

Swimming Pool Gas Heater

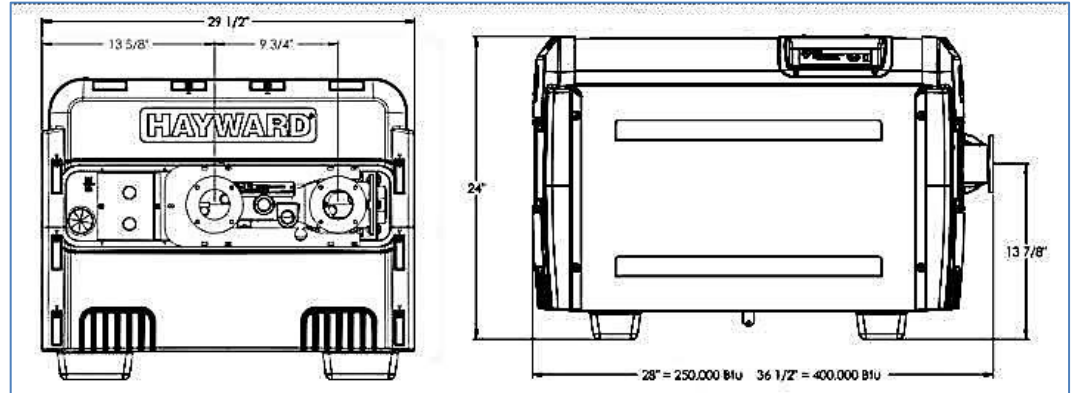
General:

1. It is the intent of these specifications to describe a natural gas / propane fuelled water heater designed specifically for swimming pool, spa and other aquatic applications. The specification is based on the **Universal H-Series Gas heater** as manufactured by Hayward Industries Inc.
2. This specification includes criteria for the following CSI Master Format components:
 - 2.1. Division 13 – Special Construction
 - 13 11 00 Special Facility Components
 - 13 17 00 Tubs and Pools
 - 2.2. Division 22 - Plumbing
 - 22 34 00 Fuel-Fired Domestic Water Heaters
 - 22 34 13 Instantaneous, Tankless, Gas Domestic Water Heaters
 - 22 34 30 Residential Gas Domestic Water Heaters
 - 22 34 36 Commercial Gas Domestic Water Heaters
 - 22 01 50 Operation & Maintenance of Pool Systems
 - 22 50 00 Pool and Fountain plumbing.
 - 22 51 19 Swimming Pool Water Treatment Equipment
3. The heater shall meet the criteria of the following standards:
 - UL – Underwriters’ Laboratory
 - NSF – National Sanitation Foundation
 - ASME
 - ASHRAE
 - ANSI Z21.10.3/CSA 4.3
 - South Coast Air Quality Management District
 - Texas Commission on Environmental Quality
4. The heater shall be supplied to its site of installation in its original manufacturer’s packaging. The package shall clearly state the model name, model number and country of manufacture and include the relevant operating and installation instructions. The heater shall be appropriately labelled clearly indicating the manufacturer’s name.
5. The heater shall be a manufactured by a company with at least 10 years of proven product experience. The manufacturing facility shall be a permanent, established facility that meets the relevant codes.
6. The heater shall have a maximum allowed working pressure of 125 psi.
7. The height of the heater cabinet should not exceed 24”.
8. The heater shall be warranted for a period of 1 year. The warranty will not include abusive or improper treatment during construction or under operation.



Product:

1. The heater should be capable of providing 400,000 BTU/hr at the designed flow rate.
2. The pool heater shall be certified by The American Gas Association Laboratories. The pool heater shall operate at a thermal efficiency of 84%



and comply with the energy efficiency requirements of the latest edition of the ASHRAE Standard 90.1-1999.

3. The heater shall operate on NATURAL GAS / PROPANE.
4. The combustion chamber of the heater shall be of once piece construction.
5. The heater shall be a forced draft combustion type suitable for operation up to 2000 ft altitude with low NOX emissions without any adjustments.
6. The heater shall have a universal design for left or right side plumbing, electrical and fuel connections.
7. The heater shall be equipped with a low bronze header with 2" x 2 1/2" CPVC flanged connections that shall have a bypass design to ensure correct flow through the heat exchanger.
8. The heater shall be equipped with an ASME pressure relief valve.
9. The water containing section in the heater should be built from Cupro-Nickel Finn Plate exchanger design.
10. The heater must be equipped with a hot surface ignition control system that automatically lights the burners.
11. The heater shall be equipped with a digital user interface keypad which allows the user to select the desired water temperature and automatically to maintain the desired temperature. The user interface keypad shall be capable of providing diagnostic information about the functioning of the heater.
12. Unauthorized adjustment of the heater's temperature settings should be prevented by a built in temperature lockout. The digital thermostat in this pool heater allows the user to lock the maximum temperature setting allowed. The temperature should be displayed in degrees Fahrenheit or degrees Centigrade.
13. The heater shall have the ability to operate in two separate modes one for a pool and the other for a spa or second pool both with independent temperature settings. Indicator lights should indicate the mode the heater is operating in. The lights should flash to indicate the temperature is being adjusted.
14. The heater should be equipped for connection to an external 2-wire remote thermostat or a 3-wire remote switch.
15. A bonding lug should be provided on the side of the heater to enable the heater to be connected to a bonding grid with a solid copper conductor wire gauge 8 AWG or larger.
16. The heater shall be equipped with non corrosive feet and shall be certified for installation on combustible surface.