

Durawatt[®]

ASME Electric Storage Water Heater



AquaPLEX[®]
Engineered Duplex Alloy

18 to 360 kW | 119 to 3000 Gallon Tanks | 25-year Warranty

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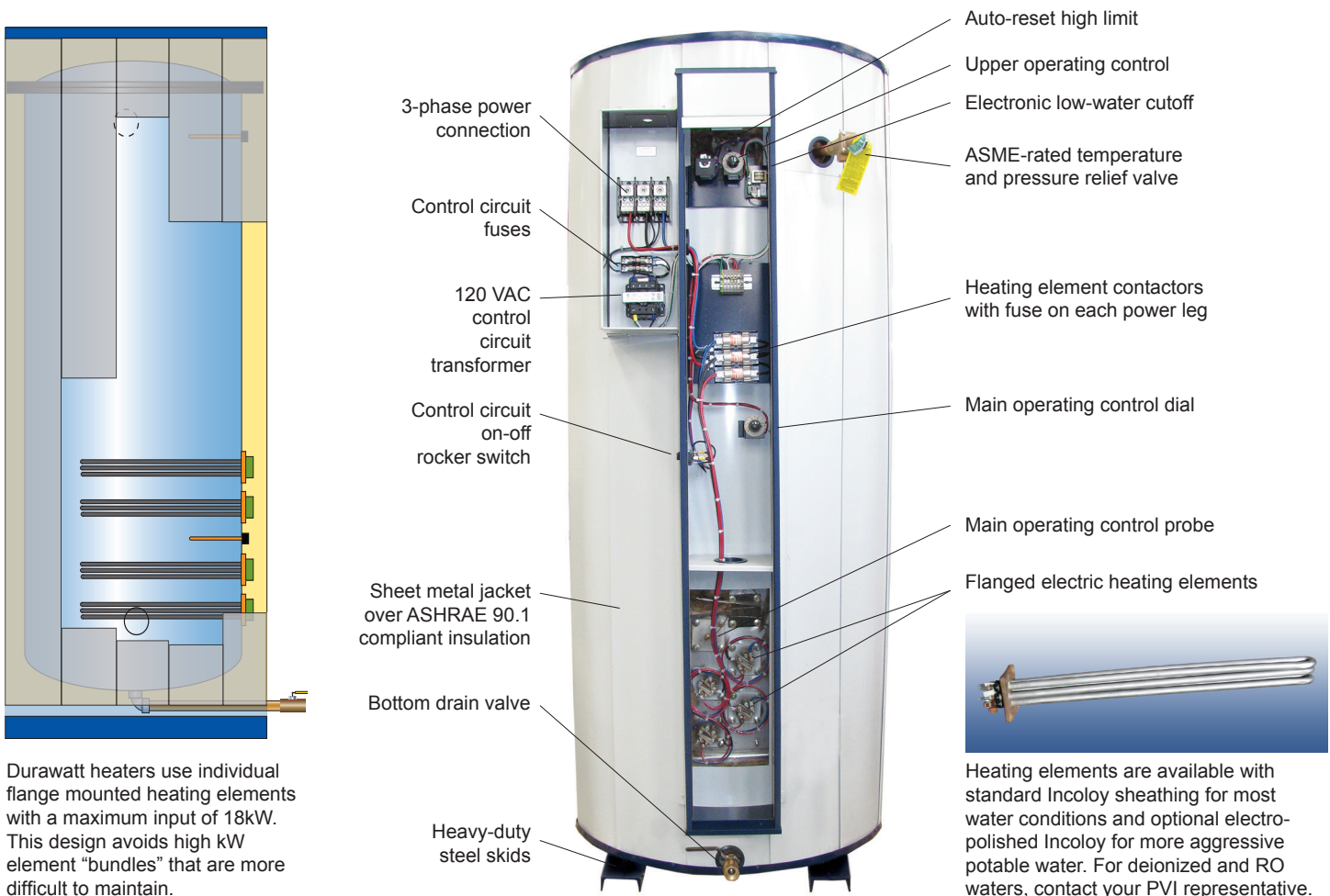


Advanced Construction for Uptime Reliability

Durawatt® is a heavy-duty, medium to large capacity electric water heater constructed with individual heating elements rated at 9 or 18kW that are combined for higher recovery requirements, rather than large, high-kilowatt tube bundles that can be difficult to maintain. Standard heating elements are Incoloy sheathed with bronze mounting flanges (optional sheathing material available); proportional sequencing of heating elements is optional. It is available with electronic operating controls that are Modbus connectable to a building automation system.

Features and Benefits

- 480V, 3-phase is standard construction (optional voltages are 208/3, 240/3, 380/3, 400/3 and 600/3)
- 98% efficiency
- Maximum kW varies by tank size
- Heating elements can be energized in up to 10 stages
- AquaPLEX® engineered duplex alloy unlined storage tank
- All tank connections are non-ferrous and removable
- No anode rods required or used
- 25-year tank warranty (15 full, 10 prorated)



Typical construction shown with standard equipment.

Durable Tank with no Linings Required

AquaPLEX® – Engineered Duplex Alloy

The storage tank on Durawatt water heaters is fabricated entirely from AquaPLEX duplex stainless steel. This is a blended alloy of 300- and 400-series stainless that captures the benefits of both materials. AquaPLEX is fully pickle-passivated after complete tank fabrication and is naturally immune to corrosion in potable water regardless of temperature. As a result, AquaPLEX requires no supplemental tank lining and no anode rods whether sacrificial or impressed current. Compared to 316L or 304L stainless steel, AquaPLEX is better suited for use with potable water due to its resistance to chloride stress corrosion cracking, which can affect 300-series stainless steels if dissolved salts are in the water supply. AquaPLEX is more resistant to chloride corrosion due to its duplex grain structure, a feature not found in 300-series stainless steels.

AquaPLEX®
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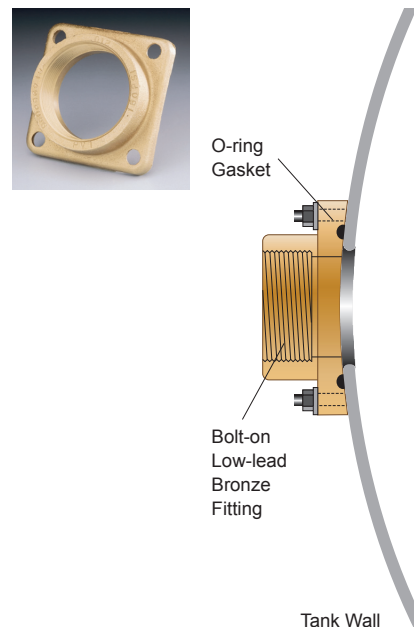


Comparison of AquaPLEX with Glass Tank Linings (porcelain enamel) and Thermosetting Epoxy Polymers

	Porosity	Anodes Required	Suffers at High Temperature	Complete Waterside Coverage and Protection	Standard Warranty
AquaPLEX	None	No	No	Yes	25 years
Glass Linings	Inherent	Yes	Yes, erodes	No. Exposure at the tank fittings and weld seams	3 or 5 years
Epoxy Polymers	Common	Yes	Yes, degrades	No. Exposure at the tank fittings	3 or 5 years

Corrosion-Proof Solid-Bronze Tank Fittings

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



Features and Codes

Optional Electronic Controls for BAS Communication

The TempTrac® electronic operating control allows the building's automation system to monitor and control the operation of the Durawatt water heater through built-in Modbus RTU protocol. Network communicated points include operating set point (remotely adjustable), sensed temperature and alarm status.

All parameters are fully programmable including night time or weekend temperature adjustment. Custom communication gateways are available for BACNet building automation systems.

Customization for DI Water or Dual Energy

Durawatt heaters can be custom fabricated for deionized or high-purity RO water. These heaters use AquaPLEX tanks, stainless steel heating elements, stainless steel fittings and components. Durawatt water heaters can also be combined with additional energy sources in the same tank; including gas, oil, steam, solar or boiler water.

Standard Features

- ASME stamped and National Board Registered for 150 psi maximum allowable working pressure
- ETL listed to UL 1453 and CAN/CSA-C22.2
- Supply voltages of 208/3, 240/3, 380/3, 480/3 or 600/3
- Incoloy sheathed heating elements in 40 or 80 watt density
- Nonferrous fittings at all tank connections
- Manway sized access on all tank sizes
- Proportional sequencing of heating elements at inputs of 72 kW and higher
- ASHRAE 90.1 compliant

Optional Equipment

- Electronic operating control with Modbus RTU for connection to Building Automation System (gateways for BACnet are available)
- Pressure gauge
- Bronze tank circulator (pre-piped)
- Audible alarm
- Manual-reset high limit
- Tank lifting lugs (standard on 400 gallons and larger)
- Safety Door Interlock
- CSA rating on temperature and pressure relief valve(s)
- Incoloy sheathed heating elements in 20 watt density

Contact your PVI representative for additional options.



Specifications and Dimensions

Available Recoveries and Electrical Characteristics

Model Number Prefix	kW Input	BTU Input	Recovery Rate Gallon per Hour		Amps		
			40° to 120°F	40° to 140°F	208V, 3ø	240V, 3ø	480V, 3ø
90	18	61,400	90	70	50	44	22
140	27	92,100	140	111	75	65	33
180	36	122,800	180	150	100	87	44
230	45	153,500	230	184	125	109	55
270	54	184,250	270	220	150	130	65
320	63	215,000	320	256	175	152	76
370	72	245,660	370	300	200	174	87
410	81	276,370	410	330	225	195	98
460	90	307,000	460	370	250	217	109
510	99	377,790	510	400	275	239	120
550	108	368,500	550	440	300	260	130
650	125	426,500	650	515	350	304	152
740	144	491,330	740	590	400	347	174

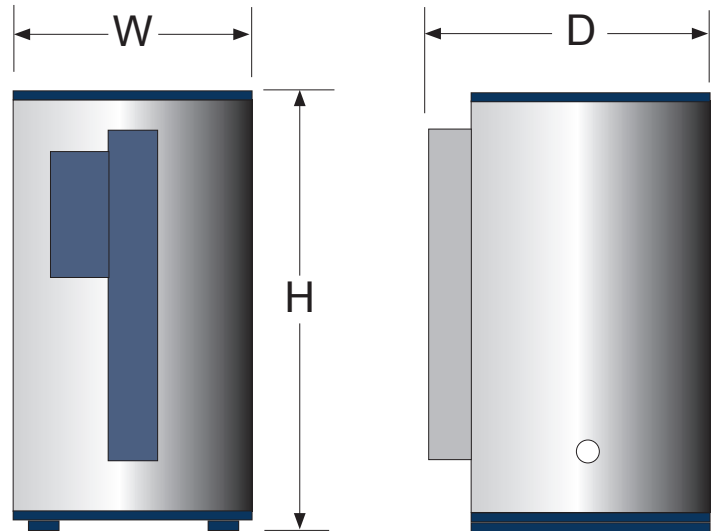
The above table represents our most common configurations.

Inputs up to 360kW are available. For higher kW input, alternate voltages and alternate kW steps, contact your PVI representative.

Rough-in Dimensions (inches)

Tank Size (gallons)	Height (H)	Width (W)	Depth (D)
119	76	31	38
150	63	34	44
200	75	34	44
250	85	34	44
300	75	46	53
400	87	46	53
500	78	56	63
600	90	56	63
750	83	67	74

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





Hot Water Solutions

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