

Lassele

your first selection

MULTI-PURPOSE DEHYDRATOR SERVICE MANUAL



2017.12.11

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1. NAMEPLATE FORMAT

* Model name and manufactured date are indicated on two locations.

- Model name and manufactured date can be checked on the barcode label on the packaging.
- The barcode label also locates on the left side of the product.
- Barcode label format is as below (includes manufactured date)

[Label barcode]



LUIA A 94 H 2 00001
a b c d e f

[Labelbarcode]



UA25A94J100009
a b c d e f

a (4 digits) : CIS code for specific model

b (1 digit) : Product group

c (2 digits) : Manufacturing site (supplier code)

d (1 digit) : Manufacturing year

e (1 digit) : Manufacturing month

f (5 digits) : Serial number (00001 ~ 99999)

Year	2015	2016	2017	2018	2019	2020
Mark	G	H	J	K	M	N
Month	Jan.	Feb.	Mar.	Apr.	May.	Jun.
Mark	1	2	3	4	5	6
Month	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Mark	7	8	9	A	B	C

2. BEFORE INSTALLATION

1) CAUTION: BEFORE INSTALLATION

- When exchanging electrical parts or getting a repair, pull the power plug out first.
- When exchanging electrical components, use rated parts.
 - Be sure to check model name, rated voltage, rated current and operating temperature, etc.
- When getting a repair of failure, make it solid not to cause a risk to connections, such as harness, wire joint, by exposure of a core wire.
 - Be sure not to make it leave its post when applying certain force.
- When getting a repair of failure, perfectly remove dust or foreign substance from housing joint, connection and contact point first. To prevent fire risk, such as tracking, electrical short, etc.,.
- Check whether there is a trace that moisture permeates into electrical parts.
 - If there is the trace, please exchange the parts or take the measure of preventing tracking.
- After getting a repair, check the unit is properly reassembled.
 - Keep it in the same state as the one before the repair.
- Check the operating environment of the product and change the place, if the environment is not stable.
 - Do not install the dehydrator at the place with lots of moisture and water and, for electric heating appliance and near the inflammables.
- If ground connection is required, you can ground it.
 - If it is judged that there is a risk of short circuit by moisture or water, grounding is necessary.
- For products with high power consumption like heaters, do not use various power plugs on one multiple socket.

2) NOT SUBJECT TO WARRANTY

- (1) Failure of performance and function after the warranty period
- (2) Failure of performance and function due to dead consumable parts
- (3) Failure and damage due to negligence of users or natural disaster
- (4) Failure and damage due to remodeling or alteration by technicians, not certified by distributor.

3. PRODUCT SPECIFICATION

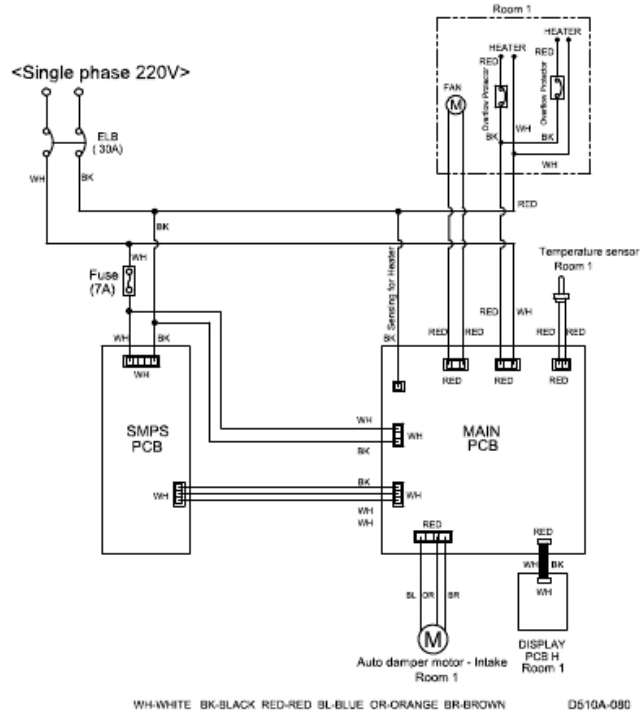
1) SPEC SHEET

MODEL STANDARD		MULTI-PURPOSE DEHYDRATOR		
		DY-110H	DY-220H	DY-330H
EXTERIOR DIMENSION	W*D*H	640*810*1820 (mm)	1260*810*1820 (mm)	1900*810*1820 (mm)
INTERNAL DIMENSION	W*D*H	550*700*1380 (mm)	1160*700*1380 (mm)	1810*700*1380 (mm)
HEATING METHOD		INDIRECT HEATING		
DRYING METHOD	CONTROL	INDEPENDNT CONTROL ON EACH SPACE WITH MICOM PCB		
TEMPERATURE INDICATOR		DIGITAL THERMAL INDICATOR		
MATERIAL	SURFACE	CABINET , DOOR :GI + PCM PAINTED STEEL PLATE		
	INSIDE	GALUM + BOTTOM PCM PAINTED STEEL PLATE		
INSULATION MATERIAL		POLY URETHANE FIRE RETARDANT (R-141b)		
CASTOR	FRONT	3" ROTATING+LOCKING (2EA)		
	REAR	3" ROTATING(2EA)		
RANGE OF HEATING TEMPERATURE		20~70℃		
GROUND FAULT CIRCUIT INTERRUPTER		30A	30A	50A
POWER CONSUMPTION		2.4KW	4.8KW	7.2KW
HEATER TYPE		HEATING-PIN HEATER	HEATING-PIN HEATER	HEATING-PIN HEATER
HEATER		1050W * 2EA	1050W * 4EA	1050W * 6EA
DOOR		1 SWING DOOR	2 SWING DOORS	3 SWING DOORS
FAN MOTOR		300W * 1EA	300W * 2EA	300W * 3EA
DAMPER MOTOR		4.8W * 1EA	4.8W * 2EA	4.8W * 3EA
FAN BLADE		SIROCCO Ø200*105 * 1EA	SIROCCO Ø200*105 * 2EA	SIROCCO Ø200*105 * 3EA
NUMBER OF TRAYS		11EA	22EA	33EA

2) CIRCUIT DIAGRAM

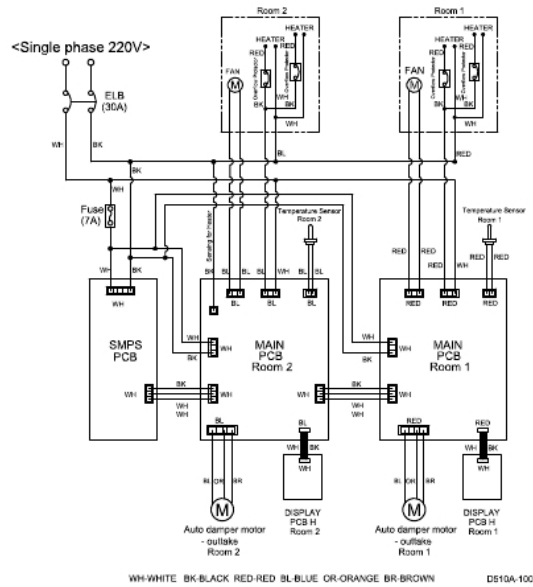
■ DY-110H

<CIRCUIT DIAGRAM>
DY-110H



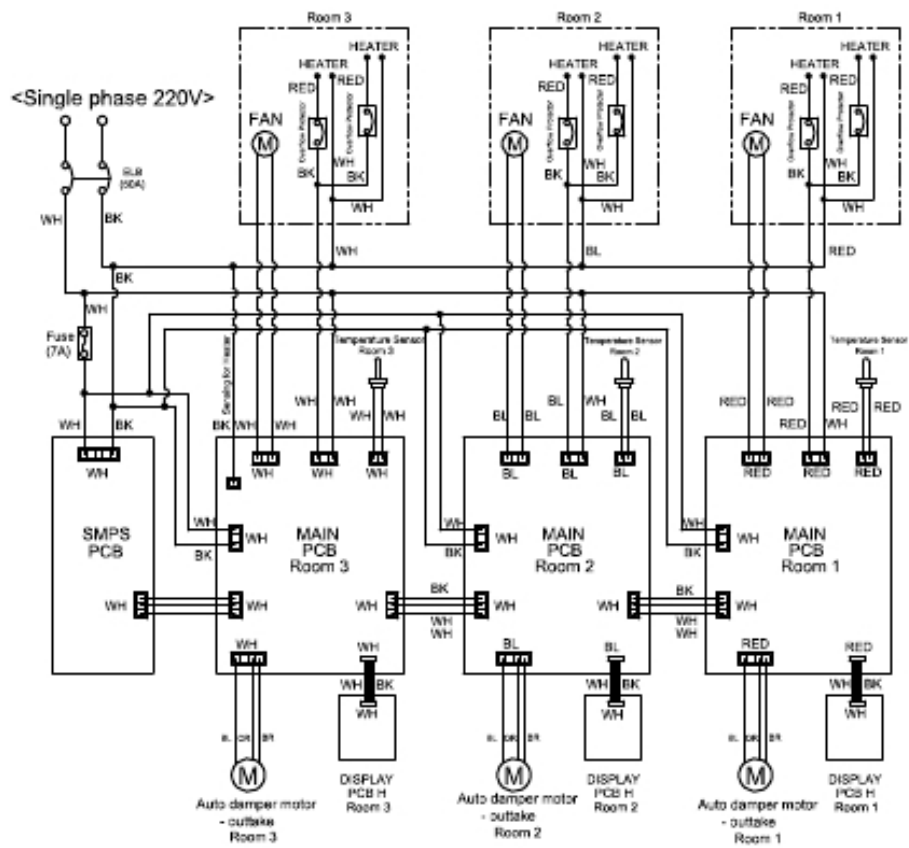
■ DY-220H

<CIRCUIT DIAGRAM>
DY-220H



■ DY-330H

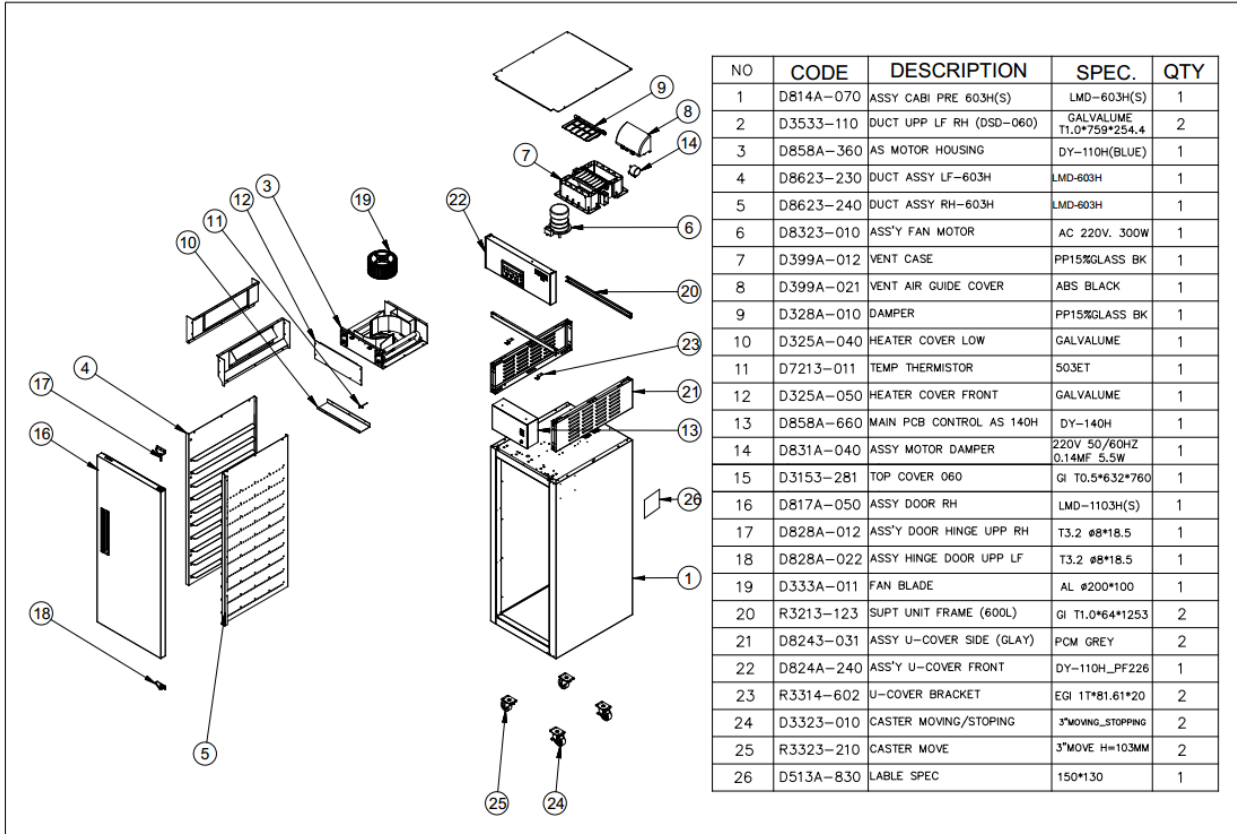
<CIRCUIT DIAGRAM>
DY-330H



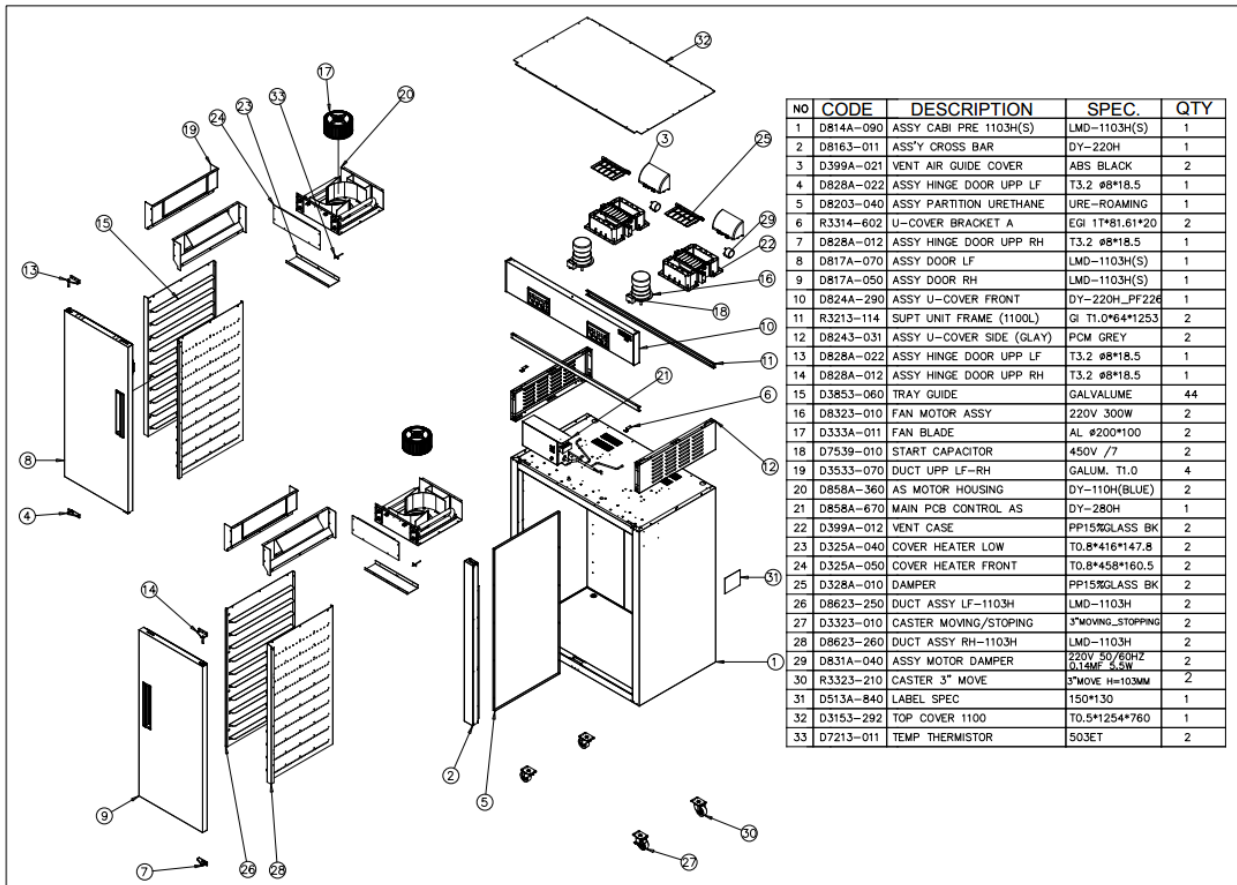
WH-WHITE BK-BLACK RED-RED BL-BLUE OR-ORANGE BR-BROWN SK-SKY

D510A-120

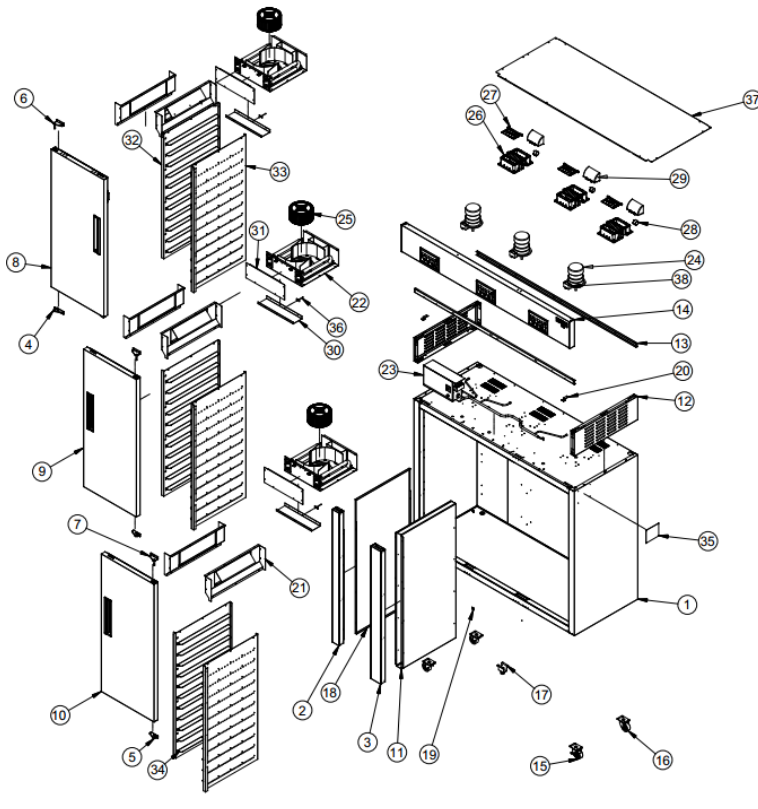
3) EXPLODED VIEW
(1) DY-110H



(2) DY-220H

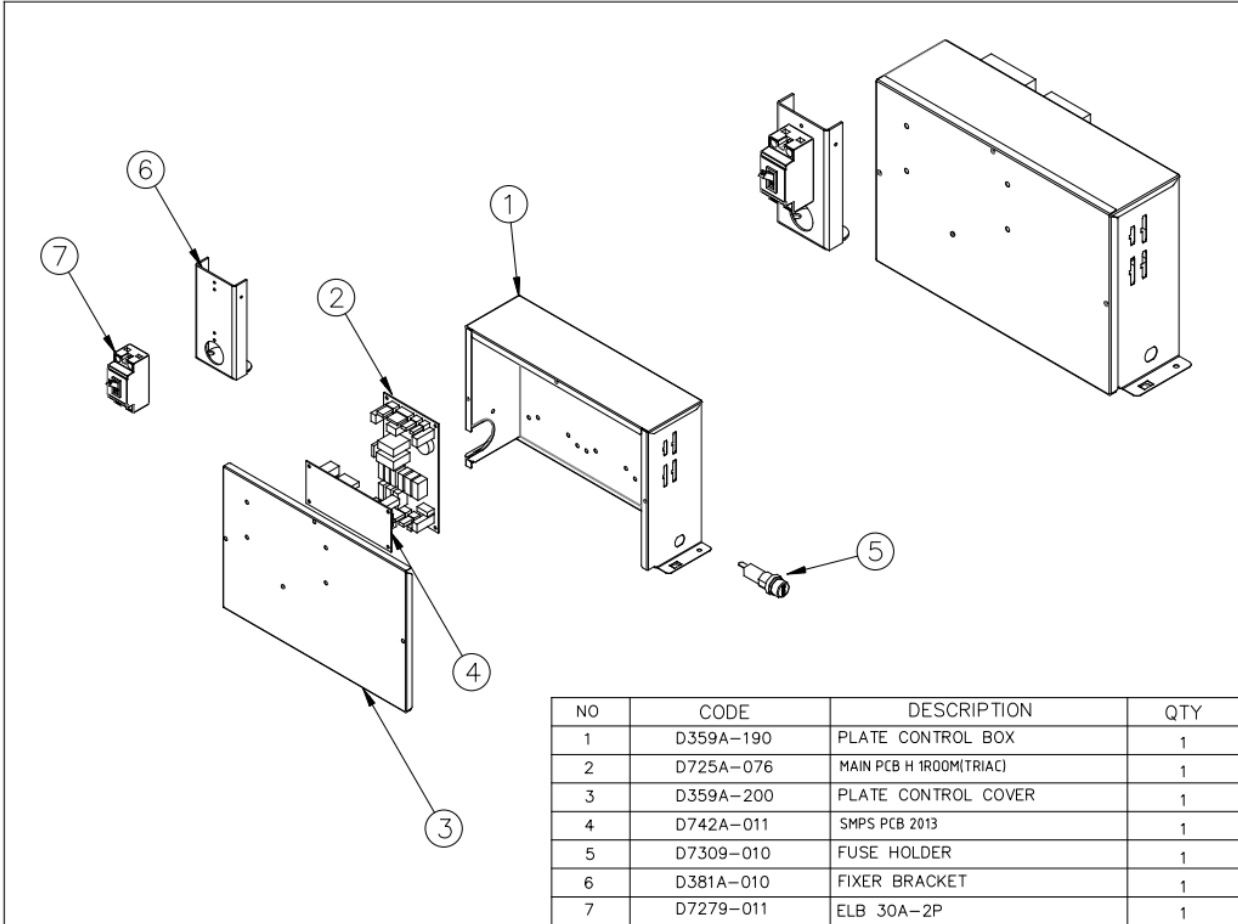


(3) DY-330H

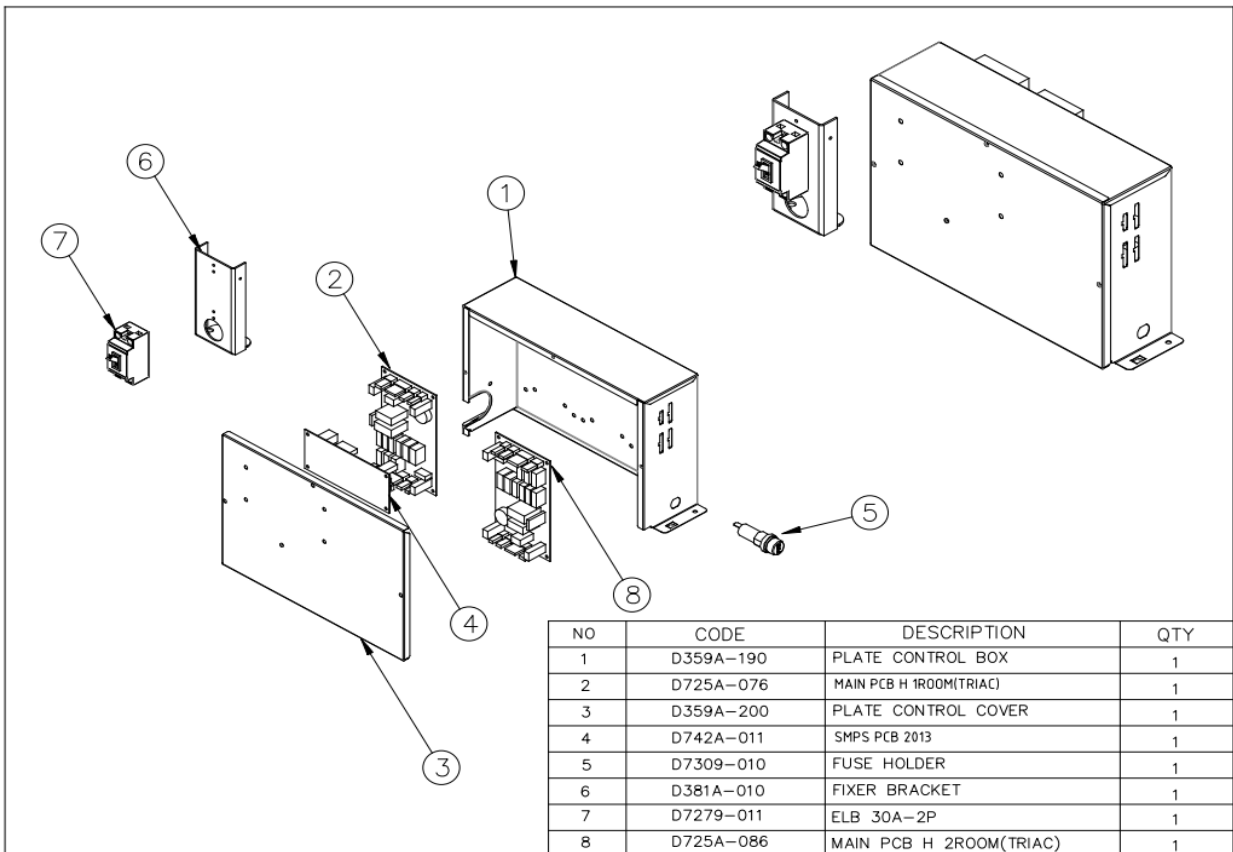


NO	CODE	DESCRIPTION	SPEC.	QTY
1	D814A-110	ASSY CABI PRE 1703H(S)	LMD-1703H(S)	1
2	D8163-011	ASSY CROSS BAR 220H	DY-220H	1
3	D8163-021	CROSS BAR ASSY. RH 330H	DY-330H	1
4	D828A-022	ASSY HINGE DOOR UPP LF	T3.2 Ø8"18.5	3
5	D828A-012	ASSY HINGE DOOR UPP RH	T3.2 Ø8"18.5	3
6	D828A-022	ASSY HINGE DOOR UPP LF	T3.2 Ø8"18.5	3
7	D828A-012	ASSY HINGE DOOR UPP RH	T3.2 Ø8"18.5	3
8	D817A-070	ASSY DOOR LF	LMD-1103H(S)	1
9	D817A-050	ASSY DOOR RH	LMD-1103H(S)	1
10	D817A-050	ASSY DOOR RH	LMD-1103H(S)	1
11	D8203-050	ASSY PARTITION URETHANE T67	URE-FOAMING	1
12	D8243-031	ASSY U-COVER SIDE (GLAY)	PCM GREY	2
13	R3213-073	SUPT UNIT FRAME (1700L)	T1*64*1893	2
14	D824A-340	ASSY U-COVER FRONT	DY-330H_P226	1
15	D3323-010	CASTER MOVING/STOPING	3"MOVING_STOPPING	2
16	R3323-210	CASTER 3" MOVE	3" MOVE H=103MM	2
17	R825A-010	ASSY LEG BASE	K-REF	1
18	D8203-060	ASSY PARTITION URETHANE T50	URE-FOAMING	1
19	R3314-170	INNER BIK	DY-110HRF/170RF	4
20	R3314-602	U-COVER BRACKET A	EGI 1T*81.61*20	2
21	D3533-070	DUCT UPP LF RH	GALUM. T1.0	6
22	D858A-360	AS MOTOR HOUSING	DY-110H(BLUE)	3
23	D858A-680	MAIN PCB CONTROL AS 420H	DY-420H	1
24	D8323-010	FAN MOTOR ASSY	AC 220V. 300W	3
25	D333A-011	FAN BLADE	AL Ø200*100	3
26	D399A-012	VENT CASE	PP15% GLASS BLACK	3
27	D328A-010	DAMPER	PP15% GLASS BLACK	3
28	D831A-040	ASSY MOTOR DAMPER	0.14MF 220V 50/60HZ 5.5W	3
29	D399A-021	VENT AIR GUIDE COVER	ABS BLACK	3
30	D325A-040	COVER HEATER LOW	T0.8*416*147.8	3
31	D325A-050	COVER HEATER FRONT	T0.8*458*160.5	3
32	D8623-250	DUCT ASSY LF-1103H	LMD-1103H	3
33	D8623-260	DUCT ASSY RH-1103H	LMD-1103H	3
34	D3853-060	TRAY GUIDE	GA T0.8*614.5*65.8	66
35	D513A-850	LABEL SPEC	DY-330H 150*130	1
36	D7213-011	TEMP THERMISTOR	503ET	3
37	D3153-302	TOP COVER 1703	GI T0.4*1895*760	1
38	D7539-010	START CAPACITOR	400VAC 7.0µF	3

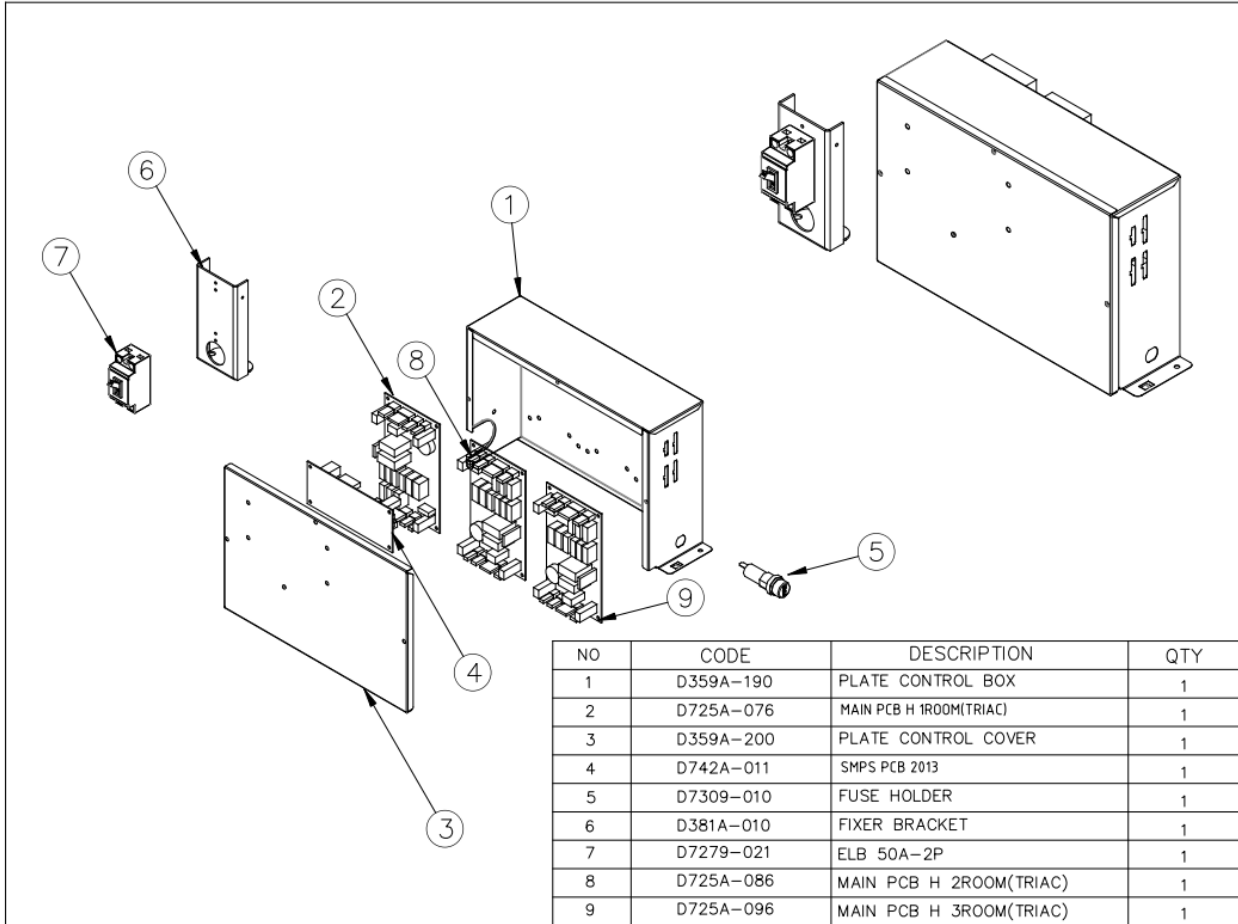
(4) CONTROL BOX ASSEMBLY (DY-110H)



(5) CONTROL BOX ASS'Y (DY-220H)



(6) CONTROL BOX ASSEMBLY (DY-330H)



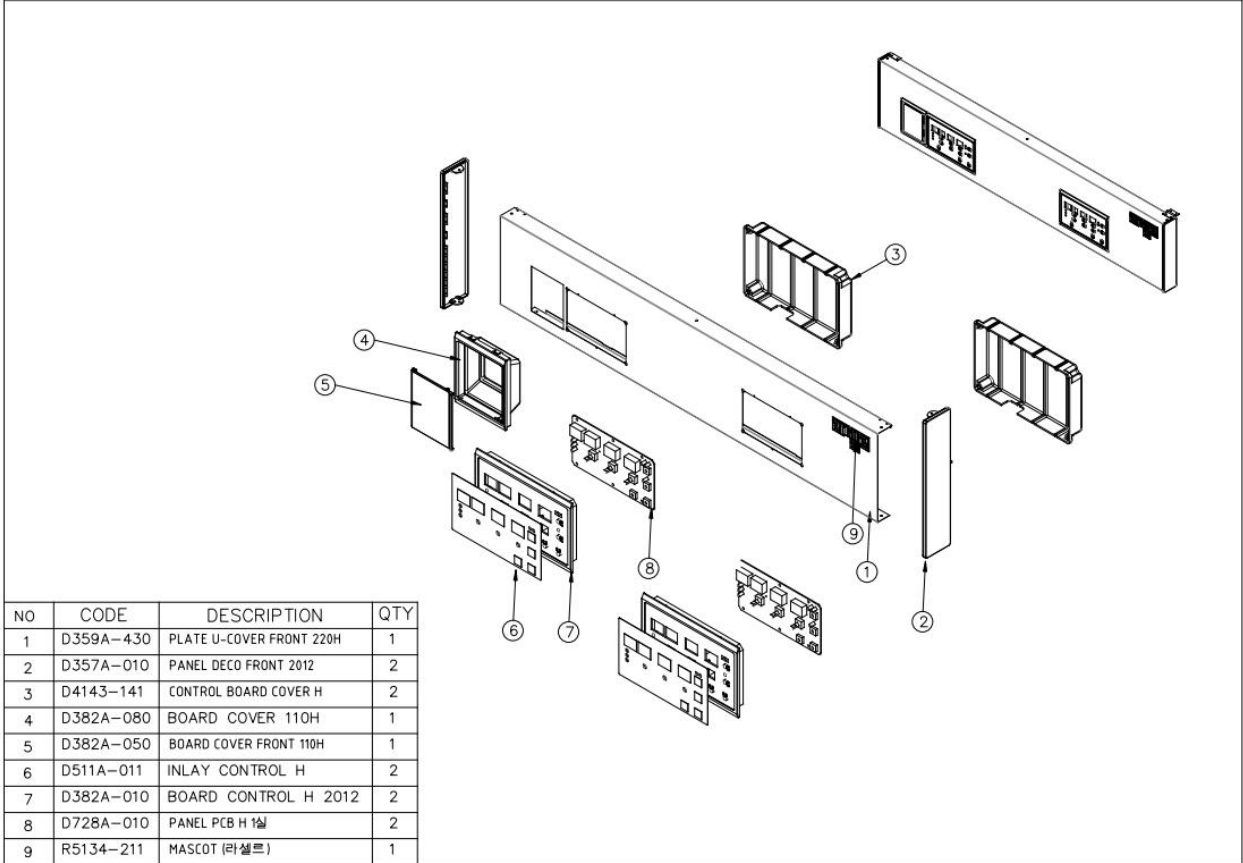
(7) FAN COVER ASSEMBLY (DY-110H/220H/330H)

NO	CODE	DESCRIPTION	QTY
1	D325A-031	COVER FAN	1
2	D848A-020	ASSY HEATER	2
3	D325A-200	COVER FAN	1
4	D3813-021	FAN COVER SIDE	2
5	D341A-011	GUIDE FAN LOW	1
6	D3853-021	FAN GUIDE-R	2
7	D7253-010	OVERHEAT PROTECTR	2

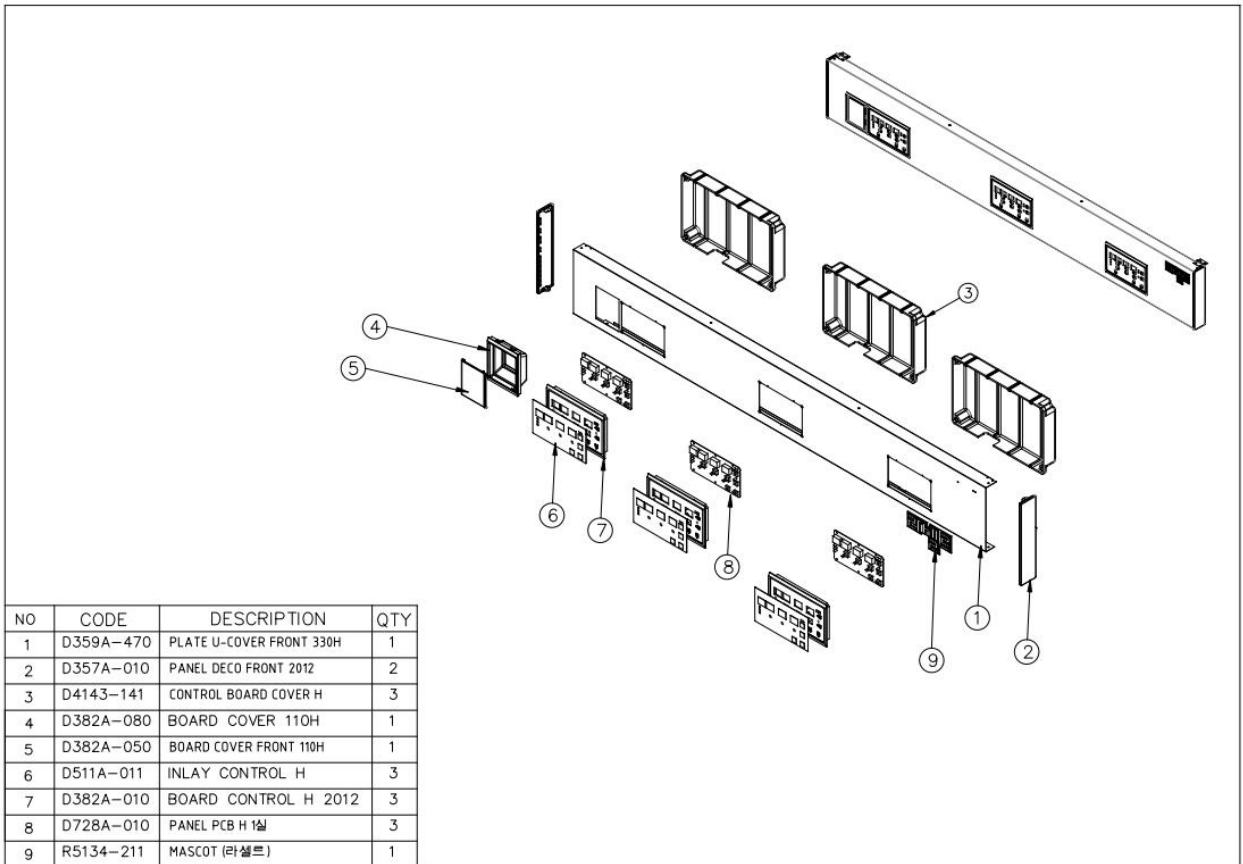
(8) U-COVER FRONT ASSEMBLY (DY-110H)

NO	CODE	DESCRIPTION	QTY
1	D359A-390	PLATE U-COVER FRONT 110H	1
2	D357A-010	PANEL DECO FRONT 2012	2
3	D4143-141	CONTROL BOARD COVER H	1
4	D382A-080	BOARD COVER 110H	2
5	D382A-050	BOARD COVER FRONT 110H	1
6	D511A-011	INLAY CONTROL H	1
7	D382A-010	BOARD CONTROL H 2012	1
8	D728A-010	PANEL PCB H 1실	1
9	R5134-211	MASCOT (라셀브)	1

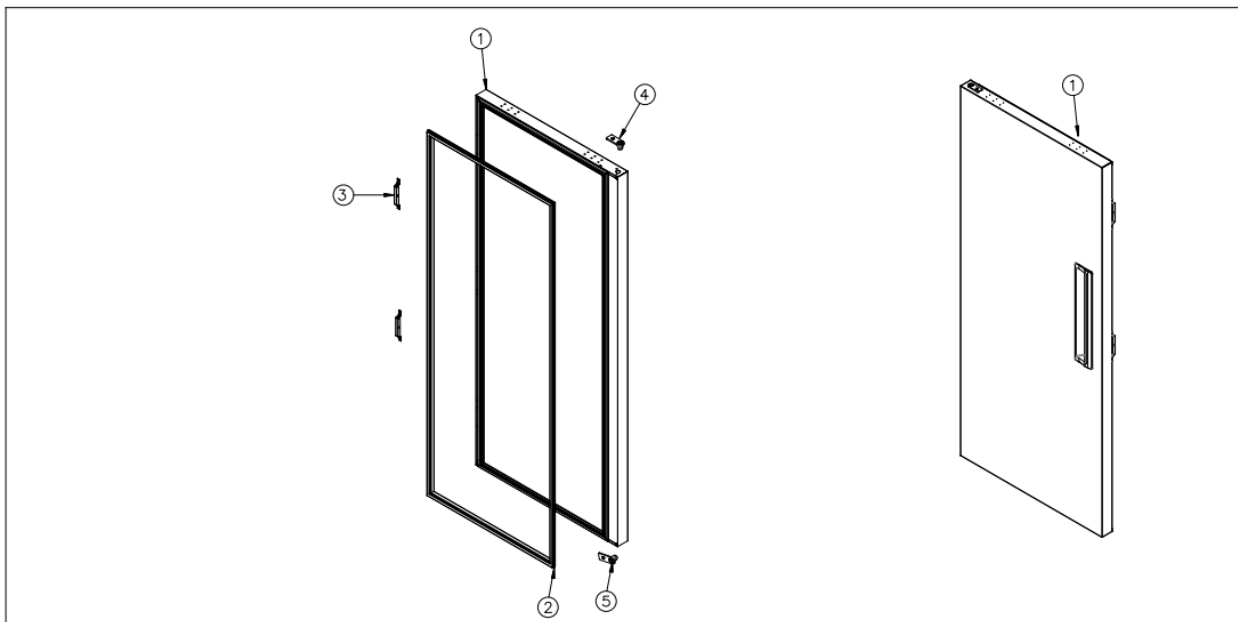
(9) U-COVER FRONT ASSEMBLY (DY-220H)



(10) U-COVER FRONT ASSEMBLY (DY-330H)

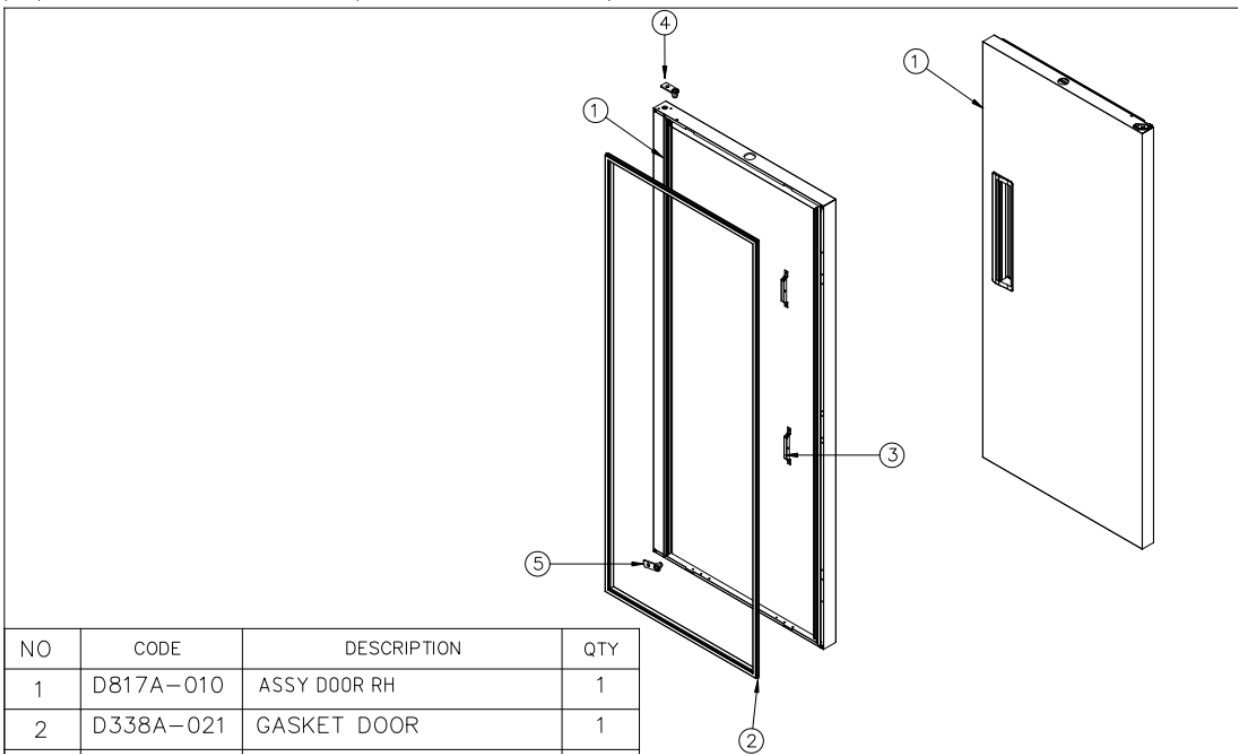


(11) DOOR ASSEMBLY - LF (DY-220H/330H)



NO	CODE	DESCRIPTION	QTY
1	D817A-030	ASSY DOOR URETHANE LF	1
2	D338A-021	GASKET DOOR	1
3	D8523-010	MAGNET ASSY	2
4	R343A-020	HINGE GROMMET LF	1
5	R343A-030	HINGE GROMMET RH	1

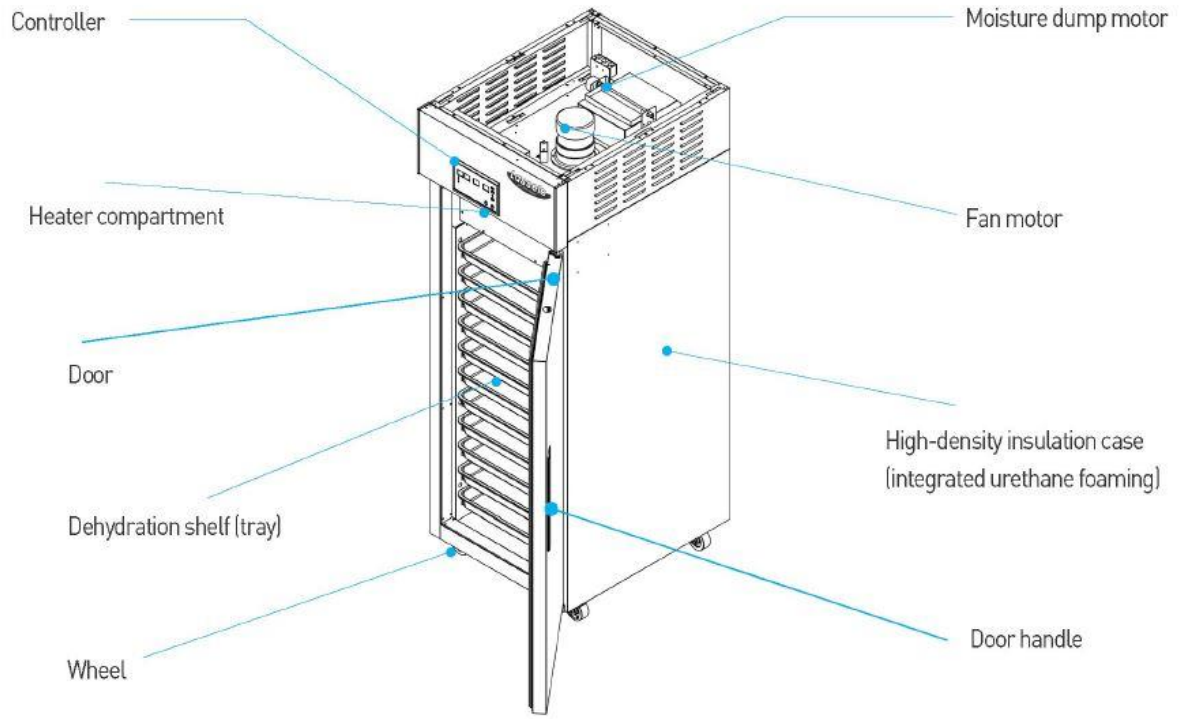
(12) DOOR ASSEMBLY - RH (DY-110H/220H/330H)



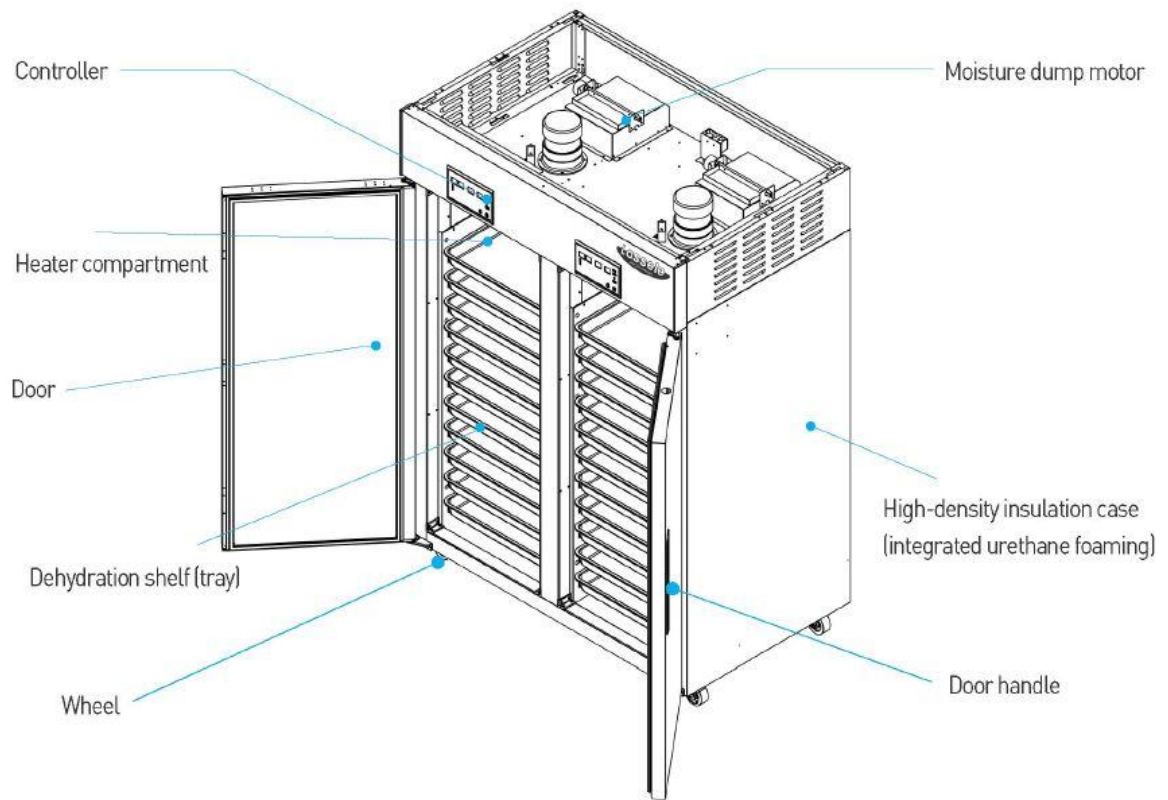
NO	CODE	DESCRIPTION	QTY
1	D817A-010	ASSY DOOR RH	1
2	D338A-021	GASKET DOOR	1
3	D8523-010	MAGNET ASSY	2
4	R343A-030	HINGE GROMMET RH	1
5	R343A-020	HINGE GROMMET LF	1

4. UNIT STRUCTURE

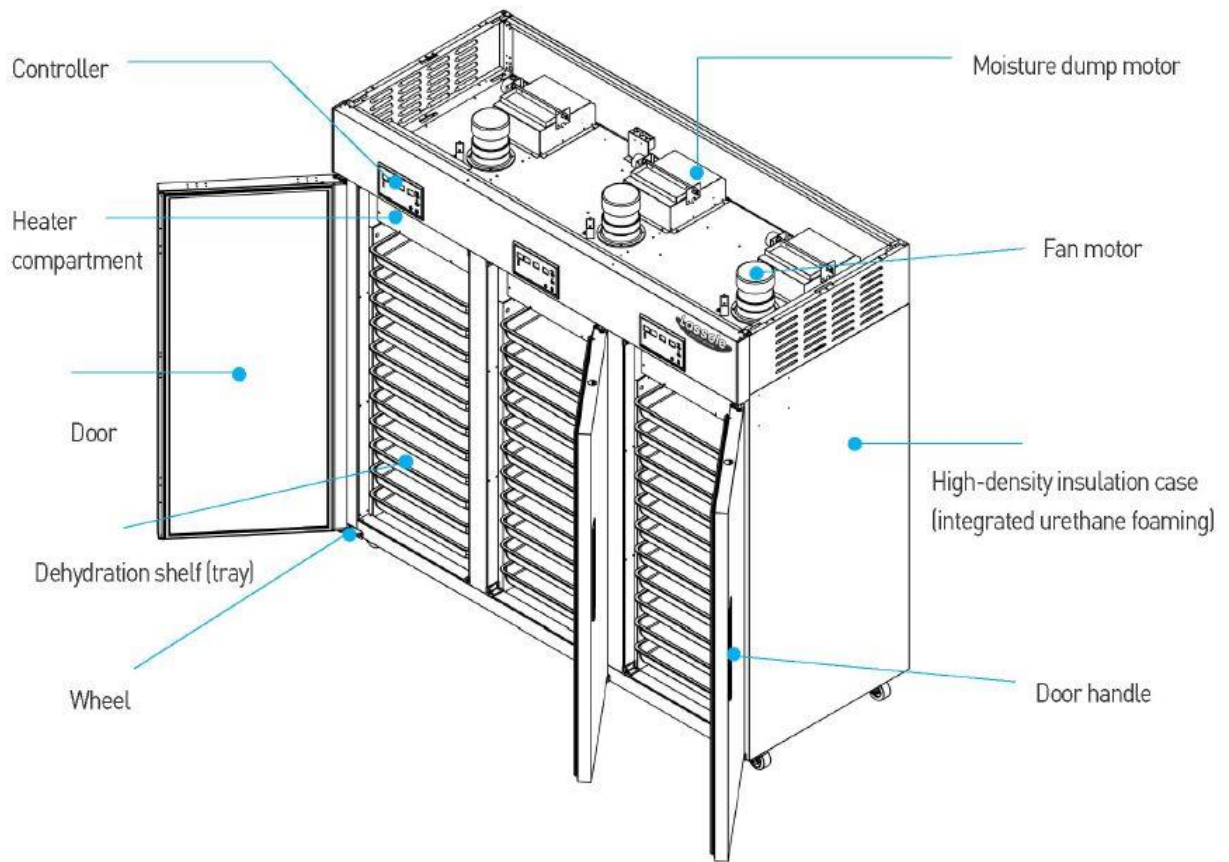
1) DY-110H



2) DY-220H



3) DY-330H



5. INSTALLATION AND CAUTIONS

1) TRANSPORTATION AND INSTALLATION

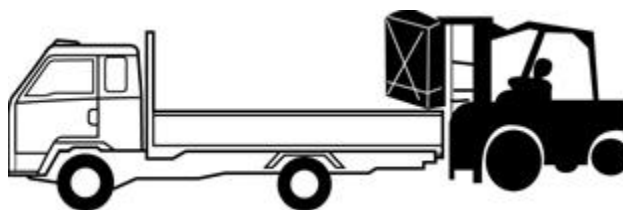
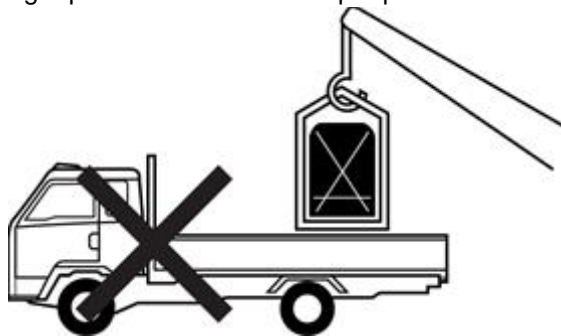
(1) Guidance on transportation

- ① After loading on to a car, lock up the fastening bar in a transverse direction.



- ② The top of the product, its machinery, might be damaged if force is applied on it with a fastening bar or rope.

- ③ Use a forklift and move it in an upright position with at least 4 people at a vehicle or stairs.

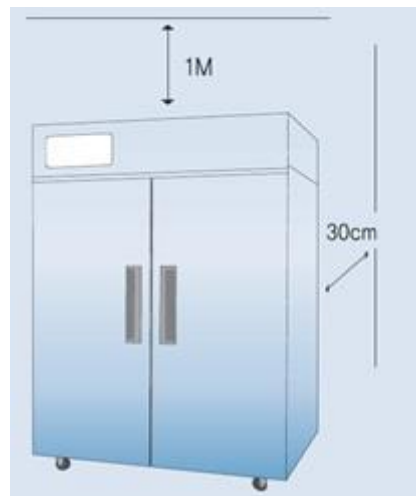
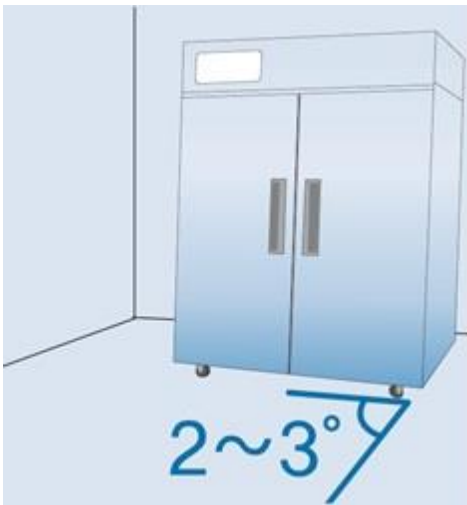


- ④ As the product is heavy, put it on the floor slowly.

- ⑤ After unpacking, fix it with a fastening rag as it might go down, if it is put on a slant, and when moving, convey it by unfastening the rag.

(2) Guidance on installation

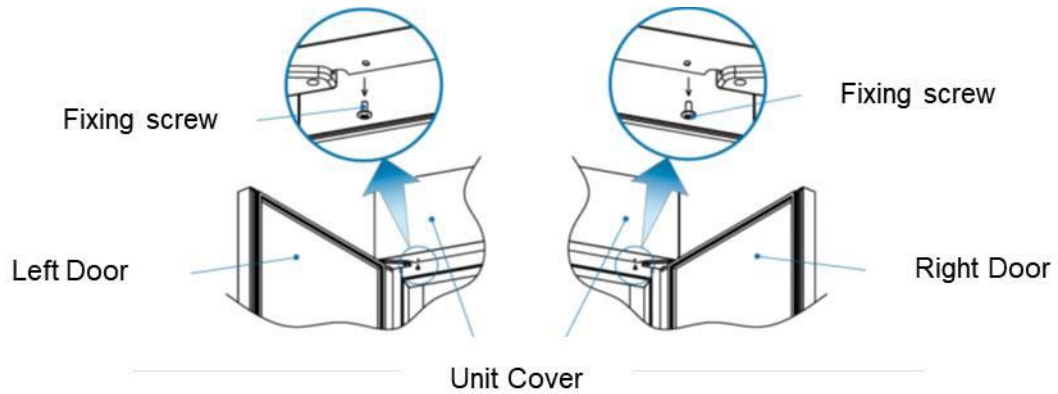
- ① The dehydrator has to be installed in indoor.
- ② If it is inevitable to install the dehydrator outside, be sure to keep it safe from rain and wind.
- ③ If it is put on an earthen floor, install the dehydrator on a base block such as brick and blocks.
- ④ Install the dehydrator at a place without water on its floor and which is dry.
- ⑤ Install the dehydrator at a place, close to an electric meter and with an easy access to power connection.
- ⑥ To let excreted moisture get out, install the dehydrator at an open place.
- ⑦ Install the dehydrator by leaning it back by 2~3°.
(If it leans back moderately, its performance is improved and its doors are closed well.)
- ⑧ For its top and rear side, secure enough spaces (over 1m for the top, 30cm for the back) to let emission of moisture and examination easy.



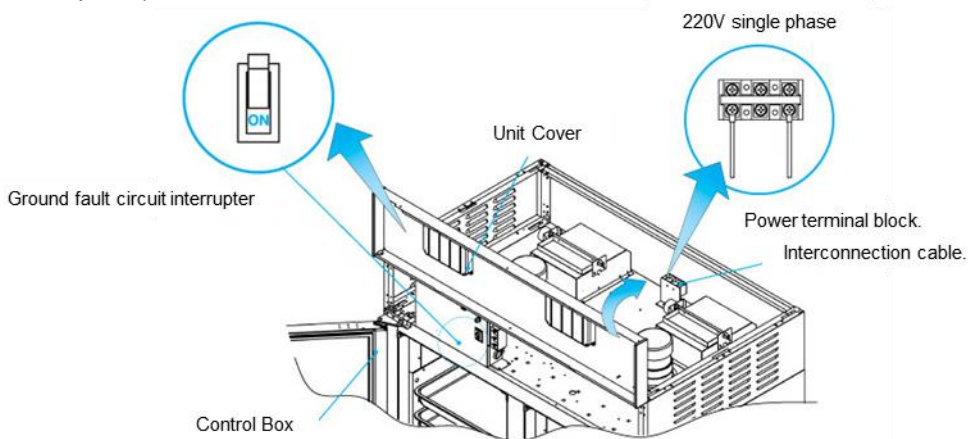
- ⑨ If there are no spaces at the top and rear side of the dehydrator, the machine might not operate well and replacing components will be difficult due to its height.
- ⑩ When installing, ground it to avoid malfunction and electric shock.

(3) How to connect power

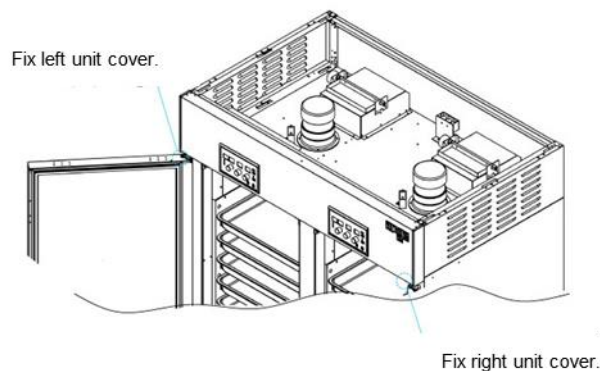
- ① Turn off main source breaker and ground fault circuit interrupter on the product.
- ② Open the left and right doors and unscrew the left and right screws on the bottom of unit cover locates at top of the product.



- ③ Connect main wire to the terminal block of machinery by turning off ground fault circuit interrupter on the product by opening up the unit cover. (Use the cable with the standard, matching the rated voltage of the product and power consumption.)



- ④ Fix its cover again with left and right fastening screw after closing the cover.



- ⑤ When turning ON main source breaker and ground fault circuit interrupter, the dehydrator is on.
※ If the unit cover is not completely fixed, the product might be damaged or broken.

6.HOW TO OPERATE DEHYDRATOR

1) HOW TO OPERATE

(1) Power

- ① Raise the power switch to "ON"
- ② When operating is selected, the dehydrator starts.



(2) Basic setting

- ① After pressing a control button once, set the temperature and time by controlling the button, when temperature and time display is blank.



(3) Manual discharge of moisture

- ① With manual discharge button, the discharging stage can be manually controlled.

(Every time pushing a switch, half discharge/full discharge/close are repeated)

* Lower lamp flash :Half discharge

Higher lamp flash :Full discharge



- ② When manual discharge is controlled, auto discharge is cleared and reservation time for discharge is reset(00 hours)

(4) Silencing the alarm

- ① When dehydrating time is complete or error happens, the alarm sounds.
- ② When the alarm off button, is pressed once, the alarm sound is turned off and, if it is pressed again, the alarm is cleared.
- ③ When the alarm pauses without clearing errors, the alarm pause lamp remains on.



2) RED PEPPER MODE

- ① When "RED PEPPER DEHYDRATION" button is pressed, the RED PEPPER lamp is turned on and dehydrating temperature, time and matured time are automatically set.

※ Dehydrating temp : 60 °C

Remaining time : 35 hours

Matured time : 7 hours

- ② During matured time, moisture is automatically discharged and dehydrating temperature becomes lower by 5 °C than the original temperature.
- ③ As the automatic dehydrating setting is based on the standard RED PEPPER, please complete the dehydration by frequently checking the contents and adjusting temperature and time appropriately.
- ④ With setting change button, the automatically set value can be changed.



3) DEHYDRATING ROOM CLASSIFICATION

■ DY-220H

- Dehydrating rooms are classified into chambers and operated separately.
- Dehydrating rooms are divided into 2 rooms for each of the left and right.
- The left and right dehydrating rooms are separately controlled by their temperatures.

■ DY-330H

- Dehydrating rooms are classified into chambers and operated separately.
- Dehydrating rooms are divided into 3 rooms for each of the left, middle and right.
- The left, middle and right dehydrating rooms are separately controlled by their temperatures.

4) ERROR SIGN AND CORRECTIVE MEASURES

■ DY-110H

Code	Errors	Problem	Resolution
E1	Abnormally high temp at dehydrating room	Current temperature of dehydrating room is higher than set temperature over 15℃.	Do not lower set temperature rapidly than current temperature over 15℃ but gradually lower it. If it happens every dehydration, the machine needs to be examined.
H1	Error at heater of dehydrating room	Heater of dehydrating room is abnormally applying an electric current.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, heater relay of controller and heater need to be examined.
F1	Error at ventilation of dehydrating room	Ventilation of dehydrating room is not working normally.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, blast motor and wing need to be examined.
C1	Sensor error at dehydrating room	Temperature sensor of dehydrating room is disconnected or shorted.	Check whether there is an error at sensor and connection line.

■DY-220H

Code	Errors	Problem	Resolution
E1	Abnormally high temp at left chamber	Current temperature of left dehydrating room is higher than set temperature over 15℃.	Do not lower set temperature rapidly than current temperature over 15℃ but gradually lower it. If it happens every dehydration, the machine needs to be examined.
E2	Abnormally high temp at right chamber	Current temperature of right dehydrating room is higher than set temperature over 15℃.	
H1	Heater error at left chamber	Heater of left dehydrating room is abnormally applying an electric current.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, heater relay of controller and heater need to be examined.
H2	Heater error at right chamber	Heater of right dehydrating room is abnormally applying an electric current.	
F1	Error at ventilation of left chamber	Ventilation of left dehydrating room is not working normally.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, blast motor and wing need to be examined.
F2	Error at ventilation of right chamber	Ventilation of right dehydrating room is not working normally.	
C1	Sensor error at left chamber	Temperature sensor of left dehydrating room is disconnected or shorted.	Check whether there is an error at sensor and connection line.
C2	Sensor error at right chamber	Temperature sensor of right dehydrating room is disconnected or shorted.	

■DY-330H

Code	Errors	Problem	Resolution
E1	Abnormally high temp at left chamber	Current temperature of left dehydrating room is higher than set temperature over 15℃.	Do not lower set temperature rapidly than current temperature over 15℃ but gradually lower it. If it happens every dehydration, the machine needs to be examined.
E2	Abnormally high temp at middle chamber	Current temperature of middle dehydrating room is higher than set temperature over 15℃.	
E3	Abnormally high temp at right chamber	Current temperature of dehydrating room chamber is higher than set temperature over 15℃.	
H1	Heater error at left chamber	Heater of left dehydrating room is abnormally applying an electric current.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, heater relay of controller and heater need to be examined.
H2	Heater error at middle chamber	Heater of middle dehydrating room is abnormally applying an electric current.	
H3	Heater error at right chamber	Heater of right dehydrating room is abnormally applying an electric current.	
F1	Error at ventilation of left chamber	Ventilation of left dehydrating room is not working normally.	For the first time, turn off the power and keep the machine stable. If it happens after re-operation, blast motor and wing need to be examined.
F2	Error at ventilation of middle chamber	Ventilation of middle dehydrating room is not working normally.	
F3	Error at ventilation of right chamber	Ventilation of right dehydrating room is not working normally.	
C1	Sensor error at left chamber	Temperature sensor of left dehydrating room is disconnected or shorted.	Check whether there is an error at sensor and connection line.
C2	Sensor error at middle chamber	Temperature sensor of middle dehydrating room is disconnected or shorted.	
C3	Sensor error at right chamber	Temperature sensor of right dehydrating room is disconnected or shorted.	

5) SAFETY DEVICE

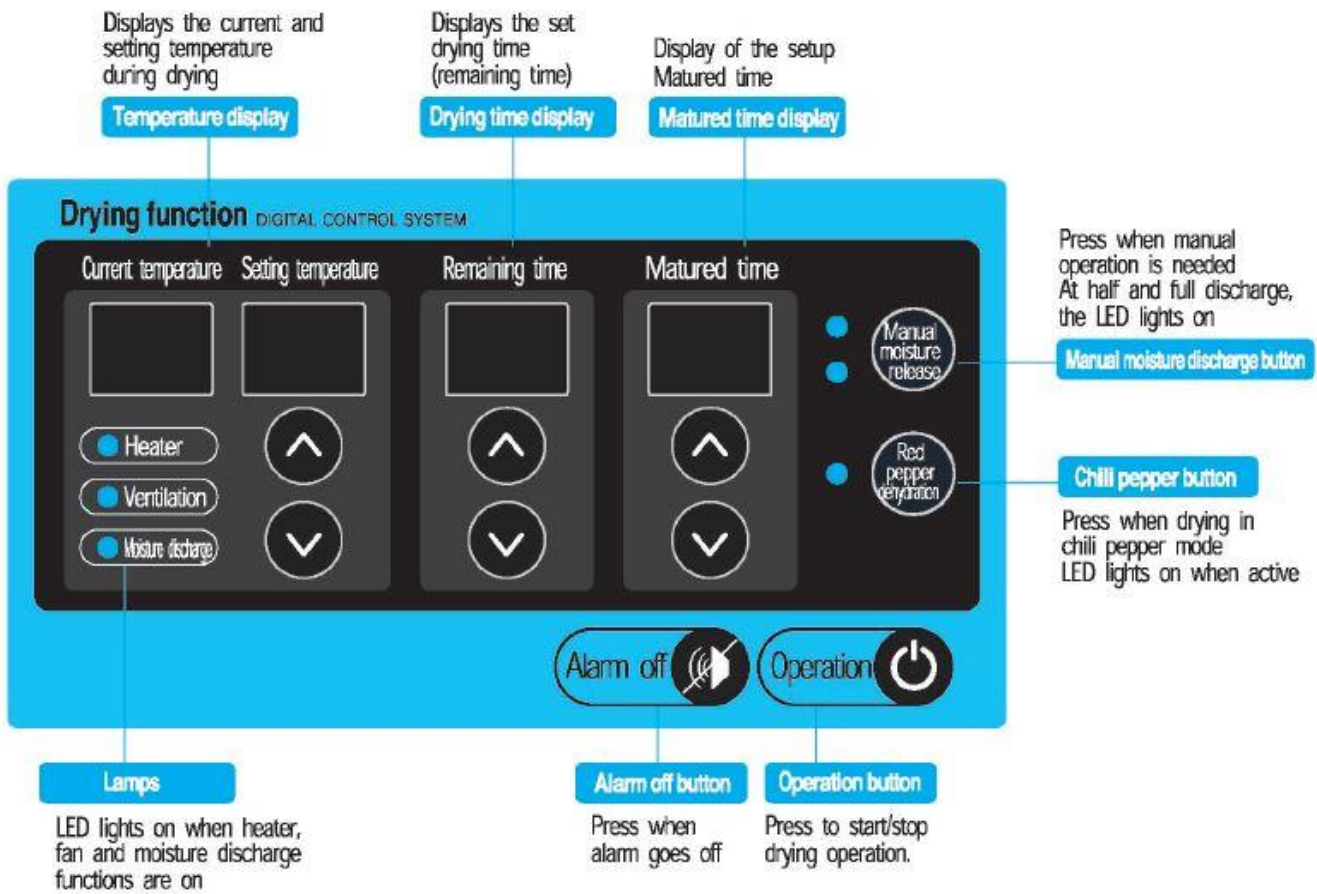
- ① Abnormally high-temperature alarm
 - It is the safety device, raising the alarm, when current temperature is higher than the set value over 15 °C, and shutting down the heater.
 - Alarm sounds for 2 minutes and stops with alarm off button.
 - When current temperature becomes lower than the set value by 15 °C, it works normally again.
- ② Heater error alarm
 - It is the safety device, raising the alarm, when heater is abnormally applying an electric current, and shutting down heater power and ventilation power.
- ③ Ventilation error alarm
 - It is the safety device, raising the alarm, when an air blower does not work normally, and shutting down heater power and ventilation power.
 - When ventilation error alarm sounds, please turn off the power switch, check the error and re-operate it.
- ④ Sensor error alarm
 - It is the safety device, raising the alarm, when temperature sensor is disconnected or shorted, and shutting down heater power and ventilation power.
- ⑤ Overheating cut-off
 - It is the safety device, raising the alarm, when the internal temperature of heating room is over 95 °C, and automatically shutting down heater power.
- ⑥ Electronic leak break
 - It is the safety device, automatically shutting down the power, when a dehydrator experiences a short circuit.
- ⑦ Circuit protection
 - It is the safety device, disconnecting power fuse to protect the circuit, when error(short circuit, etc.) happens at a controller.
- ⑧ Lightning prevention
 - It is the safety device, protecting electrical device of the dehydrator from lightning(thunderbolt).
- ⑨ Blackout compensation
 - It is the safety device, automatically making the machine operate without special measures, when power is on after blackout.

6) PCB FUNCTIONS AND OPERATIONS

(1) MAIN PCB

- ① Master control device for various signal input/output, communication among each cabinet.
- ② Input output device.
 - DC 12V : Power for relay and control
 - DC 5V : Power supply for MCU, DISPLAY, temperature sensor
 - BUZZER : For outputting HEATER, FAN, COMP, DAMPER
 - TEMP INPUT : For sensing cabinet inside temperature

(2) DISPLAY PCB



① 7-SEGMENT

- a. At initial power supply, room number and program version are shown at temperature display and matured time display, respectively, for 3 seconds.
- b. Current temperature display 7-SEG : Shows current temperature during operation.
- c. Setting temperature display 7- SEG : Shows setting temperature during operation.
- d. Remaining time display 7-SEG
 - Shows remaining operating time during operation.
 - Shows data order at data setting mode.
- e. Matured time display 7-SEG
 - Shows remaining matured time during operation.
 - Shows data at data setting mode.

② LED display

- a. Heater LED : Turned on during heater operation.
- b. Ventilation LED : Turned on during fan operation.
- c. Moisture discharging LED : Turned on when damper for moisture discharging is open.
- d. Red pepper LED : Turned on when red pepper mode is selected.
- e. 1st, 2nd stage of discharging LED : Turned on when certain stage of discharging is done.

(3) Switch

① Operation switch

- a. Turning ON/OFF operation.
- b. Making 'beep' sound.
- c. When operation is turned on, it starts dehydration with the set temperature and operation time, saved before.

② Red pepper button

- a. It can be input when dehydration is being done while not on red pepper mode.
- b. Making 'trilling' sound.
- c. 60°C of temperature, 35 hours of time, 7 hours of matured time are automatically set.
- d. Red pepper LED is turned on.

③ Manual moisture release switch

- a. It can be input only during dehydration. If it is on red pepper mode, turn it off.
- b. Making 'beep' sound.
- c. Every time switch is pressed, 1st stage of discharge open => 2nd stage of discharge open => Close are repeated.
- d. Moisture discharging stage LED is turned on.
- e. After manual moisture release switch is input, damper works after 5 seconds of delayed time.

④ Off switch

- a. It can be input only when alarm sounds during operation.
- b. Turning off an alarm or clearing an alarm.

⑤ Temperature setting switch

- a. It can be input only during dehydration and makes 'beep' sound when switch is input.
- b. Setting temperature goes into a changing mode or is cleared and 7-SEG flashes in a changing mode and, at this time, setting temperature can be adjusted with temperature HIGH/LOW switch.

Order	Function	Range	Notes
1	Setting temperature	20°C ~ 70°C	

⑥ Remaining time UP/DOWN switch : Setting operation time

- a. It can be input only during dehydration and makes 'beep' sound when switch is input.
- b. Operation time goes into a changing mode or is cleared and 7-SEG flashes in a changing mode and, at this time, remaining time can be adjusted with temperature HIGH/LOW switch.

Order	Function	Range	Notes
1	Setting operation time	0 ~ 99 hours	

⑦ Matured time UP/DOWN switch

- a. It can be input only during dehydration and makes 'beep' sound when switch is input.

b. Matured time goes into a changing mode or is cleared and 7-SEG flashes in a changing mode and, at this time, setting temperature can be adjusted with temperature setting switch.

Order	Function	Range	Notes
1	Setting matured time	0 ~ 99 hours	

(4) Dehydration specifications

① Dehydration for red peppers

- a. After pressing operation switch, select and push chili pepper button. When chili pepper switch is pressed, 60°C of temperature, 35 hours of remaining time, 7 hours of matured time are automatically set. However, the set temperature, remaining time and matured time can be manually set by users.
- b. When matured time is over during operation, ventilation starts by opening damper at 2nd stage and works for the remaining time by lowering the current temperature by Delta T of red pepper.
- c. After working for the set time, it stops heater and fan and notifies the end by making a beep sound for 2 minutes at 1 second intervals. – If a timer is reset after completion, it restarts.

② Normal hydration

- a. Turning it on with operation switch.
- b. Operating it by selecting the set temperature, remaining time and matured stage.
 - Damper opens, depending on the set stage of moisture discharging
- c. After working for the set time, it stops heater and fan and notifies the end by making a beep sound for 2 minutes at 1 second intervals. – If a timer is reset after completion, it restarts.

③ Time delay in stopping fan

- a. Fan is operated for 5 seconds more to remove post-heat at heater, when operation stops or timer ends, besides fan error.

④ Damper operation

- a. Opening, depending on the set stage, during operation.

(5) Model setting

- ① Set each chamber with JP1 of MAIN PCB.
- ② Set chamber 1 : JP1 OPEN
- ③ Set chamber 2 : 1,2 SHORT of JP1
- ④ Set chamber 3: SHORT 2,3 SHORT of JP1

7) HOW TO SET INTERNAL PARAMETER

■ DEHYDRATING ROOM

(1) How to access

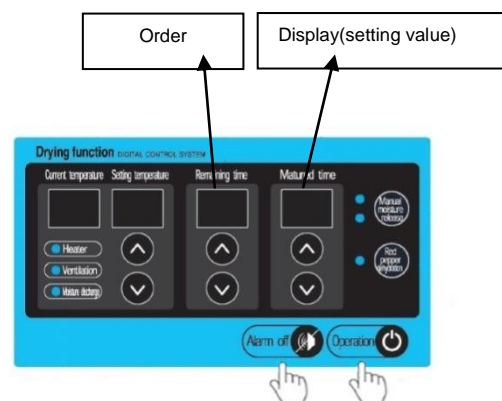
Can be input, regardless of operation.

Pressing alarm off and operation switch at the same time for over 5 seconds.

- Accessing setting mode with beep sound

Working in following order, if remaining setting UP/DOWN is pressed.

Changing set value with matured time setting UP/DOWN.



Order	Function	Display	Range	
1	Setting temperature for re-operation of heater	1- 02	1 ~ 10	1. Starting value, 2 2. Heater operation condition 2.1 OFF at +1 from set temperature 2.2 ON at -1 from set temperature
2	Setting delta T for chili pepper	2- 05	0 ~ 10	1. Starting value, 5 : Real operator value is -5 2. Lowering set temperature by Delta T after moisture discharging time in chili pepper mode.
3	Setting 2 nd stage of manual moisture discharging	3- 10	1 ~ 99	1. Starting value, 10 : 1.0 second 2. Time for 2 nd stage of manual moisture discharging(door open)
4	Setting 1 st stage of manual moisture discharging	4- 05	1 ~ 99	1. Starting value, 5 : 0.5 second 2. Time for 1 st stage of manual moisture discharging(door open)
5	Setting heater sensor	5- 01	0 ~ 1	1. Starting value, 1 : Use 2. 0 : Not use
6	Detecting current at FAN	6- 06	0 ~ 10	1. Starting value, 06 : 2. Sensing error at current below than set current or over 2A. 3. When set value is 10, 1.0A
7	Correcting internal temp	7- 00	-9 ~ 9	1. Starting value, 0 2. Temperature, adding set corrected value to measured temperature is displayed.
8	Correcting external temp	8- 00	-9 ~ 9	1. Starting value, 0 2. Temperature, adding set corrected value to measured temperature is displayed.
9	Internal overheating temp	9- 15	0 ~ 50	1. Starting value is 15°C.
10	Internal overheating time	10- 10	0 ~ 60	1. Starting value is 10 minutes.

- ※ If the value after temperature correction is below -9°C, it becomes -9°C and if it is over 99°C, it becomes 99°C
- ※ If the set value is randomly changed, dehydration might not operate properly, thus, be careful.

7. How To Check In Daily Lives

Regular check lets the product be used for a long time without malfunction, secures users' safety and prevents the dehydrator from damages.

1) PARTS TO BE CHECKED

2)

NO	Parts to be checked	How to check	Recommended Inspection Period
1	Ground fault circuit interrupter	Check whether it works normally by regularly pressing test button. It is normal if power switch is OFF, when test button is pressed.	Over once a month
2	Power cable	Check whether there is an error at exterior interconnection wire. If wire is bare or worn out, it might cause electric shock or fire.	Regular check
3	Distributor point	Check whether connecting power or distributor point is disconnected or loose.	Regular check

3) CAUTIONS

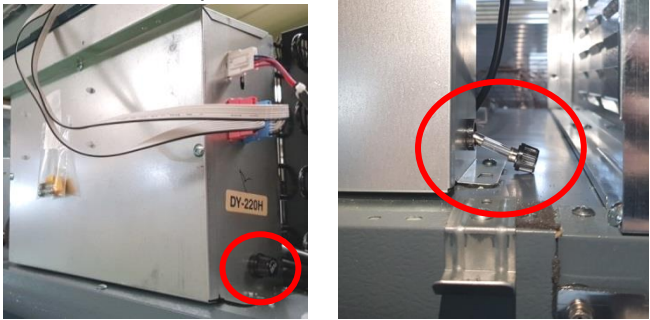
Note	<p>To use the dehydrator in a safe and economical way, regularly check, use and maintain it clean.</p> <p>During inspection or cleaning, please be sure to turn off the power.</p>
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Cautions	<p>Shut down the power to prevent product damage during thunder and lightning. (Damage due to natural disaster is not subject to warranty.)</p> <p>When not using for a long while, turn off exterior main circuit breaker and ground fault circuit interrupter on the product.</p> <p>Do not use it at place with moisture. If water is on the product, please operate it after perfectly removing it.</p> <p>Do not use household appliance for business purpose and do not randomly remodel it.</p> <p>For the problems, resulting from not obeying the above items, the Company does not take any responsibilities.</p>
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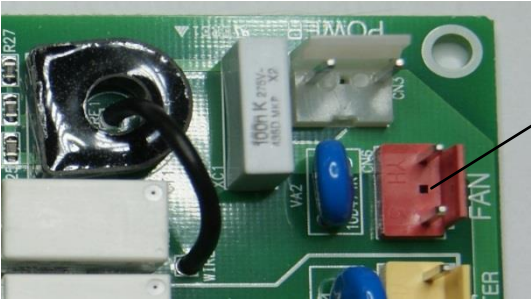
8. REPAIR INSTUCTION

1) HOW TO INSPECT

- When there is a problem at the product, check following items before calling an agent or a service center and ask for a repair, if it is impossible to fix.
 - When problem keeps happening, check error code on the error display and ask for an inspection to an agent or a service center.
 - When asking for a service, please let us know the product name, model name, production number, purchase location and purchasing date.
- ※ During inspection or taking measures, shut off the power with circuit breaker. If not, it may cause a safety accident.

Problem	Cause	Resolution
Power is not on.	Fuse is disconnected	<p>a. Exchange it with the standard fuse(250V 7A) by opening the fuse holder on controller box.</p> <p>b. Extra fuse is on the front of controller box and it should be replaced with the standardized one.</p> 
	Blackout	a. Wait until blackout is over.
	Power connection is not properly connected.	<p>a. Check whether regular power (AC 220V) is connected normally.</p> <p>b. Check whether circuit breaker of main electric meter(meter for agriculture) works.</p> <p>c. Check connection of control box harness and cable condition of harness and fix or replace it, if there is a problem.</p> <p>d. Check connection of fuse holder and harness.</p>

Problem	Cause	Resolution
Ground fault circuit interrupter is OFF.	Circuit breaker malfunctions.	a. Turn on circuit breaker.
	Circuit breaker is faulty.	a. Check whether circuit breaker works by pressing its reset(test) button. b. If circuit breaker does not work, it is judged to be faulty, thus, replace it with the same standardized one.
	Heater has a short.	a. Check insulation resistance with insulation resistance tester. b. If insulation resistance is below 50 MΩ, it is judged that heater has a problem, thus, replace it with the same standardized one. 
	Motor has a short.	a. Check insulation resistance with insulation-resistance tester b. If insulation resistance is below 50 MΩ, it is judged that heater has a problem, thus, replace it with the same standardized one. 
Dehydrator does not operate	Check connection between main PCB and DISPLAY PCB.	a. Check whether there is a disconnection or cut between PCB and PCB connection line.
	Main PCB is faulty.	Replace main PCB.
	DISPLAY PCB is faulty.	Replace display PCB.

Problem	Cause	Resolution
Warning of abnormally high temperature is displayed. (E1/E2/E3)	Setting temperature is lower than current temperature by 15°C.	Gradually lower the setting temperature within 15°C.
	Inside of dehydrating room is overheated.	Turn off the machine for a while.
	Exterior temperature is higher than setting temperature by over 15°C.	a. Lower exterior temperature through ventilation. b. Change setting temperature.
	Error at heater or ventilation motor. (If it flashes every dehydration)	Check operation of heater or ventilation motor.
Warning of heater error is displayed (H1/H2/H3)	It does not mean product error and can be shown temporarily.	a. It is due to temporary change in voltage, thus, re-operate it by turning ON power after OFF after stabilizing it. b. If it keeps happening, replace main PCB as it means error at RELAY for main PCB heater.
	Electric current is applied during heater lamp is OFF.	Replace main PCB as it means error at RELAY for main PCB heater.
Warning of ventilation error is displayed (F1/F2/F3)	It does not always mean product have a problem and can be shown temporarily.	a. It is due to temporary change in voltage, thus, re-operate it by turning ON power after OFF after stabilizing it. b. If it keeps happening, replace main PCB as it means error at RELAY for main PCB heater.
	Ventilation motor does not operate properly.	<p>a. Check whether FAN BLADE is away from its axis. b. Check whether FAN BLADE is transformed or restricted by foreign substance. c. Check distribution (Fastening of connection terminal) d. Check whether motor is faulty and replace it, if it has a problem. e. Check RELAY operation of main PCB motor and replace main PCB, if it is faulty. (CN6) Check voltage of both ends (220V))</p> 

Problem	Cause	Resolution
Warning of sensor error is displayed (C1/C2/C3)	It does not always mean product have a problem and can be shown temporarily.	a. It is due to temporary change in voltage, thus, re-operate it by turning ON power after OFF after stabilizing it. b. If it keeps happening, replace main PCB as it means error at RELAY for main PCB heater.
	Temperature sensor is disconnected, short or sensor is faulty.	a. Replace sensor after checking temperature sensor. b. Check connection wiring line.
	Heater is disconnected. (If it blanks every dehydration)	Replace it after checking whether heater is damaged or not.
Alarm rings	Dehydration is done. (Remaining time is 0)	Press alarm off button.
	There is an error at machine.	If alarm off button is pressed, alarm is temporarily paused. (Inspect after checking error code)
Temperature is not increasing	Temperature is set low.	Make the setting temperature higher with setting temperature UP/DOWN.
	Moisture discharging control is open too much.	Reduce moisture discharging appropriately.
	Heater is disconnected.	Replace heater after checking there is a damage at it or not.
	Ventilation motor is damaged.	Replace ventilation motor after checking there is a damage at it or not.
Dehydration is not done well	Too much stuff is put into the cabinet.	Reduce volume of stuff appropriately.
	Stuff is not located evenly.	Spread stuff evenly and sometimes mix it.
	Moisture discharging is not adjusted.	Adjust moisture discharging, depending on stuff.
Stuff is overdone or burned	Dehydrating temperature is too high.	Lower setting temperature and increase heating time more.
	Stuff is not located evenly.	Spread stuff evenly and sometimes mix it.

2) INSTRUCTION FOR EACH CASE OF MALFUNCTION

(1) Not working, even when operation switch is on

- ① When setting temperature is done but time setting is 0
 - Adjust time setting appropriately.
- ② Fuse is disconnected
 - Check the fuse.
- ③ Circuit breaker of main meter works.

(2) Circuit breaker of main meter frequently works and temperature of wire is high

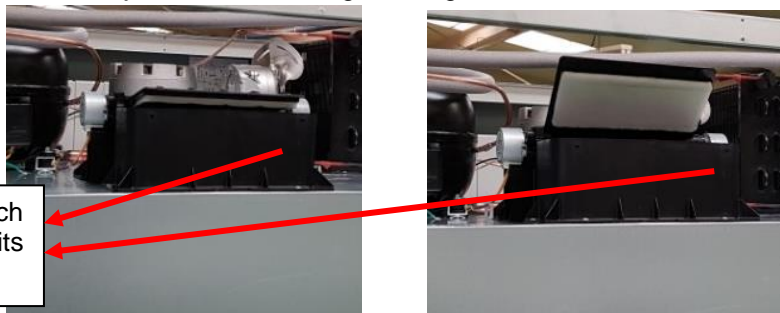
- ① Lack of capacity of circuit breaker.

Model	DY-110H	DY-220H	DY-330H
Breaker	30A	30A	50A
Wire	2.5SQ	4SQ	6SQ

- ② Capacity of wire is low.
 - Change the breaker and wire with the rated capacity.
 - Standard of breaker and wire for each model

(3) Dehydrator properly operates but dehydration result is different for each dehydration room.

- ① Gap at DOOR GASKET is widened
 - Check distortion of DOOR and its closure.
- ② Check partition leakage at each dehydration room.
 - Seal each cabinet by applying silicon.
- ③ Closure of DAMPER ASS'Y of each dehydration room is different.
 - Check closure of DAMPER and adjust it at certain angle during closed.



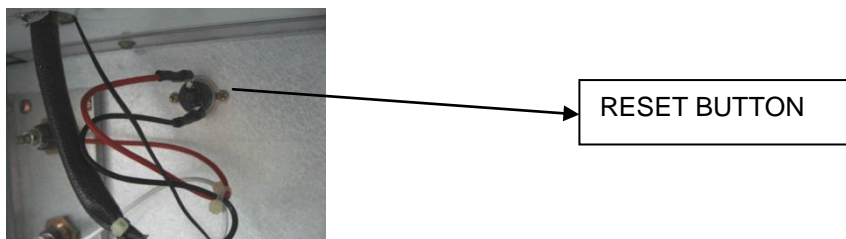
Adjust DAMPER of each dehydration room to make its closure uniform.

(4) Dehydrator is properly operates but dehydration is not done because of faulty moisture discharging.

- ① When dehydrator is at enclosed area
 - Move and locate it to the place with good ventilation.
- ② When the rear of dehydration is too close with the surface of a wall
 - Secure enough space between discharging outlet and a wall for good ventilation. (At least more than 30 cm)

(5) Main PCB, heater, ventilation motor and wiring are at normal sate but temperature is not increasing.

- ① Thermo limiter works due to internal overheating
 - Reset thermo limiter.
 - If it works within the setting temperature, replace it, as judged to be faulty.



(6) Main PCB, temperature sensor heater, ventilation motor, wiring are at normal state but F1/F2/F3 error happen

① Error happens because of current at ventilation motor, depending on voltage condition of each area happens due to external NOISE and external strong magnetic field

- If it keeps happening, even though main PCB is exchanged, change the set value of internal parameter

- How to change

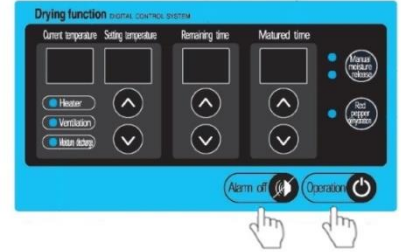
Press operation, alarm off switch at the same time for over 5 seconds.

a. With beep sound, access setting mode

b. Change the set value with matured time UP/DOWN after getting 6 at remaining time display with remaining time UP/DOWN. (Refer to Page 58.) Initial set value, 06

Set it by changing from 00 to 10 depending on ventilation motor load

and current when FAN ERROR (F1/F2/F3) is not used, change it to 00.



(7) Moisture is not discharged as Damper motor does not work

① Check whether Damper motor and Damper are transformed or restricted by foreign substance.

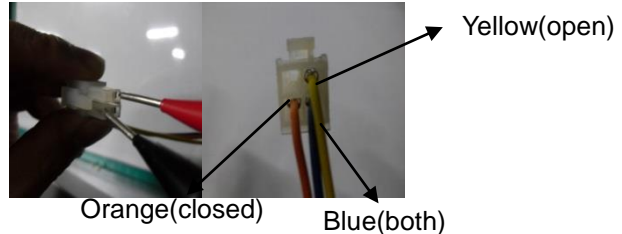
② Check wiring condition (Fastening of connection terminal)

③ Check whether there is current by measuring voltage at HARNESS terminal of Damper motor and exchange Damper motor, if current flows, as it means it is defective.

- Check blue + yellow line 220V (while open)
- Check blue + orange line 220V (while closed)

※ How to measure :

Measure voltage during open and close by operating Damper motor with manual moisture discharging button after starting dehydrator

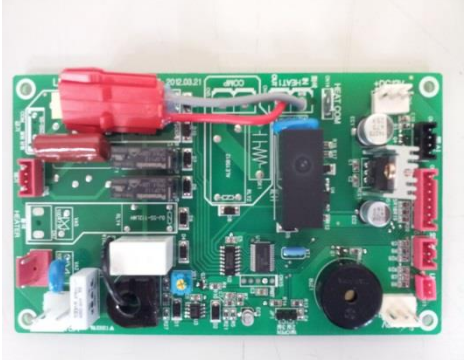


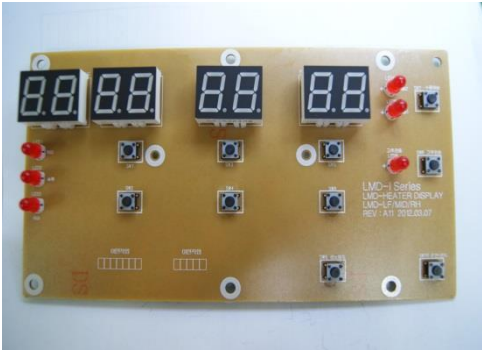


④ Check Damper motor RELAY of main PCB and replace main PCB, if it is defective.

9. HOW TO DISASSEMBLE AND REASSEMBLE MAIN PARTS

1) MAIN PARTS SPECIFICATIONS


(1) Control PCB (DY-110H/DY-220H/DY-330H)

Model		Photo
MAIN PCB	Dehydration room 1	
	Dehydration room 2	
	Dehydration room 3	
DISPLAY PCB		


POWER PCB




(2) HEATER (DY-110H/220H/330H)

Exterior image	
Specifications	- Rated 220V 1050W
How to inspect	- Measure resistance at both ends of HEATER and, if resistance value is within $46.1\Omega \pm 5\%$, it is normal - Not suitable for use, if insulation resistance is below $100\text{ M}\Omega$

(3) Temperature Sensor (DY-110H/220H/330H)

Exterior image	
Specifications	- Sensor element 503ET($49.12\text{ k}\Omega \pm 5\%$ at 25°C)
How to inspect	- Measure resistance at both ends of temperature sensor and, if resistance value is included in following: $61.46\text{ k}\Omega \pm 5\%$ at 20°C $49.12\text{ k}\Omega \pm 5\%$ at 25°C $3.3\text{ k}\Omega \pm 5\%$ at 100°C it is normal, and, if it is below the above value, it is defective


(4) Ventilation Motor (DY-110H/220H/330H)

Exterior image	
Specifications	<ul style="list-style-type: none">- Motor AC 220V 300W- Starting capacitor 450VAC 7.0 nF
How to inspect	<ul style="list-style-type: none">- 0 Measure resistance at both ends of motor and, if the resistance value is within the following: 30.5Ω±5% It is normal and, if it is below the above, motor is defective- If the resistance value of starting capacitor is within 7.0 nF -5% +10%, it is normal



(5) Thermo Limiter (DY-110H/220H/330H)

Exterior image	
Specifications	95°C 220V 7.5A

(6) Moisture Discharging Motor (DY-110H/220H/330H)


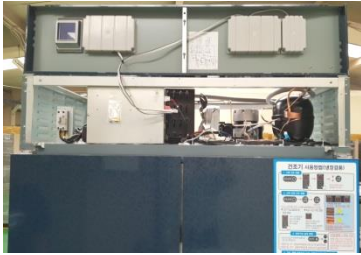


Exterior image	
Specifications	<ul style="list-style-type: none"> - Motor AC 220V 60Hz 4.8W 6rpm - Starting capacitor 600VAC 0.14 nF
How to inspect	<ul style="list-style-type: none"> - When red housing power is input, motor rotates to the CW(open) direction - When white housing power is input, motor rotates to the CCW(open) direction

(7) Ground Fault Circuit Interrupter (DY-110H/220H/330H)

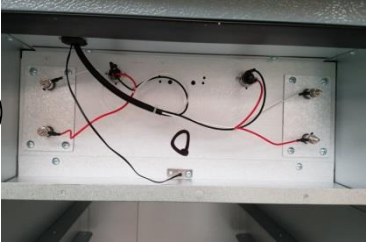
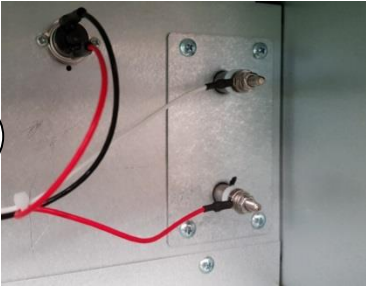
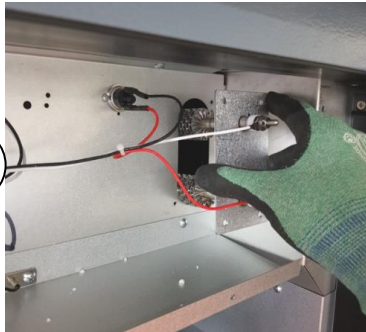

Exterior image		
	DY-110H/220H	DY-330H
Specifications	220V 30A 2P (HJ Industrial Co., Ltd.)	220V 50A 2P (HJ Industrial Co., Ltd.)

2) HOW TO DISASSEMBLE AND ASSEMBLE MAIN PARTS

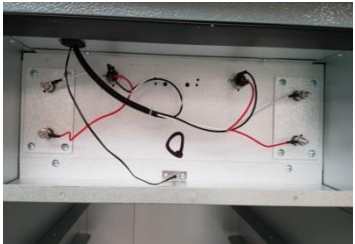
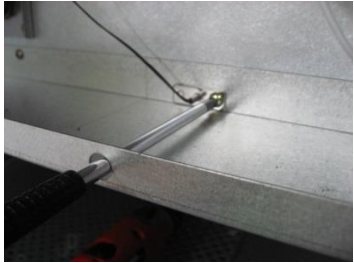


(1) Main PCB / Control PCB

Order of disassembly and reassembly		Photo for reference
<p>1) Unscrew two fixing screws, clamped at the bottom of unit cover</p> <p>2) open unit cover</p> <p>3) Separate cover after unfastening 2 fastening SCREWS on the both ends of control box</p> <p>4) Replace PCB, you want to replace, after removing connected HARNESS</p> <p>5) Reassemble it in reverse order</p>		<p>1</p>  <p>2</p>  <p>3</p> 
<p>Required Tools</p>	<p>“+” Driver</p>	<p>4</p> 




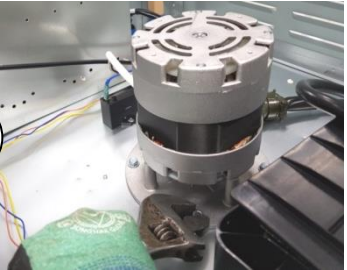
(2) HEATER

Order of disassembly and assembly	Photo for reference
<p>1) Separate heater cover after opening door.</p> <p>2) Remove harness, connected to heater.</p> <p>3) Separate heater from the machine after removing fixing screw on heater</p> <p>4) Replace heater</p> <p>5) Reassemble it in reverse order</p>	<p>1</p>  <p>2</p>  <p>3</p>  <p>4</p> 
Required Tools	“+” Driver 8mm Spanner 21mm Spanner

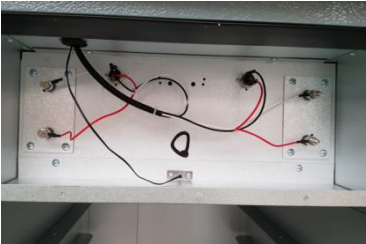
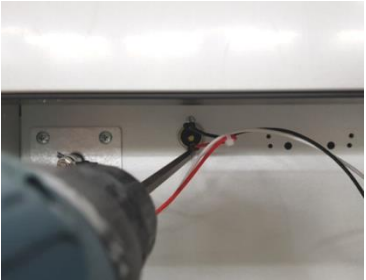
(3) Temperature Sensor

Order of disassembly and assembly		Photo for reference
<p>1) Open unit cover the same as replacing PCB.</p> <p>2) Separate heater cover after opening door.</p> <p>3) Separate temperature sensor at the bottom of fan cover.</p> <p>4) Replace temperature sensor after separating it from the machine (Separate and exchange sensor and re-apply silicon after fully removing silicon, when separating temperature sensor)</p> <p>5) Reassemble it in a reverse order</p>		<p>1</p>  <p>2</p>  <p>3</p>  <p>4</p> 
Required Tools	<p>“+” Driver</p> <p>Silicon</p>	



(4) Ventilation Motor

Order of disassembly and assembly	Photo for reference
<p>1) Separate fan motor cover.</p> <p>2) Separate fan blade with fan 5mm hexagonal wrench.</p> <p>3) Separate top cover.</p> <p>4) Replace motor after unscrewing fixing screw, assembled to motor</p> <p>5) Reassemble it in a reverse order</p>	<p>1</p>  <p>2</p>  <p>3</p>  <p>4</p> 
Required Tools	Driver 4mm Hexagonal wrench 10mm Spanner

(5) Thermo Limiter

Order of disassembly and assembly		Photo for reference
<p>1) Separate heater cover</p> <p>2) Remove harness</p> <p>3) Replace thermo limiter after unfastening fixed SCREW</p> <p>4) Reassemble it in a reverse order</p>		<p>1</p>  <p>2</p> 
Required Tools	"+" Driver	

(6) Moisture Discharging Motor

S		Photo for reference
<p>1) Unscrew a screw fixing motor, with driver 2) Separate and replace motor 3) Reassemble it in a reverse order</p>		<p>1</p>  <p>2</p> 
Required Tool	“+” Driver 3mm Hexagonal wrench	