

Reasons Spas Freeze

1. Main circulation pump motor's starting circuit malfunction.
2. Burned pump relay contacts unable to supply power to the pump.
3. Coil on pump relay unable to actuate relay switching.
4. Thermostat relay fails to actuate pump relay.
5. Thermostat switch inoperable, causing pump not to come on.
6. Filter/heat timer malfunctions; unable to run pump.
7. Burned connections on any of the pump related wiring. (Very common on older spas)
8. GFCI breaker tripped to off position because the blower check valve allowed water to reach the blower motor.
9. GFCI breaker tripped to off position because the small circulation pump motor got wet in the motor windings.
10. GFCI breaker tripped to off position because the ozonator check valve allowed water into the ozonator.
11. GFCI breaker tripped to off position because of an electrical ground leak in the heater element.
12. GFCI breaker tripped to off because water splashed down onto the control box.
13. GFCI breaker tripped because a relay coil was shorting out to ground.
14. A piece of clothing sucked into the pump volute, causing the pump to stop.
15. A build up of hair on the impeller causing the pump to stop.
16. The impeller snapped loose from the pump motor. The motor runs but no water flows.
17. Bearings locked up on pump motor due to age.
18. GFCI Breaker Tripped to off position due to pump seal leaking on the pump motor creating a ground fault. This happens after seven to ten years on almost every pump.
19. Pump air switch malfunction.
20. Spa owner failed to turn on the spa properly.
21. Improper size of wire connected to spa, caused the GFCI breaker to trip off.
22. The GFCI breaker had a manufacturing defect, and tripped for no reason.
23. Customer set the spa timer to leave the spa off for too long during the winter cold. The pump freezes before the timer was set to turn it on.
24. Renters who do not know anything about spas were allowed to operate the spa, and left the breaker off.
25. Wire connection to pump was defective. Wire was smashed at the factory, and was eventually broken.
26. Bearings defective on a new pump motor caused the pump to stop.
27. Logic on circuit board went out, leaving the spa inoperable.
28. Circuit board transformer had a ground fault, tripped the GFCI breaker.
29. Water in the electrical conduit soaked the wires causing the GFCI breaker to trip to the off position.
30. GFCI breaker installed improperly. Neutral connected to Neutral bar in panel, instead of to the GFCI breaker neutral lug.
31. Electrician put in the wrong amperage size of breaker. 30 amps instead of 50 amps.
32. The pump just plain got old and wore out. They do not run forever.
33. The spa was set to run thermostatically and started the pump every six minutes for approximately 8 months. Brand new pump motor burned out in eight months. 10 times per hour times 24 hours 240 starts per day, X 30 days X 8 months = 57,600 starts. I saw this about ten times in two years. Thermostatic driven spas do not work in Colorado or in any cold weather state in the winter.
34. The electric heater element quit operating.
35. The relay or contactor that powers the heater element quit operating.
36. The wires on the heater connection burned and disconnected. This happens quite often on older Equipment Packs with the AMP connectors on the heater wires.
37. Thermostat would not switch on to operate the heater.
38. Filter clogged causing pressure loss and shut off the pressure switch that controls the heater.
39. Air switch got wet, tripped GFCI breaker to off position.
40. Light in spa got wet trips GFCI



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41. Two pole breaker installed on the same pole inside the main electrical load center (electric panel). This does not allow a 240 volt heater to operate, but will allow the 115 volt pump to run. While the temperature of the water drops.
42. Heater element dry well leaked on the electrical components and caused the GFCI to trip.
43. The transformer on the main circuit board quit working.
44. Defective fuse in control box.
45. Slight electrical leak to ground caused by thin motor winding insulation grounding out to frame of motor caused GFCI to trip