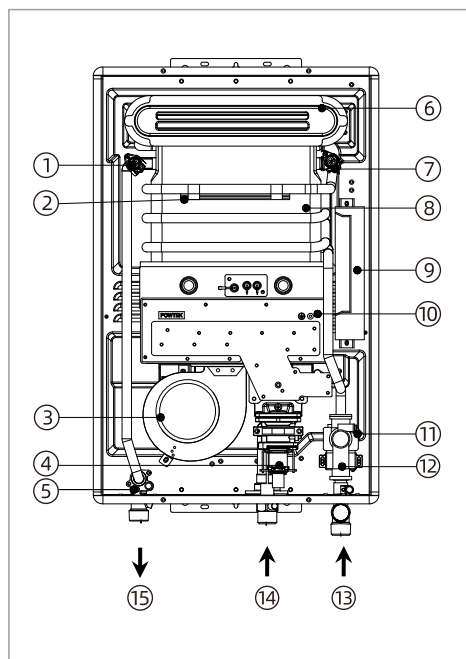


2 General Information

2.1 Function Introduction and Explanation

- The unit is a box less gas fast water heater designed to effectively supply hot water continuously during proper installation.
- Read all installation instructions thoroughly before installing this product.
- If you have any questions or concerns about this device, please consult the manufacturer or its local agent.
- This water heater can only be installed outdoors for outdoor models.
- The model description is listed on the nameplate, which is located on the side panel of the water heater.

The principle of the water heater is shown below:



- ① High Limit Switch (Overheat Protection)
- ② Freeze Protection Heating Element
- ③ Fan Motor Assembly
- ④ Gas Proportional Valve
- ⑤ Outlet Water Temperature Sensor
- ⑥ Exhaust Outlet
- ⑦ Freeze Protection Thermostat
- ⑧ Primary Heat Exchanger
- ⑨ Printed Circuit Board (PCB)
- ⑩ Burner Assembly
- ⑪ Inlet Water Temperature Sensor
- ⑫ Flow Sensor / Water Control Valve Assembly
- ⑬ Cold Water Inlet Connection
- ⑭ Gas Intake Connection
- ⑮ Hot Water Outlet Connection

This series of gas water heaters with solar linkage function by default:

- a. When it is detected that the inlet water temperature reaches a predetermined value, the water heater does not start;
- b. When the combustion work is started, and the inlet water temperature is less than the set temperature by 4 °F (2 °C), the water heater stops working;
- c. When the combustion work is started, if the inlet water temperature is ≥ 140 °F (60 °C), the water heater stops working.

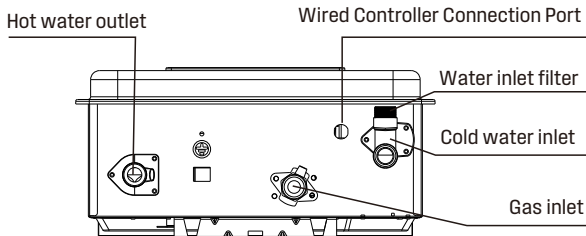
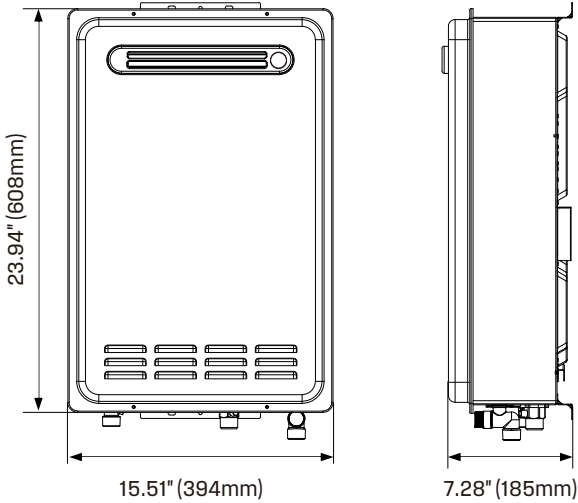
Controller temperature adjustment range		95~158 °F (35 °C~70 °C)
System start condition	Inlet water temperature	< 113 °F (45 °C)
	Set temperature- inlet water temperature	< 39 °F (4 °C)
Normal combustion conditions	Inlet water temperature	< 140 °F (60 °C)
	Set temperature- inlet water temperature	< 35 °F (2 °C)

2.2 Dimensions and Connection Points



NOTICE

The images used in this document are for reference purposes only. Components and component locations may vary according to specific product models. Measurements may vary ± 0.38 in. (10 mm).

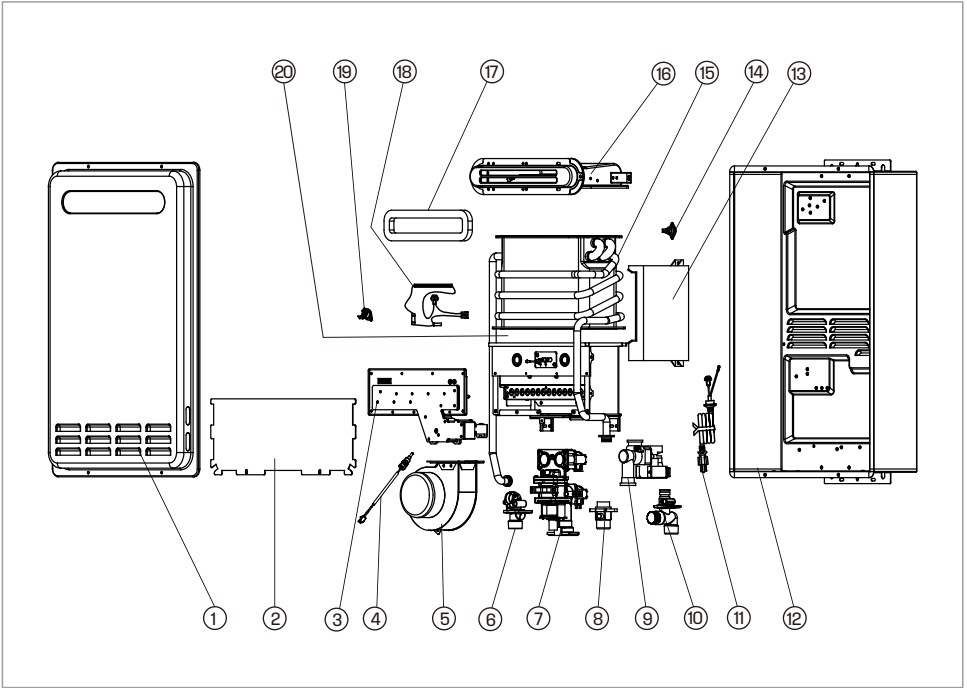


2.3 Model and Specification

MODEL		HS120	
Gas Category		NATURAL GAS	PROPANE
Minimum Gas Consumption Btu/h		16,500	
Maximum Gas Consumption Btu/h		120,000	
Hot Water Capacity (Min - Max) *		0.53 - 4.23 GPM (2 - 16 L/min)	
Temperature Setting (no controller)		95-158 °F (35-70°C)	
Maximum Temp Setting		158 °F (70 °C)	
Minimum Temperature Setting		95 °F (35 °C)	
Electrical Data	Normal	33 W	38 W
	Standby	2 W	
	Anti-frost Protection	100 W	
	Fuse	10 A	
Gas Supply Pressure		3.5 - 10.5 inch W.C.	8.0 - 13.5 inch W.C.
By-Pass Control		Fixed	
Type of Appliance		Tankless, Temperature controlled continuous flow gas hot water system	
Connections		Gas Supply: 3/4" MNPT Cold Water Inlet: 3/4" MNPT Hot Water Outlet: 3/4" MNPT	
Ignition System		Direct Electronic Ignition	
Electric Connections		AC 120 Volts, 60Hz	
Water Temperature Control		Simulation Feed forward and Feedback	
Water Supply Pressure		Minimum Water Pressure: 15 PSI (Recommended 30-50 PSI for maximum performance)	
Maximum Water Supply Pressure		150 PSI	

* Minimum flow may vary slightly depending on the temperature setting and the inlet water temperature. Minimum activation flow is 0.53 GPM (2 L/min).

2.4 Component Diagram



- | | |
|--|---|
| ① Front Cover Panel | ⑪ Power Supply Cord |
| ② Water Deflector | ⑫ Rear Panel |
| ③ Gas Manifold | ⑬ Printed Circuit Board (PCB) |
| ④ Outlet Water Temperature Sensor | ⑭ Freeze Protection Thermostat |
| ⑤ Fan Motor Assembly | ⑮ Primary Heat Exchanger |
| ⑥ Hot Water Outlet Connection | ⑯ Exhaust Outlet |
| ⑦ Gas Proportional Valve | ⑰ Sealing Insulation |
| ⑧ Gas Intake Connection | ⑱ Freeze Protection Heating Element |
| ⑨ Flow Sensor / Water Control Valve Assembly | ⑲ High Limit Switch (Overheat Protection) |
| ⑩ Cold Water Inlet Connection | ⑳ Burner Assembly |