PRIME
COMMERCIAL CONDENSING GAS WATER HEATER
40 - 119 GALLONS, UP TO 110,000 BTU/HR
94% THERMAL EFFICIENCY
THE ULTIMATE IN CONDENSING GAS WATER HEATING

THE PRIME ADVANTAGE

Industry’s Only Cement Lined Condensing Gas Storage Water Heater

The Hubbell Prime condensing gas storage water heater features a fully integrated burner and field removable 316L SS heat exchanger. The modular heat exchanger allows for easy cleaning and serviceability, which ultimately provides maximum longevity and sustained peak performance. High efficiency polyurethane foam insulation reduces standby heat loss, while the modulating air/gas combustion blower improves combustion efficiency and reduces short-cycling. The Prime has a thermal efficiency rating of 94% and is available in storage capacities ranging from 40-119 gallons.

FEATURES and BENEFITS

- Hydrastone cement lined tank
- High efficiency fully modulating and removable 316L SS heat exchanger
- 94% thermal efficiency
- Available in 55,000 and 110,000 BTU/HR input
- Digital temperature controller
- 7 year non-prorated tank warranty
- 5 year non-prorated heat exchanger warranty
- Made in the USA

The PRIME Choice For Commercial Applications

The Hubbell PRIME water heater is engineered and built to deliver hot water efficiently. The Prime is suitable for many commercial applications: hotels, restaurants, medical centers, schools, apartments, athletic clubs, stadiums, office buildings, laundromats, shopping centers, and more.
HYDRASTONE CEMENT- THE KEY TO A LONG LASTING WATER HEATER

The protective lining is the single most important feature when determining the quality of any water heater. The ability of a lining to protect the steel tank is primarily based upon its thickness and complete coverage of all steel surfaces. Hubbell Hydrastone cement lined tanks offer protection that other tank linings can’t match and are proven to outlast glass, epoxy and other types of tank linings.

**Typical Tank Lining**

**Glass Lined**
- Approximately 5/1000" thick
- Does not cover all internal surfaces
- Requires a sacrificial anode rod
- Anode rod needs to be replaced to prevent premature failure

**Cement Lined**
- 1/2" thick Hydrastone cement lining covers 100% of the vessel and welds
- Creates a seamless internal tank surface
- Highly resistant to corrosion from the harsh effects of elevated water temperatures and water chemistry
- No anode rod required

**INSIDE A HYDRASTONE LINED TANK**

Hydrastone cement is specifically formulated to withstand the harsh effects of elevated water temperatures and water chemistry. As water fills a cement lined tank, it is absorbed into the tank lining. This causes the absorbed water to give up its oxygen, creating an inert layer between the steel tank and the corrosive hot water.

**Phase 1**
The Hydrastone cement lining absorbs water and is trapped within the cement.

**Phase 2**
The water absorbed by the cement becomes inert, losing all oxygen.

**Phase 3**
The water is held between the steel and Hydrastone cement lining, creating an extra barrier that prevents corrosion and tank failure.
Anatomy of Prime

1/2" Thick Hydrastone Lined Tank
A seamless cement lining is impervious to adverse water conditions and is proven to be the most effective method of preventing tank failure due to corrosion.

2" Polyurethane Foam Insulation
Exceeds the requirements of ANSI/ASHRAE standards for energy efficiency and heat loss by 10%.

316L Stainless Steel Heat Exchanger
Resistant to corrosion for maximum reliability and longevity.

Removable Heat Exchanger
Allows for easy field servicing or replacement without removing the plumbing connections.

Advanced Blower
Advanced premix gas/air blower for increased combustion efficiency.

Hot Water Outlet

Other Heat Exchangers

Permanently welded to outer vessel
- Not removable
- Not serviceable
- Heat exchanger failure requires water heater replacement
- Not repairable
- Cleaning difficult, time consuming and costly
- Significant welded surface area increases the probability of failure

VS. ...The Prime Advantage

Modular Construction
- Fully removable heat exchanger
- Easily serviced in the field
- Heat exchanger can be replaced without water heater removal or replacement
- Repairable
- Cleaning is quick and easy
- Minimal welded area reduces the probability of failure
Example: GSE55-C-120SL
Model GSE, 55MBH gas fired condensing 119 gallon Hydrastone cement lined steel water heater
STANDARD EQUIPMENT

1. 1/2" thick Hydrastone cement lining
2. 316L Stainless steel heat exchanger
3. Digital temperature controller
4. ASME temperature and pressure relief valve set at 150 psi and 210°F
5. 2" thick Polyurethane Foam insulation meets or exceeds the requirements of ANSI/ASHRAE/IESNA 90.1
6. High impact non-corroding colorized composite protective jacket
7. Cold water inlet diffuser with drain valve

OPTIONAL EQUIPMENT

1. ASME tank construction (available up to 5,000 gallons)
2. Solid (copper-alloy, Type 304L, Type 316L stainless steel) storage tank for maximum tank life
3. Integrally welded seismic attachment points
4. Foam insulation 3" (R-21) thick for improved operating efficiency
5. Back-up air source heat pump
6. Back-up indirect heat exchanger (boiler, steam or solar water)
7. Alternate fuel source - Propane (field convertible)
8. Back-up electric heating element
9. All wetted parts to be 316L stainless steel suitable for reverse osmosis, deionized, and ultra pure water applications
10. 316L stainless steel temperature and pressure relief valve
11. 1½" Male NPT inlet and outlet water connections
12. NSF approved 6" high legs
13. UL, EPH/ANSI, NSF tank lining
14. Combination temperature and pressure gauge: 2.5" dial, 70-250°F, 0-200 psi — specify if installed in tank or shipped loose for in-line installation
15. Brazed plate exchanger, available in double or single wall. For low temp space heating applications. Available up to 110,000 BTU/HR.

Please note: Optional equipment may impact overall dimensions and weight. Please request submittal drawing from factory.

ADDITIONAL HEATING OPTIONS

HEAT PUMP
Transfers heat from surrounding air into the hot water tank. Coefficient of performance (COP) of 2.36 with an ambient air temperature of 70°F.

PLATE EXCHANGER
For low temp space heating applications, such as baseboard or radiant floor heating. Available up to 110,000 BTU/HR.

ELECTRIC
Electric heat source available in any voltage and phase up to 58kW.

INDIRECT HEAT EXCHANGER
Utilizes solar water, boiler water or steam for indirect heating. Available in single or double wall, up to 199,000 BTU/HR.

Please note: Not all configurations above will comply with the optional equipment available.
GENERAL

Provide a quantity of _____ commercial water heater(s) Model No._________________ as manufactured by HUBBELL Water Heaters, Stratford, CT. The entire unit is to be complete with all operating controls and require only plumbing, gas and electrical service connections. The tank shall be constructed from welded pressure vessel grade ASTM A516 carbon steel construction designed for 150 psi working pressure and contain ___ gallons of storage. The tank is to be internally lined with seamless Hydrastone cement applied via centrifugal spinning process to guarantee uniform distribution of ½” thick cement over all interior surfaces, and a cement density of 0.20 lbs/cubic inch minimum in order to provide increased longevity and inhibit oxidized water ingress. The tank shall not require any type of anodic protection. The tank shall be designed and fabricated with non-ferrous tappings and non-ferrous inlet and outlet piping for maximum corrosion resistance. Steel tank tappings will not be acceptable. The entire tank is to be insulated with a minimum of 2” (Optional Specification: 3”) thick polyurethane foam insulation at minimum value of R-7 per inch and a minimum total value of R-14. (Optional Specification: R-21) Insulating value shall exceed the ASHRAE standard 90.1-2013 requiring an R-value of 12.5 for stand-by heat loss by a minimum of 10% (Optional Specification: 60%). The complete heater shall be supplied with a high impact colorized composite protective jacket which cannot rust or corrode and does not require painting. The cold water inlet shall be 3/4” Female NPT (Optional Specification: 1 1/2” Male NPT) and include a non-corrosive strata-flow diffuser which prevents incoming cold water from mixing too rapidly with hot water in the tank. A 3/4” hose connection drain is supplied. The hot water outlet shall be 3/4” Male NPT (Optional Specification: 1 1/2” Male NPT) and shall include a factory installed built-in heat trap to prevent water from radiating through the piping during stand-by periods. A separate 3/4” Female NPT tapping is to be provided for relief valve installation. An ASME, rated automatic reseating combination temperature and pressure safety relief valve set at 150psi and 210°F shall be factory supplied.

HEAT EXCHANGER/BURNER

The 316L stainless steel immersion burner/heat exchanger shall be horizontal, modular design that is fully removable, field serviceable, repairable and replaceable.

RECOVERY

The 316L stainless steel immersion burner/heat exchanger shall be rated at 55,000 BTU/HR input @ 94% thermal efficiency which will heat 62 GPH of water at 100°F rise (40° to 140°F). (Optional Specification: 110,000 BTU/HR which will heat 124gph of hot water at a 100° F rise (40°F to 140°F)

In addition, the water heater shall be equipped with the following optional features:

OPTION  _______________________________________________
OPTION  _______________________________________________
OPTION  _______________________________________________

WARRANTY

The water heater manufacturer shall warranty all components against defects in workmanship and material for a period of one (1) year from date of start-up.

Non ASME models: Pressure vessel for a full seven (7) years non pro-rated (Optional Specification: full ten (10) years non pro-rated) Heat exchanger for a full five (5) years non pro-rated from date of start-up, provided that the unit is started within three (3) months of date of shipment and operated within the scope of the tank design and operating capability.

ASME models: Pressure vessel for a full ten (10) years non pro-rated (Optional Specification: fifteen (15) years, 8 non pro-rated, plus 7 pro-rated) Heat exchanger for a full five (5) years non pro-rated (Optional Specification: fifteen (15) years, 8 non pro-rated, plus 7 pro-rated) from date of start-up, provided that the unit is started within three (3) months of date of shipment and installed and operated within the scope of the tank design and operating capability.

Each water heater shall be shipped with a complete set of installation and operating instructions including spare parts list and approved drawings.

For complete AIA/Master spec visit www.hubbellheaters.com
For complete warranty visit www.hubbellheaters.com
Hubbell is a leader in the design, engineering and manufacturing of water heaters for use in demanding Commercial, Industrial, Marine/Offshore and Naval markets. Hubbell products are engineered and manufactured in the U.S., and built with only the highest quality materials and technologies including Hydrastone cement, stainless steel, and digital controls. Hubbell is ISO 9001 meeting all the current standards including: cULus, ASME, ASHRAE, ANSI/NSF5, USCG, ABS, DNV, ASME, NR13 and MIL. With dependability, long life, and trouble-free service design, Hubbell water heaters are trusted all over the world adding value to every installation.