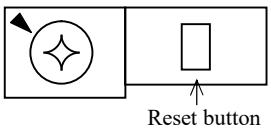
ALARMS

This equipment has alarms as described below.
If an alarm (protection device) occurs, the ALARM indicator on the temperature controller setting panel flashes to indicate a system malfunction.

⚠ WARNING

Before inspecting or repairing the cause of the malfunction, be sure to turn OFF the circuit breaker on the right side of the control panel. If repair work is performed with the power supply left ON, system failure or an accident could result.

Alarm Indicator	Malfunction description/interlock	Action
Power REVERSE [Blower Reverse]	Occurs when the power cord is connected so that the phases are reversed. It will not be able to start operation. Note By continuous pressing RESET switch for longer than 5 seconds, can once resetting Alarm (Alarm Abolition), with such reverse situation will display Alarm again.	Turn **OFF** the circuit breaker on the right side of the control panel and the plant power supply. ↓ From among the three wires, switch the connections of the R-phase (red) and the T-phase (black) to connect the phases correctly. ↓ Turn **ON** the plant power supply and the circuit breaker on the right side of the control panel. Make sure the [Blower Reverse] indicator goes out.

Blower OVERLOAD [Blower Overload]	Occurs with the blower overloads and the thermal relay inside the control panel trips. Operation stops automatically.	Pressing RESET key to stop buzzer. ⇓ Shutdown disconnection switch and power breaker. ⇓ Remove cause of abnormalities. ⇓ Opening control panel door and pressing the thermal relay reset button. ⇓ Closing control panel door and turn ON disconnection switch and power breaker. ⇓ Ensure that "PUMP Overload" is not displayed. ⇓ If operation is resumed by pressing RUN/STOP key, it means remedy has been completed. **NOTE** ALARM can be reset (alarm cancel) by pressing RESET key for 5 seconds or more, however, unless the thermal relay reset button is pressed, ALARM appears again. Thermal relay  Figure 30

Alarm Indicator	Malfunction description/interlock	Action
Temp. Sensor Abnormal [Sensor Error]	Temperature sensor wire is broken. *Thermocouple is broken. * Thermocouple terminal stand is loosely set or terminal is fallen. (If Monitor indicator shows the temperature when short **"+"** and **"-"** of thermocouple terminal stand, thermocouple is broken or thermocouple terminal is unscrewed.) ※Refer to **Chapter 7 Maintenance, Sensor disconnection detection function.**	Turn **"OFF"** the power breaker at the right side of the Control panel. ↓ Open the control panel-cover, and check the connection of thermocouple to the terminal stand. ↓ (When the thermocouple terminal stand is normally connected, the thermocouple is broken. Replace the new one.) ↓ Close the control panel cover, and turn **"ON"** the power breaker at the right side of the control panel. Make sure the Alarm light is off.
	PV value > 200℃ It shows PV value (temperature) is over 200℃ Heater is over heated. ○Out put relay of temperature controller is broken. ○Heater relay is broken. ※Refer to **Chapter 7 Maintenance, Check of the electromagnetic contact unit (heater relay)**.	Turn **"OFF"** the Power breaker at the right side of the Control panel. ↓ Open the Control panel cover and replace the Temperature controller or Heater relay with the new one. ↓ After replace, Close the Control panel -cover and turn **"ON"** the Power breaker at the right side of the Control panel. Make sure the Alarm light is off.
	The temperature controller is broken: PV indicator doesn't show the temperature when short "+" and "-" of thermocouple terminal stand, and heater relay is running when heater light of the temperature controller's MONITOR is off.	Repair the temperature controller or replace it with the new one. Ask the nearest our service division (Refer to back cover)

Alarm Indicator	Malfunction description/interlock	Action
Temp. SENSOR abnormal [Sensor Error]	PV value < -0.0℃ It shows PV value (temperature) is under – 0.0℃. 1) " + " and " - " of thermocouple is connected in reverse. If connecting sensor in reverse, you can not operate it for PV value increases when heating, and PV value decreases when cooling.	Turn **"OFF"** the Power breaker at the right side of the Control Panel. ※Refer to **Chapter 7 Maintenance, Sensor disconnection detection function.** ↓ Reconnect each "+" and "-" of thermocouple and terminal stand correctly. ↓ After checking and disposing, close the Control panel-cover and turn **"ON"** the Power breaker at the right side of the Control panel. Make sure the Alarm light is Off.
	2) Operate at less than 0℃.	Operate under the environment temperature of 0℃-～40℃.

⚠WARNING

Do not touch Hopper dryer when alarming, for Hopper dryer is highly heated.

⚠ CAUTION

Be care to the short of "+" and "-" of thermocouple terminal stand code should be in a short time. Heater becomes very hot due to electricity.

Alarm Indicator	Malfunction description/interlock	Action
Upper limit temperature abnormal [High Alarm]	Occurs when the temperature of the hot air used for drying exceeds **the sum of drying temperature setting and the high limit temperature** setting. The heater turns **OFF** immediately and the blower stops after the cooling timer runs out. (stops after cooling)	Turn **OFF** the circuit breaker on the right side of the control panel. ↓ ※Refer to **Chapter 8 Troubleshooting, A high limit or a low limit alarm occurs for the hot air temperature** and correct the cause of the malfunction. ↓ Turn **ON** the circuit breaker on the right side of the control panel and make sure the ALARM indicator goes out. **NOTE** When operation is restarted after the high limit alarm occurs, the hot air temperature (the temperature displayed on the PV indicator) may become higher than the drying temperature setting (the temperature value displayed on the SV indicator) due to heat remaining in the heater box. In such a situation, stop operation once and then start operation again.
Lower limit temperature abnormal [Low Alarm]	Occurs when the temperature of the hot air used for drying is less than the difference between the drying temperature setting and the low limit temperature setting. Operation continues. When the temperature returns to normal, the alarm is cleared automatically.	Turn **OFF** the circuit breaker on the right side of the control panel. ↓ ※Refer to **Chapter 8 Troubleshooting, A high limit or a low limit alarm occurs for the hot air temperature** and correct the cause of the malfunction. ↓ Turn **ON** the circuit breaker on the right side of the control panel and make sure the ALARM indicator goes out.