



# PLATINUM<sup>®</sup>

CONDENSING GAS-FIRED WATER HEATER

199,000 Btu/h  
299,000 Btu/h  
399,000 Btu/h



**Up to 94%**  
THERMAL  
EFFICIENCY

AquaPLEX<sup>®</sup>  
DUPLEX ALLOY  
TANK WITH A  
10-YEAR  
WARRANTY

REMOVABLE  
HEAT  
EXCHANGER  
WITH  
NON-FERROUS  
CONSTRUCTION

LOW NO<sub>x</sub>  
PRE-MIX BURNER

EXTREMELY  
QUIET  
OPERATION

**FUEL-SAVING CONDENSING EFFICIENCY  
UNMATCHED ANTI-CORROSION TECHNOLOGY**

SHRAE 90.1  
compliant



Intertek

# PLATINUM<sup>®</sup>

Condensing Gas-Fired Water Heater

## Product Description

PLATINUM is a firetube water heater featuring completely submerged combustion and flue gas pathways. The amount of heating surface relative to the Btu/h input is higher than typical water heaters. As a result, flue products inside the PLATINUM are cooled below their dew point, causing water vapor in combustion gases to condense on the heating surfaces. This phase change releases latent energy that is transferred to the stored water, resulting in thermal efficiency as high as 94%.

## Operating and Installation Advantages

### Lower Operating Cost

At 94% thermal efficiency, PLATINUM consumes up to 17% less fuel than competitive water heaters.

Annual Fuel Cost Comparison			
	Thermal Efficiency	Annual Gas Cost	Savings with PLATINUM
PLATINUM	94%	\$8388	
Mid-efficiency Heater	85%	\$9187	\$799
ASHRAE Compliant Heater	80%	\$10,274	\$1886

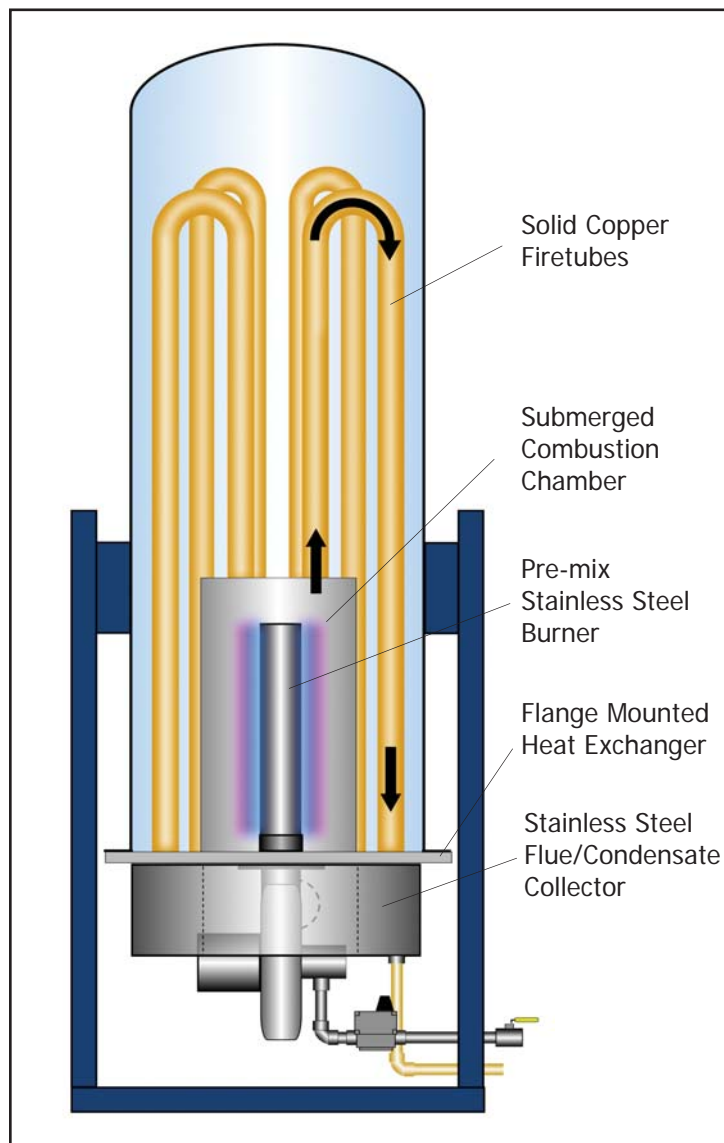
*Comparison assumes production of 2730 gallons of water daily from 40° F to 140°F, operation 365 days per year and natural gas priced at \$.95 per therm.*

### Lower Venting Material Cost

PLATINUM is UL-listed for use with PVC venting. The PVC vent will cost substantially less than the B-vent required for mid-efficiency appliances.

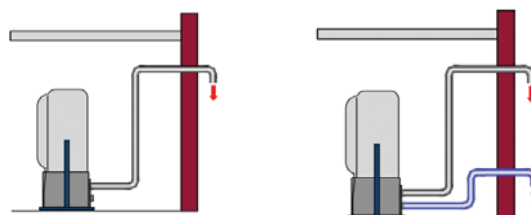
Vent Cost of 399,000 Btu/h Water Heaters		
	Material Cost	Savings with PLATINUM
PLATINUM (PVC)	\$150	
Mid-efficiency Heater (type-B)	\$400	\$250

*Comparison based on a 50-foot vent run with two 90° elbows.*



### Simplified Vent Design

Venting under positive pressure, the PLATINUM water heater eliminates the need to design a vent. The water heater can exhaust directly through a side-wall for up to 100 equivalent feet of 4-inch PVC. PLATINUM is also configurable for direct inlet air through 100 equivalent feet of 4-inch duct.



Through the wall or through the roof...

...or with direct combustion air

### Minimal Floor Space Requirement

The footprint of the PLATINUM water heater is a mere 8.13 ft<sup>2</sup>. It is UL approved for closet installations with zero inch clearance to combustible walls.

# Longer Life through Superior Materials, Fabrication Methods and Product Design

## Tank Linings So Good...NO Anode Required

### AquaPLEX® - Engineered Duplex Alloy Tank - *the industry's premier water storage vessel*

PLATINUM water heaters are available with an ASME-code storage tank fabricated from AquaPLEX - a high-chromium duplex stainless steel that combines the favorable characteristics of both 300 and 400 series stainless steel. A vessel fabricated from AquaPLEX is naturally resistant to corrosion in hot water (even at extreme temperatures) and requires no supplemental protective coatings or sacrificial anode rods. AquaPLEX is impervious to chloride stress corrosion cracking; a failure mode that can affect 316L stainless steel in potable water.

### POLYSHIELD® Tank Lining

A continuous-coverage, thermoplastic polymer formulated with anti-oxidants and thermal stabilizers. The lining is applied in multiple, individually oven-cured coats after complete tank fabrication. The 23" opening in the PLATINUM tank allows access for electronic thickness and continuity testing of the entire POLYSHIELD lining. Every tank is tested, and the lining must be pinhole-free and continuous prior to shipment. This quality control process is included as a requirement for our ISO 9001 certification.

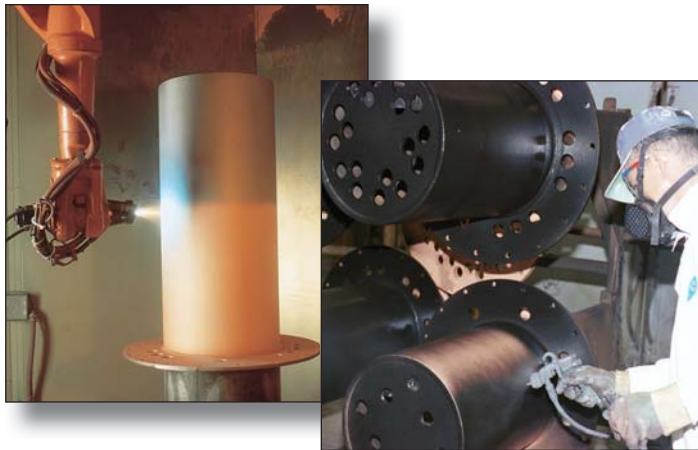


POLYSHIELD application

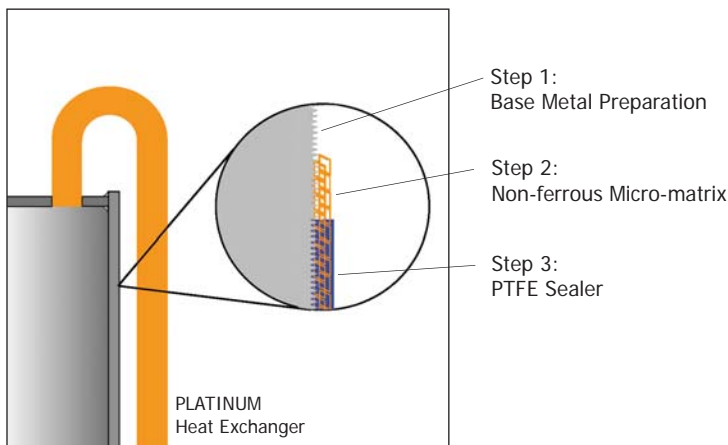


POLYSHIELD electronic testing

## Heat Exchanger with Copper/PTFE Composite Barrier Coating

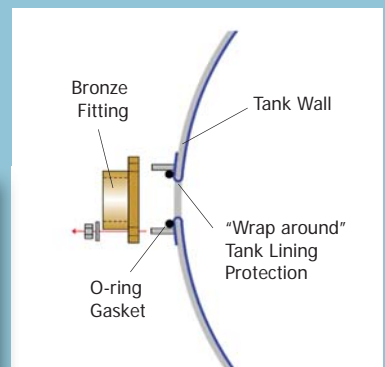


The PLATINUM heat exchanger is protected by a three-step corrosion barrier. First, the steel combustion chamber is blasted to white metal. Then, a 6-axis robot precisely applies a non-ferrous copper matrix to the steel. This matrix is then sealed by an oven-cured PTFE polymer overcoat. The heat exchanger is completed by the addition of solid-copper firetubes. This process results in a heat exchanger that is impervious to the effects of hot water.



## Corrosion-proof, Solid Bronze Tank Fittings

Where other manufacturers use steel, PLATINUM uses corrosion-proof bronze fittings. The patented design also allows the lining to extend through and around the tank opening to the exterior of the vessel, providing an uninterrupted barrier between the water and the storage tank.



U.S. patent 4,968,066

## Additional Features

### Temperature Control



PLATINUM is equipped with an electronic temperature control offering push-button programmability, digital accuracy to within 1°F and an LED temperature readout. As an option, the control can communicate with a building automation system through a serial connection using Modbus

RTU protocol - allowing monitoring/reset of operating temperature and, if desired, alarm notification, and email notification through the BAS internet connection.

### Stainless Steel Burner

For reliable operation, long life and high combustion efficiency, PLATINUM is equipped with a fan-assisted, pre-mix stainless steel ported burner that is lit by a hot surface igniter. An electronic flame safeguard continuously monitors combustion.



The advantages of the PLATINUM burner over competitive designs include lower required manifold gas pressure, longer vent runs without assistance, lower amperage blower motor and extremely quiet operation. The burner also self-regulates the gas/air ratio for optimum combustion under varying vent pressure conditions. For example, with a partially blocked flue, the PLATINUM burner will automatically balance the gas flow into the burner to compensate for reduced air flow.

### Rapid Hot Water Delivery

GALLONS OF 140°F WATER DELIVERED			
MODEL 399		MODEL 299	
Minutes	Gallons Delivered	Minutes	Gallons Delivered
5	94	5	84
10	131	10	112
15	167	15	140
20	204	20	168
30	277	30	224

PLATINUM quickly provides hot water for small combination dumpload and draw applications; such as commercial kitchens. For larger dumpload types, such as showers, PLATINUM can be combined with separate storage tanks.

## STANDARD EQUIPMENT

- AquaPLEX® duplex alloy tank with a 10-year warranty or POLYSHIELD® polymer-lined tank with a 5-year warranty
- Five-year heat exchanger warranty
- First-year no-cost service policy
- Up to 94% thermal efficiency
- Removable heat exchanger with non-ferrous waterside construction and copper fire tubes
- ASME stamped for 160 psi operating pressure
- Non-ferrous tank connections
- Stainless steel premix low NOx burner
- < 20 ppm NOx (199 and 299 MBtu)
- < 30 ppm NOx (399 MBtu)
- Two safety shutoff valves (single body)
- Air proving switch
- Electronic combustion sequencer and safeguard with prepurge
- Hot surface ignitor/flame monitor
- Electronic operator with LED temperature readout and Modbus connectability to BAS
- Redundant high limits with automatic reset
- ASME temperature and pressure relief valve
- Drain valve
- Fiberglass insulated tank
- Corrosion-resistant polyethylene jacket
- Heavy-duty steel stand
- Support stand design allows horizontal positioning of tank for heat exchanger removal
- ASHRAE 90.1 compliant
- ETL listed for PVC venting material (sanitizing temperature applications require CPVC venting material)
- ETL listed for zero clearance from combustible walls (non-combustible floors only)
- FM compliant
- ETL listed as NSF-5 compliant
- ETL listed as low-lead compliant

## ALTERNATE CONFIGURATION

- Sanitizing temperature option for applications with water temperature  $\geq 170^\circ\text{F}$  (adds high-temperature thermostat, CPVC condensate drain piping, and stainless steel tank)

## SELECTED OPTIONAL EQUIPMENT

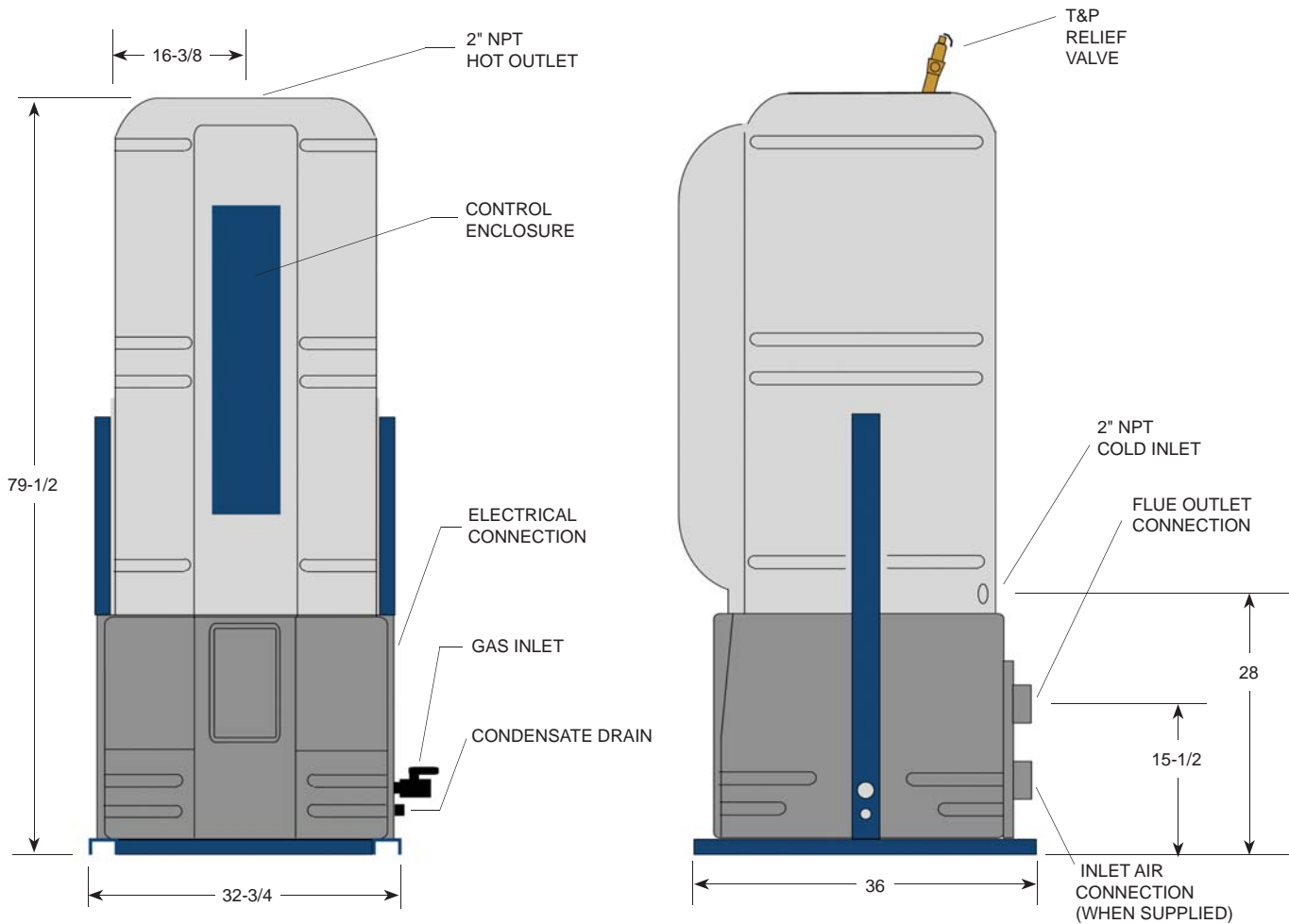
- Electronic low-water cutoff
- Air intake assembly for connection to remote combustion air duct
- L.P. gas operation
- Condensate neutralization system
- CSA-rated relief valve
- Lifting Lugs
- CSD-1 compliant components; including manual-reset electronic low-water cutoff and manual-reset high limit

# PLATINUM



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Model Number Prefix	199	299	399
Btu/h Input	199,000	299,000	399,000
GPH Recovery (40°F to 120°F)	275	421	550
GPH Recovery (40°F to 140°F)	220	337	440
Gas Inlet - NPT	1/2	3/4	3/4
Flue Outlet Connection - dia. inches	3	4	4
Shipping Weight - lbs.	1000	1100	1100



**STANDARD GAS PRESSURE REQUIREMENTS**  
 MINIMUM FLOW GAS PRESSURE 4.5" W.C.  
 MAXIMUM STATIC GAS PRESSURE 10.5" W.C

FOR GAS PRESSURE OUTSIDE OF THIS RANGE,  
 CONTACT YOUR PVI REPRESENTATIVE.

**STANDARD ELECTRICAL REQUIREMENTS**  
 120 Volt, 60 Hz.  
 MAXIMUM AMP DRAW ON TRIAL FOR IGNITION: 6  
 CONTINUOUS AMP DRAW DURING FIRING: 1.3  
 CONTINUOUS STANDBY AMP DRAW: 0.03

**VENTING REQUIREMENTS**  
 CATEGORY IV - POSITIVE PRESSURE, CONDENSING.  
 ETL CLASSIFIED FOR SCHEDULE 40, SOLID-WALL PVC .  
 SANITIZING WATER TEMPERATURE APPLICATIONS REQUIRE  
 SCHEDULE 40, SOLID-WALL CPVC VENTING MATERIAL.

SEE INSTALLATION MANUAL FOR VENTING DETAILS.

This product is protected by patents in the U.S., Canada and Mexico. PVI reserves the right to change the design and specification without notice.