

3 General Information

3.1 Function Introduction and Explanation

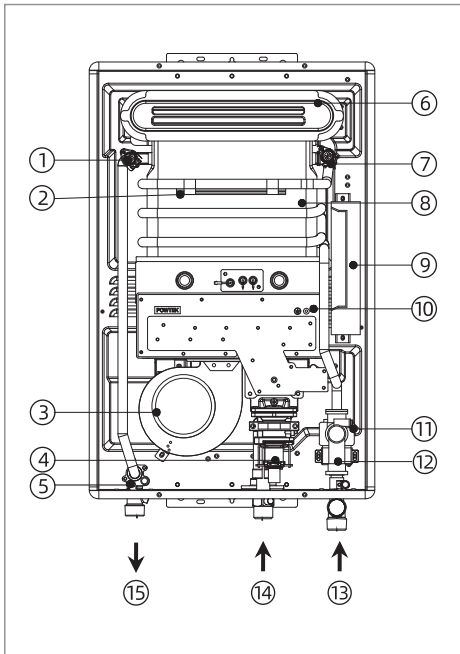
- This manual provides information necessary for the installation, operation, and maintenance of the water heater.
- The model description is listed on the name plate which is attached to the side of the case of the water heater. (Please refer to 4.5 Confirm the Appliance Suitability)
- Please read all installation instructions completely before installing this product.
- The Water Heater is an instantaneous water heater designed to efficiently supply endless hot water on demand.

- ① Over temperature protection thermostat
- ② Heating device
- ③ Fan
- ④ Gas proportion valve
- ⑤ Water outlet temperature sensor
- ⑥ Exhaust
- ⑦ Anti-freezing Thermostat
- ⑧ Heat exchanger
- ⑨ Computer board
- ⑩ Burner
- ⑪ Inlet temperature probe
- ⑫ Water control valve flow sensor
- ⑬ Cold Water Inlet
- ⑭ Gas Inlet
- ⑮ Hot Water Outlet

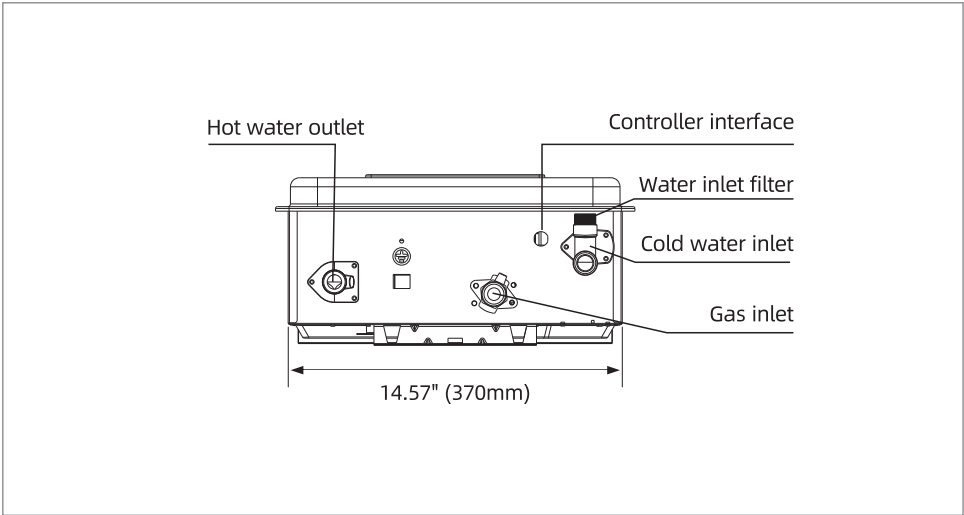
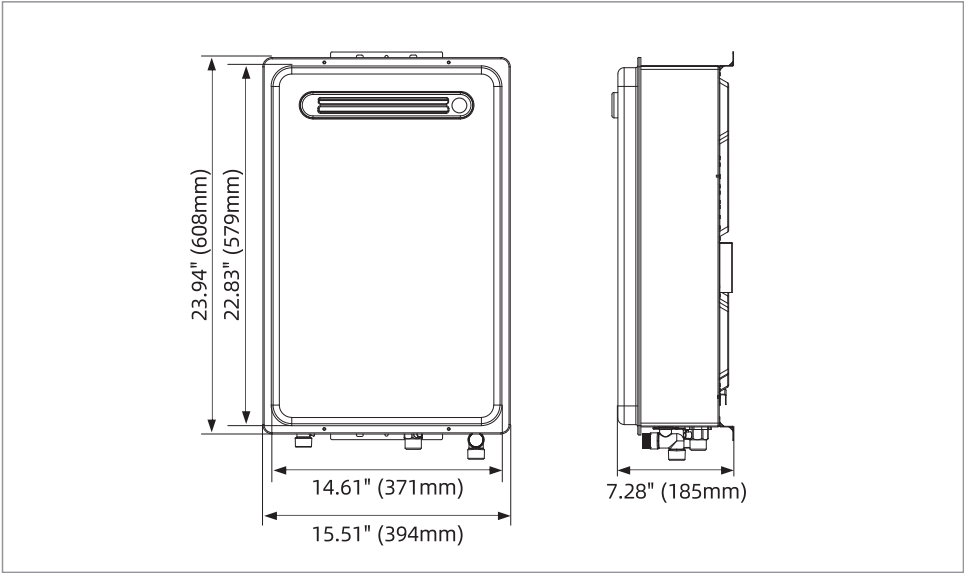
Operation process of gas water heater:

1. A hot water tap is turned on.
2. Water enters the water heater via the cold water inlet.
3. The water flow sensor detects the water flow.
4. The computer automatically ignites the burner.
5. Water circulates through the heat exchanger and is heated.
6. The computer will modulate the gas supply valve and water flow to produce the right amount of hot water at the correct temperature.
7. When the tap is turned off, the unit shuts down.

The principle of the water heater is shown below:



3.2 Dimensions and Connection Points

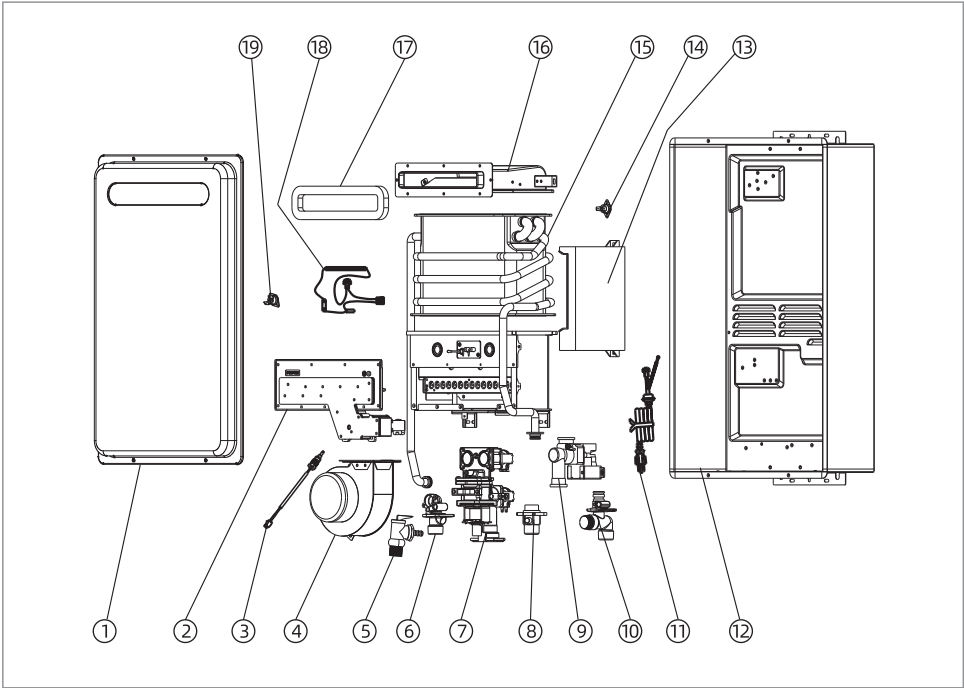


3.3 Model and Specification

Model	FDG-CS120S	
Part No.	FDG-CS120SBW-NG	FDG-CS120SBW-LP
Gas category	NATURAL GAS	PROPANE
Nominal Gas Consumption (Btu/hr)	120,000	
Nominal minimum gas consumption (Btu/hr)	16,500	
Nominal Test Point Pressure	6.99" W.C. (1.74 kPa)	11" W.C. (2.74 kPa)
Nominal Manifold Pressure	3.65" W.C. (0.91 kPa)	4.58" W.C. (1.14 kPa)
Water Pressure Maximum	150 psi (1.0 MPa)	
Water Pressure Minimum	15 psi (0.1 MPa)	
Number of Injectors	15 Pcs	
Injector Diameter	57.1 mil (1.45mm)	43.4 mil (1.1mm)
Burner Control Segment	15 Pcs	
Electrical rating	42 W	
Water heating capacity	4.23 GPM	
Dimensions (Cosing. H × W × D)	23.94" × 15.51" × 7.28" (608 mm × 394 mm × 185mm)	
Net Weight	30.84 lbs (13.99 kg)	
Overheating Cut-off	176 °F (80 °C)	
Electricity supply	120 VAC 60 Hz	
Ignition	Direct without pilot	
Gas inlet connection	NPT 3/4	
Water connection	NPT 3/4	

We reserve the right to amend the product without prior notice.

3.4 Component Diagram



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|--------------------------------------|-------------------------------------|
| ① Front panel | ⑪ Power line |
| ② Manifold | ⑫ Back panel |
| ③ Water outlet temperature sensor | ⑬ Controller |
| ④ Fan | ⑭ Anti-freezing Thermostat |
| ⑤ Pressure relief valves(For Canada) | ⑮ Heat exchanger |
| ⑥ Water outlet connector | ⑯ Exhaust |
| ⑦ Proportional valve | ⑰ Sealing cotton |
| ⑧ Intake connector | ⑱ Heating device |
| ⑨ Water proportional valve | |
| ⑩ Water inlet connector | ⑲ Over temperature protection therm |