

User' s manual
Controller for Dough / Proofer controller

- J-DC1(Dough conditioner–horizontal type)**
- J-EP1(Proofer controller–horizontal type)**
- J-EP2(Proofer controller–vertical type)**



We, CONOTEC, deeply appreciate your patronage of our products. Read the “Safety instructions” carefully before use and the product in a proper way. After reading the user’s manual, keep it where you always can have access. You can use the product more conveniently if you read the user’s manual first.

2 Introduction of major functions

J-DC1(Dough conditioner)

Manual/Automatic: setting the fermenting mode for 0~4 days

*Manual: setting the freezing/defrosting/low-temperature fermenting/high-temperature fermenting function and operating

*Automatic 0 day: setting the defrosting/low-temperature fermenting/high-temperature fermenting function and its operation

*Automatic 1 day ~ 4 days: setting the freezing/defrosting/low-temperature fermenting/high-temperature fermenting function and its operation

Driving mode of 4 detailed function, the freezing/defrosting/low temperature fermenting/high-temperature fermenting

*Freezing: setting the freezing time/temp./humi.

*Defrosting: setting the defrosting time/temp./humi.

*Low-temperature fermenting : setting the fermenting time/temp./humi.

*High-temperature fermenting : setting the fermenting /temp./humi.

Conveniently configured, segmentalized, functional keys for setting

Power key	-----	ON/OFF
A/S key	-----	User set menu adjustment
Start/Stop key	-----	Ferment start/stop
Set / UP / DOWN	-----	Set / Set value adjustment
Completed date set key	-----	Set the completed date(manual, auto 0~4days)
Completed time set key	-----	Ferment complete time set
Timer set key per mode	-----	Ferment process time set
Temp. set key	-----	Ferment temp. set
Humi. set key	-----	Ferment humi. set
Freezing/defrost/low & high temp. ferment set key	-----	Mode selection

Graphic LCD and FND(number indicator) are applied for convenient use

Graphic LCD: display the various set value and the progress

FND (number indicator): display the state of temperature/humidity sensor and the current value

LED is mounted for identifying the progress of fermenting at a glance

Memorizing the progress of fermenting when power fails momentarily

Application of high-precision digital temperature/humidity sensor

Providing the user with a detailed setting menu

J-EP1 (PROOFER CONTROLLER)

Segmentalized functional keys for convenient setting

Power Key ----- Power ON-OFF
A/S Key ----- User Setting Menu Control
Start- Stop Key----- Start and Stop Fermenting
Setting-Up-Down Key ----- Setting and Adjustment of Set Value
Timer Setting Key for each Mode-- Setting the Fermenting Time
Temperature Setting Key-----Setting Fermenting Temperature
Humidity Setting Key-----Setting Fermenting Humidity

Graphic LCD and FND (device for displaying the numbers) are applied for convenient use

Graphic LCD: display the various set value and the progress
FND (number display): display the state of temperature/humidity sensor and the current value

LED is mounted for identifying the progress of fermenting at a glance

Function of setting and starting the prearranged time

Application of high-precision digital temperature/humidity sensor

Providing the user with a detailed setting menu

3 COMPONENTS



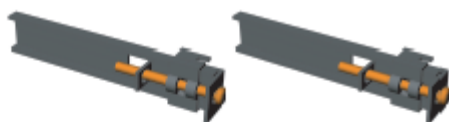
J-DC1(Dough conditioner-Horizontal type)



J-EP1(Proofer controller-Horizontal type)



J-EP2(Proofer controller-Vertical type)



Bracket for fixing 2EA

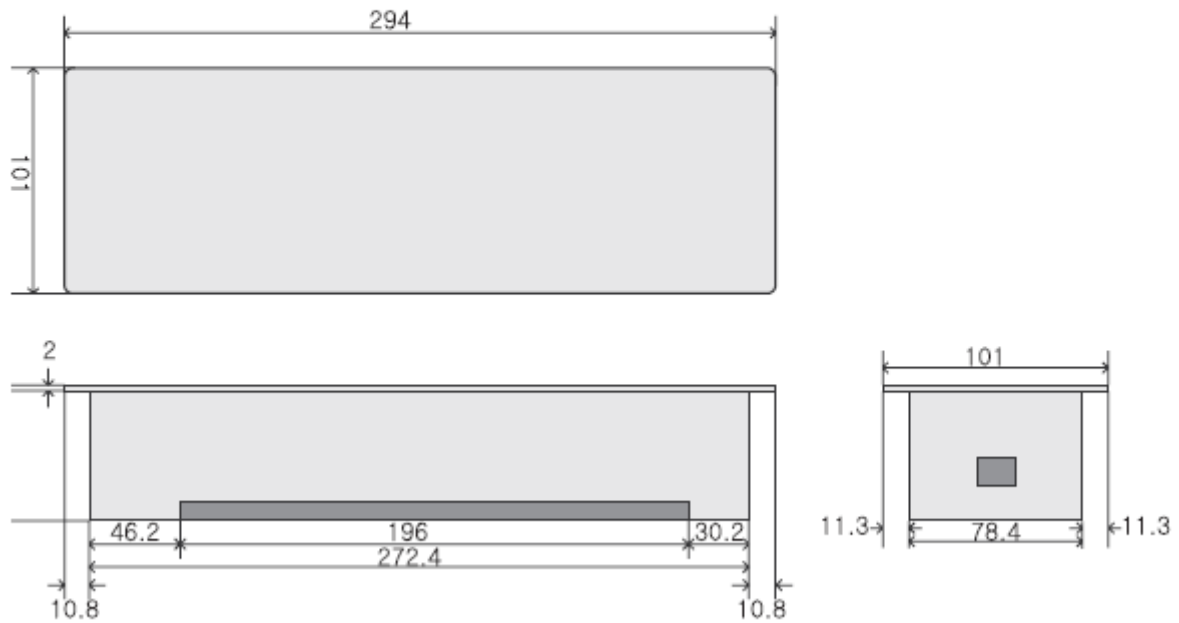


DS-SH104(Digital temp./humi. sensor)

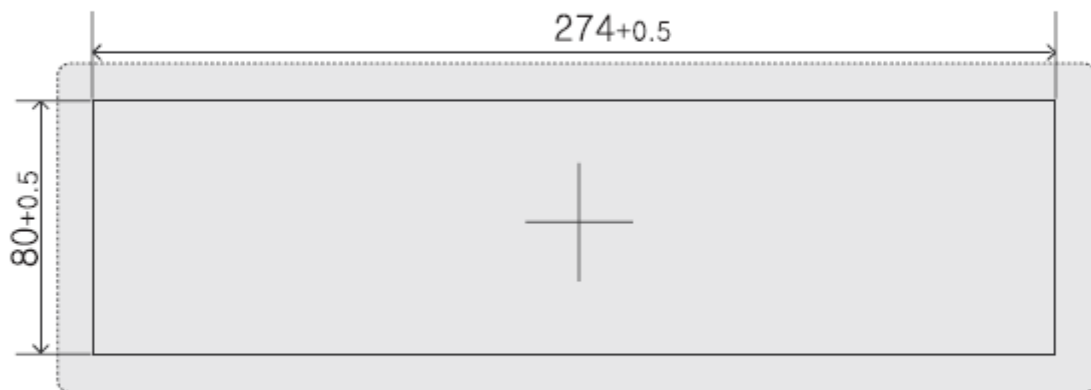
4 Product appearance and Panel processing dimension

Panel dimension

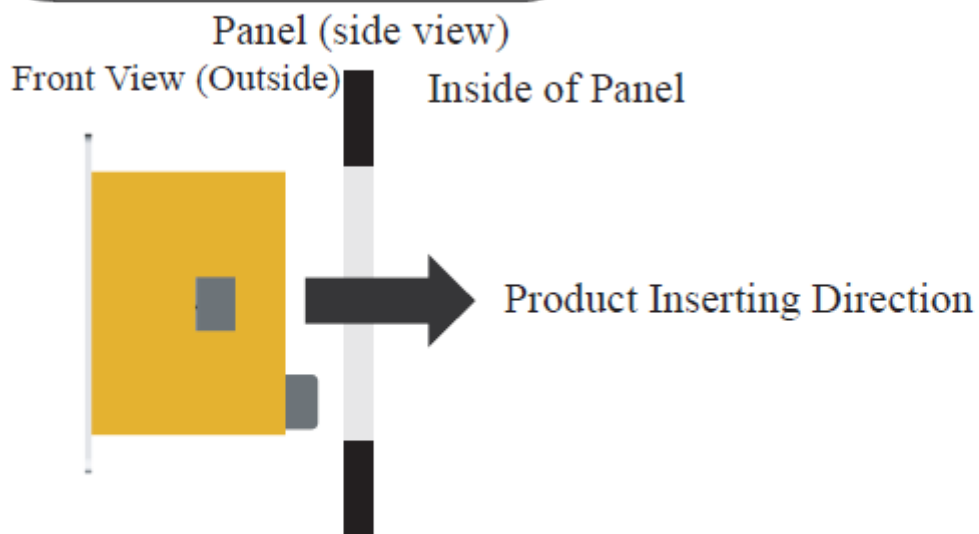
Unit : mm



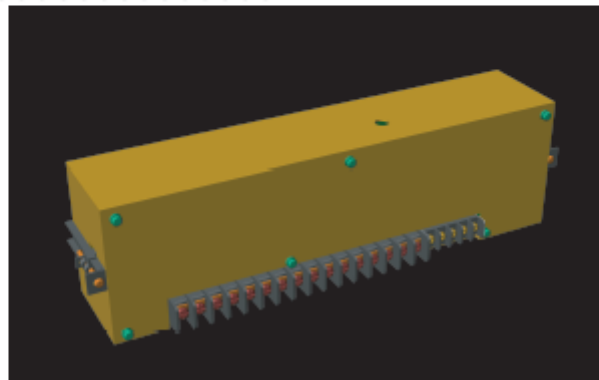
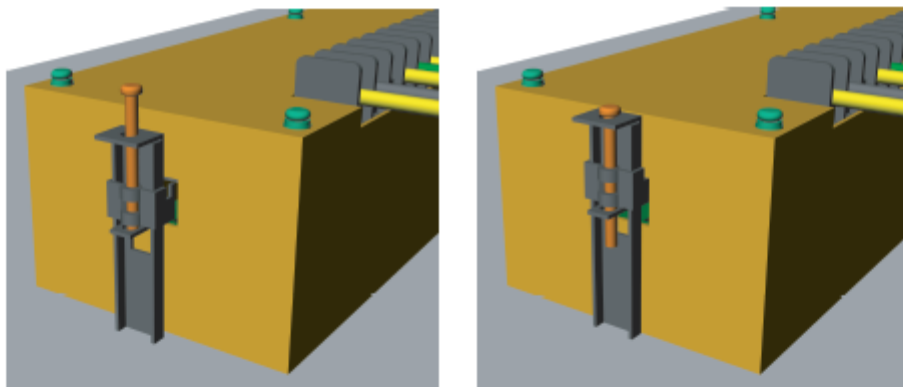
Panel hole dimension



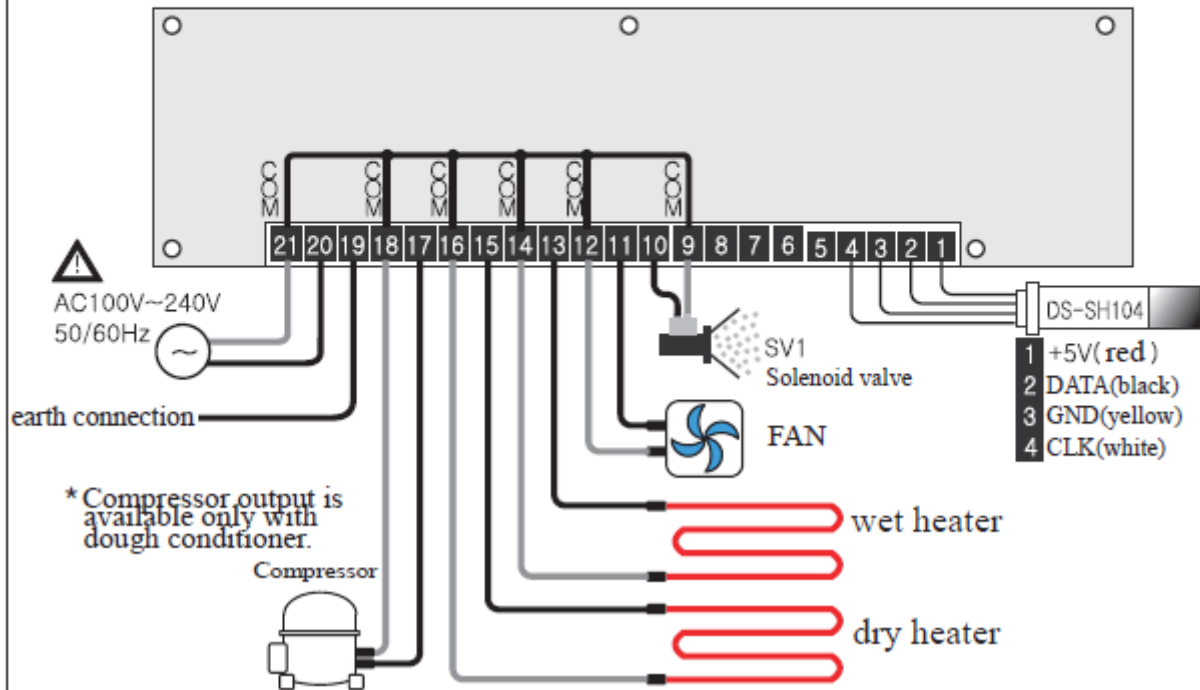
5 Mounting method



After inserting the product, fit the bracket into the bracket groove of the product from the inside of the panel. You can work on it conveniently if you loosen the bolt to the back as much as possible as shown in the picture. You can connect the product and panel firmly by fastening the bolt firmly with a screw driver.



6 How to connect the terminal and input/output specification



⚠ CAUTIONS

< Output capacity >

Compressor : AC220V Max 1 Hp

Dry heater : AC220V Max 1Kw

Wet heater : AC220V Max 1Kw

FAN : AC220V Max 500W

Solenoid valve : AC220V Max 50W

< Temp./Humi. sensor specifications >

Ambient temp. : -39 ~ 85°C

Display temp. : -19 ~ 50°C

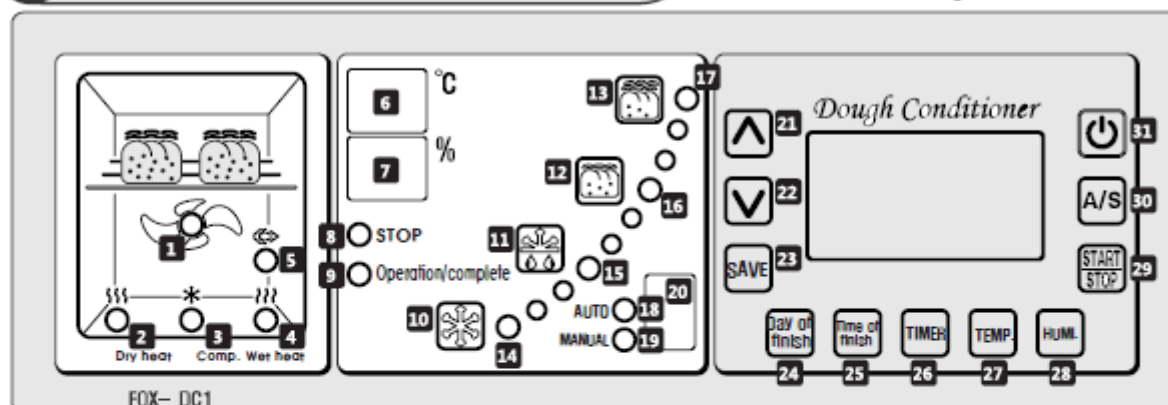
Display humi. : 0 ~ 99%Rh

⚠ Warnings

1. Use it by complying with the designated capacity
2. Connection from outside is desirable instead of connecting COM of the compressor, wet heater, dry heater etc to the terminal if the load capacity is high.
3. You have to install an extra safety apparatus at a place where the property damage can occur, for there is the risk of fire by the heater etc.

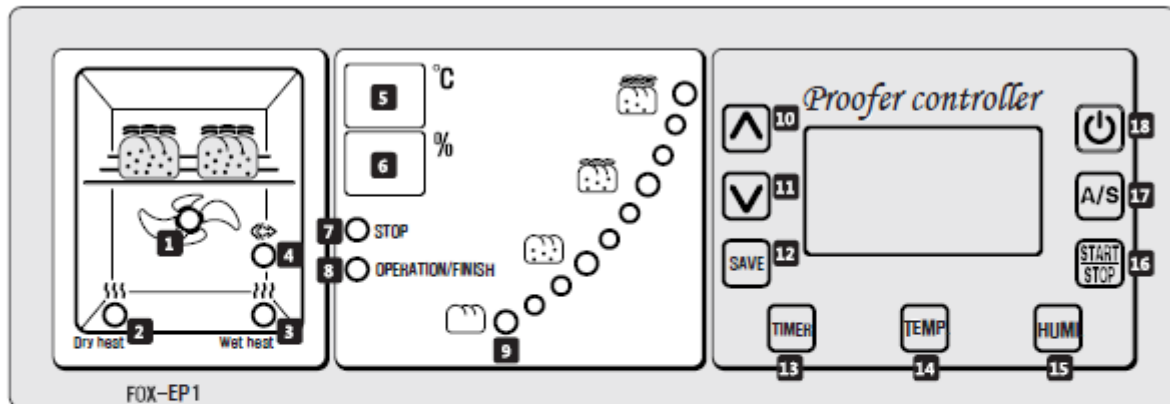
7 Description of Display and Control Part

J-DC1(Dough conditioner)



- 1 FAN output display LED
- 2 Dry Heater output display LED
- 3 Comp. output display LED ----- flickering when operation of Comp. output delay time
- 4 Wet heater output display LED
- 5 Spraying (SV1) output display LED
- 6 Current Temperature display FND ----- when errors occur to the sensor, O -E is displayed
- 7 Current humidity display FND ----- when errors occur to the sensor, O -E is displayed
- 8 Fermenting Stop display LED ----- displayed when it is not in the fermenting process
- 9 In Operation or Finish display LED ----- displayed when it is under fermenting or the fermenting is finished
- 10 Freezing Mode Setting Key ----- use when you want to set the freezing mode
- 11 Defrosting Mode Setting Key ----- use when set the defrosting mode
- 12 Low-temperature Fermenting Mode Setting Key --use when you want to set low-temperature fermenting mode
- 13 High-temperature Fermenting in progress Display LED ----- use when set high-temperature fermenting mode
- 14 Freezing in progress Display LED ---- displayed when it is now under fermenting and currently in freezing zone
- 15 Defrosting in progress Display LED -- displayed when it is now under fermenting and currently in defrosting zone
- 16 Low-temperature Fermenting in progress Display LED --displayed when it is now under fermenting and currently in defrosting zone
- 17 High-temperature Fermenting in progress Display LED-- displayed when it is now under fermenting and currently in high temp fermenting zone
- 18 Automatic Mode Setting Display LED ----- displayedwhen it is set for automatic 0~4 days
- 19 Manual Mode Setting Display LED----- displayed when it is set as manual mode
- 20 Day of Finish Display LED -- displayed when it is set for automatic 0~4 days
- 21 UP key
- 22 DOWN key
- 23 Setting Save Key --If you press this key after changing the setting, the set value is saved and the setting mode will be finished.
- 24 Day of finish setting key -----set the finish date. Manual/Automatic 0~4 days
- 25 Time of finish setting key --you can set the final fermenting finish time at Automatic 0~4 days
- 26 Key for fermenting time per each ferment mode -- set the fermenting time of freezing/defrosting/low temperature fermenting/high temperature fermenting
- 27 Key for fermenting temp. per each ferment mode -- set the fermenting temp. of freezing/defrosting/low temperature fermenting/high temperature fermenting
- 28 Key for fermenting humi. per each ferment mode -- set the fermenting humi. of freezing/defrosting/lowtemperature fermenting/high temperature fermenting
- 29 Start to ferment / Stop
- 30 User Setting Menu Enter Key- for humidifying cycle/humidifying time/current time etc.
- 31 Power key
- 32 Graphic LCD

J-EP1 (Proofer controller)



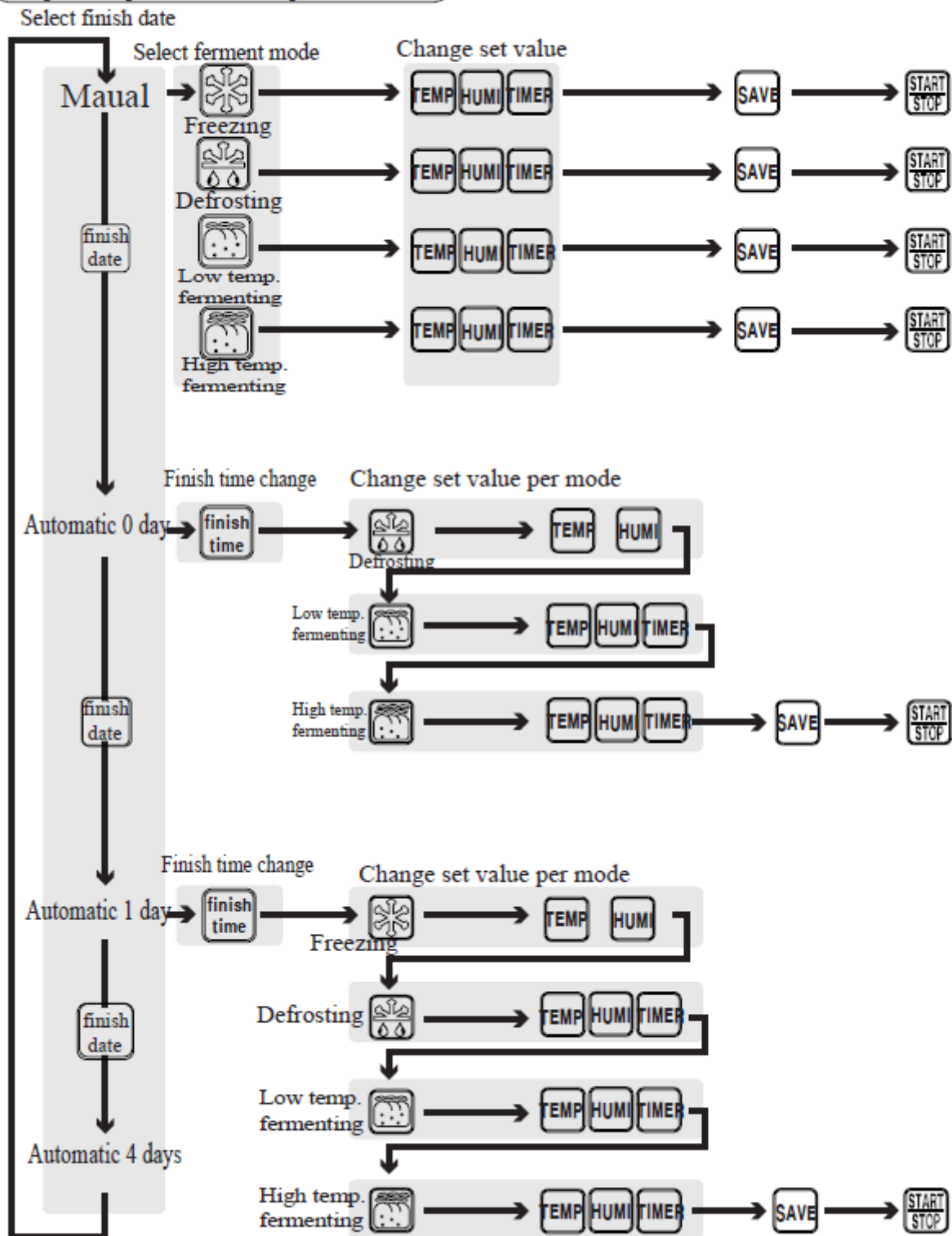
- 1 FAN output display LED
- 2 Dry heater output display LED
- 3 Wet heater output display LED
- 4 Spraying(SV1) output display LED
- 5 Current temp. display LED ----- displayed O-E when a sensor error.
- 6 Current humi. display FND ----- displayed O-E when a sensor error.
- 7 Stop the fermenting display LED --- displayed when not in fermenting currently.
- 8 Fermenting or finished display LED -- displayed when under fermenting or finished.
- 9 In fermenting display LED ----- displayed when under fermenting.
- 10 UP key
- 11 DOWN key
- 12 Setting Save key --- If you press this key after changing the setting, the set value is saved and the setting mode will be finished.
- 13 Ferment time set key
- 14 Ferment temperature set key
- 15 Ferment humidity set key
- 16 Ferment start / stop key
- 17 User setting mode enter key - User set menu enter key for humidifying cycle/humidifying time/current time etc.
- 18 Power key
- 19 Graphic LCD

8

Description on how to operate and detailed function

Simplified operation method per Finish Date

J-DC1(Dough conditioner)



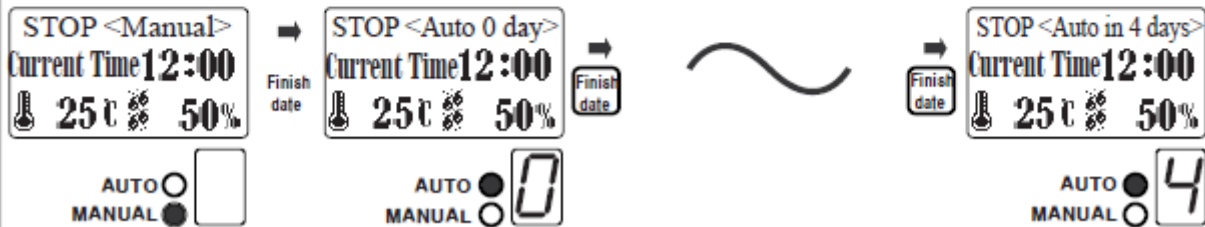
J-TDC(Dough conditioner)

Power input and Logo Display



It memorizes the power mode of AC220V before power is switched off and the previous power mode is automatically displayed when AC220V power is switched on again.

Set the finish date



Manual

By selecting only one from 4 modes, manual/freezing/defrosting/low-temperature fermenting/high-temperature fermenting, you can proceed with fermenting after setting temperature/humidity/operation time.

Automatic 0 day

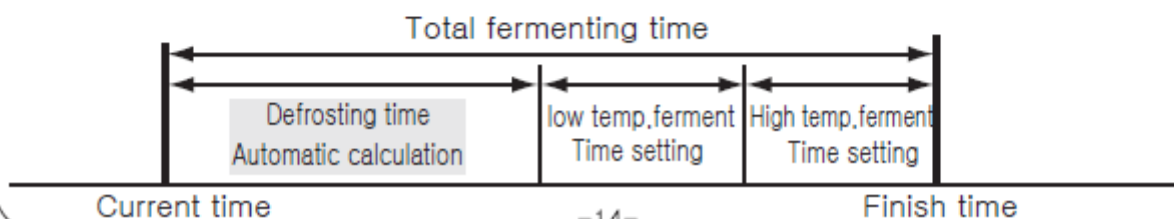
Automatic 0 day is the mode in which you can proceed with fermenting by setting the finish time by 11:59PM and fermenting is carried out in the order of defrosting -->low-temperature fermenting--> high-temperature fermenting after you set temperature/humidity/operation time for each mode. The defrosting time will be calculated automatically.

* Calculation formula of defrosting time = total fermenting time - low temperature fermenting time-high temperature fermenting time (Total fermenting time = Finish time - current time)

*Setting Finish time : use Key

*Setting temperature/humidity/operation time : use Keys

*Selecting defrosting/low temperature fermenting/high-temperature fermenting : select



Humidity setting

J-DC1(Dough conditioner)



Saving the set value

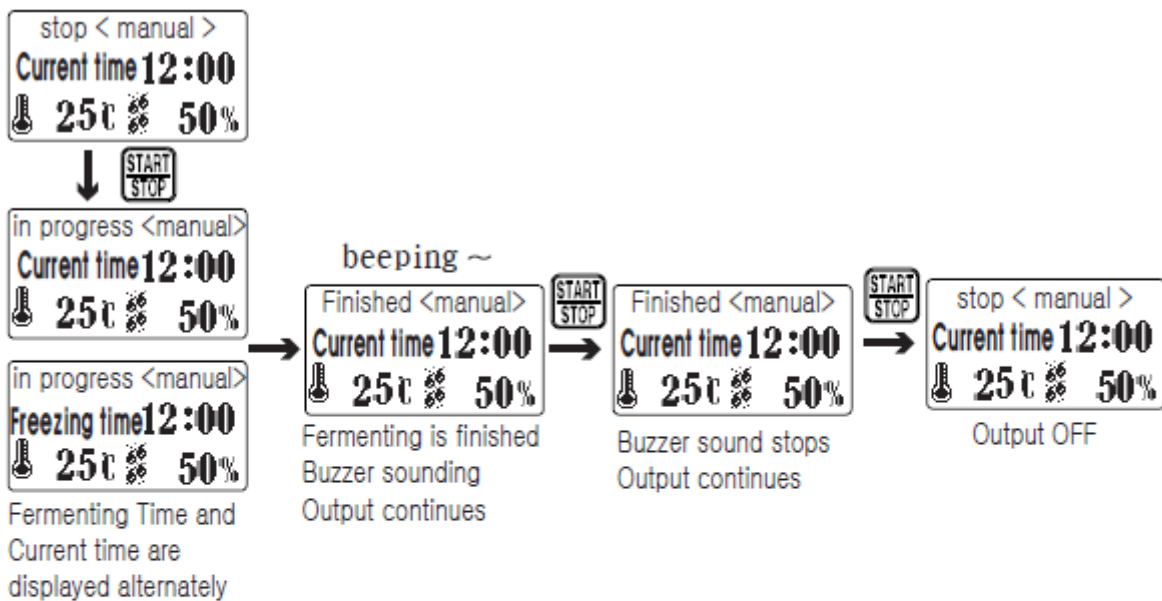
If you change a set value, it will be saved in 3 seconds automatically.
And you can save the set value immediately by pressing **Save** Key.

However, if you change a set value from A/S menu, it will be saved
in 60 seconds automatically.

START / STOP

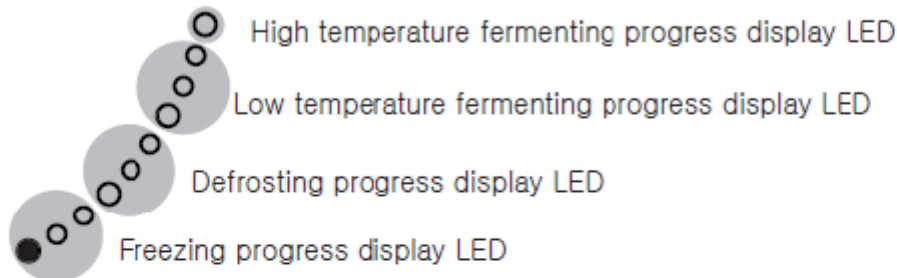
If you press **START/STOP** Key after setting various values, the equipment starts to operate.

When all the process of fermenting is completed, the fermenting display LED blinks and you can hear the buzzer sound. At this point, if you press **START/STOP** Key once, the buzzer sound stops but the output continues. If you press **START/STOP** Key once more, all the outputs stops.



Fermenting progress LED

J-TDC(Dough conditioner)



Manual : Only LED display at relevant fermenting mode

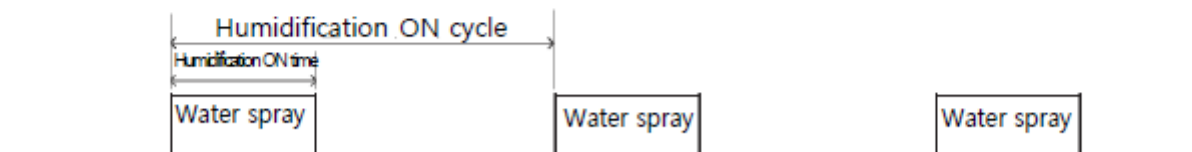
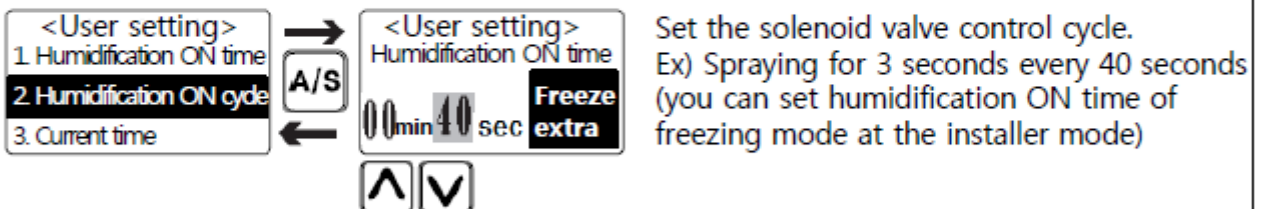
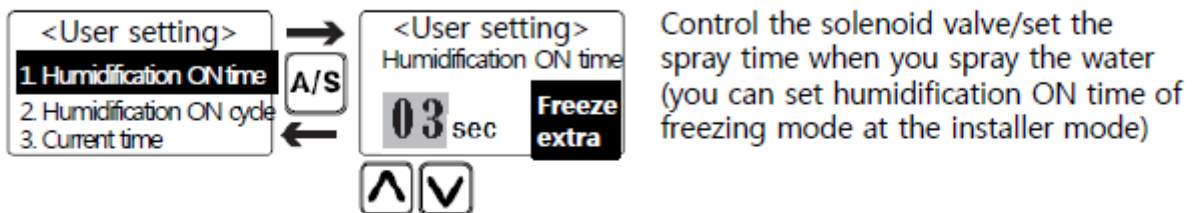
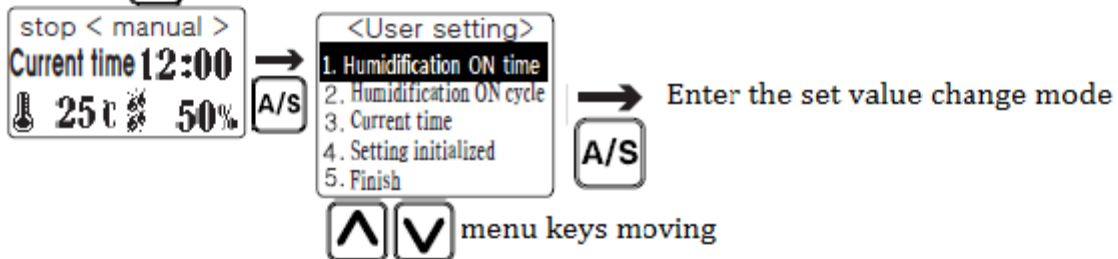
Automatic 0 day : LED display from Defrosting ~ to High temperature fermenting

Automatic 1~4 days : All LEDs are lighted

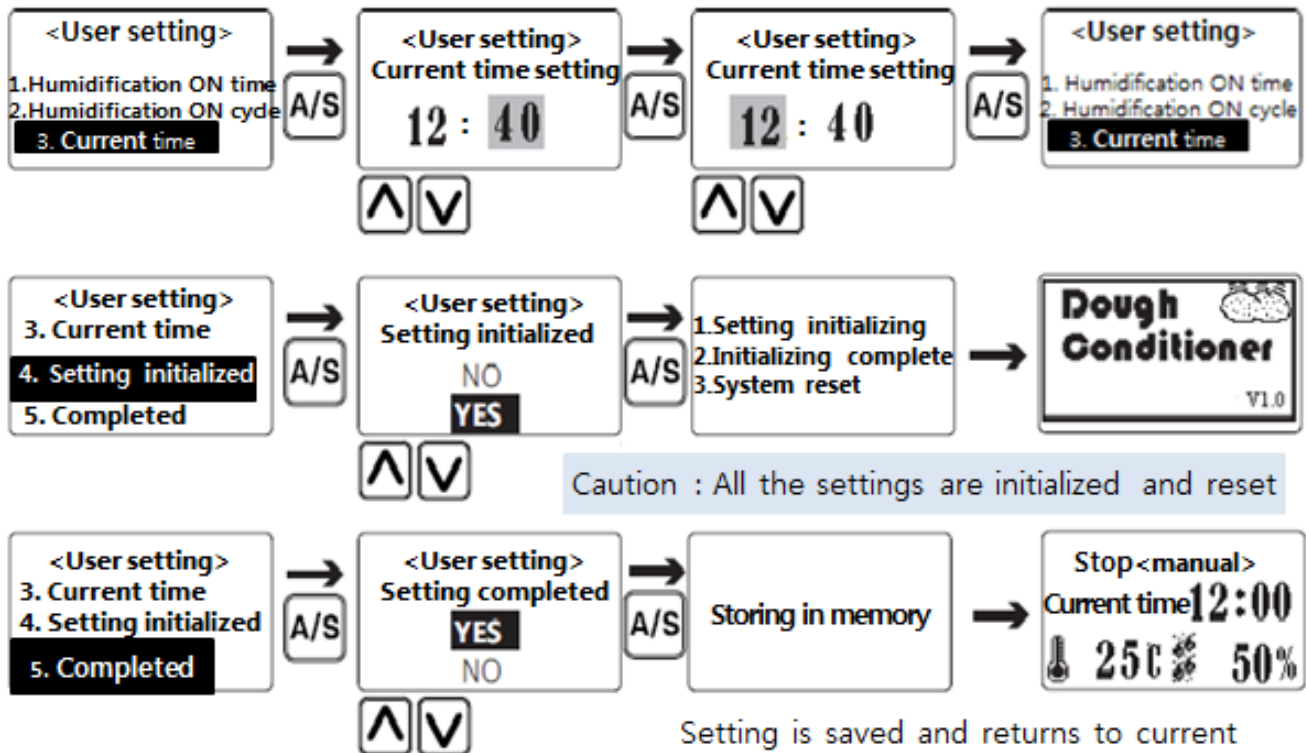
User sensor mode

User setting mode can be set if you press **A/S** Key while it is not in operation.

In 60 seconds after you change the set value, it is saved automatically, or you can save it by pressing **SAVE** Key.



J-TDC Dough conditioner

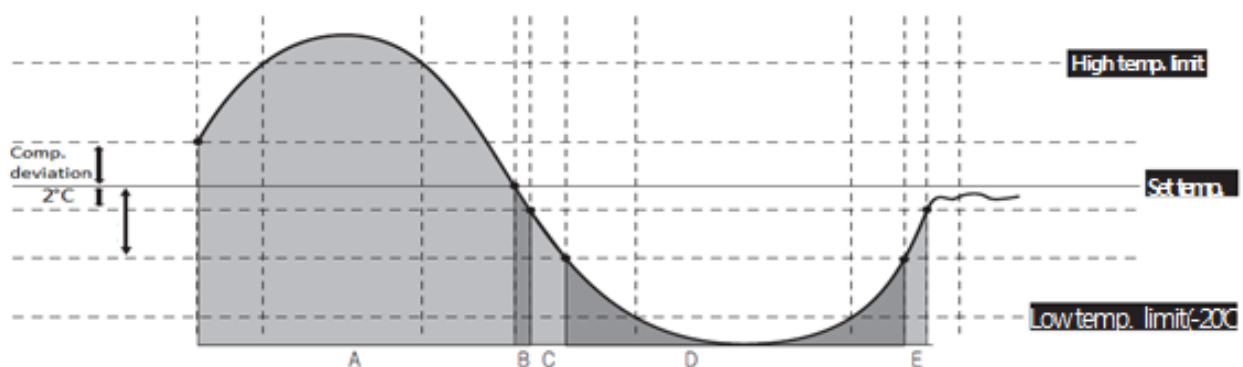


Additional setting save method

1. If waiting for 60 seconds, it will be saved automatically
2. If press SAVE key, will be saved immediately.

9 Output specification

Temperature control output



A : Compressor ON section(The actual output is made when the output delay time of the installer mode has elapsed)

B : Dry heater cyclical operation section(ON for 2 seconds, OFF for 2 seconds)

C : Dry heater + wet heater Full operation section

E : Dry heater Full operation section

*Current temperature > high temperature limit : dry heater and wet heater stops and buzzer alarm sounds

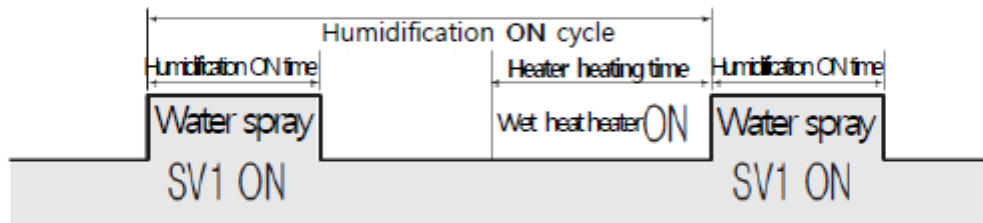
*Current temperature < low temperature limit(-20) : buzzer alarm sounds.

Humidity control output

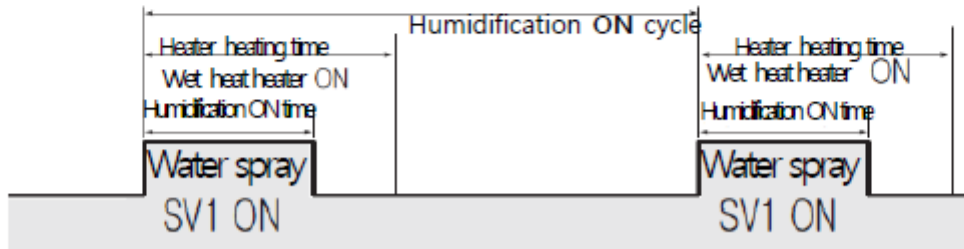
J-TDC(Dough conditioner)

* The change of spraying type can be made at the installer setting menu

Type of spraying : spraying before wet heater OFF



Type of spraying : simultaneous spraying with the start of wet heater



FAN control output

Manual mode : fermenting is in progress – ON, fermenting is finished/stopped-OFF

Automatic mode : fermenting is in progress/finished- ON, stopped-OFF

10 Power failure calibration function

If the main power of AC220V is cut off while fermenting is in progress, it still memorizes all the data and information before the cut-off.

*Manual mode : restart the fermenting mode and reload the present operation time.

Ex)Set the defrosting mode and defrosting time of 1 hour and 30 minutes.

If power is cut off and resumed in 10 minutes with the remaining defrosting time of 1 hour and 20 minutes, it resumes the defrosting mode and the defrosting time of 1 hour and 30 minutes.

*Automatic mode : it calculates the remaining time until the finish time and proceed with the fermenting mode matching the current time.

Ex)If fermenting is in progress for some 50 minutes under the condition of freezing 30 minutes, defrosting 30 minutes, low-temperature fermenting 1 hour, high-temperature 1 hour and automatic 0 day when power is cut off and it takes 30 minutes before power supply is resumed.

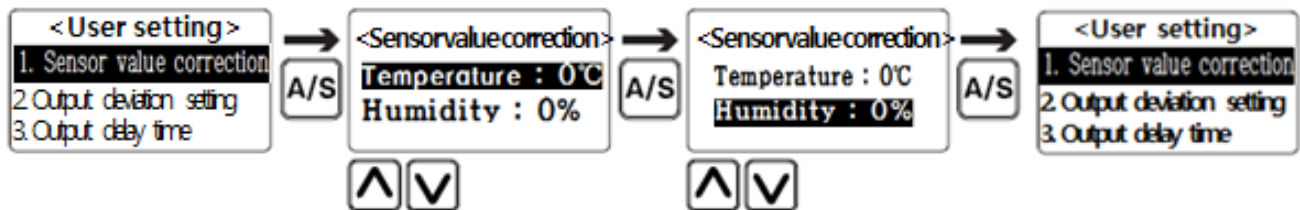
=> As 80 minutes (50 minutes + 30 minutes) has elapsed, it is assumed that low-temperature fermenting has progressed for 20 minutes.

*Note : Make sure to reset the current time when power returns after a cut off because it may display an incorrect time if the AC220V battery built-in the watch is cut off for several days.

11 Installer mode setting

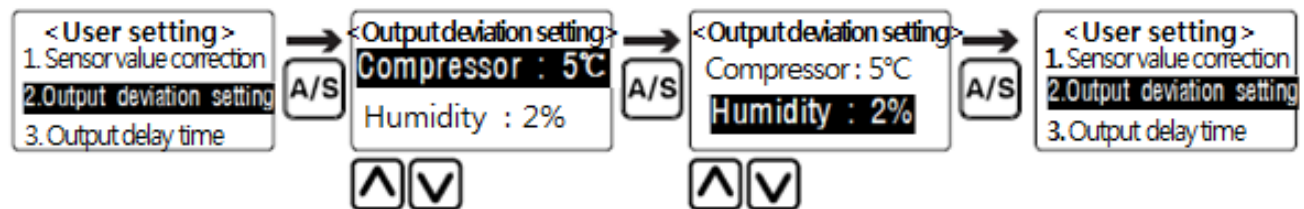
J-TDC(Dough conditioner)

As it is an exclusive mode for installer, general users should never try to Change the set value, please ask us if you want to access the installer mode.



Menu to correct that in case of much error between the value for temperature, humidity, sensor and standard equipment.

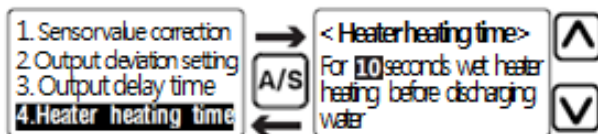
Ex) Display temperature 5°C, standard equipment temperature 7°C
: temperature correction +2°C => display temperature 7°C



In order to prevent the frequent ON/OFF of the output, the menu output that sets the hysteresis range always becomes OFF at the set point while compressor becomes ON at the set temperature + deviation point and humidification becomes ON at the set humidity-deviation point.



Menu that makes the compressor output become ON when the set delay time elapses so as to prevent the frequent ON/OFF of compressor output.



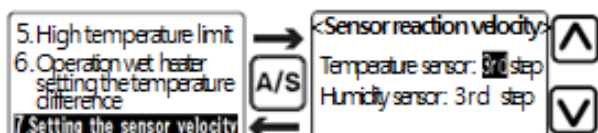
If spray water over the wet heater which is preheated before discharging water through SV1 output, you can make steam-type moisture.



If the current temperature exceeds "high temperature limit", the output of dry heater and wet heater becomes OFF and buzzer sounds an alarm.

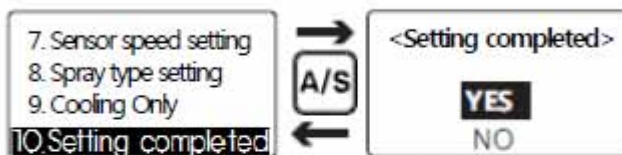
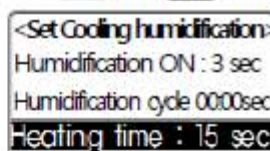
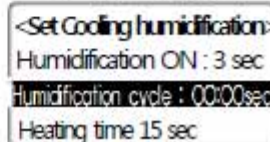
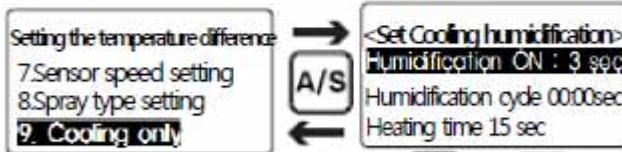
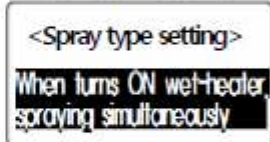
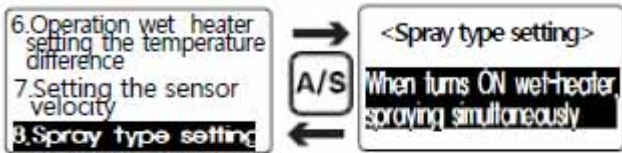


Menu that start wet heater when current temperature is lower than(set temperature-"wet heater start temperature difference setting") (refer to the temperature control output)



Menu that enables to control the reaction speed of a temperature sensor and humidity sensor. The lower the figure is, the speedier the reaction is.

J-TDC(Dough conditioner)



Menu that enables to set the time for starting the wet heater when you spray water for humidifying purpose.

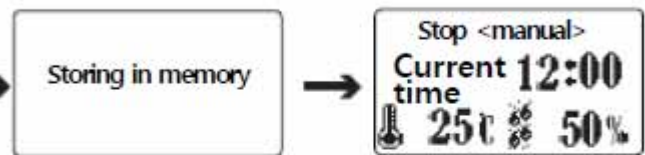
(refer to the humidity control output)

It can be set the value for humidity control output at the freezing from the installer mode separately.

"Humidifying – ON" is the period of time when SV1 output is ON position

"Humidifying Cycle" is the cycle by which SV1 output becomes ON

"Heating time" is the menu for determining how long the wet heater should be ON position to produce moisture.



Setting is saved and returns to current

Additional setting save method

1. It is saved automatically after 60 seconds.
2. It is saved immediately if press SAVE key.

12 Set value at shipment

J-TDC(Dough conditioner)

Set menu		Set value when shipment	Setting range
Finishing date		Manual	Manual/auto 0 day~ auto 4 days
Manual	Freezing	Setting temperature	-2°C
		Setting humidity	0%
		Operation time	1 hour 30 min
	Defrosting	Setting temperature	10°C
		Setting humidity	0%
		Operation time	1 hour 30 min
	Low temperature fermenting	Setting temperature	20°C
		Setting humidity	70%
		Operation time	1 hour 30 min
	High temperature fermenting	Setting temperature	38°C
Setting humidity		85%	
Operation time		1 hour 30 min	
Auto 0 day	Defrosting	Setting temperature	0°C
		Setting humidity	0%
		Operation time	Auto computing
	Low temperature fermenting	Setting temperature	20°C
		Setting humidity	70%
		Operation time	1 hour 30 min
	High temperature fermenting	Setting temperature	38°C
		Setting humidity	85%
		Operation time	1 hour 30 min
	Finishing time	Finishing time	12 : 00
Auto 1 day ~ Auto 4 days	Freezing	Setting temperature	-5°C
		Setting humidity	0%
		Operation time	Auto computing
	Defrosting	Setting temperature	0°C
		Setting humidity	0%
		Operation time	3 hours 30 min
	Low temperature fermenting	Setting temperature	20°C
		Setting humidity	70%
		Operation time	1 hour 30 min
	High temperature fermenting	Setting temperature	38°C
		Setting humidity	85%
		Operation time	1 hour 30 min
	Finishing time	Finishing time	07 : 00

J-TDC(Dough conditioner)

Set menu		Set value when shipment	Setting range
User's setting	Humidifying ON time	3 seconds	0 sec ~ 60 sec
	Humidifying ON cycle	00 min 40 sec	0min 0 sec ~ 10min 0 sec
Installer's setting	Sensor value calibration(temp.)	0°C	-19°C ~ 19°C
	Sensor value calibration(Humi.)	0%	-19 % ~ 19 %
	Output deviation(compressor)	5°C	1°C ~ 19°C
	Output deviation(humidifying)	2%	1% ~ 19%
	Output delay time	1 min 00 sec	0min 0 sec ~ 19min 59 sec
	Heater heating time	10 sec	0 sec ~ 60 sec
	High temperature limit	50°C	0°C ~ 50°C
	Wet heater operation temperature difference	5°C	0°C ~ 10°C
	Sensor speed(temperature)	3rd step	1st ~ 5 th step
	Sensor speed(humidity)	3rd step	1st ~ 5 th step
	Spraying type setting	Spraying before wet heater stops	Spraying before wet heater stops Spraying simultaneously when wet heater ON
	Cooling only(humidifying ON)	3 seconds	0 sec ~ 60 sec
	Cooling only(humidifying cycle)	0 min 40 sec	0min 0 sec ~ 10min 0 sec
	Cooling only(heating time)	15 sec	0 sec ~ 60 sec

8 Operation & description

J-TEP(Electric proofer)

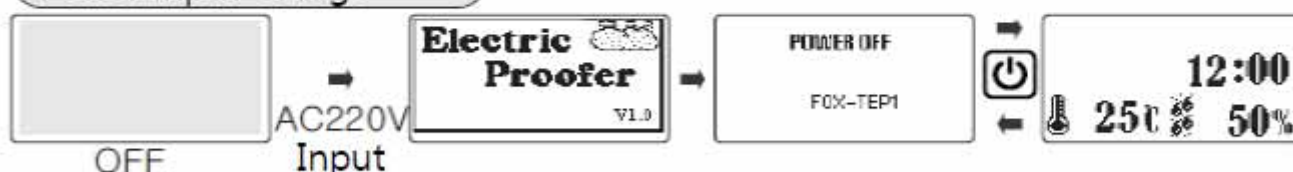
Simple operation

Change the set value



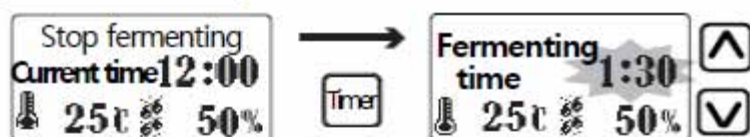
Change the set value by pressing temperature key/humidity/timer key, it will be saved automatically in 3 seconds. Or you can press SAVE key. If press START/STOP, fermenting starts/stops immediately.

Power input & logo



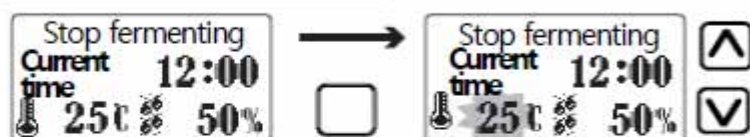
The power mode before the cut-off of AC220V power, so the previous power mode is automatically displayed when power supply is resumed.

Timer setting



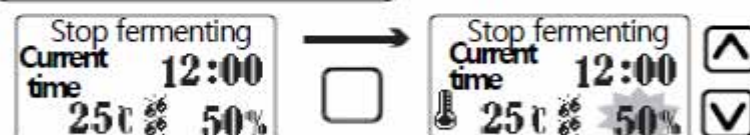
It can be set the fermenting time by pressing timer key.

Temperature setting



It can be set the fermenting temperature by pressing temperature key.

Humidity setting



It can be set the fermenting humidity by pressing humidity key.

Saving the set value

J-TEP(Electric proofer)

Various set values are saved in 3 seconds after changing them.

They are saved immediately if you press **SAVE** key.

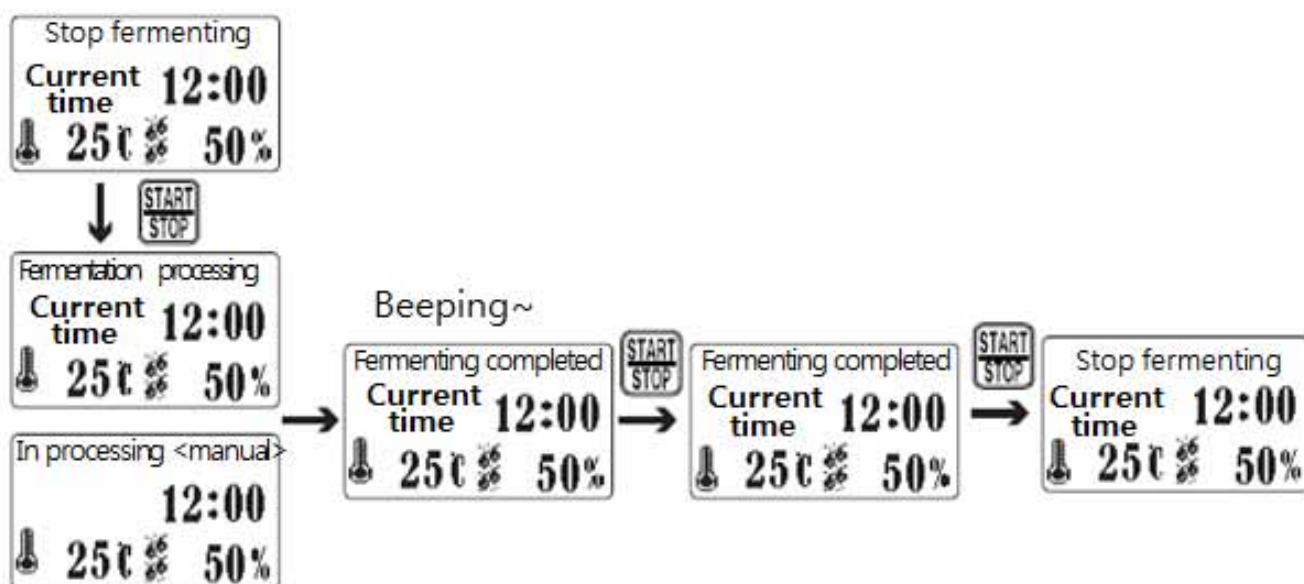
However, they are saved automatically in 60 seconds in the state of A/S menu.

START / STOP

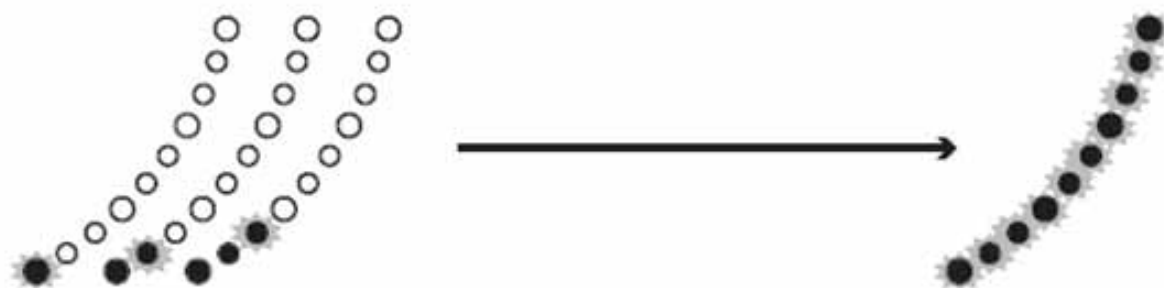
If press **START/STOP** key after various settings, it starts to work.

All the process of fermenting is completed, all the LEDs blink and can hear the buzzer sound.

At this moment, if press **START/STOP** key once, the buzzer sound dies but the output continues. If press **START/STOP** key once more, all outputs to be turned OFF.



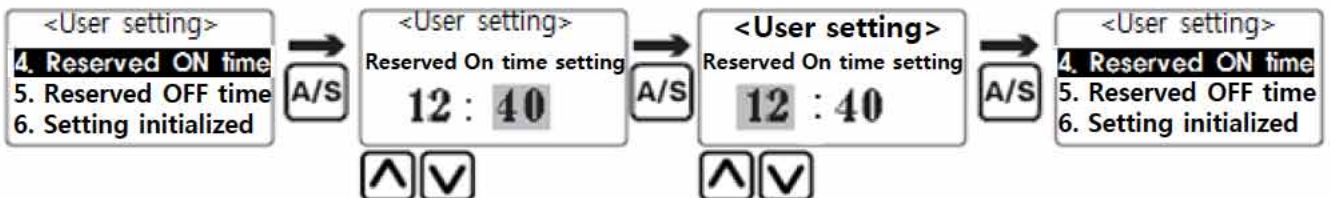
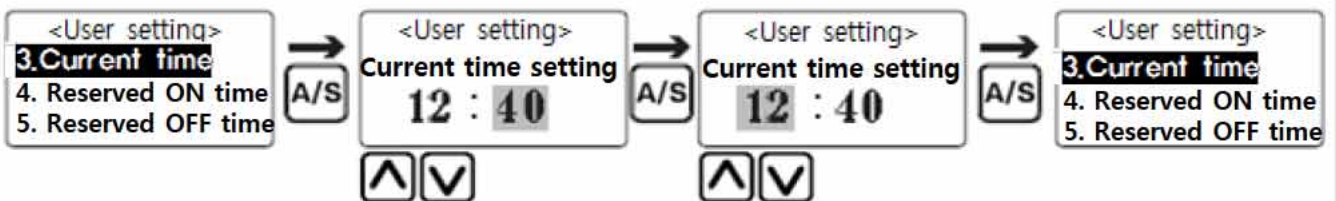
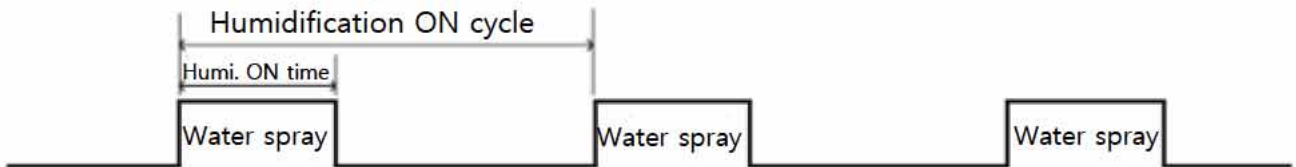
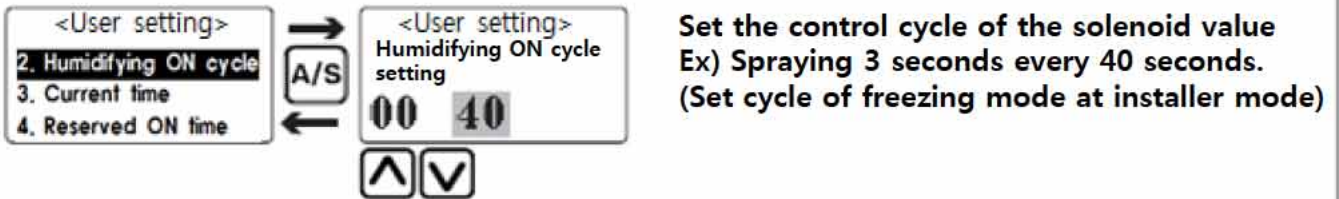
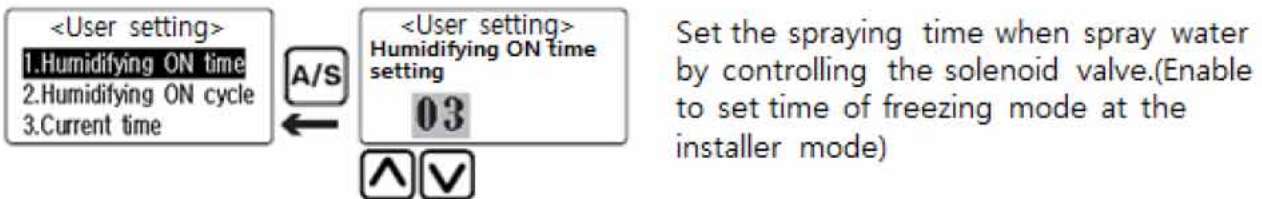
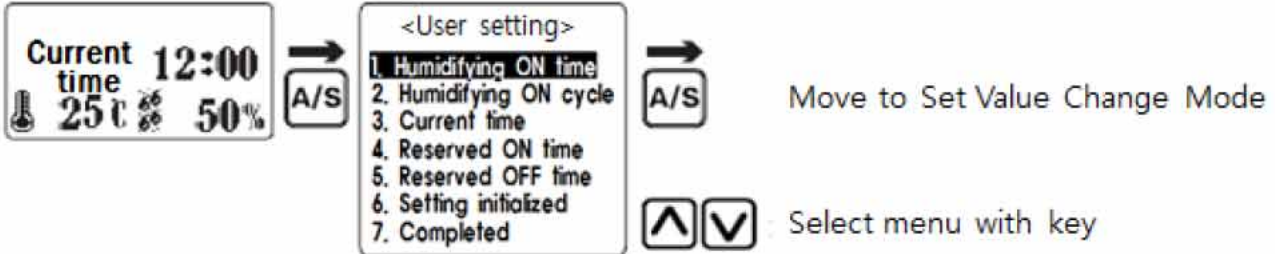
Fermenting time and Current time are displayed alternately



User's setting mode

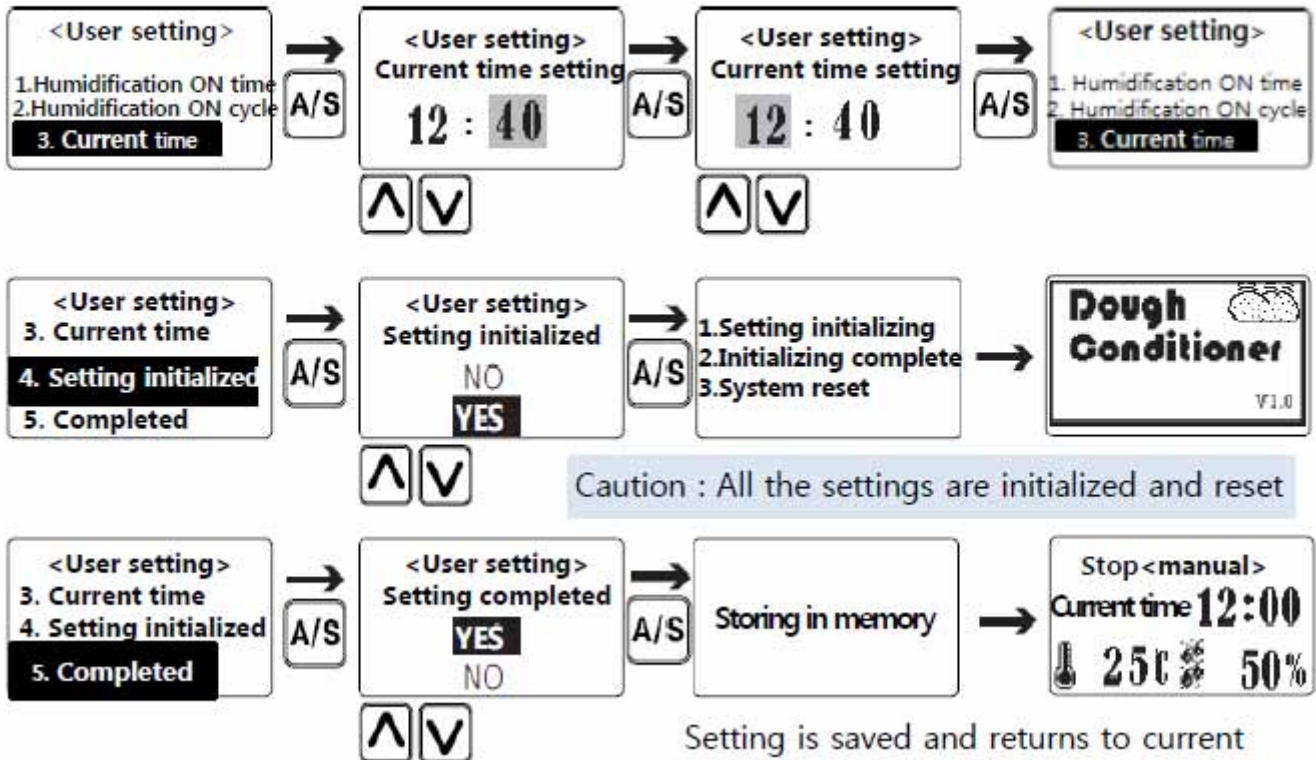
J-TEP(Electric proofer)

It can be set User setting mode by pressing **[A/S]** key while the operation is stopped. If the set value is changed, it saved in 60 seconds automatically, or can save it immediately by pressing **[SAVE]** key.



Fermenting starts when the current time reaches the preset time after you set fermenting by using Key.
(AC 220V power should be switched on)

J-TDC Dough conditioner

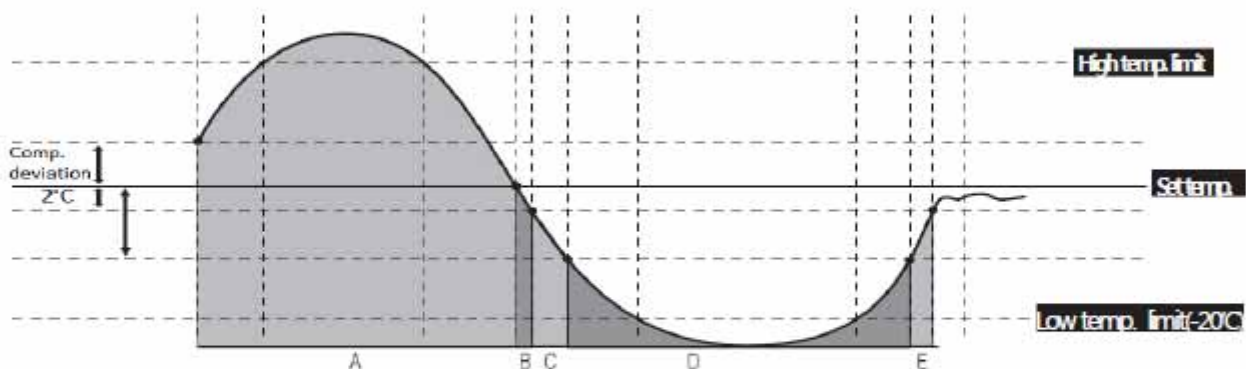


Additional setting save method

1. If waiting for 60 seconds, it will be saved automatically
2. If press SAVE key, will be saved immediately.

9 Output specification

Temperature control output



A : Compressor ON section(The actual output is made when the output delay time of the installer mode has elapsed)

B : Dry heater cyclical operation section(ON for 2 seconds, OFF for 2 seconds)

C : Dry heater + wet heater Full operation section

E : Dry heater Full operation section

*Current temperature > high temperature limit : dry heater and wet heater stops and buzzer alarm sounds

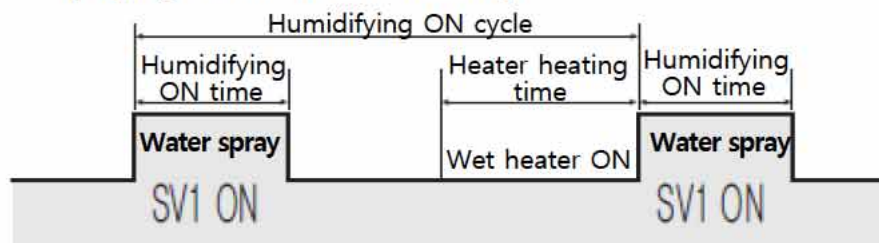
*Current temperature < low temperature limit(-20) : buzzer alarm sounds.

Humidity control output

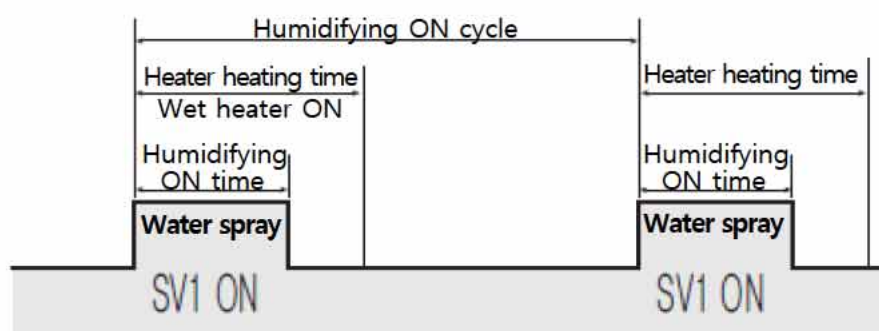
J-TEP(ELECTRIC PROOFER)

* Available to change the spraying type from installer mode

Spraying type : Spraying before wet heater stops



Spraying type : Simultaneously spraying when wet heater starts



FAN control output

Fermenting is in progress/Finish-ON, Stop fermenting-OFF

10 Power failure calibration

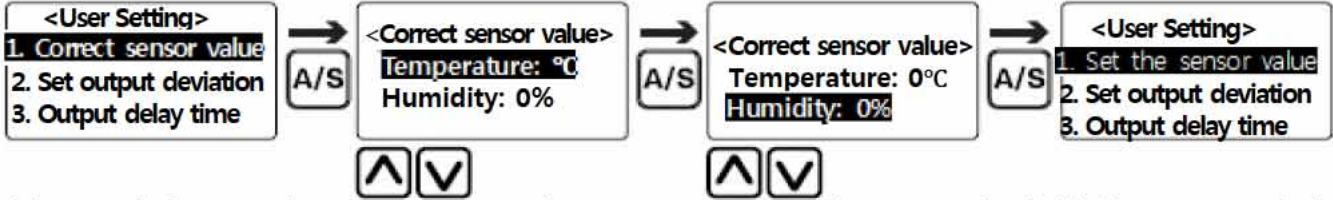
When AC220V main power is cut off, the power mode and various set values are saved in the memory, which returns to the former state when power supply is resumed.

* Note : If the built-in watch battery is left with no AC220V power for several days, the set current time can be changed. Therefore, you have to reset the current time when power supply is resumed.

11 Operator mode setting

J-TEP (ELECTRIC PROOFER)

This is only for operator setting mode, so any other user must not change setting values. Please contact us for inquiring how to enter operator mode.



This menu is for correction when the error of temperature or humidity sensor value is big between standard equipment. (Ex) Indicated temp is 50°C, standard equipment temp is 7°C: Temp correction +2°C => indicated temp is 7°C



This menu sets the hysteresis width to prevent frequent ON/OFF of output. Output is always OFF at setting pointing, and ON at setting humidity – deviation point.

