

# User's Manual

PAROS Auto Cycle Dryer

( 20 ~ 200Kg)



# PAROS

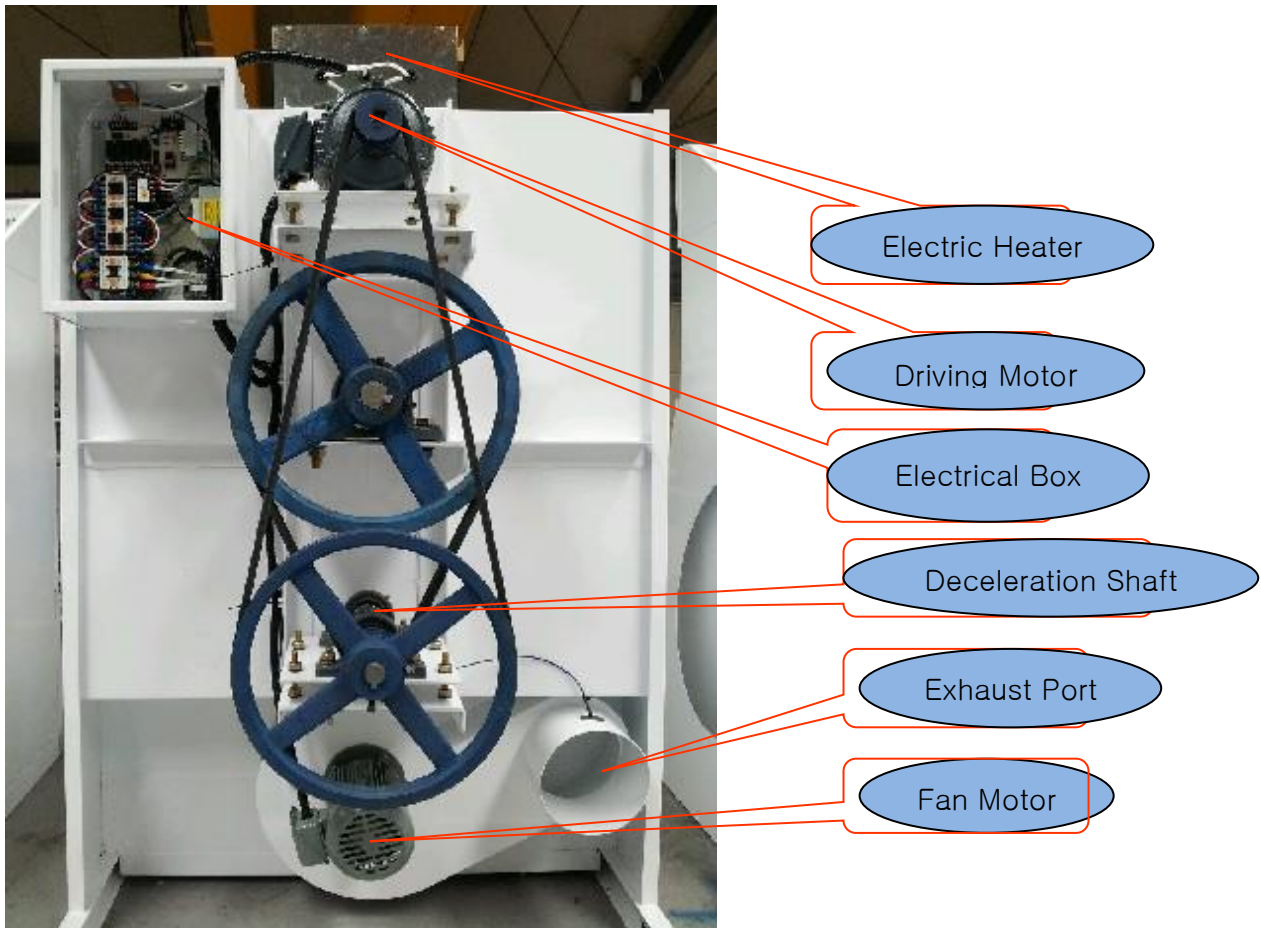
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## Structure and Installation



### Inspection of the steam leak

- Please check enough looseness and steam leakage on the portion of the steam piping.
- When left uncared-for in the presence of steam leakage, there may be a danger of burns by the eruption of steam.
- (Note) Steam trap and check valve are sold separately.
- Please keep piping warm with thermal insulation materials.
- After completing plumbing, please remove residual dust, debris etc. inside the pipe by removing the piping from the machine entrance and blowing steam into the pipe.
- If large amounts of residual waste exists inside the pipe, it may be the cause of malfunction of the steam trap.

## Electrical Wiring Work

- For more effective and safe use of this machine, please read information listed below thoroughly and familiarize yourself with all the contents.  
Since the electrical installation should be performed by a qualified person who holds license for the electricity related work, please ask for a professional contractor in this field.

### ① Power

Power must be installed with an independent circuit breaker exclusively for this machine, sensitivity current of 30mA and operating time of within 0.1 seconds.

3 Phase 380V/60Hz, Starting current 10.0A~55, Rated current 10~55.0A

The capacity of the wires of the input side should be more than stated above in order to fully withstand the load.

### ② Earth

**The need for grounding:** In order to prevent accidents just in case of electric shock or lightning and improve noise inside the control circuit, grounding must be done for this machine.

**Please do not ground on the below stated places.**

- ① Water pipes – In case PVC component piping structures were used during plumbing, there will be no effect of grounding.
- ② Gas pipes – There is a risk of explosion or ignition.
- ③ Grounding on the telephone line or lightning rod – Dangerous because a large current flows when lightning strikes.

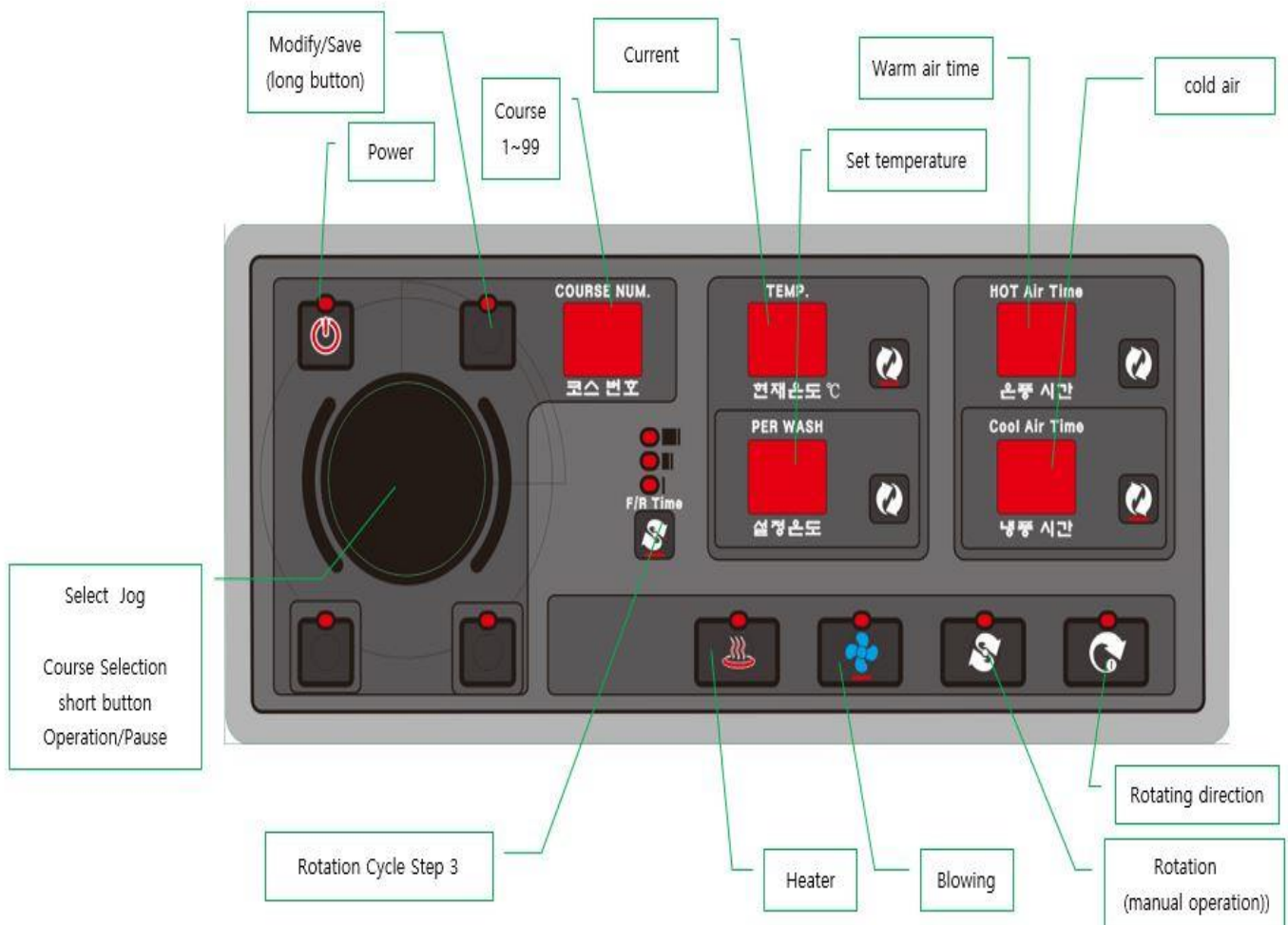
<Note> As to earthing, it has been mandated by law to conduct more than Class 3 (D class) grounding work.

Since the power connection lines of this machine consist of 4 lines including grounding, please ground after connecting power to the circuit breaker (MMCB) that is to be installed at the power supply side.

In case of installing the wires close to the heat source, there is a risk of mechanical failure or fire by the short circuit of wires due to the high temperature. When doing wiring work, please be sure to do wiring properly apart from the places where steam piping or high heat sources are located.

# Panel Display Description

## 1. PANEL DISPLAY



### Instructions for Automatic Operation

1. Turn on the power by pressing the power button.
2. Select channel (Course 1 ~ 99) depending on fiber.

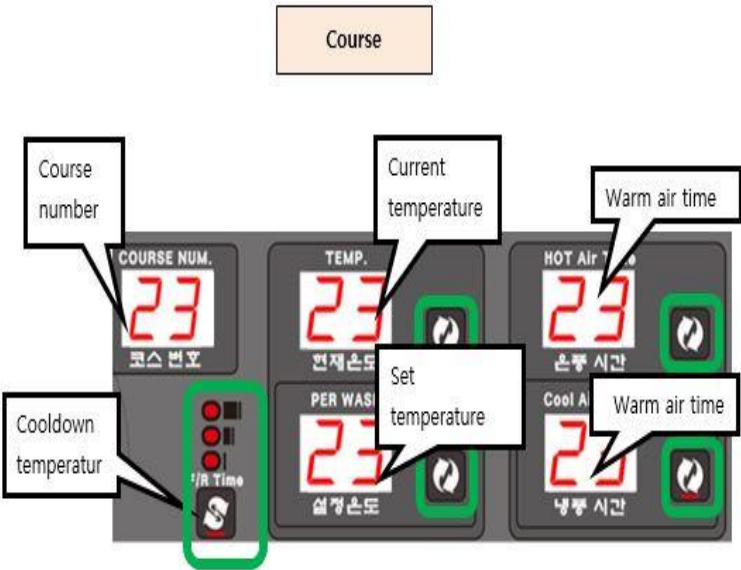
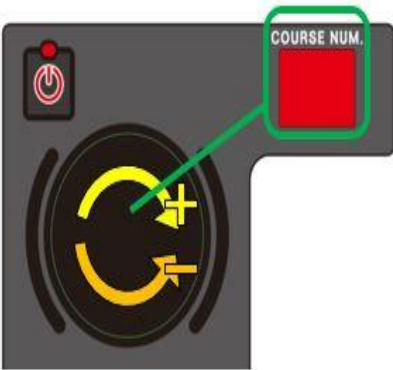
### To set time change

1. Press and hold the correction button for 2 to 3 seconds.
2. Using the rotary button next to each window (set temperature, warm air time, cold air time), select the window to be modified and turn the jog.
3. After the time and temperature modification, press and hold the modification button to complete the storage.

# Start Course & Change Parameters

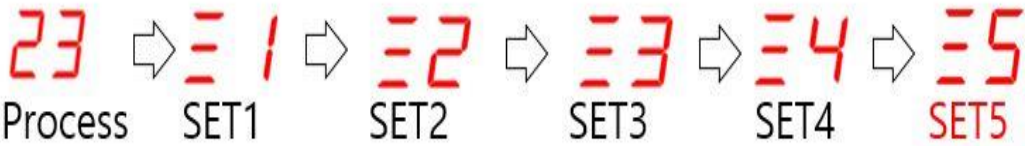
## 2. Course Start(Dry)

- Press the power button to turn on the power.
- Rotate the jog to select the desired course. (Course No. : 1 ~ 99 )
- After selecting the course, press the jog button briefly.
- Start drying
- Press the jog button again, and the course is paused.
- Press and hold the jog button to stop the course.



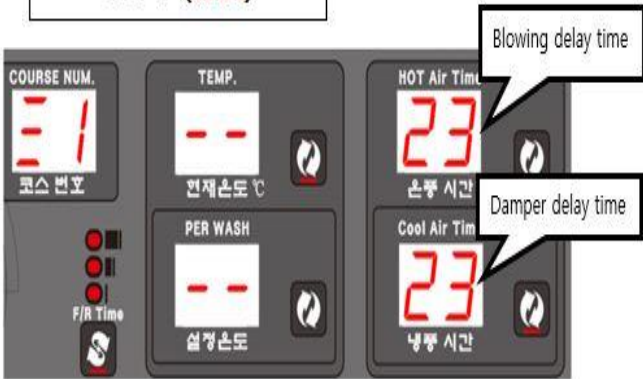
## 3. Changing Parameters

Press and hold the modify/save button during stop (turn

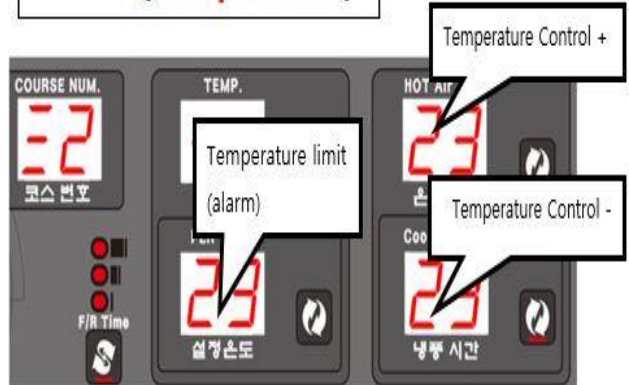


# Fan and Temperature Control

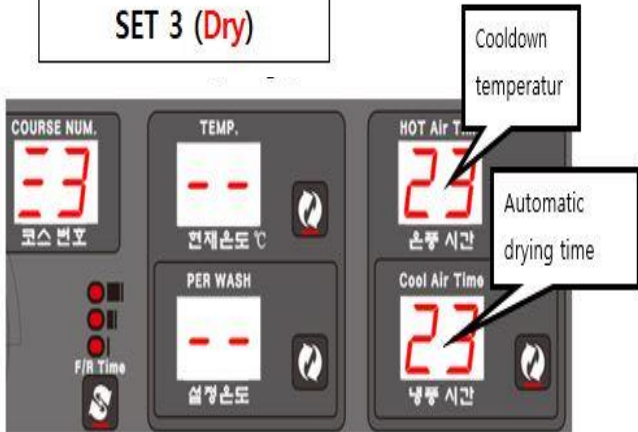
SET 1 (FAN)



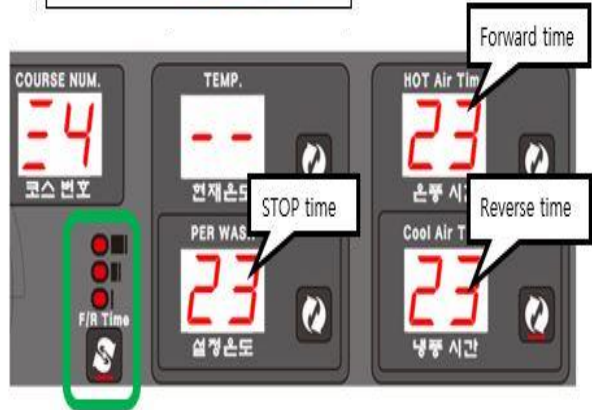
SET 2 (Temperature)



SET 3 (Dry)

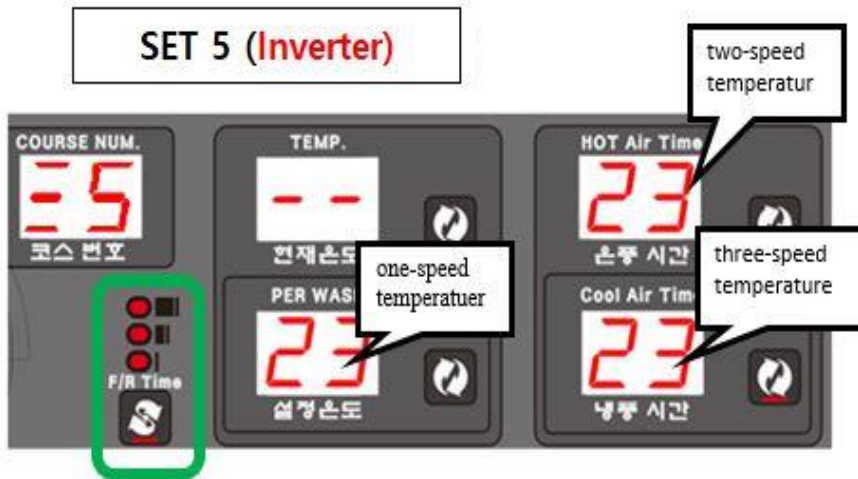


SET 4 (Rotation)





# Inverter



## 4. Change manual drying parameters

Press and hold the rotary button.

Set the warm air time(rotation time), set temperature, rotation period, and one direction by dialing.

Press and hold the rotary button or press and hold the modify/save button.

Saved complete

### 4-1. Initialize parameters

In the power off(NFB) state, turn on the power while pressing the power button and the modification/storage button.



### 4-2. Set rotation detection mode

With the rotary button and one-way button pressed in the power off (NFB) state, Turn on the power.

Rotation, one-way LED on(rotation detection mode on)





## Error Indication

### 5. Error Indication



do  
or

Door  
Open

Show door opening

HE  
AL

Over  
current  
(heater)

OverLoad : Functional shutdown due to  
heater over current

O.U.  
L.P.

Overheating

Overheating : Alarm when higher than the  
setting value

FA  
n.

Overcurrent  
(FAN)

OverLoad:  
Functional stop due to FAN over current

O.U.  
r.h.

Overheating  
(Limit)

Overheating : Overheating protections  
switch operation, alarm display

dr  
un.

Overcurrent  
(Rotating  
motor)

OverLoad: Functional stop due to rotational  
over-current

## Dry parameter setting range

Settings Item		Setting Range	Explanation
Set temperature		0~99(minute)	Drying temperature setting
Warm air time		0~99(minute)	Hot air time
Cold air time		0~99(minute)	Cold air time
Rotation cycle 1/2/3	Forward time	0(2)~99(second)	Set to 2 seconds or more in rotation detection mode
	Reverse time	0(2)~99(second)	
	Stop time	0~99(second)	
Limit temperature(Alarm)		0~20(degree)	Error and function stop when detecting setting temperature + alarm temperature abnormality (requires inspection)
Temperature Control	Temperature Control+	0~5(degree)	Heater off when current temperature is higher than set temperature + control temperature
Temperature Control -	Temperature Control-	-5~0 (degree)	Heater on when current temperature is below set temperature - control temperature
Blowing delay time		0~99(second)	Fan on(seconds) after heater on and delay time
Damper delay time		0~99(second)	Time (in seconds) from entering the cold air time to opening the damper
Cooldown temperature		0~99(second)	Air temperature inside dryer after drying
Automatic drying time		0~99(second)	If the temperature is maintained for a certain period of time, the hot air time is over
fixed direction		both/one direction	Fixed the direction of rotation
FAN Speed(Inverter)		10~99(second)	Adjust the fan speed according to the temperature when connecting the inverter
Rotation detection mode		Settings/Unsettings	If rotation is not detected when setting, change direction and fix it
			Error when rotation is not detected in both directions

### Cooldown temperature

After hot air drying, the fan and damper are turned on until the cool temperature is below. If the temperature goes down to cool down, the fan turns off

If the power button is pressed without lowering the cooldown temperature, the power is turned off and the power is automatically turned off when the cooldown temperature is lowered

## Advantages of PAROS Dryer

1. For cleaning, the middle panel can be opened.  
It's a system that no other company has.
2. Dry can be controlled as a percentage.
3. The eddy current system (reverse slide dust filter) minimizes dust clogging.  
Therefore, it is possible to minimize the reduction in drying performance.
4. It is a dryer with excellent safety and convenience.
  - Overheat alarm / Dual sensor
  - FOG Jet fire suppression device (Option)
  - Maximized door size to best facilitate operation

## Things to watch out for in use

1. Since the panel part may be damaged if excessive force is given when pressing the S/W in the front panel part, please operate with less force as possible.
2. High voltage is flowing in the control box, so be absolutely careful when operating it.  
Also, it prohibits manipulation with wet hands.
3. Never place combustible substances on and around the protective box of the heater.  
because,
  - 1) There is a high risk of fire.
  - 2) There is a high possibility that the dryer will burn down.

## Emergency measure at the time of failure

### ※ No power

- Check if power S/W lamp is lit.
- Check whether the contact of the power input line is bad.
- Check the connecting part of the connector of the machine.
- Check whether the fuse of the relay board is broken.
- ▶ After checking abnormalities, make an inquiry with dealer and contact A/S center for a proper action.

### ※ Heat does not generate when drying.

- Check the set temperature of the overheating prevention sensor inside the control box. Heater will not work if the temperature is set lower than necessary in the overheating prevention sensor (Optimum temperature 120~150).
- Check the temperature (°C) at which the dryer is set. (When the Set Temp is set with a lower temperature, dry heat is generated depending on the set temperature). Touch the fan and heater manually – Check whether the relay lamp in front of the terminal block of the relay board part on which a word, “HEATER” is written works and, if the relay lamp is not lit, check any abnormalities of the relay board and replace if necessary.
- Check whether fan motor works.
- ▶ After checking abnormalities, make an inquiry with dealer and contact A/S center for a proper action.

### ※ Time for drying lasts long.

- After checking the set temperature (°C), set with a higher temperature.
- Open the bottom cover of the machine to remove wastes of the filter net (If wastes accumulate, it prevents airflow and reduces drying effect)
- ▶ Normally, please have a habit of cleaning everyday when using.

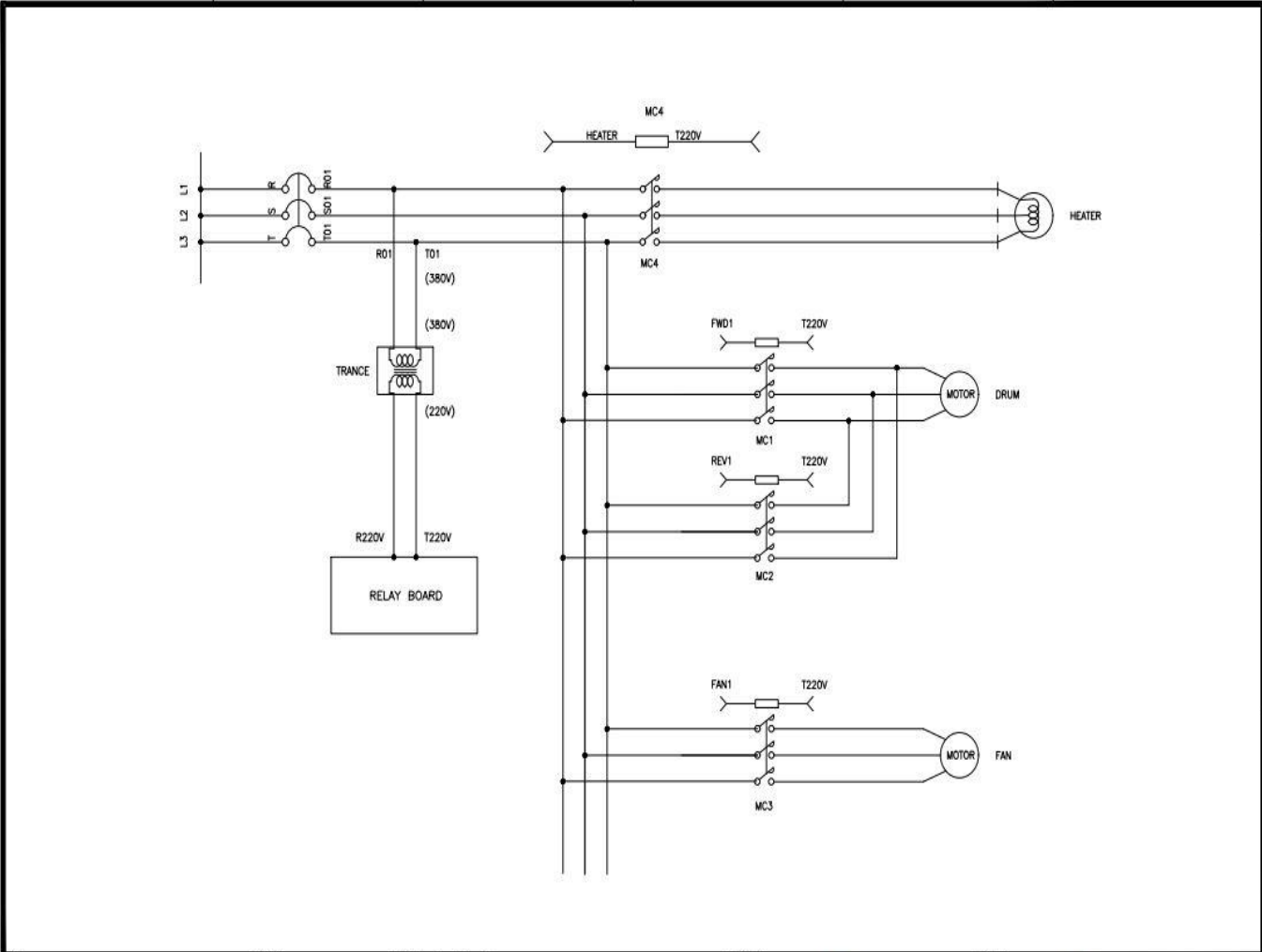
※ **Fan motor does not work.**

- If fan does not work after pressing fan manually, check whether the relay lamp right in front of the terminal block of the relay board part on which a word, **"FAN"** is written works.
- Check the connecting part of the fan motor connector.
- ▶ After checking abnormalities, make an inquiry with dealer and contact A/S center for a proper action.

※ **Forward / Reverse motor does not work.**

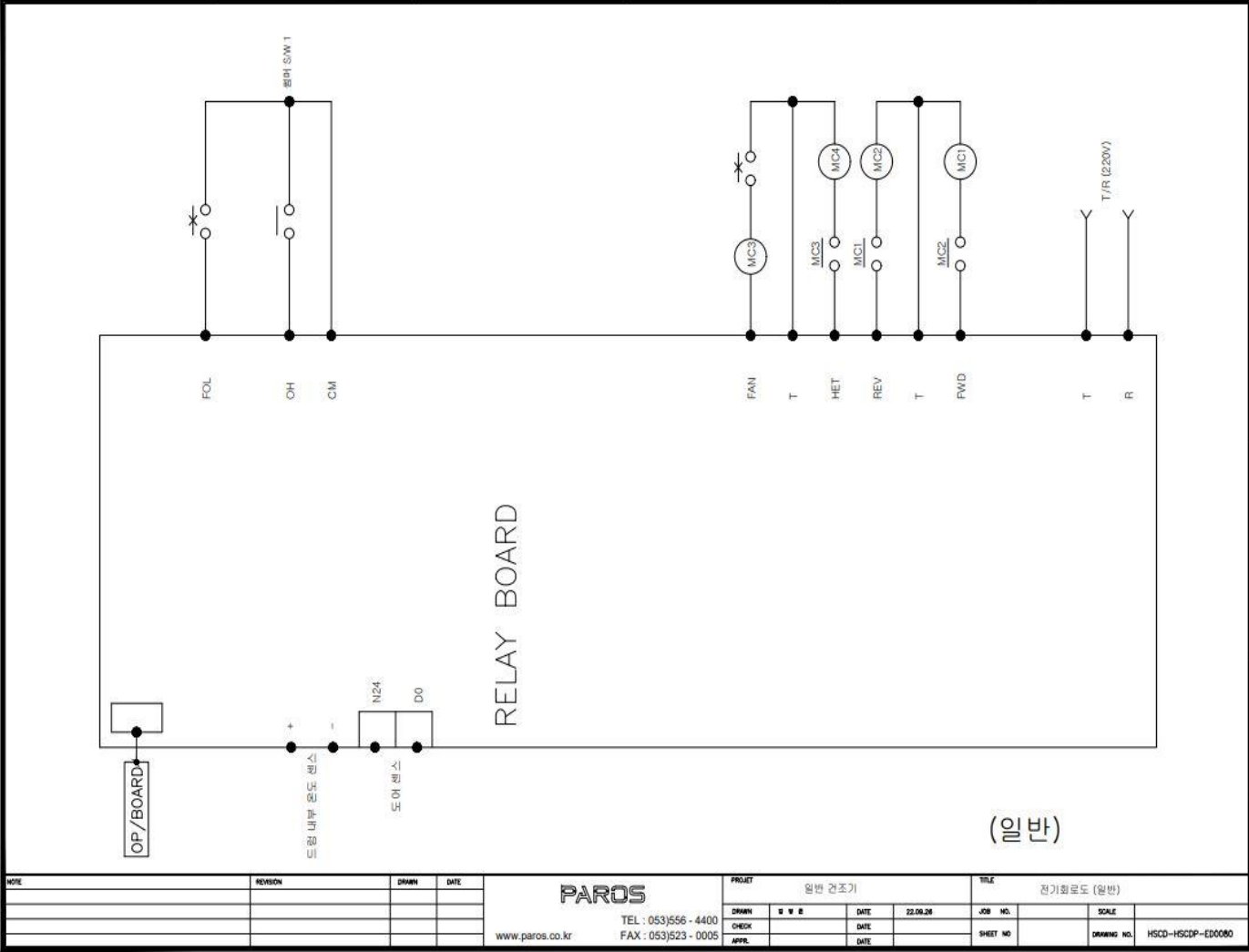
- If fan does not work after pressing ROTATION manually, check whether the relay lamp right in front of the terminal block of the relay board part on which a word, **"FWD"** and **"REV"** is written works.
- Check the connecting part of the Forward/Reverse motor connector.
- ▶ After checking abnormalities, make an inquiry with dealer and contact A/S center for a proper action.

# Electric Circuit Diagram



<b>NOTE</b>	<b>REVISION</b>	<b>DRAWN</b>	<b>DATE</b>	<b>PAROS</b>	<b>PROJECT</b> 일반 건조기	<b>TITLE</b> 전기회로도
				www.paros.co.kr	<b>DRAWN</b> 김민준	<b>JOB NO.</b>
				TEL : 053)556 - 4400	<b>DATE</b> 22.09.28	<b>SCALE</b>
				FAX : 053)523 - 0005	<b>CHECK</b>	<b>SHEET NO.</b>
					<b>DATE</b>	<b>DRAWING NO.</b> HSCD-HSCDP-ED0080

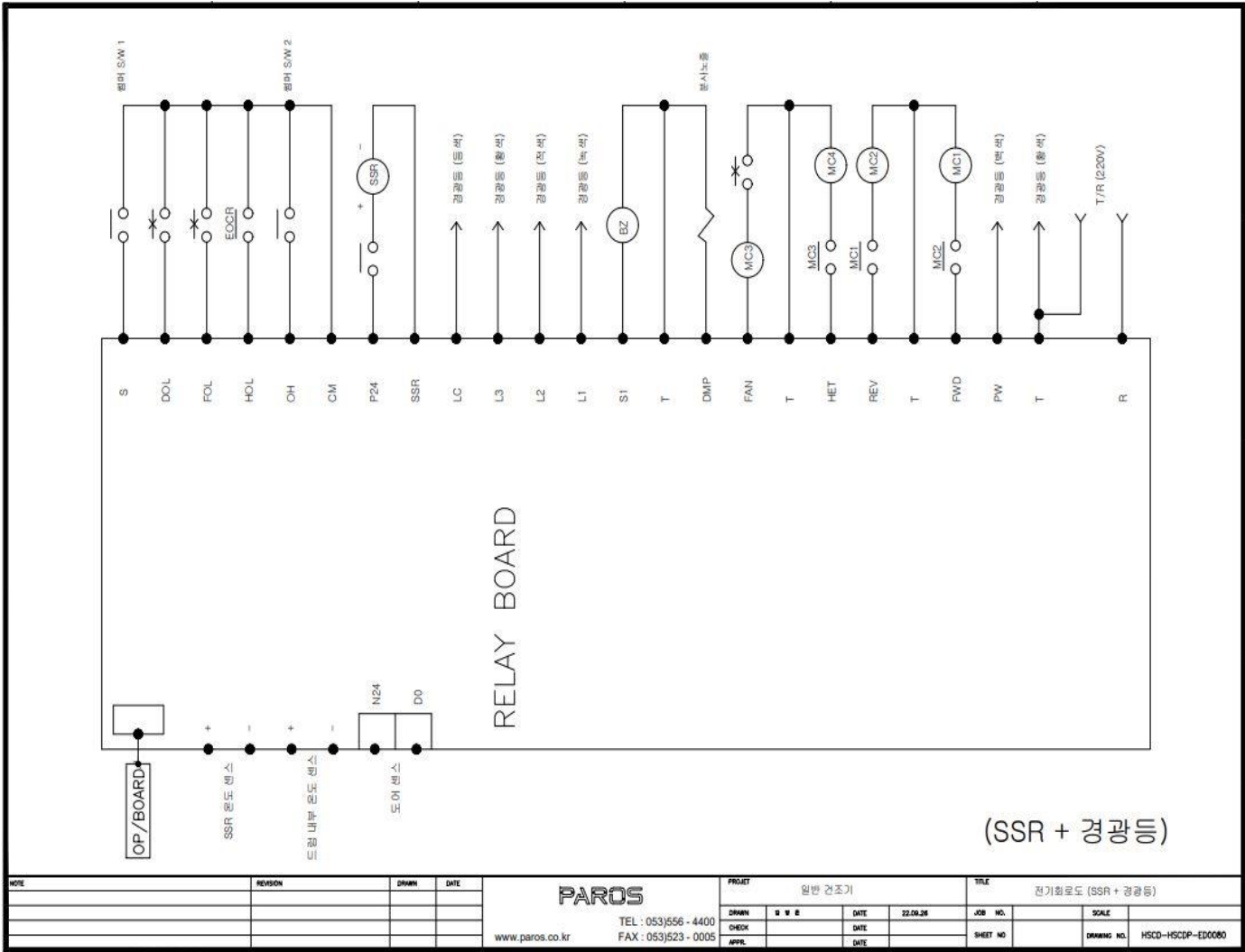
# Relay Board



NOTE	REVISION	DRAWN	DATE	PROJECT	TITLE
				일반 건조기	전기회로도 (일반)
				www.paros.co.kr	
				TEL : 053)556 - 4400	
				FAX : 053)523 - 0005	
				DATE	JOB NO.
				DATE	SCALE
				DATE	SHEET NO.
					DRAWING NO. HSCD-HSCDP-ED0080



# SSR type



NOTE	REVISION	DRAWN	DATE	<b>PAROS</b>	PROJECT	TITLE
				www.paros.co.kr	일반 건조기	전기회로도 (SSR + 경광등)
				TEL : 053)556 - 4400 FAX : 053)523 - 0005	DRAWN	JOB NO.
					DATE	SCALE
					DATE	SHEET NO.
					DATE	DRAWING NO.
						HSCD-HSCDP-ED0080