




6.2 Troubleshooting

 WARNING	
	<p>Before working on the primary side of the circuit breaker (main power switch), be sure to turn off the power switch at your facility and confirm that the line is dead. Also, use caution to ensure that voltage is not applied accidentally.</p> <p>Attempting to correct a problem with the power on can result in electric shock.</p>
	<p>Before opening the electrical compartment door, machinery compartment door, or front panel, be sure to turn off the circuit breaker (main power switch).</p> <p>Failing to do so can result in electric shock and injury.</p>

This section describes problems that the chamber cannot self-diagnose and operations that can be easily mistaken for malfunctions.

If the chamber does not operate properly even after taking the actions listed here, contact your distributor or ESPEC.

Table 6.2 Troubleshooting

Problem	Cause	Solution
Nothing is displayed when the instrumentation panel power switch is pressed.	The primary side power supply is not on.	Turn on the primary side power supply.
	The circuit breaker (main power switch) is not on.	Turn on the circuit breaker (main power switch).
	The electrical compartment door or front panel is open.	Close the door.
	The power supply is open phase.	Make the proper connection. See the Installation guide.
	The fuse has blown.	Replace the fuse. See "6.3 User practical servicing". If the fuse blows immediately after replacement, call for service.
The display suddenly goes blank or incorrect information is displayed.	A system error or an internal board error has occurred.	Turn the chamber's circuit breaker (main power switch) back on. If the same problem occurs after restarting operation, call for service.
The door is difficult to close.	An object is blocking the door.	Remove the object.
	Frost has accumulated on the packing, hardening it.	Dry the test area (run the chamber).
	The air pressure is low.	Raise the air pressure to 0.5 MPa or more, and then close the door.
The door is difficult to open.	The air pressure is low.	Raise the air pressure to 0.5 MPa or more, and then open the door.
	Frost has accumulated on the packing, hardening it.	Dry the test area (run the chamber).
Strange noises are heard.	Frost has accumulated on the air circulator fan.	Call for service.
	The air circulator fan is burned.	
Strange odors are detected.	A strange odor remains in the chamber.	Clean the test area. See "5.3 Maintenance".
	Specimens are emitting strange odors.	This is not a malfunction. Continue operation.
The chamber is wet on the outside.	A high ambient humidity is present.	This is not a malfunction. Continue operation.

Problem	Cause	Solution
The test area is wet on the outside.	A high ambient humidity is present.	This is not a malfunction. Continue operation.
	The fuse has blown.	Replace fuse F3. If the fuse blows immediately after replacement, call for service. See "6.3 User practical servicing".
The temperature is unstable.	The door is not closed.	Close the door.
	The rubber plug fell off the cable port.	Fit the plug into the port.
	The ambient temperature is changing at a rate of 5°C per hour or more.	Resume testing after the ambient temperature has stabilized.
	The power source of a device with a large heat generating load was turned on/off.	Reduce the heat generating load.
	The air flow is blocked due to an excessive amount of specimens.	Reduce the amount of specimens.
The temperature has gradually increased above the set temperature.	The specimen heat generating load is high.	Reduce the specimen heat generating load.
	Frost has accumulated on the cooler.	Defrost the chamber. See "6.3 User practical servicing".
Set points cannot be changed.	The key lock has been activated.	Release the key lock.
It takes a long time to increase (decrease) the temperature.	The water temperature is too high.	Lower the water temperature.
	The specimen heat load is high.	Reduce the amount of specimens.
	The ambient temperature is too low (high).	Increase (decrease) the ambient temperature.
The temperature distribution is poor.	The air flow inside the test area is poor.	Improve the air flow.
	The specimen heat load is high.	Reduce the amount of specimens.
	Frost has accumulated on the cooler.	Defrost the chamber. See "6.3 User practical servicing".
The temperature control destabilizes near -40°C.		This is not a malfunction. Continue operation.
The chamber is wet on the outside after testing ends.	Testing was stopped during low temperature exposure.	Before stopping tests, run a dry cycle.
	A high ambient humidity is present.	This is not a malfunction. Continue operation.
The power supply turns off during tests, and the chamber stops operating.	The electrical compartment door or front panel is not completely closed.	Close the electrical compartment door or front panel completely.
The controller turns off during tests, and the chamber stops operating.	The fuse has blown.	Replace the fuse. If the fuse blows immediately after replacement, call for service. See "6.3 User practical servicing".
The door cannot be opened or closed.	An object is blocking the door.	Remove the object.
	The circuit breaker (main power switch) is not on.	Turn on the circuit breaker (main power switch).
	The air pressure is low.	Raise the air pressure to 0.5 MPa or more, and then open or close the door.
	The door was opened or closed while testing was in progress.	Restore the setup hold state, and then open/close the door.
The door cannot be closed (pulled into).	Door air purge valve is opened in case of a power failure.	Close the door air purge valve to the horizontal position. See "4.1.3 How to open the door in case of a power failure"
"GO!DEFROST" is displayed on the monitor (in yellow characters), and an alarm sounds.	Frost starts to form on the evaporator, and the controller induces defrosting. If the operation continues as is, the refrigerator will not work normally.	Defrost the chamber. See "6.3 User practical servicing".

6.3 User practical servicing

6.3.1 Fuse replacement

When a fuse blows, replace it with a supplied fuse.

◆ **Note** ◆

If the new fuse blows as soon as the power is turned back on, contact your distributor or ESPEC.

For details on how to replace the fuse, see "5.3.7 Fuse replacement".

6.3.2 Defrosting

Perform defrosting:

- If the temperature gets out of control during low temperature exposure and gradually begins to rise.
- If the low temperature exposure is not restored or is restored slowly.
- If the "FROSTED OVER" alarm appears on the display.

<Procedure>

- 1) Check that the circuit breaker (main power switch) is on.
- 2) Press the power switch on the instrumentation panel to turn on the chamber.
- 3) Press the operating status box to switch to the Operation Mode Selection screen.
- 4) Press the **M DEFROST** button under <Operation Mode>.
- 5) Press **Yes** on the screen that is displayed to confirm your selection. Defrosting will start.
- 6) When the defrost cycle ends, the chamber returns to its previous state.

6.3.3 Dry operation

Run a dry cycle:

- If the chamber stops during low temperature exposure because of an alarm or power failure.
- When you stop the chamber.
- If condensation forms inside the test area.

<Procedure>

- 1) Check that the circuit breaker (main power switch) is on.
- 2) Press the power switch on the instrumentation panel to turn on the chamber.
- 3) Press the operating status box to switch to the Operation Mode Selection screen.
- 4) Press the **DRY MODE** button under <Operation Mode>.
- 5) Press **Yes** on the screen that is displayed to confirm your selection. Drying will start.
- 6) When the dry cycle ends, the chamber will stop.