


## 8.2 Before You Call for Service

 <b>DANGER</b>
<ul style="list-style-type: none"> <li>• <b>Before working on the primary side of the main power switch (leakage breaker), shut OFF the primary supply and make sure the line is not charged. Also, take all necessary measures to prevent accidental charging.</b> Working with primary power supply ON runs the risk of electric shock.</li> <li>• <b>Before opening the mechanical parts compartment on the chamber top, shut OFF power at the main power switch.</b></li> </ul>

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 8.2 Before you call for service

Trouble	Cause	Remedial action
The instrumentation panel does not light up after pressing the <span style="border: 1px solid black; padding: 2px;">POWER</span> key.	The primary side of the main power switch is in the OFF position.	Set the switch in the ON position.
	The main power switch is in the OFF position.	Set the switch in the ON position.
	Blown fuse	Replace fuse F1. See "8.3 User Practical Servicing".
	Blown thermal fuse	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.	Defrost the chamber. See "8.3 User Practical Servicing".
	Internal pressure is high because the chamber is hot and highly humid on the inside.	There is nothing wrong with the equipment. Proceed as planned.
The door is hard to open.	Internal pressure is lower than room pressure.	There is nothing wrong with the equipment. Proceed as planned.
	Frost has formed and hardened on the packing.	Defrost the chamber. See "8.3 User Practical Servicing".

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<b>Trouble</b>	<b>Cause</b>	<b>Remedial action</b>
5 cm or more of frost has built up on the drain port during subzero operation. Or, frost has formed in the test area. (SH chambers only)	Outside air has infiltrated through the cable port.	Cover the cable port with the cap or rubber plug.
	Door packing is not properly sealing the door and frame, or packing has deteriorated.	Call for service.
Strange odors are detected.	Lingering odors inside the chamber	Clean the test area. See "7.3 Maintenance".
	Specimens are generated odors.	Remove the source of the odor.
The viewing window (option) fogged up.	Blown fuse	Call for service.
The chamber is wet on the outside.	The room is highly humid.	There is nothing wrong with the equipment. Proceed as planned.
Frost has formed on the door lock and door edges.	The room is highly humid.	There is nothing wrong with the equipment. Proceed as planned.
Temperature (&humidity) is unstable.	The door is open.	Shut the door.
	The cable port is not covered.	Reattach cap or plug.
	Ambient temperature changes more than 5°C/h.	Stabilize ambient temperature and resume testing.
	High heat load equipment is being turned ON/OFF.	Reduce the heat load.
Temperature gradually rises higher than the target temperature.	Specimen heat load is high.	Reduce the specimen heat load.
	Frost has formed on the cooler.	Defrost the chamber. See "8.3 User Practical Servicing".
Settings cannot be changed.	The keys are locked.	Unlock keys. See "6.2 Test Environment Setup" of the Reference manual.
Temperature heat-up/pull-down rate does not satisfy specifications.	The door is open.	Shut the door.
	Specimen heat load is high.	Reduce the amount of specimens.
	Ambient temperature too low (high).	Raise (Lower) ambient temperature.
Temperature stops rising or begins to drop during heat-up.	Frost has formed on the dehumidifying-cooler.	There is nothing wrong with the equipment. Defrost the chamber, if necessary. See "8.3 User Practical Servicing."
Poor temperature uniformity	Air flow inside the chamber is poor.	Rearrange specimens so as not block air flow.
	Specimen heat load is high.	Reduce the amount of specimens.
	Frost has formed on the cooler.	Defrost the chamber. See "8.3 User Practical Servicing".

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Trouble	Cause	Remedial action
During humidity operations, water does not flow in the humidifying tray or the wick pan (water tank, level sensor tank, or humidifying tray water level regulator does not collect water).	The water tank is empty.	Add water to the water tank.
	Drain hose is connected to the humidifying tray drain nipple (in draining condition).	Detach the drain hose.
	Drain hose is connected to the water tank level sensor tank (in draining condition).	Detach the drain hose.
	The water pump and/or the level sensor have trouble.	Call for service.
Humidity does not reach the set point.	Vapor is leaking due to open door or cable boring.	Close the door and/or the cable boring.
	Door packing has degraded to leak vapor.	Call for service.
	The set point is out of the control range of temperature and humidity.	Correct the set point to be within the control range.
	Water does not flow into the wick pan and/or humidifying pan.	Refer the row of "During humidity operations, water does not flow in the humidifying tray or the wick pan" in this table.
Consumption of the humidifying water is high.	Vapor is leaking due to open door or cable boring.	Close the door and/or cover the cable port.
	Door packing has degraded to leak vapor.	Call for service.
	Drain hose is connected to the humidifying tray drain nipple (in draining condition).	Detach the drain hose.
	Drain hose is connected to the water tank level sensor tank (in draining condition).	Detach the drain hose.
	Water level in the humidifying tray is high enough to cause overflow and drainage in the tray.	Call for service if the problem is not fixed even after leveling the chamber.

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## 8.3 User Practical Servicing

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### Replacing Cartridge Fuses

When a fuse blows, replace it with one of the included fuses.

**Note** If a new fuse soon after being installed, contact the place of purchase or ESPEC CORP.

- Procedure**
1. Set the main power switch in the OFF position.
  2. Set the primary power switch in the OFF position.
  3. Loosen the screws (screws on the back side "A") that lock down the electric parts compartment cover and detach the ceiling cover.

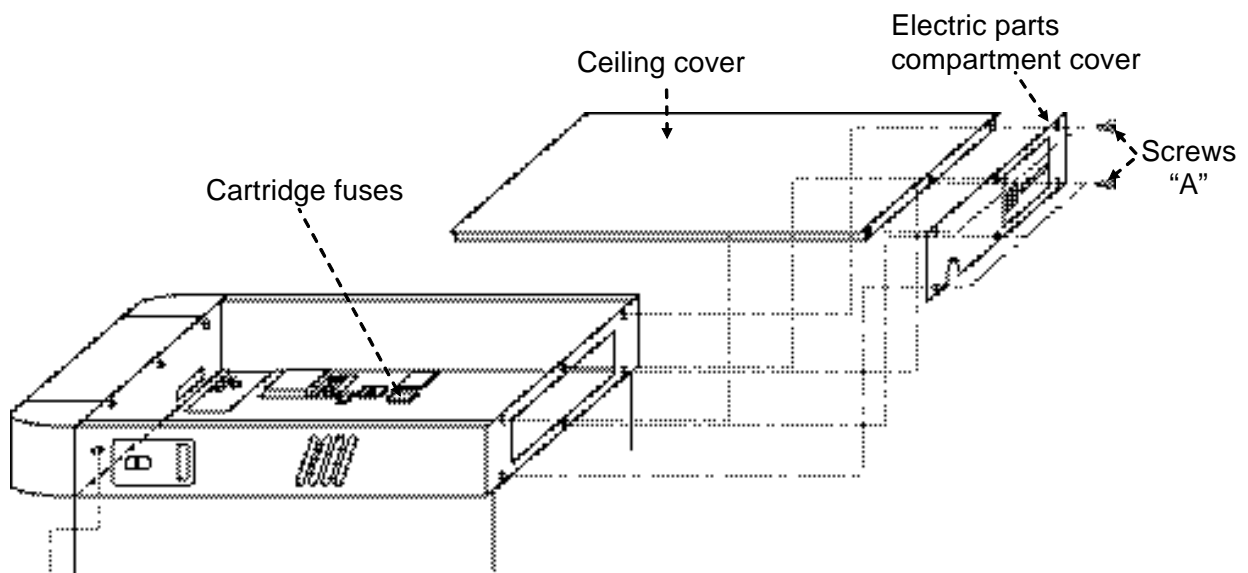


Fig. 8.1 Replacing cartridge fuse

4. Replace the blown cartridge fuse with a new one.
5. Reattach the electric parts compartment cover and the ceiling cover as before.

## Defrosting

Frost may form on the cooler in temperature (humidity) operations below 30 to 40°C. Defrost the chamber in the following cases.

- If temperature (& humidity) inside the chamber is uncontrollable or rises slowly
- If air blown from the chamber is weak (when the door is opened)
- If frost or ice form on test area walls
- If frost forms on the chamber door gasket and alarm “AL 2 E” is displayed during temperature-humidity operation

Use this procedure to defrost packing as well.

### ■How to defrost chamber

#### Procedure

1. Check the main power switch is in the ON position.
2. Connect the humidifying tray drain hose to the humidifying tray drain nipple on the chamber rear (SH chambers only). For an explanation on the connection, see "4.2 Drainage Work".
3. Set temperature to 70°C, turn OFF humidity control (SH chambers only) and set refrigerator capacity to the “R U L 0” mode or “0 F F”.
4. Press the CONST. OPER./STOP key to start operation.  
Run the chamber with the test area door closed for about 60 minutes. After that, stop the chamber, open the door and let sit for about 30 minutes or so.
5. Check the test area is free of moisture, close the door and disconnect the drain hose from the humidifying tray drain nipple.