

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.