7.2 Before You Call for Service

⚠ DANGER

- **ELECTRIC SHOCK! Before working on the power circuits on the primary side of the main power switch (breaker), shut OFF primary power supply and check the line is dead. Also, take measures to prevent accidental charging.**
  Working with primary power supply ON runs the risk of electric shock.
- **Shut OFF power from the main power switch (breaker) BEFORE detaching the electric parts compartment panel, the mechanical parts compartment panel or front panels.**

This section explains troubles undetected in chamber self-checks and cases of misoperation which are easily mistaken as trouble. If the trouble cannot be remedied after taking the prescribed action, contact the place of purchase or ESPEC CORP.

Table 7.2 Before you call for service

Trouble	Cause	Remedial action
The instrumentation panel does not light up after pressing the ○ POWER key.	Primary power supply is OFF.	Activate the primary power supply.
	The main power switch is in the OFF position.	Set the main power switch is in the ON position.
	The electric parts compartment or front panels is open.	Close the door.
	There is a reverse or open phase in the primary power supply connection.	Reconnect the primary power supply correctly. See "4.7 Power Supply Work".
	Fuse blew.	Replace fuse. See "7.3 User Practical Servicing". If the new fuse blows, call for service.
The display goes out all of sudden or the displayed information is strange.	System trouble or internal board trouble	Switch the main power switch OFF and ON. If the same trouble reoccurs, call for service.
The door is hard to close.	Something is caught in the door.	Remove the obstruction.
	Frost has formed and hardened on the door packing.	Run a dry cycle.
	Air pressure is low.	Raise pressure to 0.5 MPa or more and close the door.

Trouble	Cause	Remedial action
The door is hard to open.	Air pressure is low	Raise pressure to 0.5 MPa or more and close the door.
	Frost has formed and hardened on the door packing.	Run a dry cycle.
Strange noise are heard.	The air circulator is frosted over.	Call for service.
	The air circulator is burned.	
Strange odors are detected.	Lingering odors inside the chamber	Clean the test area. See “6.3 Maintenance”.
	Specimens are generated odors.	There is nothing wrong with the equipment. Proceed as planned.
The chamber is wet on the outside.	The room is highly humid.	There is nothing wrong with the equipment. Proceed as planned.
The door is wet around the edges.	The room is highly humid.	There is nothing wrong with the equipment. Proceed as planned.
	Fuse F3 blew.	Replace fuse F3. See "7.3 User Practical Servicing". If the new fuse blows, call for service.
Temperature is unstable.	The door is open.	Shut the door.
	The rubber plug fell off the cable port.	Fit the plug into the port.
	Room temperature changes more than 5°C/hr.	Stabilize room temperature and resume testing.
	High heat load equipment is being turned ON/OFF.	Reduce the heat load.
	Specimens are blocking air flow.	Reduce the amount of specimens.
Temperature gradually rises higher than the target temperature.	Specimens are generating heat.	Reduce the amount of heat generated by specimens.
	Frost has formed on the cooler.	Defrost the chamber. See "7.3 User Practical Servicing".
Settings cannot be changed.	The keys are locked.	Unlock the keys.
Temperature rises (lowers) too slowly.	Water temperature is too high.	Lower water temperature.
	Specimens are generating heat.	Reduce the amount of specimens.
	Ambient temperature is too low (high).	Raise (Lower) ambient temperature.
Poor temperature uniformity	Air flow inside the chamber is poor.	Improve air flow.
	Specimens are generating heat.	Reduce the amount of specimens.
	Frost has formed on the cooler.	Defrost the chamber. See "7.3 User Practical Servicing".
Temperature control destabilizes near -65°C.		There is nothing wrong with the equipment. Proceed as planned.

Trouble	Cause	Remedial action
The chamber is wet on the outside after testing ends.	Testing was stopped during low temperature exposure.	Before stopping tests, either run an ambient temperature exposure cycle or dry cycle.
	The room is highly humid.	There is nothing wrong with the equipment. Proceed as planned.
Primary power shuts OFF during tests.	The electric parts compartment panel or front panel is not securely closed.	Close the panel.
	High temperature chamber temperature switch (TS1) tripped.	Let the chamber sit a moment, then reset the main power switch to ON. If the chamber stops again, call for service.
	Low temperature chamber temperature switch (TS2) tripped.	
Control power shuts OFF during tests.	Fuse F1 blew.	Replace fuse. See "7.3 User Practical Servicing". If the new fuse blows, call for service.
The door does not open/close.	Something is caught in the door.	Remove the obstruction.
	The main power switch is in the OFF position.	Set the switch to ON.
	Air pressure is low.	Raise pressure to 0.5 MPa or more and open/close the door.
	The door was opened while testing was in progress.	Restore ambient temperature or the setup hold state, then open/close the door.
“GO!DEFROST” (in yellow characters) is displayed on the monitor, 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 "7.3 User Practical Servicing".

7.3 User Practical Servicing

Fuse Replacement

Over prolonged testing, fuses can weaken and blow. When a fuse blows, replace it as explained below.

Note If a new fuse blows as soon power is turned back ON, contact the place of purchase or ESPEC CORP.

For details on how to replace a fuse, see “Fuse Replacement” of “6.3 Maintenance”.

Defrosting

Defrost the cold accumulator and evaporator if any of the following occur.

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

■How to manually defrost the chamber

Procedure

1. Check the main power switch is in the ON position.
2. Press the ○POWER key on the operating panel to activate power to the instrumentation.
3. An opening screen will appear. Touch it anywhere to get the main menu.
4. Press the ○OPER./STOP key on the operating panel or the operating status box in the upper left-hand corner of the display.
5. Press the [M DEFROST] button under Operation Mode.
6. When the message appears to confirm your choice, press the [Yes] button. Defrosting will start.
7. When the defrost cycle ends, the chamber will stop.

Drying

Run a dry cycle if any of the following occur.

- If the chamber stops during low temperature exposure because of an alarm or power failure, and condensation forms on the outside
- After stopping the chamber
- When condensation forms inside the test area

■How to dry the test area (and low temperature chamber)

Procedure

1. Check the main power switch is in the ON position.
2. Press the ○POWER key on the operating panel to activate power to the instrumentation.
3. An opening screen will appear. Touch it anywhere to get the main menu.
4. Press the ○OPER./STOP key on the operating panel or the operating status box in the upper left-hand corner of the display.
5. Press the [DRY MODE] button under Operation Mode.
6. When the message appears to confirm your choice, press the [Yes] button. Drying will start.
7. When the dry cycle ends, the chamber will stop.