

TROUBLESHOOTING



Diagnosing certain symptoms may require interaction with, or close proximity to, components that are energized with electricity. All servicing should be performed by a qualified service professional. Contact with electricity can cause death, personal injury, or property damage.

Troubleshooting Chart

Problem	Possible Cause	Corrective Action
Pump failure.	Pump will not prime - Air in suction line or pump	<ol style="list-style-type: none"> 1. Inspect suction line plumbing and valve(s) for damage or loose connections. 2. Ensure the strainer pot lid is sealing properly. Verify lid o-ring is in place. 3. Ensure proper pool water level and water is available to the skimmer.
	Pump will not prime - Not enough water	<ol style="list-style-type: none"> 1. Ensure suction line and pump strainer pot are full of water. 2. Ensure suction line valve is working and open (some systems do not have valves). 3. Ensure proper pool water level and water is available to the skimmer.
	Strainer basket excessively dirty or full	Clean strainer basket. See <i>Cleaning the Pump Strainer Basket</i> , page 14.
	Strainer pot o-ring is damaged	Inspect strainer pot o-ring for damage. Replace if necessary.
Reduced capacity and/or head.	Air in suction line or pump	<ol style="list-style-type: none"> 1. Inspect suction line plumbing and valve(s) for damage or loose connections. 2. Ensure the strainer pot lid is sealing properly. Verify lid o-ring is in place. 3. Ensure proper pool water level and water is available to the skimmer.
	Clogged impeller	Disassemble pump (<i>Pump Disassembly</i> , page 15) and remove debris from impeller.
	Strainer basket excessively dirty or full	Clean strainer basket. See <i>Cleaning the Pump Strainer Basket</i> , page 14.
Pump fails to start.	Mains voltage is not present	<ol style="list-style-type: none"> 1. Replace fuse, reset breaker/GFCI. 2. Tighten mains wire connections.
	Motor is locked	Disassemble pump (<i>Pump Disassembly</i> , page 15) and attempt to rotate motor shaft by hand to remove any blockage.
	Motor shaft is damaged	Replace pump.
Pump runs then stops.	Over temperature FAULT	Ensure motor fan cover at the rear of the motor is free of dirt and debris. Use compressed air to clean.
	Over current FAULT	Pump will automatically restart after one (1) minute.
Pump is noisy.	Debris in contact with fan	Ensure motor fan cover at the rear of the motor is free of dirt and debris. Use compressed air to clean.
	Strainer basket excessively dirty or full	Clean strainer basket. See <i>Cleaning the Pump Strainer Basket</i> , page 14.
	Loose mounting	Ensure mounting bolts and pump bolts are tight.

Troubleshooting Chart (cont.)

Problem	Possible Cause	Corrective Action
Pump runs without flow.	Impeller is loose	Ensure fan at the rear of pump is spinning. If so, disassemble pump (<i>Pump Disassembly</i> , page 15) and ensure impeller is correctly installed.
	Air in suction line or pump	<ol style="list-style-type: none"> 1. Inspect suction line plumbing and valve(s) for damage or loose connections. 2. Ensure the strainer pot lid is sealing properly. Verify lid o-ring is in place. 3. Ensure proper pool water level and water is available to the skimmer.
	Clogged or restricted plumbing	<ol style="list-style-type: none"> 1. Inspect for and clear any blockage in strainer pot or suction line. 2. Inspect for blockage in discharge piping including partially closed valve or dirty pool filter.

Alarms and Fault Codes

If an alarm is triggered the drive will display a fault code text and the pump will stop running. Disconnect power to the pump and wait until the keypad LEDs have all turned off, then reconnect power. If the error continues to appear after power is reconnected, proper troubleshooting will be required. Use the error description table below to begin troubleshooting.

Fault Code	Description
21	Communication link between HMI and motor control has been lost
1A	Power Module over current detected
17	Phase Current Offset out of range
16	Phase Current Imbalance detected
0F	Absolute AC under voltage detected
02	Absolute Phase current limit exceeded
08	Absolute Diode Bridge temperature limit exceeded
04	Absolute Power Module temperature limit exceeded
06	Absolute Power Factor Correction (PFC) temperature limit exceeded
09	DC bus over voltage detected
0A	DC bus under voltage detected

21 – Communication Link between the HMI and Motor control has been lost: Remove the top cover from the drive and inspect the jacketed wire on the backside of the drive. Ensure that the 5 pin connector is properly plugged into the socket and that there is no damage to the cable.

02 – Power Module over current detected: If this error displays multiple times, then there may be a problem with the pump’s rotating assembly. Disassemble the pump (see *Pump Disassembly* on page 15) and inspect the impeller and shaft seal for problems.

0F – Absolute AC Under Voltage Detected: This indicates that the supply voltage has dropped below the operating range of 99v. This could be caused by normal voltage variation and will clear itself. Otherwise there could be excess voltage drops caused by improper installation or improper supply voltage.

1A, 17, 16, 02, 08, 04, 06, 09, 0A – Internal Errors: These errors can occur based on operating conditions and the required self-diagnostic safety software. If they do not clear after multiple restart attempts the drive should undergo a hard power cycle. Disconnect power at the circuit breaker long enough for the keypad LEDs to turn off. If the error continues to appear after power is reconnected, the drive may need service.