http://waterheatertimer.org/Troubleshoot-Rheem-Tankless-water-heater.html

Operation

1. **Water Flow Begins.**
   - Water Flow Sensor sends pulses to the PC Board.
   - PC Board senses flow greater than 0.6 GPM (approximate).
   - Firing Sequence begins.

2. **Firing Sequence.**
   - PC Board monitors inlet/outlet water temperature, temperature set point, and water flow rate.
   - Combustion fan energized. Purges combustion chamber.
   - Spark igniter begins sparking.
   - Gas control valve opens to minimum fire rate.
   - Flame rod proves ignition.
   - Spark igniter stops sparking.

3. **Normal Operation.**
   - PC Board monitors flame rod, fan motor frequency, outlet water temperature, controller temperature set point and water flow rate.
   - Gas control valve modulates gas input to required firing rate.
   - Combustion fan speed is adjusted for the required firing rate.
   - Water flow control valve is adjusted as needed.

4. **Shut-down Sequence.**
   - PC Board senses flow rate less than 0.5 gpm (approximate).
   - Gas control valve closes.
   - Water flow control valve resets to standby position.
   - Combustion fan runs for a short period of time at low speed.

5. **Standby Mode.**
   - PC Board monitors water temperature and remote controls.
   - Freeze protection is activated as needed.