

Power VTX[®]

Condensing Storage Water Heater



AquaPLEX[®]
Engineered Duplex Alloy

500 to 1000 MBH | 225 Gallon Tank | 15-year Warranty

PVI.com



Powerful and Reliable Water Heater

Power VTX is a condensing, 95.5% thermal efficient storage water heater featuring a submerged combustion chamber, enhanced fire tubes and a storage tank fabricated entirely from AquaPLEX® duplex stainless steel for increased life expectancy and reliability. Seamless pulse width modulation reduces cycling and improves efficiency up to 99% during low load conditions.

With a tank and heat exchanger made entirely from AquaPLEX duplex stainless steel alloy, the Power VTX is an extremely powerful and reliable water heater.

Features and Benefits

- Up to 95.8% thermal efficiency at full rate from 70-140°F
- No tank linings, no anodes of any type
- Better than 316 and 304 stainless in potable water
- Touch-screen operating control with plain text diagnostics
- 15-year tank and heat exchanger corrosion warranty (8 years full, 7 years prorated)
- Available in 500, 750, 1000 MBH
- 225-gallon storage tank



High Efficiency and Corrosion Resistant

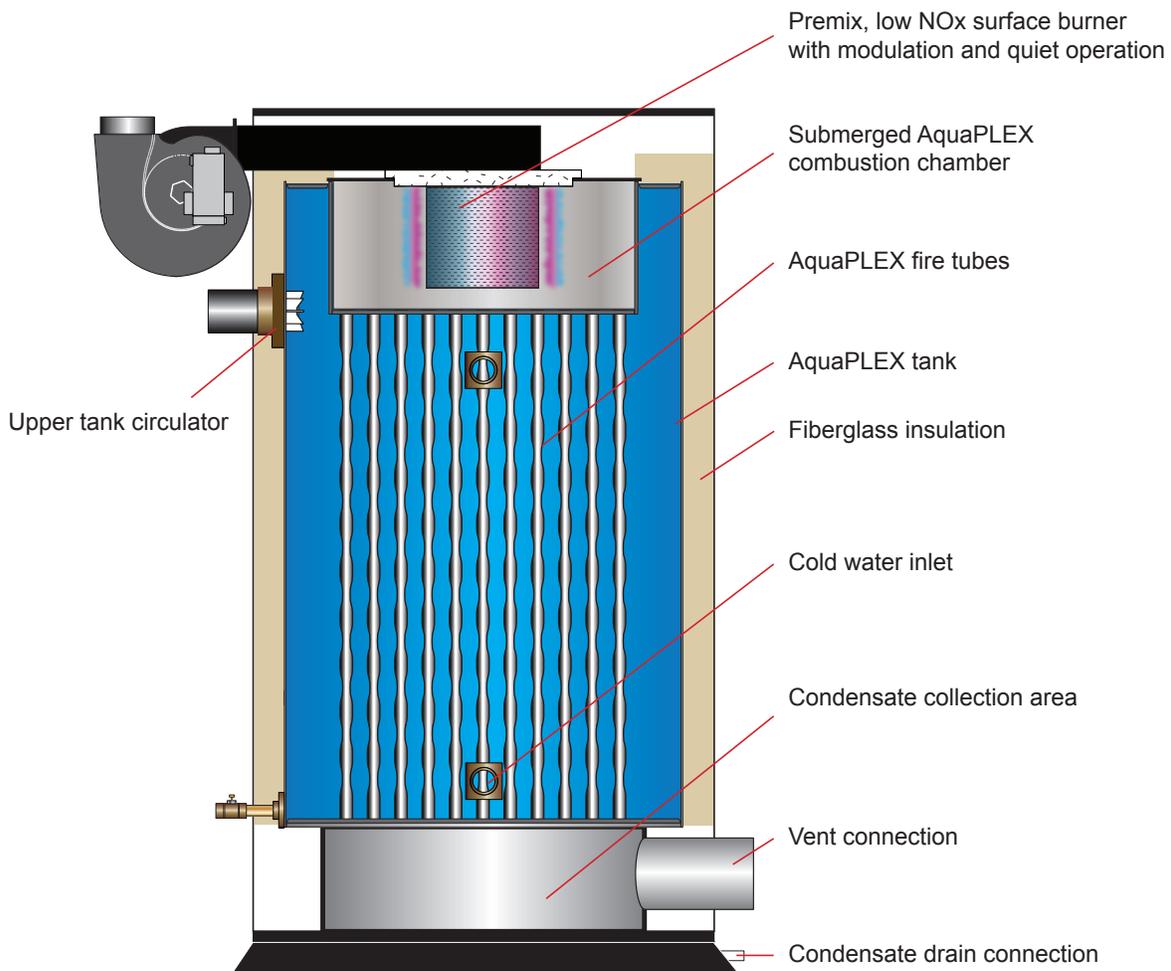
Corrosion Resistant

AquaPLEX is inherently corrosion resistant and completely eliminates the need for a tank lining and anode rods, whether sacrificial or impressed current. Unlike 316 and 304 stainless steels, AquaPLEX is immune to chloride stress corrosion cracking, a failure mode of 300 series stainless steel in potable water.

The pressure vessel, fire tubes and combustion chamber in the Power VTX water heater are fabricated from AquaPLEX duplex alloy. AquaPLEX combines the grain structures of both 300 and 400 series stainless steels for unequalled corrosion protection.

Condensing High Efficiency

Power VTX achieves high efficiency through a down-fired design featuring a submerged combustion chamber and an array of performance-enhanced fire tubes. Combustion gases are entirely counter-flow to the direction of the potable water enabling the coolest flue gases to contact the coldest water and raising low-fire efficiency to 99%.



Advanced Design

Low Standby Losses

Insulated in excess of R12.5, standby heat loss of the Power VTX equates to about 0.5% of the total amount of natural gas consumed by the water heater in a typical year. These low standby losses, as well as the high thermal efficiency, occur with a 140°F operating setpoint; a temperature recognized and recommended for faster legionella kill in control guidelines published by the World Health Organization, OSHA, ASHRAE and others. Operating at this recommended temperature does not negatively affect the operating costs of the Power VTX water heater, nor does it have any negative effect on the AquaPLEX tank.

A Harmony of Storage Capacity and Modulation

Modulation provides three benefits; it reduces burner short-cycling during low demand periods, it improves efficiency as burner input drops relative to the constant amount of heat transfer surface (provided entering water temperature is as cold as possible) and it improves temperature control accuracy under varying flow conditions.

The Power VTX water heater is equipped with pulse-width modulation. The turndown ratio of the burner combined with the moderately sized 225-gallon storage tank provides all three benefits of modulation to its fullest.

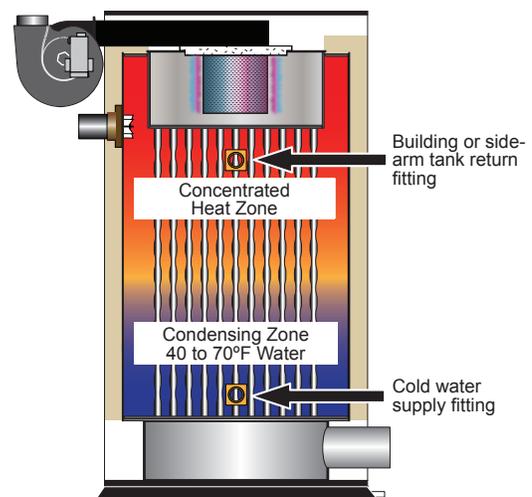
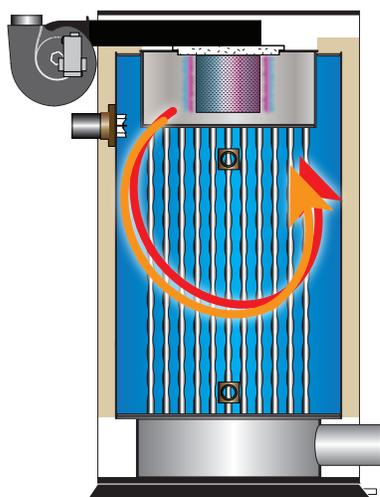
During low demand periods, the storage capacity acts as a thermal buffer that provides hot water without an immediate need for a burner cycle, and then allows the burner to run for a reasonable time period at low fire when a burner cycle is initiated. The low fire efficiency of Power VTX is as high as 99%, better than or equal to any product on the market. Power VTX can also adjust input to less than 1000 Btu per gallon of stored water and thereby provides outstanding control of both heat input and the resulting outlet water temperatures under varying flow conditions.

Integral Tank Circulator

During burner operation, Power VTX energizes an integral circulating pump that forces water across the heating surfaces in the hottest part of the tank. More aggressive contact between the water and heating surfaces improves efficiency and the scouring action helps to reduce the buildup of scale. Circulation also helps to equalize tank temperature.

Dedicated Return Tank Connection

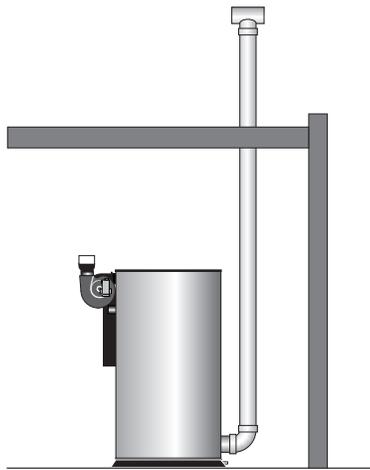
Constant circulation of hot water into the cold fitting on a condensing water heater lowers its efficiency. Power VTX provides a dedicated fitting for connection to a building return loop or side-arm tank, maintaining two distinct temperature zones and allowing only the coldest water to enter the lower condensing zone of the water heater during a firing cycle.



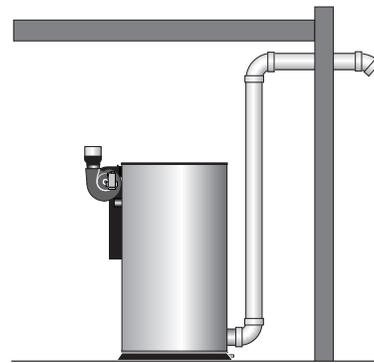
Venting Flexibility

Multiple Positive-Pressure Venting Options

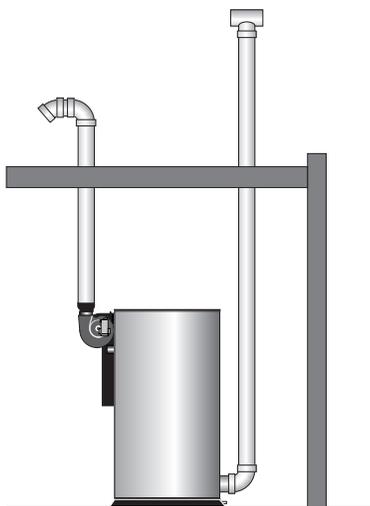
Power VTX is a category IV vented product listed for PVC, CPVC, and Polypropylene materials and is capable of sealed combustion with terminations in different pressure zones. In addition, combined venting is available when designed by experienced venting engineers.



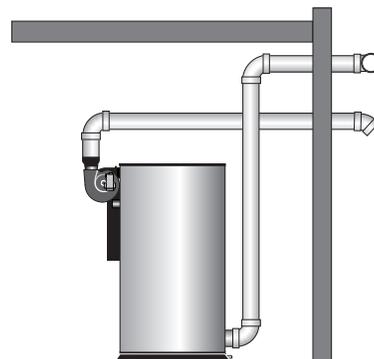
Conventional



Room air, side-wall vent



Sealed combustion with
roof terminations



Sealed combustion with
sidewall terminations

Features and Codes

Touch-Screen Operating Control

The Power VTX electronic operating control provides a plain-text user interface that indicates heater status, modulation rate, operating parameters and fault status. The control is embedded with Modbus RTU and BACnet MS/TP protocols for connection to a building automation system. The control includes a 15-event fault history that tracks operating safeties and hardware/software points for speed and accuracy in troubleshooting.

Selected Standard Equipment

- 97% thermal efficiency at full fire from 40-140°F
- Up to 99% thermal efficiency at low fire
- <12 ppm NO_x, SCAQMD listed
- Equipped for direct combustion air connection
- Vents through PVC, CPVC or Polypropylene
- 15-year warranty for tank and exchanger (8 years full, 7 years prorated)

Pressure Vessel and Heat Exchanger

- AquaPLEX tank (unlined duplex alloy)
- AquaPLEX combustion chamber and fire tubes, 100% submerged, single-pass, down-fired
- Temperature and pressure relief valve
- Fiberglass insulation
- Coated steel jacket panels
- Bottom drain valve

Burner, Operating and Safety Controls

- Natural gas or LP gas
- Gas trains are ANSI/CSA compliant and include second safety shutoff valve and gas pressure regulator
- Pre-mix stainless steel surface burner and proportional gas/air control
- Full burner modulation
- Electronic operating system with integrated ignition and operating controls
 - Programmable electronic operator with digital temperature readouts, adjustable from 70-180°F
 - Touch-screen interface with plain text status and fault indication with fault history
 - Alarm with remote contacts
 - Visual modulation rate

- Manual-reset temperature limiting device
- Modbus RTU and BACnet MS/TP embedded
- Electronic low-water cutoff with test switch
- Relay and proving contact for air louvers

Codes and Standards

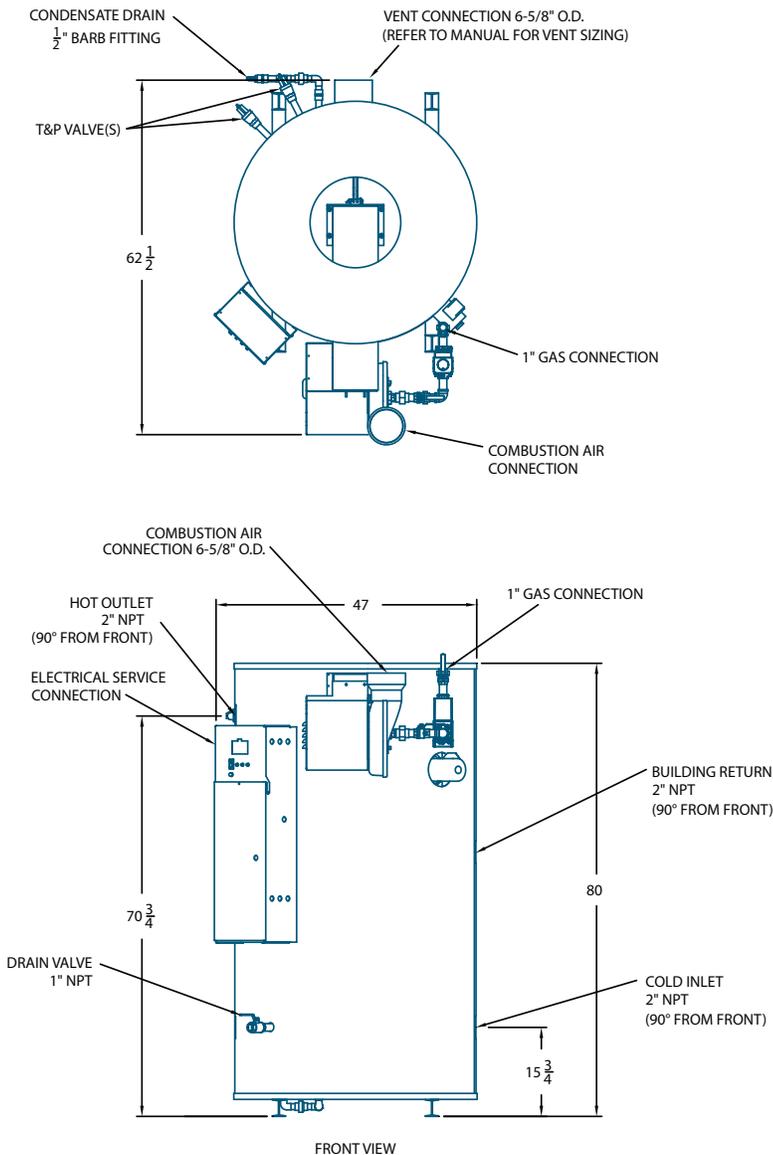
- ASME HLW stamped for 150 psi
- Intertek /ETL listed to ANSI Z21.10.3/CSA 4.3
- Intertek /ELT listed for PVC, CPVC, Polypropylene or AL294C stainless steel vent material and zero-clearance installation
- NSF/ANSI 372 lead free certified by ETL
- ASHRAE 90.1, SCAQMD compliant



Specifications and Dimensions

Model ▼	Input Btuh	Maximum Recovery GPH (thermal efficiency)		Minimum Vent Diameter Maximum Equivalent Length (ETL listed for longer vents with larger diameter)	Shipping Weight (lbs.)	Operating Weight (lbs.)
		70°F to 140°F ①	40°F to 140°F ②			
50 L 225A-PVX	500,000	819 (95.8%)	582 (97%)	6" @ 200 eq. ft.	1520	3086
75 L 225A-PVX	750,000	1228 (95.6%)	873 (97%)		1610	3126
100 L 225A-PVX	1,000,000	1636 (95.5%)	1163 (97%)		1700	3157

- ① Recoveries and thermal efficiency derived from DOE 10 CFR 431 testing requirements (ANSI Z21.10.3 @ 70-140°F).
 ② Recoveries and thermal efficiency based upon 40°F entering water temperature.



Standard Electric
120V, 1ø, 60 Hz. (all models < 11 amps)
Gas Pressure (natural gas)
3.5" w.c. minimum flow pressure 14" w.c. maximum static pressure
Minimum Clearances
4 inches from sides and rear 24 inches from the front 16 inches from top Can be installed on combustible floor
Recommended Clearances
18 inches from all sides, 24 inches from the front and 16 inches from the top. Refer to local and national codes for additional clearance requirements.
Emissions
<12 ppm NOx, SCAQMD listed



Hot Water Solutions

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