Service Bulletin TWH-G2-02

Models: 250SX, 250SXO, 635ES, 635ESO, 2400E, 2400EO

Temperature fluctuation troubleshooting

BOSCH

Hot water goes cold during use and no error codes are displayed

1. Check heater control unit software version for diagnostics. Turn on/off switch on water heater to off (O) position then back to the on (I) position. Quickly observe the first pair of letters on the LCD display of control unit.
   a. If the letters are "SU", diagnostics are not available with the installed software version. Temperatures and flow rate must be measured manually using an accurate immersion thermometer and graduated gallon container (See Table 1). Flow water from the fixture where the problem occurs at full hot setting. Ensure that there are no other hot water fixtures open in the building and water is not flowing from the tub spout. Record the following:
      i. Heater display temperature: _____
      ii. Cold water temperature: _____
      iii. Hot water temperature: _____
      iv. Time to fill gallon container: _____seconds.

      If the flow is below .8 gpm, the heater will not fire or stay fired. The heater's activation rate of .8gpm cannot be adjusted.

Table 1

GPM	Gallon Jug (fill time in seconds)
.50	120
.75	80
1.00	60
1.25	48
1.50	40
1.75	34
2.00	30
2.50	24
3.00	20
3.50	17
4.00	15

   b. If the letters are "AF", diagnostics are available. Use bulletin G2-07 to access the different modes for temperatures and flow rate. Flow water from the fixture where the problem occurs at a normal flow and mixed temperature setting to duplicate as closely as possible normal usage. Ensure that there are no other hot water fixtures open in the building (and if shower, water is not flowing from the tub spout). Use diagnostics to record:
      i. Set-point temperature: 0d*: _____
      ii. Inlet water temperature: 1d*: _____
      iii. Outlet water temperature: 2d*: _____
      iv. Water flow in gallons per minute: 3d*: __.__ gpm.

      If the flow is below .8 gpm, the heater will not fire or stay fired. The activation rate of .8gpm cannot be adjusted. *Software version 3003 will have different codes, see bulletin G2-07.
   c. If cold inlet water temperature is over 65 degrees and flow rate is over 1.5 gpm, call Bosch Tech Support with results for further information.
   d. If cold inlet water temperature is below 65 degrees and flow rate is under 1.5 gpm, continue below.

2. Check for restrictions to water flow:
   a. Clean or replace filter in the water heater's cold water inlet connection. See manual section 2.13.
   b. Clean or replace faucet aerators and showerheads. Remove aerators and showerheads from fixtures and flush with water. If there are mineral deposits, soak in vinegar and flush with water or follow fixture manufacturer recommendations or replace.
   c. If the showerhead is a hand-held style, the connecting hose may be too restrictive. Replace hose with larger diameter to increase flow or replace showerhead with fixed style.
   d. Clean or replace whole house filter (if installed).
   e. Measure flow rate again to check for increased flow.

3. Check for crossover:
   a. Turn off cold water supply to heater only.
   b. Turn on each hot water fixture to hot only.
   c. Wait 5 minutes.
   d. If any water is flowing, even a trickle, there is a crossover or the scald protection in a shower valve may be misadjusted. Consult plumber or faucet valve manufacturer for repair or

adjustment.

4. Minimum water pressure is 30psi during heater operation. For installation on a private well system with the use of a pressure tank, the lowest pressure range setting recommended is 40-60 psi (2.07-3.45 bar). Consult your installer or local plumber for effective ways to maintain constant water pressure to the water heater when on a well system.

5. Lower temperature setting on display to 114. This setting works better for most residential uses than the default setting of 122.

Deactivation occurs when the flow rate through the heater falls below the minimum activation rate. The heater's activation rate of .8gpm cannot be adjusted. Increasing the water flow by reducing the restrictions to flow is the most effective way to solve the problem. Reducing the temperature setting on the heater may also help to increase the hot water flow by reducing the amount of cold water that needs to be added at the fixture.

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