27	92,128	138	111	67	43	35	28
180	36	122,837	184	147	89	57	46	37
230	45	153,546	230	184	111	70	57	45
270	54	184,256	276	221	132	84	67	54
320	63	214,965	323	258	154	98	78	63
370	72	245,674	369	295	176	111	89	71
410	81	276,384	415	332	197	125	100	80
460	90	307,093	461	369	219	139	111	89
510	99	337,802	507	406	241	152	122	97
550	108	368,511	553	442	262	166	132	106
650	126	429,930	645	516	306	193	154	123
740	144	491,348	737	590	349	221	176	141
830	162	552,767	829	664	392	248	197	158
920	180	614,186	922	737	436	275	219	175
1010	198	675,604	1014	811	478	303	240	193
1100	216	737,023	1106	885	522	330	262	210
1200	234	798,441	1198	958	565	358	283	228

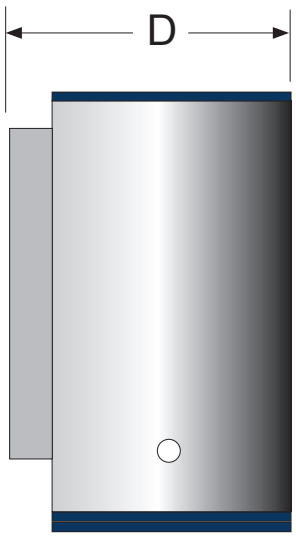
The table represents our most common configurations.
For higher kW input (up to 360kW), alternate voltages and alternate kW steps, contact your PVI representative.

Tank Size (gallons)	Height (H) in	Width (W) in	Depth (D) in
150	65	34x37	36x39
200	73		
250	85		
300	75	46	53
400	87		
500	78	56	56
600	90		
750	83	67	56
900	95		
1000	107		
1250	96	75	56
1500	108		
1750	132		
2000	144		

The table represents our most common tank configurations.
For larger tanks (up to 3000 gallons) or horizontal tanks, contact your PVI representative.



Front of unit



Side of unit

Durawatt water heater up to 250 gallons can be easily fit through a standard doorway or freight elevator to reduce installation costs and downtime.

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Hot Water Solutions

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