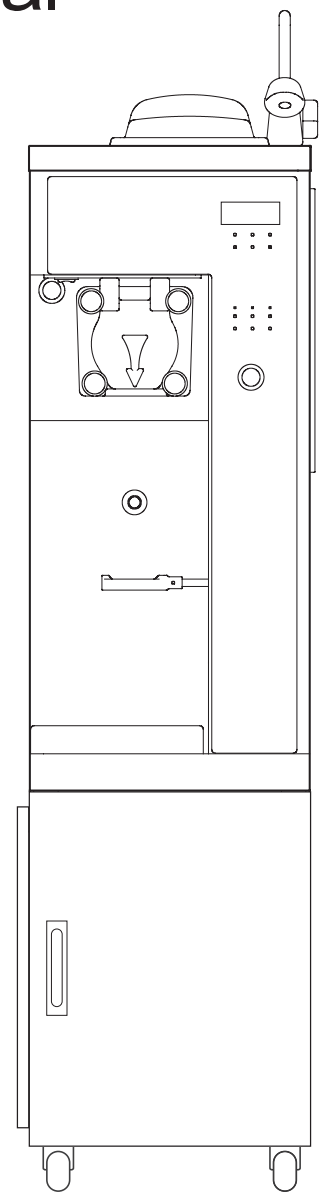
# SOFT ICE CREAM SELF MACHINE

# User's Manual



## ISI-271SHSN

- This product is designed for indoor use .
- Make sure to install it indoors.
- The appearance, design, color, and parts of the product are subject to change without prior notice.

# Soft ice cream Self machine offers the following advantages

## 1. Minimum noise and refreshing cooling system

With a high efficiency and low noise motor, we can achieve minimal noise from the refreshing cooling system

## 2. MICOM control method

Use of an artificial intelligence control type achieves an optimal cooling system.

## 3. Pasteurization function implemented

A low-temperature pasteurization process is implemented for heating products at 68°C for 30 minutes to supply sanitary ice cream products sans the spoilage of materials.

## 4. Defrost function implemented

The soft ice cream inside the cylinder can be defrosted to liquids

## 5. Color LED lamp light

Color LED lamp lights are mounted to enhance the effects of lighting and demonstration and for maximized marketing effects.

## 6. Body response button used

Push button design for easy operation.

## 7. Convenient washing system

Feedwater lines are directly connected to the system; the model with pasteurization functions allows using boiling water when cleaning the cylinder and the storage tank to facilitate the cleaning of the system.

## 8. Inverter system application

By allowing separate speed controls for producing and projecting soft ice-cream, you can have the best ice cream quality.

# Dear customers

Thank you very much for purchasing a soft ice cream self machine made by ICETRO. For correct use of the product and its maintenance, please read this manual carefully. If a problem occurs while using the product, you can refer to this manual for troubleshooting. This manual contains a product warranty, so keep it safely for future reference. This product can be installed only by someone qualified for installation. If use of parts and accessories not provided or approved by ICETRO or any part or accessories made by ICETRO but remodeled by other person causes a problem, we are not responsible for if financially. (The functions and specifications shown in this manual and on the web site are subject to change without notice. Please visit our website at http://www.icetro.com to obtain the latest specifications

## Contents

# Cautions for your safety

Note: Original instructions is provided by ICETRO Co., Ltd.

The caution/warning details for safety are intended to prevent accident or danger through safe and proper use. Therefore please follow the details accordingly. The precaution details are categorized into warning and caution, and the respective meanings are as follows.

| | |
|---|---|
| ⚠ Danger | If you neglect this symbol and wrongly use the product, it may cause a fire, serious injury or death. |
| ⚠ Warning | This means that it can cause death or major injury when the details are violated. |
| ⚠ Caution | This means that it can cause injury or house/ property damage when the details are violated. |

※ Personal Injury: Minor cuts, burns (high or low temperature) or electric shocks that do not need hospitalization or long-term hospital visiting.

※ Property Loss: The loss on houses, household goods, livestock, bedding, and such.

[Each symbol has the following meanings]


This symbol means that it can be dangerous in specific conditions.


This symbol means never to do the described action.


This symbol means not to touch specific parts with bear hands.


This symbol means to unplug the power from the outlet.


Must be grounded.


This symbol means not to disassemble the product.


This symbol means to be careful because there is a possibility of electric shock.

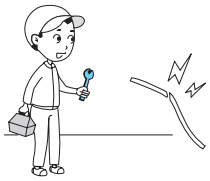
# Cautions for your safety

For relocation of the product, call an expert.
The product may cause such hazards as falling down unless properly installed.
It should be installed in accordance with related regulations such as KS standards, the road and traffic act. The fire fighting act and the food sanitation act. ※ Call your distributor.

Observe the regulations

Call an expert for repair.
Imperfect repair may cause fire, electric shock or injury.
If you think the product needs repairing, call your distributor.

Call a service center

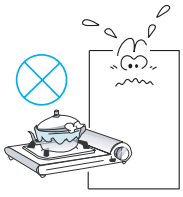


If the power cable needs replacement or repair, call a service center or an expert.

Caution

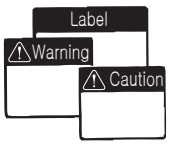
When you replenish ice cream raw materials do not allow rain or snow to get into any interior electric part.
Defective operation may occur.

Caution



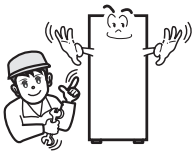
Do not use or store inflammablegas or material near the product.
It can cause damages to the product.

Caution



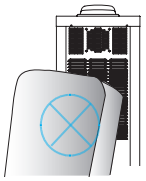

Keep your warning and caution labels clean for easy legibility.
If the user misunderstands the content of such a label, an accident may occur.

Check your labels



When you dispose of the product, consult a disposal expert.
An accident may result unless it is properly disposed of.
※ Call your distributor.

Caution



Do not place any obstacle at the entrance of the air vent.
The side and rear of the product should be maintained at least 20cm from the wall. If no t so, the performance will be degraded

Caution

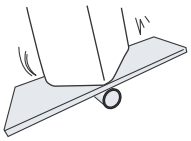
Before you clean the inside of the product, unplug the earth leakage breaker wearing rubber gloves.
Electric shock or injury may r esult.

Caution


To have good soft icecream, it is recommended topasteurize or cleanit everyday.
Otherwise, the ingredients can deday.
If sterilization is not done every day, you are recommen ded towash it every day.

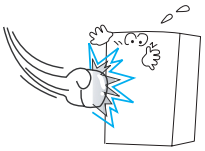
Caution

# Cautions for your safety



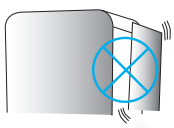
Do not install it on a tilt.
The appliance has to be placed in a horizontal position
It can cause physical injury or product damages.

Caution



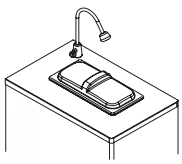
Do not apply excessive force orimpact to the product.
It can cause damages to the product.

Caution



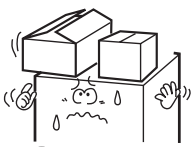
Do not operate the product while all panels are not well fastened enough.

Caution



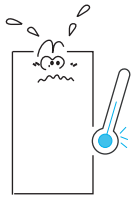
While operating the product, please close the upper cap completely.
Bugs or alien substances can enterthe product.

Caution



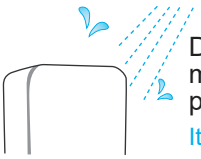
Do not put anything on the product.
Injury may occur if it falls over.

Prohibited



The product provides optimal functions in an atmosphere from
10 ℃~ 40 ℃

Caution



Do not install it near dust, moisture or rainwater(water) popping.
It can cause electrical shocks or fires.

Caution

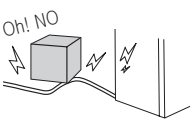

If you sell or hand over the product, make sure to hand over the user's manual with it.
without the manual, an accident may occur because of erroneous handing or operation.

Caution

Note: Translations of the original instructions is provied by ICETRO co., Ltd.

Do not arbitrarily connect the power cord or process it for use.
It can cause fires.

Prohibited




Do not put anything on the power cable.
Make sure that the power cable is not twisted or knotted.
Fire or electric shock may occur.

Prohibited

# Cautions for your safety

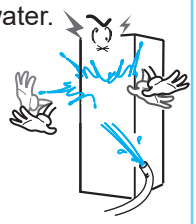
Do not inject inflammable material such as benzene, gasoline, paint thinner or LP gas into the product otto keep it close to product


Explosion, fire or injury may occur.

Prohibited

Make sure that no electric part has come into contact with water.

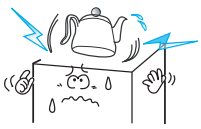
If the product was immersed in water by a flood, call a service center for a check. Otherwise, fire or electric shock due to electric leakage may occur.



Prohibited

Do not place water containers, medicine, foods, small metal parts or inflammable material on top of the product.

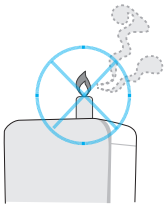
If they go inside the product, it cancause electrical shocks, fire anddamages.



Prohibited

Do not place candle lights or cigarettes light on top of theproduct.

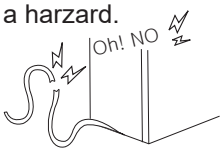
It can cause fires.



Prohibited

If the supply cord is damaged, it must be replaced by the manufacture, its service agent or similarly qualitied persons in order to avoid a harzard.

Fire or electric shock may occur.




Prohibited

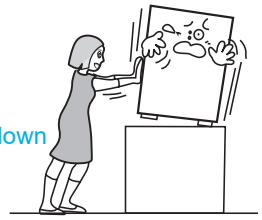
Do not spray with an insecticide, flammable spray or perfume near the product.

Prohibited

Fire or electric shock may occur.

Do not climb onto the product or shake or tilt it.

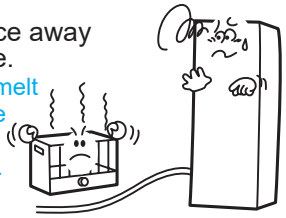
The product may fall down or develop a problem.



Prohibited

Keep a heating device away from the power cable.

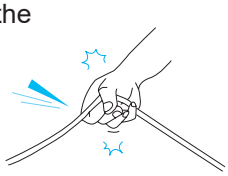
A heating device may melt down the coating of the power core, resulting in fire or electric shock.



Prohibited

Do not put anything on the product.

Injury may occur if it falls over.



Prohibited

Do not touch any moving part inside the product.

Prohibited

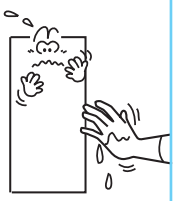
You may get injured.

# Cautions for your safety

Do not touch the power cable or any elctric part with wet hands.

Explosion, fire or injury may occur.

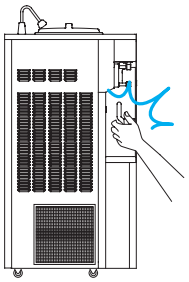
Prohibited



Never put your hands into the rod of the cup conveyor.

Electric shock or injury may result.

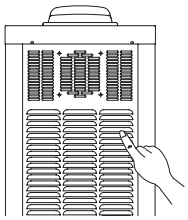
Prohibited



Do not insert your finger or other materials into the panel rubber or the machine supply.

Strongly warn children about its danger.
It may cause an electric shock or product damage.

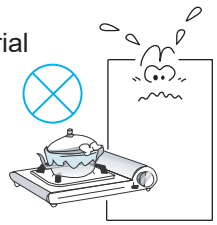
Prohibited



Do not use or store inflammable gas or material near the product.

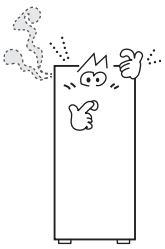
It can cause electrical shocks or fires.

Prohibited



Stop operating the product if you hear any unusual noise or smell or if you see smoke coming out from the product.

If you continue to operate the machine in such a condition, fire or electric shock may result.

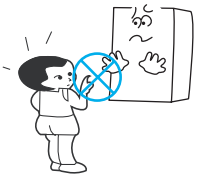


Please do not press “WASH” button during empty condition which the cylinder doesn’t contain any ingredients or water.
The bearing of drum can be frayed because there is no lubrication.


Prohibited

Don’t let an uneducated person or a child touch or operate the machine. The machine can be damaged, or an injury may occur.

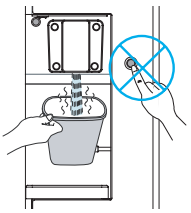
The damage will go to the machine or there is a possibility which Will be injured.



Prohibited

Take care not to press the push button during the pasteurization or defrost process.

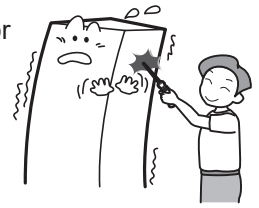
You may burn injuries.



Prohibited

Do not disassemble or alter the product.

Electric shock, fire or injury may occur.



Prohibited

# Cautions for your safety

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction

Prohibited

The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

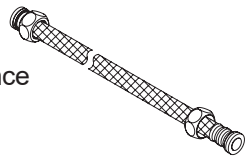
This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if the have been given supervision or instruction concerning use of the appliance a safe way and understand the hazards involved.
Children shall not play with the appliance.
Cleaning and user maintenance shall not be made by children without supervision.

Access to the service area is restricted to persons having knowledge and practical experience of the appliance, in particular as far as safety and hygiene are concerned.

The appliance is not suitable for nstallation in an area where a water jet could be used.

The appliance must not be cleaned by a water jet.

The instructions for appliances connected to the water mains by detachable hose-sets shall state that the new hose-sets supplied with the appliance are to be used and that old hosesets should not be reused.



Note: The approved water supply hose should be used, which is on condition that IEC 61770 and EN 50084 are satisfied.

This marking indicated that this product should not be disposed with other household wastes throughout the EU.
To provent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources.
To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling

Prohibited

The appliance is only to be installed in locations where it can be overseen by trained personnel.

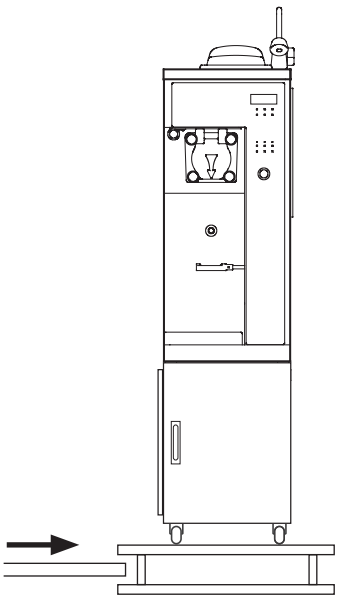
WARNING: When positioning the appliance, ensure the supply cord is not trapped or damaged.

WARNING: Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance

# Unpacking and Installation method

The Soft Ice Cream Self Machine has been fully inspected and tested at the factory prior to shipping. If you detect damage to the wooden package or apparent distortion of the shape of the system after unpacking the product, immediately inform your distributor or manufacturer.
Find the serial number marked on the packing and the machine before starting installation. Inform us of the serial number if you have any inquiry. Request the dealer or service provider for assistance when the machine is to be moved.

1. Remove the wooden packing, taking care not to damage the exterior of the Soft Ice Cream Self Machine.
2. Remove the wooden packaging and the protective tapes and make sure that all parts of the system are complete.
   ※ When tilting or moving the machine, take care not to overturn the machine.



● Location and Precautions for Installation

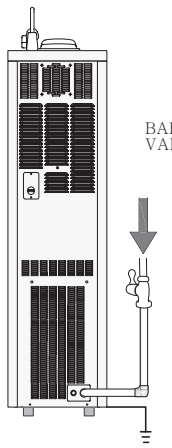
1. Avoid sloping or irregular surface.
- Installation on a sloping or an irregular surface may result in machine overturning, malfunction, or failure.
2. Avoid direct sunlight, rain, snow, and wind.
- Otherwise, fire or electric shock may occur due to the ice cream or rain water.
3. Avoid the direct influence of sea wind and hazardous gases.
- Soft Ice cream  Self Machine buyers may complain or file a claim.

# How to install

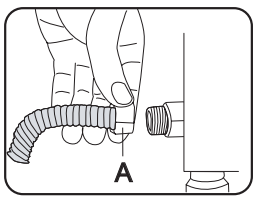
## ● How to install!

The raw water supply valve may vary depending on the installation environment of the system.

- Consult with the engineers of the company for the details of installation of the system to ensure optimal performance of the system (change of the installation site of the system also requires consultation with the engineer of the company).
- Do not install the system on a place with adverse conditions such as uneven floor, place exposed to direct light, or place with too much dusts or direct splashing of water.
- Rest the current time when restarting after a long standstill.




### ● Water Supply Connection



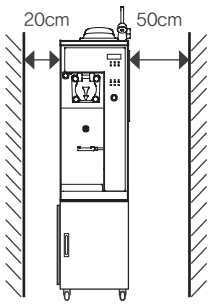

1. Fir rubber packing in the corrugated tube nut of the feed water line and join it to the water inlet of the product.
   Tighten the nut firmly with a tool.
2. Pay special attention to protecting Section “A” from damage when assembling the tools.

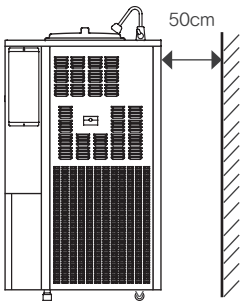
※ Check the followings after connecting the feed and discharge water lines:

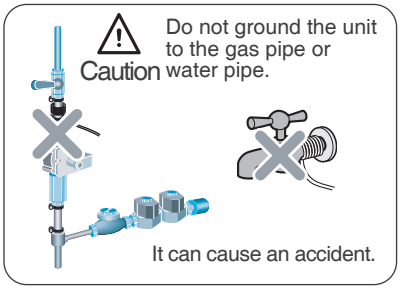
1. Feed water pressure should be between 1~3 kgf / ㎠.
   ▶ If the water pressure is too high, water may leak at connections.
2. If the temperature can go down below 10□, provide a means to prevent freezing.
   ▶ Freezing can cause water leakage or failure of the system.
3. There should be a tap water valve when you connect the system to tap water. Close the tap water valve if there is water leak due to a defect of the tap on top of the product.

### ● Electrical connection

1. Connect the plug to designed voltage that single phase (220-240) V, 50Hz.
2. Earth shall be provided for the safe operation of the system.
3. Maintain space of 50cm or more each between the walls and the right and rear sides, 20cm or more between the left of the system.
4. Precisely seat the rubber feet at the bottom to prevent slipping.

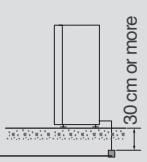


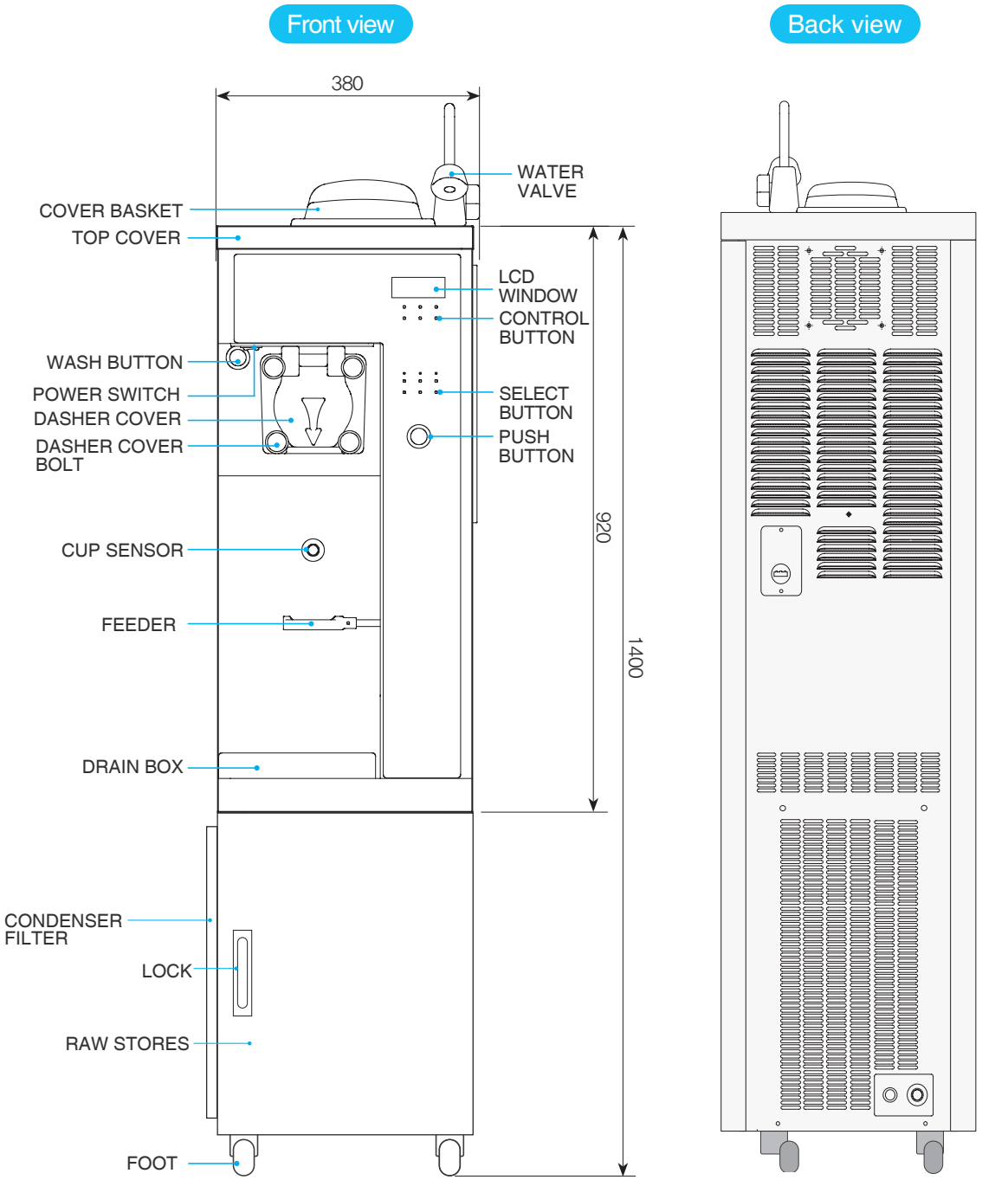




**Waring**

- The installation instructions for appliances of the supervised type shall state that The appliance is only to be installed in locations where in can be overseen by trained personnel.
- Before install the unit, be sure electrical ground at outlet.
  Bury the copper plate or ground rod at a depth of 30 cm or more underground.
  Failure to perform ground work may cause electric shock caused by leakage.

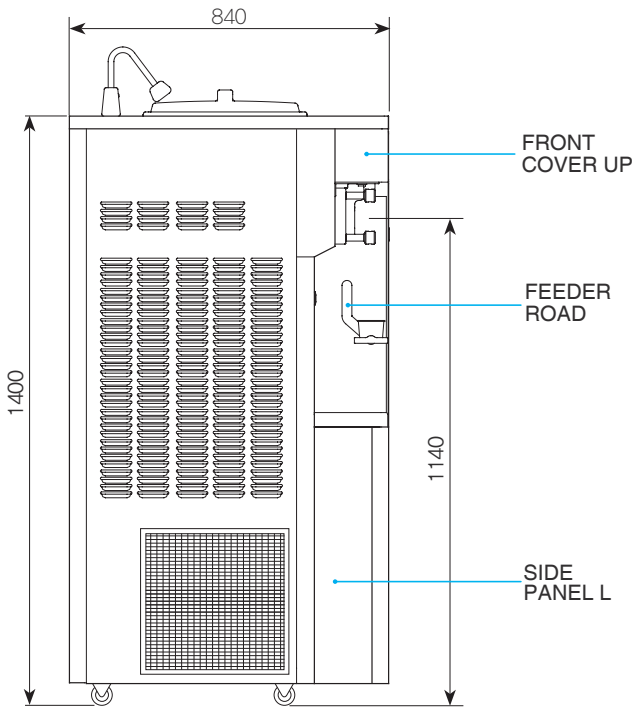


# Name of each part



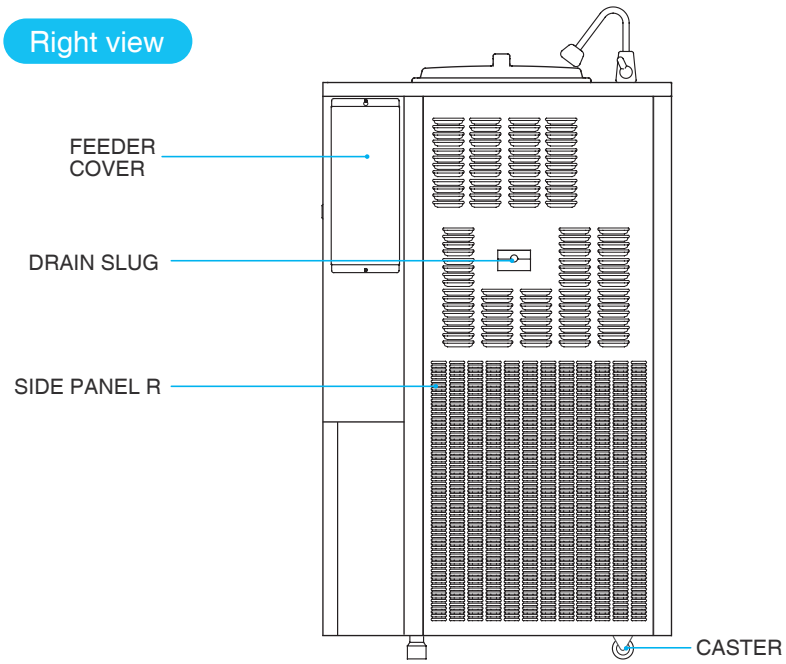
# Name of each part

## Left view



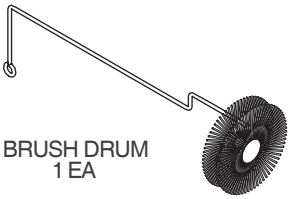

Note: For buyer request, it can be movable designed.
(Caster or leg)

## Right view

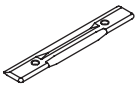


# Name of each part

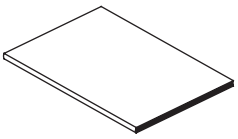
## Parts



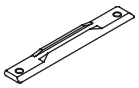
BRUSH DRUM
1 EA



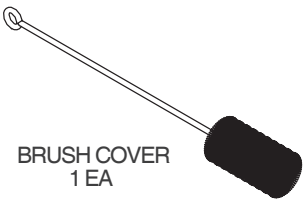
DASHER LUG FRONT WHITE
1 EA



MANUAL
1 EA

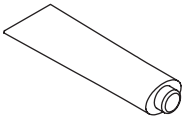


DASHER LUG BACK WHITE
1 EA

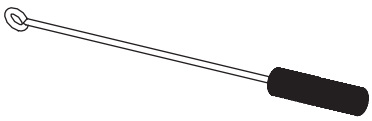


BRUSH COVER
1 EA

PACKING DASHER COVER
1 EA

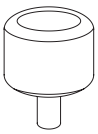


HINES
1 EA



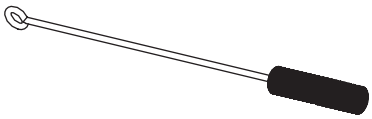
BRUSH CARBURETOR IN
1 EA

SHAFT POM PACKING
2 EA



HANDLE JOINT BOLT
1 EA

CABURATOR PACKING
2 EA

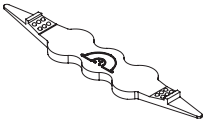


BRUSH CARBURETOR OUT
1 EA

PACKING PISTON TOP
2EA

CABURATOR TUBE
1 EA

CABURATOR TUBE
BODY ASSY
1 EA



PACKING REMOVE HANDLE
1 EA

# Product specification

| CLASSIFICATION | | SPECIFICATION | |
|---|---|---|---|
| Product name | | SOFT ICE CREAM SELF MACHINE | |
| Model name | | ISI - 271SHSN | |
| Rated voltage and frequency | | 1Φ, 220 V, 60 Hz | 1Φ, 230 V, 50 Hz |
| Power consumption | | 15 A, 2200 W | 19 A, 2560 W |
| Product size (including the wheel) | WIDTH | 380 mm | |
| | HEIGHT | 1400 mm | |
| | DEPTH | 840 mm | |
| Cylinder capacity (Mixing tank capacity) | | 2.7 ℓ (12.2 ℓ) | |
| Number of dispensed cups without interval | | 40 cups (Under conditions of ambient temperature of 27 °C and ice cream weight of 80 grams) | |
| Cooling temperature | | Can keep under 5 °C | |
| Condenser | | Fully sealed compressor | |
| Pasteurization function | | 68 °C 30Minute Pasteurized | |
| Ice cream weight | | 80 g ± 15 g(Variation allowed) | |
| Filter mounted | | side filter | |
| Refrigerant amount | | 780 g | |
| Refrigerant kind | | R-404A | R-452A |
| Product weight(Before packing) | | 130 Kg / 150 Kg | |

# Check prior to use

【 Make sure to check them prior to use 】

- Do not block the air vent.

  The air suction and discharge should be facilitated so that the cooling performance can be optimized.

- Periodic filter cleaning

  For better taste of soft ice cream, do not miss the filter cleaning time.

- Clean the condenser once a month.

  It is recommended to clean the cylinder, the mixing tank,the impeller, the dasher, the caburator, the cup sensor, the piston every day.
  Clean the condenser at least once a month or more often.

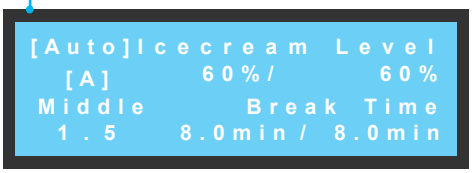
- Pasteurize it at least once a day.

  The cylinder, impeller, dasher, or piston inside the product makes a contact with the ingredient, so you should clean them once every day.

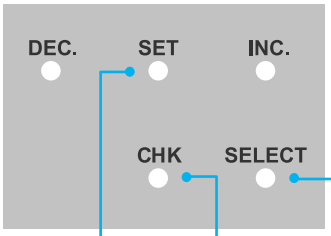
For your information

If you intend to leave it unused for a long time, wash it and turn off the water supply valve and turn off the earth leakage circuit breaker.

# Button display names and functions



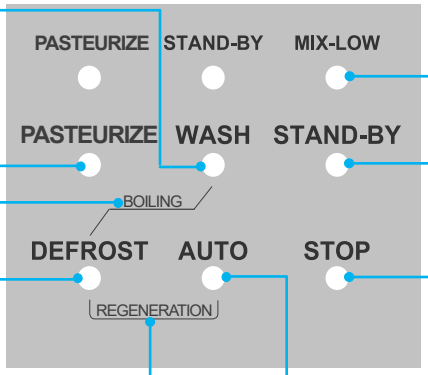

‘ DISPLAY WINDOW ’
- Displays the degree of soft ice cream formation in operation.




‘SELECT’
- Button is used to check the temperature.

‘SET’
- Button is used to change the setting. Press the ‘DEC.’ & ‘INC.’ buttons at the same time for five seconds to lock or unlock the touch buttons.

‘CHK’
- Set the functions relevant to sales.
- Self-service sale and remote sale may be selected by simultaneously pressing ‘CHK’ and ‘SELECT’ buttons.
- Pressing this button once discharges a single cup; and keeping this button pressed for three seconds or longer, single-cup sales test is allowed.




‘WASH’
- Button is for wash function

‘PASTEURIZE’
(Heating, Heat)
- Used when pasteurizing the soft ice cream or the raw material in the hopper.

‘BOILING’
(‘DEFROST’+‘WASH’)
- Used for boiling water when cleaning the system

‘DEFROST’
- Used when defrosting the soft ice cream.

‘MIX-LOW’
- Lamp blinks when there are insufficient ingredients. The light blinks if there are no raw materials.

‘STAND-BY’
- while the raw material in the cylinder and the hopper is being refrigerated.

‘STOP’
- Button is used to stop all the functions.

‘REGENERATION’
- Used when the Soft ice cream solution is watery.

‘AUTO’
- Button is used to make soft ice cream.

# Functional description of the buttons

【 Detail description of each mode 】

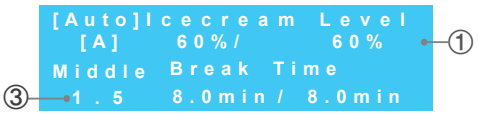
Pour the raw material in the mixing tank and press the 'AUTO' button. The following status display will be shown.

① Current level of soft ice cream is indicated.

② Press the 'SELECT' button to display the level setting (Current, Set-up, No-load) of soft ice cream. to change soft ice cream level setting, press the 'SET' button for three seconds.
(For futher details, see 'Adjusting Setting Value' section.)

③ At Operation mode, if you push 'DEC.' button 1 time, piston time decreases by 0.1 second.
If you push 'INC.' button 1 time, piston time increases by 0.1 second.
(Max : Values of '3-8-2 ' or '3-10-2 ' of each mode)

Making soft ice cream in 'AUTO' mode.




To check 'AUTO' mode level set up ②


To see the information of the raw material in the hopper, press 'SET' button:

④ Information including the temperature of the hopper and cylinder can be obtained.
To change temperature, press the 'SET'button for three seconds.
(For further details, see 'Adjusting Setting Value' section.)

To see the raw material information of the mixing tank in the 'AUTO' mode


When soft ice cream has produced,
the compressor will be shutdown for a while, and
the status will be displayer as shown to the right.

⑤ The time remaining until the restarting of the compressor will be displayed in Min unit.
(If the ambient temperature is high, the compressor may start up earlier than the time indicated.)

⑥ Soft ice cream level is indicated.
(After indicating 100%, the value will decrease as time passes, faster if the ambient temperature is higher.).

After making soft ice cream in the 'AUTO' mode.


For your information

The soft ice cream level is set to the default by the manufacturer. Depending on the types of ingredients and the abrasion of the blade, it should be adjusted properly. When installing this equipment, the settings for the ingredients should be based on the suggestion by the installation technician. When changing the ingredients, consult with a professional to adjust the setting.

# Functional description of the buttons

【 Detail description of each mode】

If the soft ice cream is not used for a long time, then its shape will be degraded. In this case, you can use the 'Regeneration' function to make it look better.
Press the 'DEFROST' + 'AUTO' button at the same time for more than 2seconds, the status display window shown in the right figure will appear.
※Caution: Activated under the operation conditions only.

'Regeneration' mode.


① : It displays the current temperature of the soft ice cream.
② : It displays the temperature setting of the cylinder.
③ : It displays the duration of time (by minute) to maintain the set temperature(②) after the current temperature(①) reaches the set temperature.
As the duration of the temperature(③) maintenance expires after the current temperature(①) reaches the target temperature(②), it will automatically enter into 'AUTO' mode to make soft ice cream.

For your information

The 'Regeneration' function refers to a process where the soft ice cream is liquidized and then Process of producing soft ice cream; operable in "AUTO" mode only. It takes about 20 to 30 minutes.

Use the 'DEFROST' function to melt the soft ice cream in the cylinder.

'DEFROST' mode


It is used to operate the impeller of the hopper and the dasher motor of the cylinder. Mainly, the Washing function is used to remove the water or the liquid raw material.

④ : It displays the present current value of the dasher motor

'WASH' Mode


Heat the raw material or water in the cylinder and the hopper to reach the set temperature in order to wash with hot water. Press both 'DEFROST' + 'WASH' buttons for longer than 1seconds to display the state window shown in the picture on the right.

Mode of 'BOILING WATER'


⑤ : The set temperature of the cylinder is displayed.
⑥ : The current soft ice cream temperature is displayed.
⑦ : The retention time (minutes) is displayed, after the current temperature(⑥) reaches the set temperature(⑤).

After the current temperature(⑥) reaches the set temperature(⑤), when the retention time(⑦) passes, the operation halts.

# Functional description of the buttons

## [ Detailed description of each mode ]

If pasteurization is not done every day, and the ingredients are stored at a temperature below 5℃, after 2 or 3 days, it can cause deformation or decay.
To prevent decay and to maintain the initial refreshing soft ice cream ingredients, then you should heat it at 68~70℃ for more than 30minutes every day.

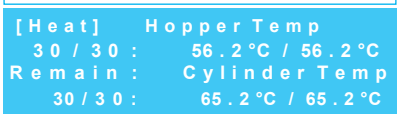
Current temperature and the time (Min.) for pasteurization process are indicated, as shown in the top right.

Press 'SELECT' button to display the Control Temperature in the hopper and cylinder.

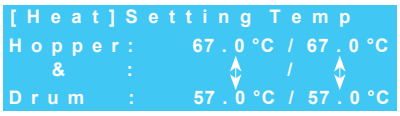
After pasteurization,This stage refrigerates the raw material in the hopper and cylinder cool.
Refrigeration process is applied to the hopper first and the cylinder next, as shown to the right.

When the hopper and cylinder are refrigerated simultaneously, the temperatures of the hopper and cylinder are indicated as shown in the bottom right.

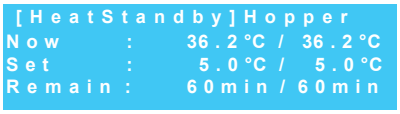
'PASTEURIZE' Mode




To check 'PASTEURIZE' mode temperature setting

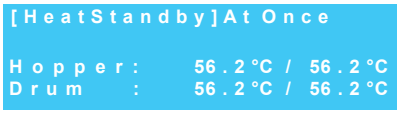



Standy-by the hopper after completing 'PASTEURIZE'




Standy-by the cylinder after completing 'PASTEURIZE'


Standy-by the hopper and cylinder simultaneously after completing 'PASTEURIZE'



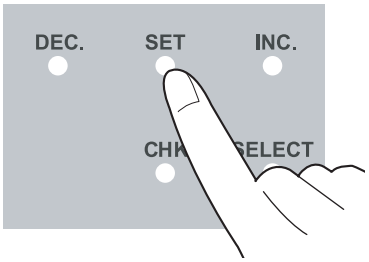

For your information

- While the 'HEATING' function operates, do not touch the dasher cover and the hopper cover because they are hot. Do not disassemble or modify. The hot ingredient can cause you bum injuries.
- When the 'HEATING' function operates, all button operations will be suspended as long as the electrical power supply is not cut off. But if the supplemental cooling lamp is on, you can use buttons.
- If the 'HEATING' function has not operated, then you should remove the original liquid in the hopper and the soft ice cream and perform a thorough cleaning job.

# Functional description of the buttons

[Check the setting ]

Press the 'SET' button lightly to enter the mode where set-up value can be confirmed, as shown below.
In the confirmation mode, Press the 'SET' button to see the setting values in the following order.




The temperature setting in the hopper and cylinder appear.

```
[Temperature]

Hopper:     8.2°C /  8.2°C
Drum   :    -6.2°C / -6.2°C
```

The rated voltage, frequency and current of the freezer are displayed.

```
[Power]
Voltage    :          220V
Frequency:            60Hz
Current    : 1.2A/ 1.2A
```

The version No. of the software operating the Main PCB, Vend PCB, Control PCB, and Door PCB are displayed.

```
[Version]
Main:   1.0  Vend:   1.0
Control:    1.0 /   1.0
Door:
```

The time and date set up in the freezer are displayed.

```
[Current time]

      2012.12.03
        17:01:02
```

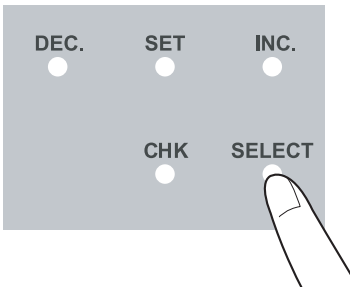
No-load current of the dasher motor is displayed.
First: No-load current when controlling ice cream first
Run: No-load current when controlling ice cream during operation
Draw: No-load current when discharging ice cream

```
[Noload Current]
    First    :  3.0A
    Run      :  3.0A
    Draw     :  2.1A
```

# Functional description of the buttons

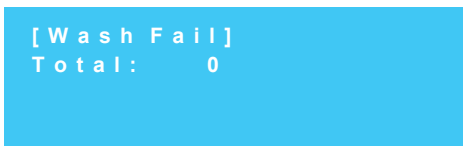
[ Check the record ]

Press the ‘SELECT’ button for three seconds to check the records in the order of Sterilization, Washing, and Error, as shown in the right.
Display items can be changed with the ‘DEC.’, ‘INC.’ buttons.
To check the date, there has to be at least one record.
Press the ‘SELECT’ button shortly to see the year, month and date. Multiple records can be viewed using the ‘DEC.’ and ‘INC.’ buttons.





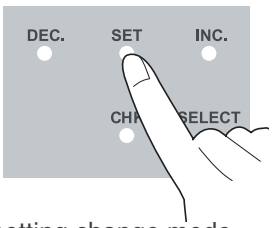



# Explanation of the function button

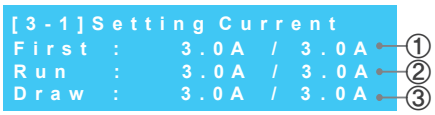
【Change the setting】

Press the 'SET' button for three seconds to enter the setting change mode as follows.
Move to other items using the 'DEC.' and 'INC.' buttons.
Press the 'SET' button. While the setting value is flashing, change the value using the 'DEC.' and 'INC.' buttons.
Press the 'SET' button again to go to another item.
To change several values in an item, move to another value using the 'SET' button.
When the last value is changed, the first screen of the item appears.
If you press the 'SET' button again for three seconds, then you can exit the setting change mode.




3-0 : Setting supplementation of cups and materials
Clicking 'YES' changes current number of ups on Checking window to setting on 9-20-1.
Clicking NO the number on the bottom flashes, and number of actual supplementation is displayed.


3-1 : Adjust the soft ice cream level.
This item is used to adjust the target current of the soft ice cream.The larger the number is, the stronger the soft ice cream level is. The smaller, the weaker it is.



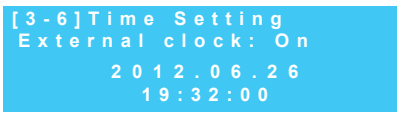

If the soft ice cream level is too strong, Then the number of soft ice cream cups sold can be decreased. '①' The level of soft ice cream at the start of producing.
After 100%, producing will be done at the level as shown at '②'.
③applied when discharging ice cream.

3-4 : Adjust the hopper cooling temperature.
This item is used to adjust the cooling temperature of the ingredients in the hopper. The larger the number is, the higher the storage temperature is.

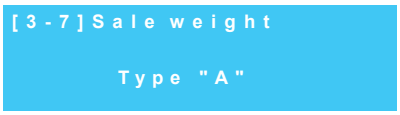

The smaller the number is, the lower the storage temperature is.
If you keep the storage temperature too low, then it can form ice in the ingredients in the hopper.
If you set it too high, it can cause decay of the ingredient in the hopper.

3-5 : Voice guidance and volume level can be selected.
Voice guidance time can be set up.


3-6 : The time and date of the internal clock can be set up.




3-7 : As a category to select the amount of single ejection for a soft ice cream, a selection is made from between the options of 'A', 'B', 'C', 'D', and Ice cream product may be dispensed at the preset time.
Set the details of each item can be changed from '3-8'.




For your information

- The soft ice cream level is configured to the default factory setting and shall be adjusted depending on the raw materials. Adjust the settings upon consulting with the installation engineer when changing the soft ice cream level.

# Explanation of the function button

After set the '3-10-6'. It sets the dispensing amount of the ice cream.

3-8-1: Set the detailed category for the '4' ejection amounts from Category '3-7'.
Select from between '1', '2', '3', '4' and press the 'SET' button to enter '3-8-2'.

[3-8]Sale Weight
Detail Setting
1.Weight Choice
[A] / [A] / [A]

3-8-2: Set the time for the cup ring(cup holder) to stay above.

[3-8]Sale Weight
Detail Setting
2.Top Halt [sec]
1.8 / 1.8 / 1.8

3-8-3: Set the time for cup ring(cup holder) to come down and to stop after the time set in '3-8-2'.

[3-8]Sale Weight
Detail Setting
3.Set Pause [sec]
0.2 / 0.2 / 0.2

3-8-4: Set the time for cup ring(cup holder) to stay when it stops after the time set in '3-8-3'.
When this period elapses, the cup holder automatically descends.

[3-8]Sale Weight
Detail Setting
4.Pause Time [sec]
0.2 / 0.2 / 0.2

3-8-5: Set the time to open the piston by operating the piston motor. By controlling this time, the ejection amount can be big or small.

[3-8]Sale Weight
Detail Setting
5.Piston Open [sec]
1.8 / 1.8 / 1.8

3-8-6: Reduced time for the first cup
Reduced time is applied to the first cup from the times set in '3-8-2' / '3-8-5'.
As the amount of ejection for the first cup is large, reduced time is applied for compensation in order to regulate the amount of ejection.

[3-8]Sale Weight
Detail Setting
6.Reduse Time [sec]
0.2 / 0.2 / 0.2

3-8-7: Decision time for the first cup
Set the sales wait time in order to apply the reduced time that was set in '3-8-6'. When a sale is made after the time set in this category, category '3-8-6' is applied.

[3-8]Sale Weight
Detail Setting
7.Break Time [min]
1.0 / 1.0 / 1.0

3-9: Sales wait time after corn ejection
( Function applied only to semiautomatic vending machine models.)
After coin insertion, corn is ejected and a blue lamp blinks. At this time, a sale is possible when the corn is taken out of the corn ejection hole and placed on the corn ring.
It is a category to set thewait time to place the corn on the corn ring after the blinking of blue lamp, and a sale is not possible when the corn is placed on the cornring after this time.

[3-9]Corn Drsw after
SaleWait
180sce

important

Adjust the categories from '3-8-2' to '3-8-5', set a proper shape and an ejection amount of soft ice cream. When dispensing ice cream in accordance with the values in this item, the volume may vary according to the dispensing.
That is because changes canoccur according to the hardness of the soft ice cream, time, and the characteristics of the raw material.

# Explanation of the function button

Item applied after setting the items in 3-10-6; the function sets the discharge quantity of ice cream

1. After putting in the ingredient and pressed ‘AUTO’.
2. When pushed ‘AUTO’+‘DEFROST’ button during operation.
3. After pasteurization, when became ‘AUTO’ automatically.
4. When turned power off and on during Operation

3-10-1: Set the detailed category for the ‘4’ ejection amounts from Category ‘3-7’. Select from between ‘A’, ‘B’, ‘C’, ‘D’ and 100g and press the ‘DEC.’ button to enter ‘3-10-2’.


3-10-2: Set the time for the cup ring(cup holder) to stay above.


3-10-3: Set the time for cup ring(cup holder) to come down and to stop after the time set in ‘3-10-2’.


3-10-4: Set the time for cup ring(cup holder) to stay when it stops after the time set in ‘3-10-3’.

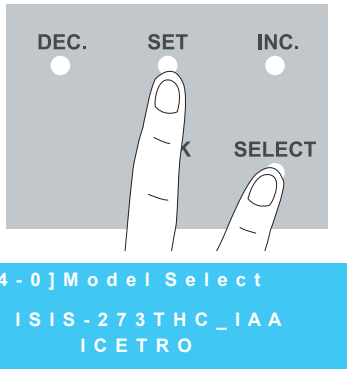

3-10-5: Set the time to open the piston by operating the piston motor. By controlling this time, the ejection amount can be big or small.


3-10-6: Applicaiton duration of item (3-10) at initial sales of ice cream is indicated. If the duration of the item is exceeded, sales is made in duration set in item ‘3-8’.

# Explanation of the function buttons (set by an Administrator)

Only experts that have been designated by the main office shall adjust this category.
A service charge will be applied if problems occur due to unapproved alterations.

Press 'SET' + 'SELECT' buttons for 2 seconds to enter the stage of inputting the password.
Password has 4 digits and input begins from the left and the relevant digit blinks.
Select the number by 'DEC.' or 'INC.' buttons and press 'SET' button to move to the next digit.
Input the 4 digit password in this way.
Do not let anyone without professional education know the 4 digit password under any circumstances.




4-0: This is the category that can be selected according to the characteristic and model of the product and that has a meaning that is different from the model name of the product. When the model is changed in this category, the content in Category '4' is reset to the default setting.

【 Definition of model name 】

| I | S | I | S | - | 2 | 7 | 3 | T | H | C | _ | I | A | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | ② | ③ | ④ | | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ | | ⑪ | ⑫ | ⑬ |

① I : Icetro
② S : Soft
③ I : Icecream
④ S : S - Self machine
V - Vending machine
M - Manual
⑤ 2 : Cylinder capacity(Two digits)
⑥ 7 : Cylinder capacity(Single digit)
⑦ 1 : Number of discharge ports
(1: 1EA, 3: 3EA)
⑧ T : T - Table type
S - Standing type
⑨ H : H - Heating
S - No Heating
⑩ C : Cups
S : Self
⑪ I : I - Inverter using
S - No Inverter
⑫ A : A - Alone(Operation of individual systems)
T - Together(Operation of both of the left and right systems simultaneously)
⑬ A : W - Water Cool Type
A - Air Cool Ttpe

# Explanation of the function buttons (set by an Administrator)

4-1: Rest time setting

This is the function to allow the compressor to rest for a certain period of time by minute after the soft ice cream is made. Adjust this category carefully as it can make the soft ice cream melt quickly.


4-2: Set the compressor to restart temperature

This remembers the temperature at the time of making soft ice cream. When the temperature rises above the temperature that was set in this category, the compressor is restarted.

The rest time of the compressor can be extended when the temperature in this category is increased.


4-3: Hopper management temperature setting

This sets the management temperature to refrigerate the raw material in the hopper.

The temperature set in this category is managed as the value added from the value in Categories '3 - 4'.

For example, if '3 - 4' is 2℃ and '4 - 3' is 2℃, the management temperature of the hopper is maintained at 2~4℃.


4-4: Standby OFF temperature setting

This sets the cylinder's raw material storage temperature in the standby mode. When the temperature of this category is too low, the raw material inside the cylinder freezer and soft ice cream can become like porridge.


4-5: Standby management temperature setting

This sets the management temperature to refrigerate the raw material in the hopper. The temperature set in this category is managed the value added from the value in Categories '3 - 4'.

For example, if '3 - 4' is 2℃and '4 - 3' is 2℃, the management temperature of the hopper is maintained at 6 ~ 8℃.


4-6: Standby reset time setting

This sets the motor's operation cycle to the standby mode. When one is satisfied with the temperature value of '4-4' + '4-5' and the time of this category, the motor and compressor are operated.

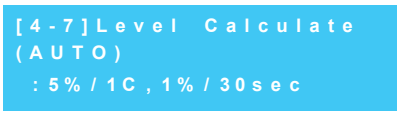

important

The categories that determine the compressor rest time during operation are '4-1'and '4-2'. When one is satisfied with these two categories, the compressor rest time ends.

# Explanation of the function buttons (set by an Administrator)

4-7: 1℃ rise level calculation

When the soft ice cream is made, 100% is displayed on the LCD window and the percentage value is deducted from the compressor rest time. At this time, when 1℃ is added to the temperature at which the soft ice cream is made, the value set for this category is deduced from the percentage and is then displayed.




30℃ seconds pass level calculation

When the soft ice cream is made, 100% is displayed on the LCD window and the percentage value is deducted from the compressor rest time. At this time, the value set for this category is deduced from the percentage every 30 seconds after the making of the soft ice cream and displayed.

4-8: Upper limit current setting

This category sets the maximum value when adjusting the hardness of the soft ice cream in Category '3-1'.
This category value needs to be set within the range, in which excessive current does not flow on the motor.


4-9/4/9-1: Selection of pasteurization

This selects the function to pasteurize the raw material and the soft ice cream in the hopper and the cylinder.
The model with the pasteurization function is on and the model without the pasteurization function is off.


For the model with sterilization function, the functions of water boiling, defrosting, and regeneration may be used when the sterilization function is turned off.

4-9-2: Control temperature setting during pasteurization

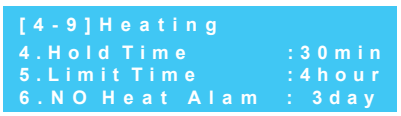
This sets the highest temperature to pasteurize the raw material and the soft ice cream in the hopper and the cylinder. When lowering the value in this category, pasteurization may not work.
When increasing the value in this category, the raw material may become carbonized and the taste of the soft ice cream may change.

4-9-3: Management temperature during pasteurization

This indicates the temperature deducted by the temperature set for this category from the temperature of '4-9-2'. For example, if '4-9-2' is 70℃ and '4-9-3' is 2℃, the raw material in the hopper and the cylinder is maintained at 68-70℃.

4-9-4: Pasteurization maintenance time setting

This sets the time to maintain the temperature for '4-9-2' and '4-9-3' during pasteurization.
The time set for this category can be reducedor extended in order to control the time to maintain the effect of pasteurization.




4-9-5: Maximum pasteurization time setting

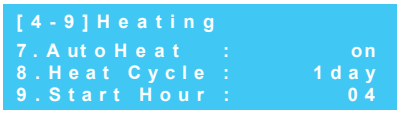
This sets the maximum operation time for the pasteurization time of '4-9-2' ~ '4-9-4'.
It is set to stop pasteurization when gas leaks or when problems occur in the pasteurization device.
If pasteurization continues until the time set for this category, pasteurization failure is recorded and the machine needs to be checked for problems.

4-9-6: Designation of a warning date when pasteurization is not performed

When the date set in this category is passed when pasteurization failure is recorded, an alarm(Voice Supported Model) is set off for not performing pasteurization.
Therefore, perform pasteurization daily.

# Explanation of the function buttons (set by an Administrator)

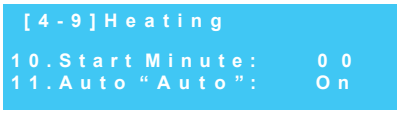
4-9-7: Selection of auto pasteurization
Choose ON for auto pasteurization and choose OFF for no auto pasteurization.
When ON is selected, the following categories are activated.




4-9-8: Auto pasteurization cycle setting
Execute auto pasteurization according to the date set in this category.
For example, '1day' is everyday, '2day' is every other day, and '3day' is every three days.
Auto pasteurization is alway executed in the auto mode and the standby mode and is not executed in any other mode.

4-9-9: Auto pasteurization start time setting
This sets the time to start auto pasteurization. Set the hour for this category.

4-9-10: Auto pasteurization start time setting
This sets the time to start auto pasteurization.
Minutes are set in this category.




4-9-11: Auto set after pasteurization
Select whether to execute auto when stand by has completed after pasteurization.
Set this category as ON and execute auto and make sure to open the carburetor hole.

4-10: Select between Celsius and Fahrenheit
Select between Celsius (℃) and Fahrenheit (℉)


4-11:Environmental temperature detect function setting
The function to detect the environmental temperature can be turned ON/OFF.
Environmental temperature is the temperature of the air coming into the compressor.
Therefore, the temperature for this category can be high and a warning message can be given if the place of installation is small and has no ventilation.
Then the installation environment must be improved.


caution

The reference voltage measurement must be in accordance with the measured PCB input voltage.

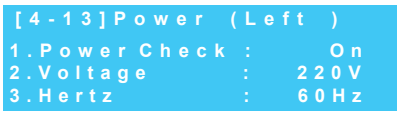
# Explanation of the function buttons (set by an Administrator)

4-12: No load detection function setting

The no load detection function can be turned ON/OFF. 'No load' means the raw material inside the cylinder exists in a liquid condition. The motor current is then called 'no load current' If this function is set to on, power is allowed to the product and the noload current is remembered when the temperature of the cylinder is higher than 5℃.


4-13/4-13-1: Supply power standard value setting

Set the voltage and frequency standard of supply power. When this function is on, the following category appears.




4-13-2: Voltage standard value setting

Measure the voltage at the place of installation and enter the standard value. This product guarantees ±10% of the supply power. When it is outside of the range a warning sound is given. If used continually, the product can have problems. As for voltage of single phase, it is required to measure voltage of L and N. When voltage is 3W, 3 phases, voltage shall be adjusted based on the phase voltage.

4-13-3: Frequency standard value setting

Set the frequency standard of the supply power. When the standard value of this category is wrongly selected, the present supply voltage of '1-3' can be displayed differently.

4-16: Current value compensation setting

This is the function for performing overall compensation when the measured current is different from the actual measurement value.


4-17/4-17-1: Air pump selection

If the model has an air pump, this category can be turned on to control the operation of the air pump.


4-17-2: Operation time setting during the initial operation

Set the operation time of the air pump when beginning initial operation.

4-17-3: Operation time setting after sales

Set the operation delay time of the air pump sales. After the motor operation is stopped, the air pump is additionally operated according to the time set for this category.

4-17-4: Operation time set after button input

(Applying the relevant model)
Set the time that the air pump operates every time the button is pushed.

# Explanation of the function buttons (set by an Administrator)

4-18/4-81-1: Select the use of refresh.

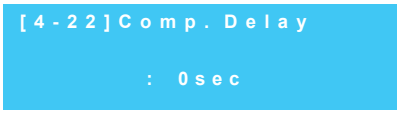

4-18-2: Refresh time setting
Set the refresh's Operating time.

4-18-3: Set the refresh's work limit time
Set the limit time in order to prevent continuous operation after refresh movement. Refresh can be used again when the time set for this category has passed.

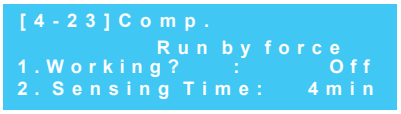
4-20: Calibration of voltage measurement value
The function aligns voltage measured during installation of the product with voltage indicated on [ POWER ] on the information checking window. The two voltages be shall kept identical to each other with this function.


4-21: Dasher motor delay time setting
Sets the motors operation delay time after making soft ice cream.


4-22: Compressor delay time setting
This sets the compressor's operation delay time after making soft ice cream. If this category is given much time, soft ice cream can be frozen too much and problems can occur to the product.




4-23/4-23-1: Selection of the compressor forced operation
This is the function for forcibly operating the compressor during rest time when the compressor is not operating. The following categories appear when this category is turned on.



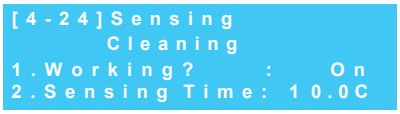

4-23-2: Temperature detection time setting after stop
This chooses the time to determine the temperature during the rest time.
In case '4min' is chosen, it means, detecting temperature 4minutes after rest.
It sets the temperature for operating the compressor.
The compressor is operated when the temperature reaches the temperature that has been set for this category.

4-23-3: Operation temperature selection
This detects the temperature at the time set in Category '4-23-3' and sets the temperature at which the compressor can be operated.
The compressor is operated when the temperature reaches the temperature that was set for this category.


4-23-4: Operation time control
In case the temperature reaches the temperature of '4-23-3' at the time of '4-23-2', it sets the time for compressor operation.

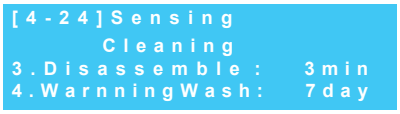
# Explanation of the function buttons (set by an Administrator)

4-24/4-24-1: Wash detection function setting
This is the category to select the wash detection function.




4-24-2: Determine the temperature setting during washing
This adjusts the detection temperature in the cylinder and thehopper during washing when '4-24-1' is activated.

4-24-3:Dasher cover separation time setting during washing
This sets the separation time of the dasher cover during washing. Be careful as a 'wash failure' is recorded when the dasher cover is attached within the time set for this category.




The time for this category means, the minimum time necessary to clean the parts inside the cylinder such as the dasher, the blade, and so forth.

4-24-4: No wash warning date setting
An alarm(Voice Supported Model) is set off when washing is not performed within the value(days) set within this category.

4-24-5: No wash lock setting
The product cannot be used when no washing is performed within the days set for this category.
If this product cannot be used due to no washing, perform cleaning according to the method indicated in the manual.


4-25/4-25-1: Selecting the operation mode of the impeller in the mix tank
The impeller in the reservoir bin operates depending on the ON/OFF adjustment of the sensor of raw material temperature in accordance with the following items:


"COMP" : Activated only when the compressor operates
"TIME" : Operating in accordance with time(4-25-2, 4-25-3) setting independent from the operation of the compressor
"Co.t" : Operating in the same way as the compressor, also activated by time setting (4-25) after the materials in the reservoir bin reach the temperature setting

4-25-2: Operation maximum time setting
This is the function to limit the impeller operation time by providing the maximum operation time under the condition of impeller operation. It is usually used when a lot of foam is created by raw material.
When the agitator operation time is short, ice may form on the wall of the hopper.


4-25-3: Maximum rest time setting
The impeller stops when the raw material in the hopper reaches the set temperature, and the impeller operates when the temperature reaches the operation temperature. At this time, the temperature distribution in the hopper may not be even when it takes a long time to reach the operation temperature.
Then setting the rest time for the agitator can control it.

caution

Do not turn off the power switch during the wash cycle.
This is because the program that detects washing is in operation

# Explanation of the function buttons (set by an Administrator)

4-26: Hopper temperature compensation function setting
The temperature in the hopper is measured with the temperature sensor on the floor of the hopper. The temperature is correct in the models having an impeller, however it may have deviation in the models without impeller.
As such, the temperature has to be corrected.

4-26-1: Temperature compensation value setting for 10℃ or lower
This sets the temperature compensation value of the hopper to the environmental temperature of 10℃ or lower.

4-26-2: Temperature compensation value setting for 20℃ or lower
This sets the temperature compensation value of the hopper to the environmental temperature of 20℃ or lower.


4-26-3: Temperature compensation value setting for 30℃ or lower
This sets the temperature compensation value of the hopper to the environmental temperature of 30℃ or lower.

4-26-4: Temperature compensation value setting for 4℃ or lower
This sets the temperature compensation value of the hopper to the environmental temperature of 40℃ or lower.


4-26-5: Temperature compensation value setting for 40℃ or higher
This sets the temperature compensation value of the hopper to the environmental temperature of 40℃ or higher.


4-27: Sale lever no return judgment time setting
When the lever does not return to the original position after the ejection of the soft ice cream, an alarm is set off after the time that was set for this category.


4-28/4-28-1: Defrost function selection
The action function can be set to ON/OFF.

4-28-2: Cylinder temperature setting during defrost
Defrosting the soft freezer inside the cylinder to the temperature that was set for this category.


4-28-3: Maintenance time setting during defrost
It sets the delay time after reaching the temperature of '4-28-2'.

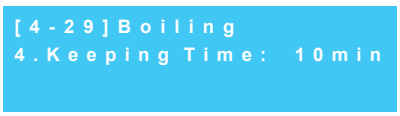
4-29/4-29-1: Water boiling function
Water boiling function can be set to ON/OFF.

# Explanation of the function buttons (set by an Administrator)

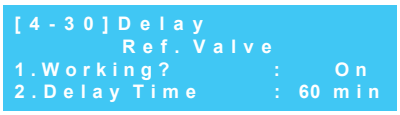
4-29-2: Heating temperature setting during water boiling
It sets the temperature of raw material in the cylinder and hopper during water boiling.


4-29-3: Management temperature setting during water boiling
It maintains the temperature of the cylinder and the hopper set at this category from the temperature set at '4-29-2'.

4-29-4: Management time setting during water boiling
It sets the time necessary to maintain the management temperature of '4-29-2' and '4-29-3'.

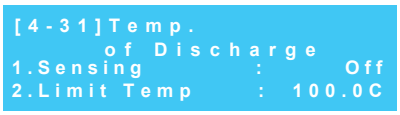



4-30/4-30-1: Refrigeration value delay function setting
It is the function that is used to make soft ice cream faster by delaying the operation of refrigeration value when making soft ice cream.



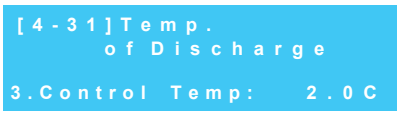

4-30-2: Refrigeration value delay time setting
It sets the time of refrigeration value closure at the time of initial operation, and this time loses its effect after soft ice cream is made. Therefore, it sets the time to keep the refrigeration value closed before the making of soft ice cream.

4-31/4-31-1: Cylinder refrigerants temperature use selection
It can select the use of cylinder refrigerants temperature sensor. It is the function to detect and limit the temperature of refrigerants inside the cylinder when performing pasteurization without any raw material.




4-31-2: Cylinder refrigerants maximum temperature setting
It is the function to prevent the temperature of the refrigerants inside the cylinder from rising above this value set at this category.

4-31-3: Cylinder refrigerants management temperature setting
It manages the temperature of refrigerants inside the cylinder by reducing the value of this category from the temperature of the category '4-31-2'.

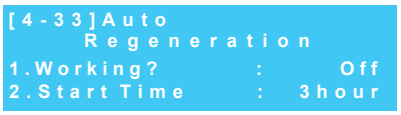



4-32-1: MIX OUT function selection
When this category is activated, all operations are stopped in case there is no raw material.


4-32-2: MIX OUT function selection

# Explanation of the function buttons (set by an Administrator)

4-33/4-33-1: Auto recycling function setting
Activate this category when auto recycling is needed. Make sure to block the carburetor hole when performing auto recycling.

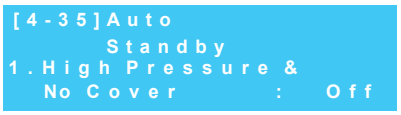



4-33-2 : Auto recycling judgment time setting
Auto recycling is performed when the time set at this category is passed under auto.

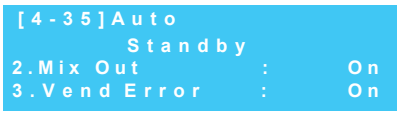
4-33-3: First auto recycling limit time setting
Set up the time while auto-regeneration is not carried out.


4-33-4: Second auto recycling limit time setting
Set up the time while auto-regeneration is not carried out.


4-35-1: Standby auto shift selection
It selects the function to set standby automatically when the machine stops due to high pressure or cover error.
When this category is turned on, standby is activated.
When it is turned off, the operation before error is executed after error is lifted.

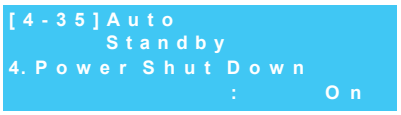



4-35-2: Standby auto shift selection
It selects the function to set standby automatically when '4-32-1 ' (MIX OUT function) is activated and no raw material is detected.




4-35-3: Standby auto shift selection
It selects the function to set standby automatically when dispenser error (Er27, Er28, Er29, Er30, Er33, Er34) appears.

4-35-4: Standby auto shift selection
It selects the function to set auto under auto and standby under pasteurization and standby when the power is allowed after being turned off during operation.



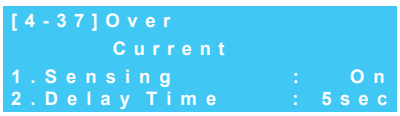

For your information

Turn the power off, for a while to reset Dispenser related errors.

# Explanation of the function buttons (set by an Administrator)

4-36: Auto selection(It applies to the fully automatic vending machine, not to the manual system.)
This selects the function to set standby when the category '4-35-1' and '4-35-2' are activated or automatically set auto when supplying raw material or cup during operation.


4-37/4-37-1: Excessive current detection function selection
This category is the function to select the protection function by detecting the excessive current of the dasher motor.




4-37-2: No current detection is performed during the time set at this category.

4-37-3: Excessive current detection current setting
Soft ice cream is controlled by the value set at '3-1' and the machineis operated normally.
When troubles (lack of raw material and soforth) happen and motor stops, this function detects it.
The value set at this category is added to the value of '3-1' , and the function begins to be operated when the set value is reached.


4-37-4: Excessive current detection delay time setting
Excessive current detection function is operated when more than the value of '4-37-3' is detected and the time set at this category is passed.

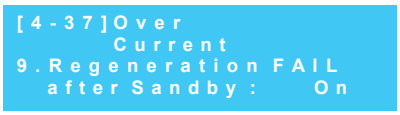
4-37-5: Reset function selection
This category selects reset function when abnormal operations
(excessive current, TP on peration, inverter trouble and so forth) occur in the motor.


4-37-6: Reset number setting
When category '4-37-5' is activated, it selects the number of resets.

4-37-7: Recycle after the number of resets is terminated.
It selects the function to recycle automatically when an error occurs even after auto reset.


4-37-8: Recycling number setting
When category '4-37-7' is activated, it selects the number of recyclings.

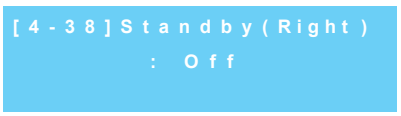

4-37-9: Standby in case of defrost / auto error
It selects the function to set final standby when the processes from '4-37-5' to '4-37-8' all failed.



# Explanation of the function buttons (set by an Administrator)

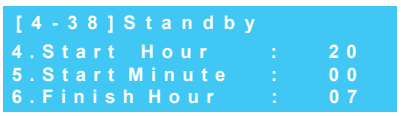
4-38-1: Select whether to use 'Standby' button
When this category is activated, press the 'refresh' button for longer than 3 seconds to operate the standby function.


4-38-2: Selection of auto 'Standby'
Choose ON for auto Standby and choose OFF for no auto Standby.
When ON is selected, the following categories are activated.




4-38-3: Auto 'Standby' cycle setting
Execute auto Standby according to the date set in this category.
For example, '1day' is everyday, '2day' is every other day, and '3day' is every three days.
Auto Standby is alway executed in the auto mode and the standby mode and is not executed in any other mode.

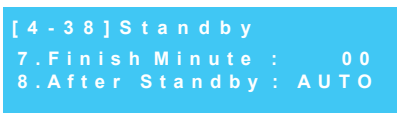
4-38-4: Auto 'Standby' start time setting
This sets the time to start auto Standby.
Set the hour for this category.




4-38-5: Auto 'Standby' start time setting
This sets the time to start auto Standby.
Minutes are set in this category.

4-38-6: Auto 'Standby' finish time setting
This sets the time to start auto Standby. Set the hour for this category.

4-38-7: Auto 'Standby' finish time setting
This sets the time to start auto Standby.
Minutes are set in this category.



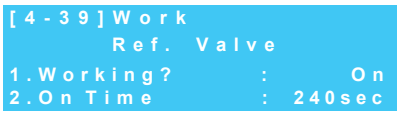

4-38-8: Auto set after 'Standby'
Select whether to execute auto when stand by has completed after Standby.
Set this category as AUTO and execute auto and make sure to open the carburetor hole.

Select whether to execute auto when stand by has completed after Standby.
Set this category as HEAT and execute auto Pasteurization.

Select whether to execute auto when stand by has completed after Standby.
Set this category as STAN and execute auto stand by.

# Explanation of the function buttons (set by an Administrator)

4-39/4-39-1: Refrigeration valve operation selection
It selects the use of operation time of refrigeration valve that refrigerate the raw material in the hopper.
Activate this category when refrigerating the cylinder and the hopper with a single compressor.




4-39-2: Refrigeration valve operation time setting
It sets the operation time of refrigeration valve that refrigerates the raw material in the hopper.
Be careful as ice can be formed on the wall of the hopper when the time of this category is adjusted too much.

4-39-3: Refrigeration valve rest time setting
It sets the rest time of refrigeration valve that refrigerates the raw material in the hopper.
soft ice can be formed on the wall of the hopper when the time of this category is too short, and the raw material in the hopper may not be refrigerated when the time of this category is too long.


4-39-4: By choosing refrigeration valve operation mode, effective storage of ingredient can be done.
Either : At the operation of either the freezing valve or refrigeration valve, the compressor starts to operate.
Drum on : Only when the freezing valve operates, refrigeration valve starts to operate.

4-40: Set up compressor cooling fan delay time
This function sets up the delay time in compressor cooling fan start-up.


4-41: Set up hot gas valve operation in standby mode
Set up the operation of the hot gas valve during standby status.

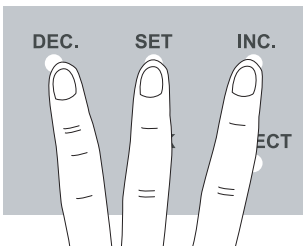

4-42: Set up hot gas valve operation in ‘ AUTO’ mode
Set up the operation of the hot gas valve during AUTO status.

# Explanation of the function buttons(set by a user)

Only experts that have been designated by the main office or by those who received professional education and received approval from the main office shall adjust this category.
A service charge will be applied if problems occur due to unapproved alterations.

Press 'DEC.' + 'SET' + 'INC.' buttons for 2 seconds to enter the stage of inputting the password.
Password has 4 digits and input begins from the left and the relevant digit blinks.

Select the number by 'INC.' and 'DEC.' buttons and press 'SET' button to move to the next digit. Input the 4 digit password in this way.
Our engineer knows the password, and password input window will not appear. if you set 9-19-2 items as 'OFF'.




9-1/9-1-1: Pressure stabilization function selection after pasteurization

```
[9-1]Pressure
     Equalizer
1.Working?   :    Off
2.Valve Open :  60sec
```

9-1-2 : Value open time setting
It sets the operation time of related valve in order to stabilize the pressure in the cylinder and the hopper.

9-1-3 : Value block time selection
It sets the block time of the related valve in order to stabilize the pressure in the cylinder and the hopper.

```
[9-1]Pressure
     Equalizer
3.Valve Close:   1min
4.Comp.Work  :   0sec
```

9-1-4 : Compressor operation time setting

9-1-5 : Compressor rest time setting

9-1-6 : Final Compressor rest time setting

```
[9-1]Pressure
     Equalizer
5.Comp.Break :   1min
6.Last Break :   1min
```

9-2-1 : Hopper refrigeration operation time setting after pasteurization
It sets the maximum operation time when refrigerating the hopper after pasteurization.

```
[9-2]Heating
after Hopper STANDBY
1.Limit Time :  60min
2.Ending Temp :  5.0°C
```

9-2-2 : Set refrigeration temperature in the hopper after pasteurization
It sets the target temperature when refrigerating the hopper after pasteurization.
If one is satisfied between '9-2-1' and '9-2-2' , hopper refrigeration after pasteurization is terminated.

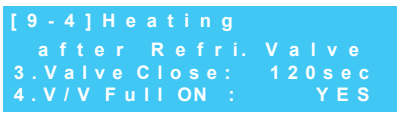
9-4/9-4-1 : Refrigeration valve operation selection (Apply during refrigeration after)
It selects the use of operation time of refrigeration valve that refrigerate the raw material in the hopper.
Activate this category when refrigerating the cylinder and the hopper with a single compressor.

```
[9-4]Heating
after Refri.Valve
1.Working?   :    On
2.Valve Open :  60sec
```

# Explanation of the function buttons(set by a user)

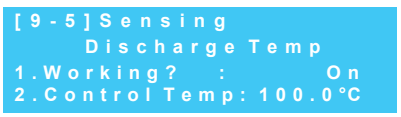
9-4-2: Refrigeration valve operation time setting
It sets the operation time of refrigeration valve that refrigerates the raw material in the hopper. Be careful as ice can be formed on the wall of the hopper when the time of this category is adjusted too much.

9-4-3: Refrigeration valve rest time setting
It sets the rest time of refrigeration valve that refrigerates the raw material in the hopper. Ice can be formed on the wall of the hopper when the time of this category is too short, and the raw material in the hopper may not be refrigerated when the time of this category is too short.



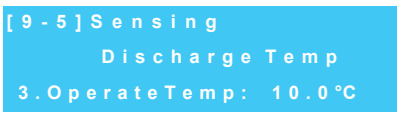

9-4-4: Set up refrigeration valve 'Full OPEN'
Set up valve Full Open while refrigerating the raw material in the hopper.

9-5/9-5-1: Refrigerants temperature use
Refrigerants temperature use can be set to ON/OFF. This category needs to be activated first in order to activate the category '4-31'. When this category is activated and category '4-31' is not activated, the refrigerants temperature of '2-4' may display error.

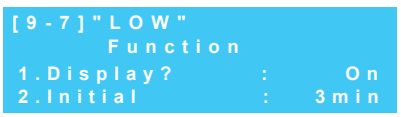



9-5-2: Refrigerants detection control temperature
When '9-5-1' is activated, the temperature of the refrigerants set at this category is checked. If the temperature is hotter, the operation of the compressor is stopped.

9-5-3: Refrigerants detection management temperature
When temperature reaches the reduced temperature by the value set at these categories (9-5-2, 9-5-3) after the compressor stopped at the value set at '9-5-2', the compressor is operated again.




9-7/9-7-1: 'LOW' output use setting
Soft ice cream reaches the set value after the machine is operated. When it does not reach the controlled value due to other reasons (lack of raw material supply and so forth), LOW message is displayed. This category decides output.




9-7-2: Initial 'LOW' output time
When operating the machine for the first time, if soft ice cream is not made 100% with in the time set at this category from the moment of 0.2A(9-7-6) increase from no load current (1-2), LOW is displayed.(ex L90%)

# Explanation of the function buttons(set by a user)

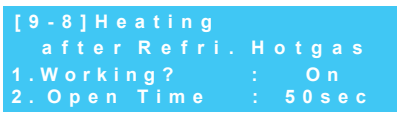
9-7-3: Set up the time criteria for deciding ‘LOW’ in resale Set up the reference time for deciding ‘LOW’ in resale

9-7-4: Rest time setting when LOW appears
When LOW appears, the rest time set at this category is applied instead of the rest time set at category ‘4-1’.


9-7-5: High speed rotation time setting when LOW appears
When LOW appears, it sets the time for high speed rotation after the rest time of the category ‘9-7-4’.

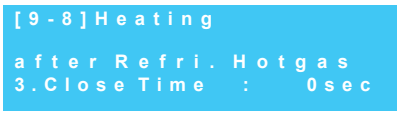
9-7-6: Set up the reference current for deciding ‘LOW’ in resale
Set up the reference current for deciding ‘LOW’ in resale


9-8/9-8-1:Cold storage preferred refrigeration set up after pasteurization
It selects the use of hot gas valve during standby after pasteurizationIt is applied to the refrigeration of hopper after pasteurization, and refrigeration valve works even when this category is not activated.

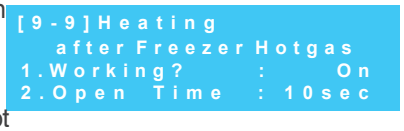



9-8-2: Hot gas valve operation time
It sets the operation time of hot gas valve during the refrigeration of hopper after pasteurization.

9-8-3: Hot gas valve rest time
It sets the rest time of hot gas valve during the refrigeration of hopper after pasteurization.




9-9/9-9-1: Freezing preferred refrigeration set up after pasteurization
Selection of hot gas valve use during standby after pasteurizationIt is applied to the refrigeration of the cylinder after pasteurization.
Refrigeration valve works even when this category is not activated.




9-9-2: Initial Hot gas valve operation time
It sets the operation time of hot gas valve during the refrigeration of cylinder after pasteurization.

9-9-3: Initial Hot gas valve rest time
It sets the rest time of hot gas valve during the refrigeration of cylinder after pasteurization.


9-9-4: Initial hot gas valve cycle operating time set up
Set up the time applied to the cycle operation of ‘9-9-2’ and ‘9-9-3’.

important

1. ‘LOW’ message appears when soft freezer does not reach the set current.
   It happens when the blade does not clean theinner wall of the cylinder, the raw material is not supplied from the hopper or there are problems in refrigeration capacity.
2. Categories ‘9-7-4’ and ‘9-7-5’ are activated in the models with inverter.
   However, this function is repeated 2 or 3 times before normal operation.

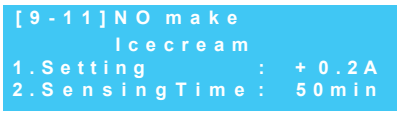
# Explanation of the function buttons(set by a user)

9-9-5: Second Hot gas valve operating time set up
Set up the valve operating time after the cycle operation of '9-9-4'.

9-9-6: Second Hot gas valve resting time set up
Set up the valve resting time after the cycle operation of '9-9-4'


9-10: Pasteurization prevention function selection during 'MIX LOW'
When this category is activated, pasteurization is not performed during 'MIX LOW'.


9-11-1: No formation judgment current
It is the category ton control the error conditions that can cause the failure of soft freezer making, and it occurs when the current doesnot rise above the value set at this category from no load current during operation.

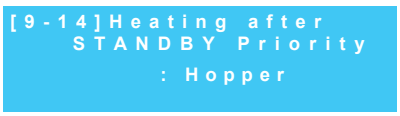



9-11-2: No formation judgment time
It is the category to control the error conditions that can cause the failure of soft ice cream making, and it occurs when the time of this category is passed while not reaching the current value set at '9-11-1'.

9-12: Compressor operation judgment current
In case of typical 'ON/OFF' in auto mode, it sets the current value ofthe motor that is needed to operate the compressor. When the present current is lower then the current value after deducting the current value of this category from the current set at '1-1', compressor is operated.
Otherwise, the compressor is not operated.


9-13: Inverter use setting
This category is activated in models with inverter.


9-14: Refrigeration priority setting after pasteurization
This category is to set the priority in refrigerating the hopper and the cylinder after pasteurization.

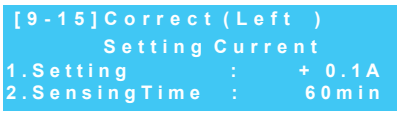



important

When soft freezer is not sold and becomes thin, it cannot be returned to the original ice quality. By using recycling function, soft freezer can become similar to its original ice quality. When recycled, however, overrun can drop and ejection amount can be different.

# Explanation of the function buttons(set by a user)

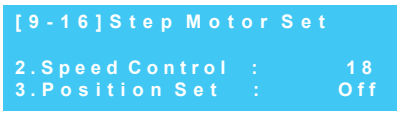
9-15-1: Current compensation value in case of no sale during operation
When soft ice cream is not sold for a long period of time, it becomes thin and ejection amount tends to be large. After a long period of time without sale, it makes soft ice creama little harder by adding the value of this category to the value set at '3-1'.




9-15-2: Judgment time setting in case of no sale during operation
When soft ice cream is not sold for a long period of time, it becomes thin and ejection amount tends to be large. After a long period of time without sale, it makes soft freezer a little harder by adding thevalue of this category to the value set at '9-15-1'.

9-16-1: Set up cup holder travel stroke
Set up the travel distance from the soft ice cream discharge port to the cup discharge port of the cup dispenser.

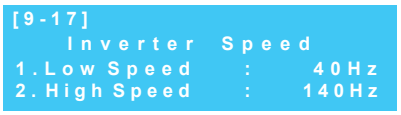

9-16-2: Set up cup holder travel speed
Set up the travel speed of the cup holder.




9-16-3: Adjust cup discharge port position
For fine adjustment of the cup holder, change the setting value at '9-16-1'.
Activate (ON) the item, and adjust the position of the cup holder using the '–' and '+' buttons to the left and right, respectively.

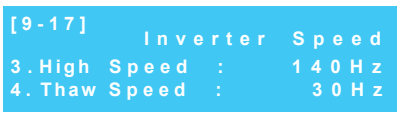
※ '9-16': It applies to the fully automatic vending machine, not to the manual system.)

9-17-1: Set up dasher motor speed (At the start of producing ice cream)
set the frequency of the inveter to run the dasher motor at the start of ice cream producing.




9-17-2: Adjust dasher motor speed (For the operation stage)
set the frequency of the inverter to run the dasher motor for the stage after the start of the ice cream production.

9-17-3: Adjust dasher motor speed (at dispensing)
The inverter which runs the dasher motor operates at the frequency set up in this item when dispensing soft ice cream




9-17-4: Adjust dasher motor speed (at pasteurization and referigeration)
The inverter operates at the frequency set up in this item when pasteurizing and referigerating the hopper and the cylinder.

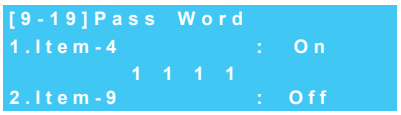
caution

The password of this item can be assigned to the technicians authorized by the manufacturer under proper security procedures.
Releasing the password can be subject to legal punishment.

# Explanation of the function buttons(set by a user)

9-18: Time Adjust brightness of LCD BACK LIGHT
Adjust the LCD BACK LIGHT time
Kept lighted if set up as ‘FULL ON’


9-19-1: Set up password
Set up the password required for administrator mode(Item No4)



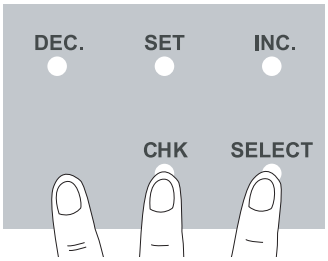

9-19-2: Set up use-or-not of administrator’s password
Set up use-or-not of the password required for Technician mode.
If this item is ‘ON’ the password will be set up automatically, and no more items can be checked out.

For your information

- When soft ice cream is not sold and becomes thin, it cannot be returned to the original ice quality. By using recycling function, soft ice cream can become similar to its original ice quality. When recycled, however, overrun can drop and ejection amount can be different.
- The password of this item can be assigned to the technicians authorized by the manufacturer under proper security procedures. Releasing the password can be subject to legal punishment.

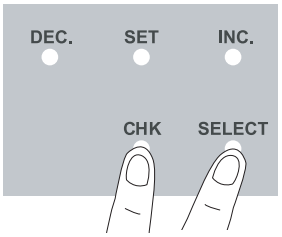
# How to check the operation of each part

Pressing “CHK,” “SELECT,” and empty space next to “CHK” simultaneously and holding them down for three seconds enable the mode for checking the operation of each part.
This operation is performed if a particular part is suspected of failure. Selecting “ON” and “OFF” for each part activates the part.
If the part is not activated, check the part for failure and connection of the power cable to identify promptly the failure of the part. Once you finish checking, turn the part off.



# Sale related Settings

If you push 'CHK' and 'SELECT' button at the same time for 2 seconds,
you enter into sales related settings, and you can change relevant values by pressing 'SET' button.




*1-1: Verifying the total sales amount.

```
[1-1] Total Sum

Total:                    ₩
```

It is allowed to verify the total sales amount.

1-2: Verifying the total sales quantity.

```
[1-2] Total Count

Total:                   EA
```

It is allowed to verify the total cups sales.

*1-1: Verifying the sales amount per column (upon setting to one time).

```
[1-1] Total Sum
Col 1:                    ₩
Col 2:                    ₩
Col 3:                    ₩
```

It is allowed to verify the sales amount per column.

*1-2: Verifying the sales quantity per column (upon setting to one time).

```
[1-2] Total Count
Col 1:                   EA
Col 2:                   EA
Col 3:                   EA
```

*1-1: Resetting the sales amount per column (upon setting to one time)

```
[1-1] Total Sum

          Reset?: NO
```

It is allowed to initialize the sales amount made so far: press the 'SET' button and select 'YES' to initialize the amount.

*1-2: Resetting the sales quantity per column (upon setting to one time).

```
[1-2] Total Count

          Reset?: NO
```

It is allowed to initialize the quantity of sales made so far.

*1-1: Resetting the sales amount per column (upon setting to one time).

```
[1-1] Total Sum

      Reset Finish
```

Initializing the amount displays the message, as shown in the figure.

*1-2: Verifying the sales quantity per column (upon setting to one time).

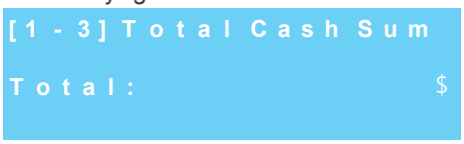
```
[1-2] Total Count

      Reset Finish
```

For your information

- Items '1 - 2' only applicable to manual machine.
- Items '1-2 & 1-12' only applicable to self-service machine.
- '★' Function applied only to vending machine models.

# Sale related Settings

*1-3: Verifying the total sales amount for cash




It is allowed to verify the total amount of cash sales

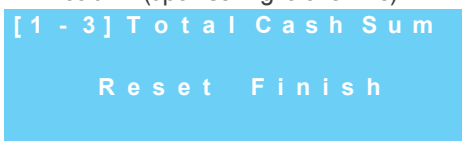
*1-3: Verifying the total sales amount for cash per column.(upon setting to one time)


It is allowed to verify the total sales amount for cash per column.

*1-3: Resetting the sales amount for cash per column.(upon setting to one time).


It is allowed to initialize the sales amount for cash made so far: press the 'SET' button and select 'YES' to initialize the amount.

*1-3: Verifying the sales amount for cash per column.(upon setting to one time)




Initializing the amount display the message, as shown in the figure.

*1-4: Verifying the total sales quantity for cash


It is allowed to verify the total cups sales.

*1-3: Verifying the total sales quantity for cash per column.(upon setting to one time)


It is allowed to verify the total sales quantity for cash per column.

*1-3: Resetting the sales quantity for cash per column.(upon setting to one time).


It is allowed to initialize the sales quantity for cash made so far: press the 'SET' button and select 'YES' to initialize the amount.

*1-3: Verifying the sales quantity for cash per column.(upon setting to one time)

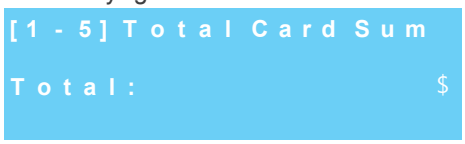

Initializing the amount display the message, as shown in the figure.

For your information

- Items '1 - 2' only applicable to manual machine.
- Items '1-2 & 1-12' only applicable to self-service machine.
- '★' Function applied only to vending machine models.

# Sale related Settings

*1-5: Verifying the total sales amount for card




It is allowed to verify the total amount of cash sales

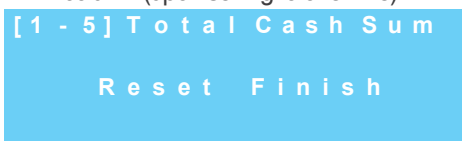
*1-5: Verifying the total sales amount for card per column.(upon setting to one time)


It is allowed to verify the total sales amount for card per column.

*1-5: Resetting the sales amount for card per column.(upon setting to one time).


It is allowed to initialize the sales amount made for card so far: press the 'SET' button and select 'YES' to initialize the amount.

*1-5: Verifying the sales amount for card per column.(upon setting to one time)




Initializing the amount display the message, as shown in the figure.

*1-6: Verifying the total sales quantity for card


It is allowed to verify the total cups sales.

*1-6: Verifying the total sales quantity for card per column.(upon setting to one time)


It is allowed to verify the total sales quantity for cash per column.

*1-6: Resetting the sales quantity for card per column.(upon setting to one time).


It is allowed to initialize the sales quantity for card made so far: press the 'SET' button and select 'YES' to initialize the amount.

*1-6: Verifying the sales quantity for card per column.(upon setting to one time)

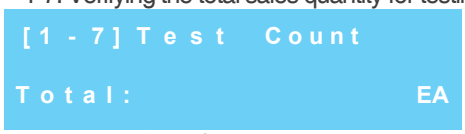

Initializing the amount display the message, as shown in the figure.

For your information

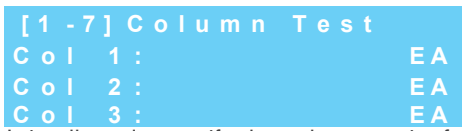
- Items '1 - 2' only applicable to manual machine.
- Items '1-2 & 1-12' only applicable to self-service machine.
- '*' Function applied only to vending machine models.

# Sale related Settings

*1-7: Verifying the total sales quantity for testing.




Pressing the 'CHK' button for five seconds or longer allows for for checking on the amount of test sales, and it is allowed to verify the total sales quantity.

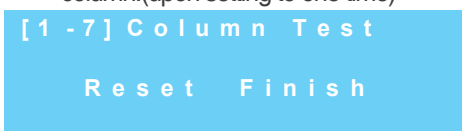



It is allowed to verify the sales quantity for testing per column.

*1-7: Resetting the sales quantity for testing per column.(upon setting to one time).

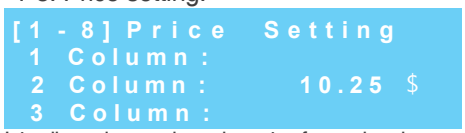

press the 'SET' button and select 'YES' to initialize the amount.

*1-7: Verifying the sales quantity for testing per column.(upon setting to one time)



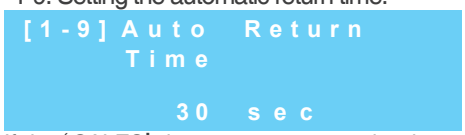

Initializing the amount display the message, as shown in the figure.

*1-8: Price setting.



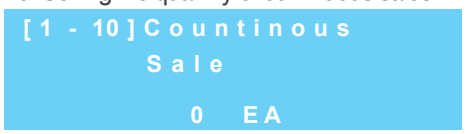

It is allowed to set the sales price for each column.

*1-9: Setting the automatic return time.




If the 'SALES' button is not pressed within a certain period of time after the bills and coins have been inserted, the bills and coils will be returned.
It is allowed to set the return time.
After 30 seconds plus the time set at this menu, the coin will be returned.

1-6: Setting the quantity of continuous sales.




It is allowed to conduct continuous sales if an amount larger than the sales price remains after bills and coins have been inserted and after the 'SALES' button has been pressed.
For example, setting the value to '0' allows for continuous sales to be conducted, while setting the value to '1' automatically returns change.

1-11: Lighting adjustment.


It is allowed to adjust the lighting of the LED lamp that is installed on the front face of the product for advertisement.
For example, Full ON: LED is kept lit.
Full OFF: LED is kept off.



In case of controlling the lighting by time setting, change the time by setting as 'AUTO'.

1-12: Setting free sales.

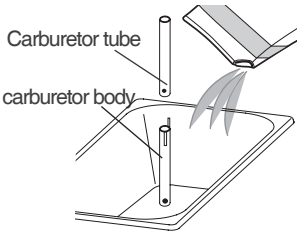

It is allowed to set free sales.
Setting this function to 'ON' allows for continuous sales to be conducted with the 'SALES' button without having to insert bills or coins.

For your information

- Items '1-2' only applicable to manual machine.
- Items '1-2 & 1-12' only applicable to self-service machine.
- '*'Function applied only to vending machine models.

# Making soft ice cream

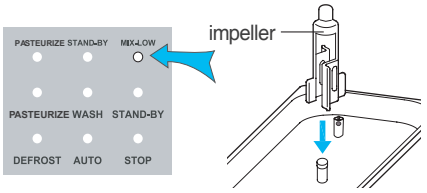
1. Open the cover basket, insert the carburetor into the storage tank, fill the storage tank with materials, insert the carburetor tubes into the storage tank, and then select the adequate hole.
Supply only materials stored at low temperature (10°C or lower). Otherwise, the materials in the storage tank may be spoiled.
Highly viscous materials may not be injected smoothly.
Do not start the machine until all materials are injected.




For your information

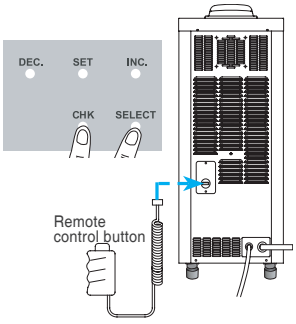
- The smaller the caburator hole is, the higher the overrun (air content) is.Instead, in case of continuous sales, the ingredients supply gets slower and the soft ice creamis let out slowly.
- The caburator hole can get clogged, so check it and wash it periodically during use.
- The manufacturer shall not be responsible for any trouble (e.g., spoilage of materials, overcooling, non-production of ice cream) caused by using materials in non-frozen state (10℃).

2. Close the hole on the carburetor, fill the storage bin to the brim with material, insert the impeller, and close all the lids.
(See if the 'MIX LOW' Lamp is turned off)

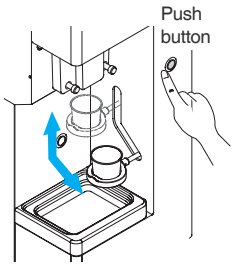



3. Pressing the 'AUTO' button on the button panel initiates the production of ice cream.
Once the production of ice cream is complete, open the hole on the carburetor and start vending


4. For self-service sale (factory default):
① Simultaneously press 'CHK' and 'SELECT' on the control/ adjustment button on the front panel and press ON when Item "1-8" is displayed on the control value display window.
② When production of ice cream is complete, and 100% is indicated on the control value display window, place a cup on the conveyor device. The indicator then blinks.
Pressing the Sale button initiates self-service sale of the product (takes about 15 seconds to complete).

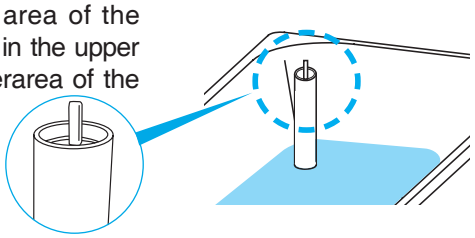



5. For remote sale (optional):
① Connect the remote switch to the jack on the rear side of the system as shown in the figure on the right.
② Simultaneously press 'CHK' and 'SELECT' on the control/ adjustment button on the front panel and press OFF when Item '1-8' is displayed on the display window.
③ When production of ice cream is complete, and 100% is indicated on the display window, press the Remote switch to light up the indicator.
When placing a cup on the conveyor device, the indicator blinks.
Pressing the button initiates dispensing of the product.

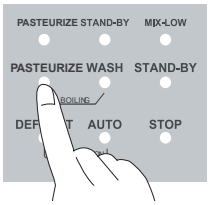


# How to pasteurize the soft ice cream

1. If you align the protrusion of the upper area of the caburatorbody with thearea having no hole in the upper area of the tube, then the hole in the lowerarea of the caburatorbody will be blocked.

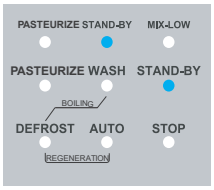


2. Press the ‘HEATING’ button.
This function is used to suppress the growth of micro organisms and maintain the ingredients fresh for a long time by performing low temperature heating on the ingredients and the soft ice cream in the hopper and the cylinder(68-70℃ 30 minutes).
This function should be executed every day.
If it is not pasteurized every day, it should be washed every day.

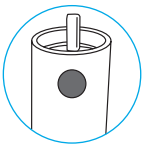



3. When the pasteurization is complete, the ‘AUTO’ lamp is on.
In this case, it means that pasteurization is completed and the Sale on standby


4. When the pasteurizationis complete, the ‘STAND-BY’ lamp is on.
In this case, it means that pasteurizationis complete and the ingredients in the mixing tank and the cylinder be Keep refrigerated.




5. Press the “AUTO” button.
When the soft ice cream is made,
open the caburator hole of the caburator tube.

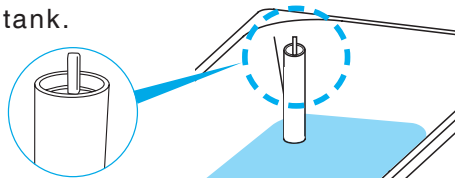



For your information

- The lease raw materials shall be kept in the storage tank during sterilization, and materials shall smoothly be agitated by the impeller.
- The 12-liter storage tank shall be filled with material of 2 liters at least, and 19-liter storage tank with materials of 4 liters at least (cylinder kept fully filled).
- This product has a built in automatic pasteurization function. Auto pasteurization only operates in 'AUTO', 'STAND-BY' mode. You must block the mix valve hole before pasteurization. and Operation of every function button stops during sterilization.
- The automatic pasteurization function of this product operates four o’clock in the morning; Startup time of the function may slightly vary among models.
Automatic pasteurization only works in 'AUTO', 'STAND-BY' mode; you must not cut off electrical power supply during the pasteurization process. If the ingredients are decayed due to the absence of pasteurization, the manufacturer will not assume any responsibility for it.

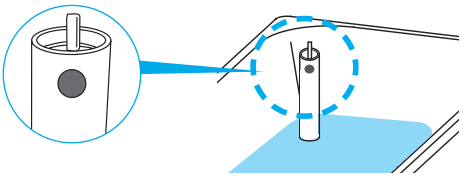
# How to make the soft ice cream look better

1. Block the caburator hole of the mixing tank.



2. Press the “DEFROST + AUTO” buttons at the same time.
   When the defrost function operates, do not sell any soft ice cream.
   It takesabout 20 to 30 minutes to complete the defrost operation.
   After that it willautomatically enter into ‘Auto’ mode.
   (The regeneration time depends on the surrounding environment
   and cleaning.


3. Open the caburator hole.

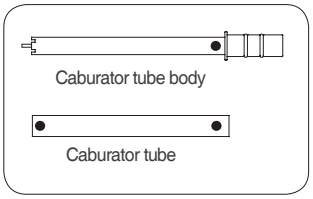


For your information

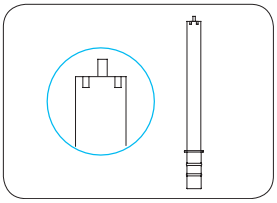
- If you have not sold any soft ice cream for a long time (2 or 3 hours), the texture canbe deteriorated. In this case, use the “Regeneration”function to compensate for thebad texture.

# Caburator control

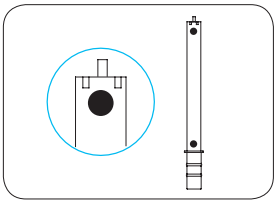
The caburator is made up of two parts.
The part that is inserted into the hole of the mixing tank is called the body and a tube is inserted into this. The tube has a hole at the top and at the bottom. It can't be inserted in the reverse direction.



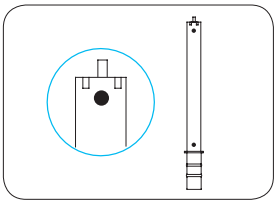

The figure shows the caburator with a blocked hole.
If you align the protrusion of the upper area of the caburator body with the area having no hole in the upper area of the tube, then the hole in the lower area of the caburator body will be blocked.
Condition of use: ① Initial soft ice cream making
② "Heating" mode executed
③ "Regeneration"mode execute



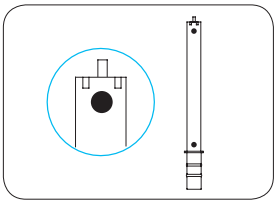
This figure shows the caburator aligned with a large hole.
Align the protrusion of the upper area of the caburator body with the large hole in the upper area of the tube. Decrease the overrun and increase the amount of ingredients injection in this way when you need continuous vending of the product.
Condition of use: ① When the "Auto" mode is executed



This figure shows the caburator aligned with a small hole.
Align the protrusion of the upper area of the caburator body with the small hole in the upper area of the tube. Then, it will be aligned with the small hole in the lower area of the caburator body. Increase the overrun and decrease the amount of ingredients injection in this way when you expect a small amount of sales.
Condition of use: ① When the "Auto" mode is executed



This figure shows the caburator aligned with a medium hole.
Align the protrusion of the upper area of the caburator body with the medium hole in the upper area of the tube. Then, it will be aligned with the medium hole in the lower area of the caburator body. It will make the overrun and the amount of ingredients injection adequate for sales.
Condition of use: ① When the "Auto" mode is executed

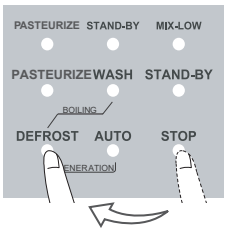


For your information

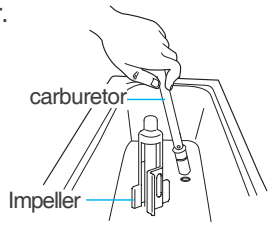
A small hole can improve the overrun, but it may depend on the amount of ingredients in the mixing tank. The fewer ingredient is in the mixing tank, the higher the overrun becomes. The more the ingredient is, the lower the overrun becomes.

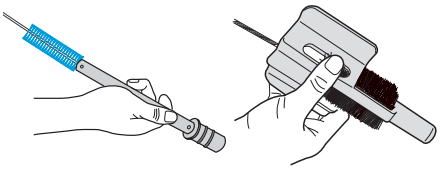
# Cleaning method

1. Press ‘STOP’ button, and then ‘DEFROST’ on the operation panel.
   (Wait about ten minutes until soft ice-cream is melted in the cylinder.)

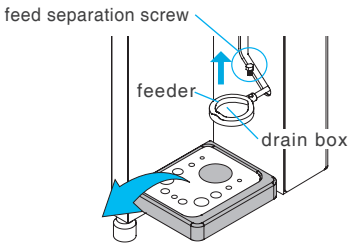


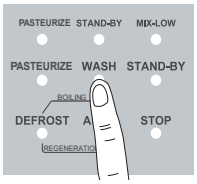

2. Open the cover of the MIX TANK, and then remove and clean the carburetor (the body), Impeller.

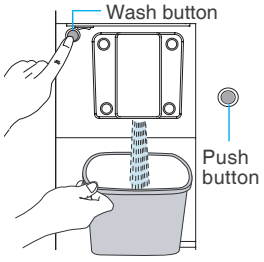


3. Remove all raw ice cream liquid from the system, and then clean the system as follows:
   ① Detach the drain box.
   ② Loosen the feed separation screw by hand.
   ③ Place a drain container under the dasher cover.
   ④ Press the ‘PUSH BUTTON’ on the right to operate the system, and then press the blue Cleaning/Dispensing button on the upper left side to discharge the ice cream liquid completely from the storage tank. Afterward, rinse the storage tank two or three times with clean water.

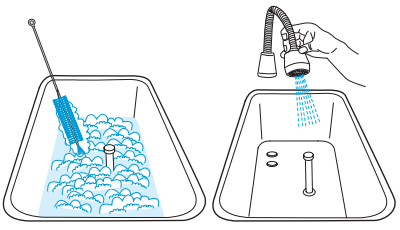



4. Press ‘STOP’ button to stop operation of ‘WASH’ process, remove the impeller from the MIX TANK.
   Wipe the inside of the MIX TANK with clean rag wet in neutral detergent.(Use a neutral detergent )

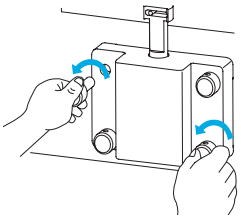
5. Detergent to clean the residue with clean water.



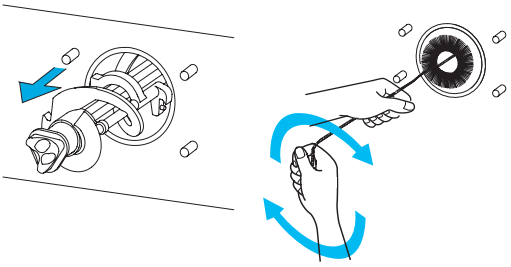
Caution
- When sterilization is performed once a day, the system shall be cleaned every 14 days as shown in the figure.
- The carburetor, impeller, and ice cream discharge port shall be cleaned once a day.

# Cleaning method

6. Stop the product by pressing stop button(do not turn off the power switch) and loose the dasher cover bolts diagonally by the order shown in the picture and separate the dasher cover from the soft ice cream freezer.

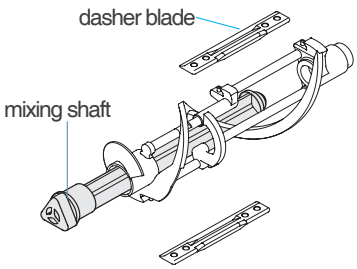


7. Draw the dasher and separate it from the cylinder. Clean the inside of the cylinder with a brush and wipe with a soft cloth.

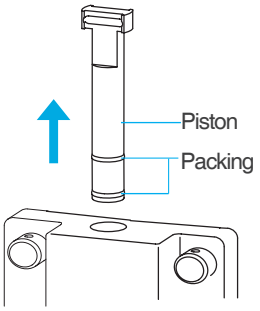


8. Separate the dasher blade and clean the blade hole with a brush and wipe out moisture with a soft cloth.

9. Wipe off the mixing shaft with soft cloth.




10. Clean the inside of the piston furrow with a brush and remove any remaining moisture with a soft towel.

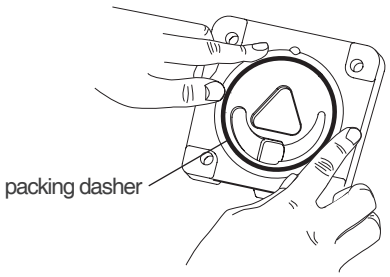



caution

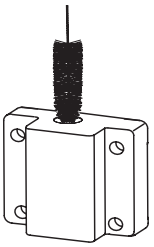
Wear rubber gloves when cleaning the inside of the system.
Otherwise, electric shock or injury may be caused.

# Cleaning method

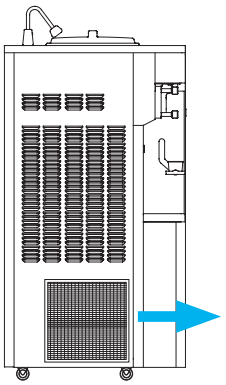
11. Separate the packing and clean the inside of the dasher with a soft towel.




12. Brush the piston holes of the dasher cover.



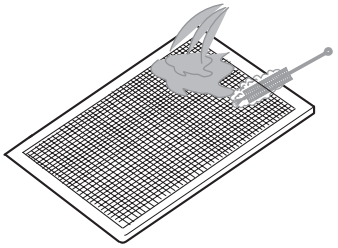
[ Condenser and filter cleaning method ]



1. filter Decomposition method
   - Filter at the left side of the system:
     Pull the filter forward out from the left side of the system

2. Shake off filter dusts and wash it off thoroughly with water.
   (After washing it, Dry the filter)

3. The condenser surface has lots of dust. Remove it by using a small brush



4. Clean and dry the filter and insert it into the machine.
   - The Cleaning cycle
     - Filter : once a month
       ※ The pollution status may differ depending on the installed location so clean the polluted filter occasionally.
     - Condenser : once a week
       ※ the condenser at the bottom of the system.

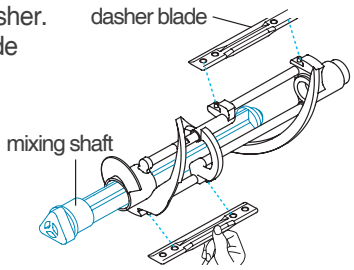
caution

Wear rubber gloves when cleaning the inside of the system.
Otherwise, electric shock or injury may be caused.

# Dasher and dasher cover assembly method

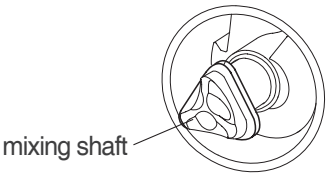
[ Dasher assembly ]

1. Insert the dasher blade into the raised spoton the back of the dasher. Grab the dasher and the dasher blade and insert the dasher blade into the front.




2. Hold the two dasher blades and the dasher and insert the mixing shaft into it.

3. In the assembled dasher, the front part of the mixing shaft must be located like '△'.

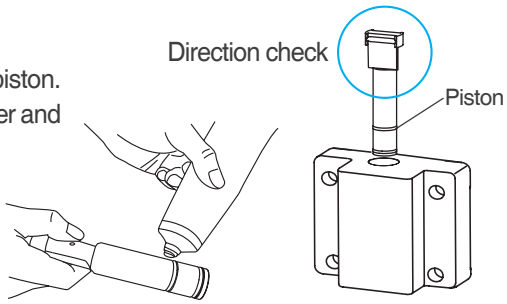



caution

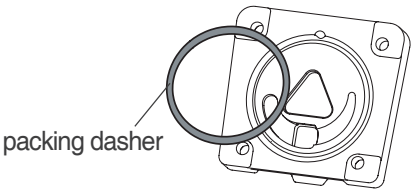
- If the front area of the mixing shaft does not form a '△' shape, then you cant assemble the dasher cover.

[ Dasher cover assembly ]

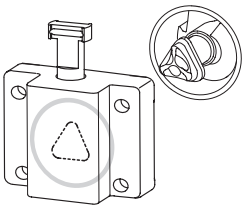
1. Apply eatable hines on the inserted ring of the piston. Place the piston head horizontally to the dasher cover and insert it in the middle of the dasher cover.




2. Insert the packing dasher to the dasher cover.

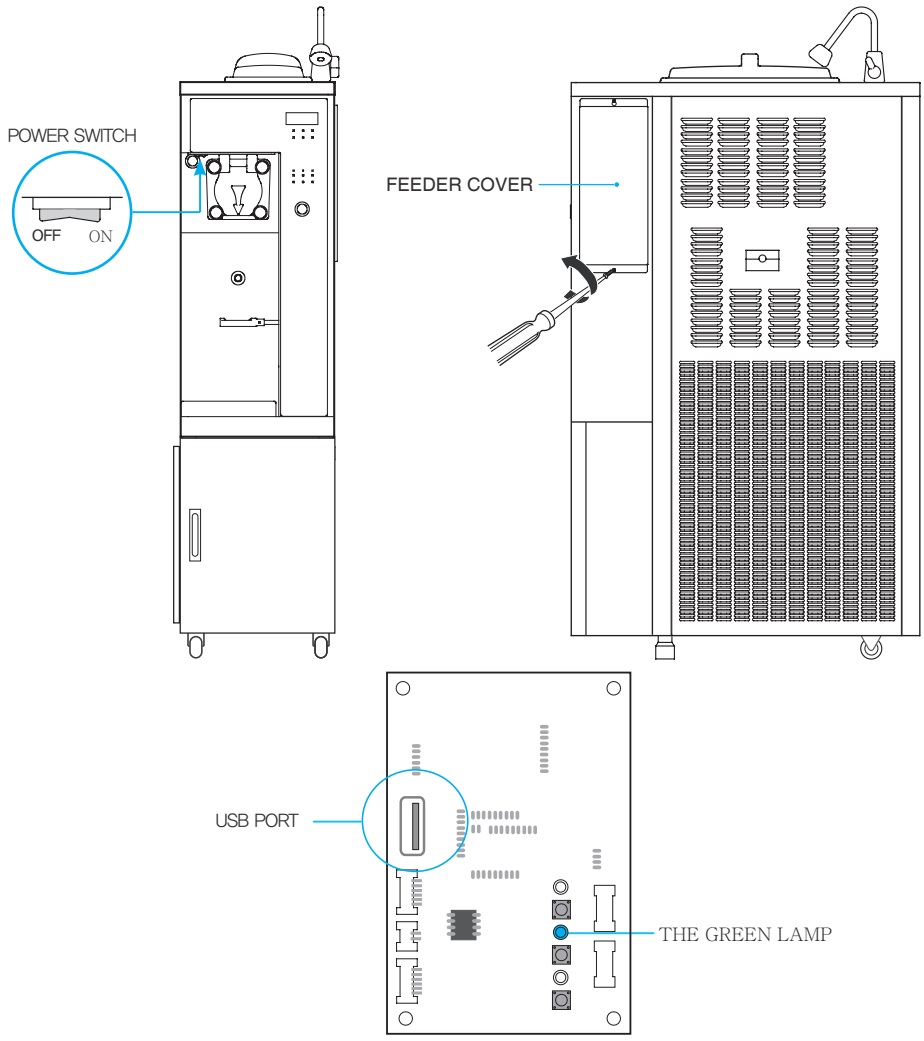



3. Carefully assemble the front of the mixing shaft to fit the '△' part of the dasher cover and tighten the dasher cover bolts two by two diagonally.
If the dasher cover bolts are loose, soft ice cream can leak. Therefore, tighten firmly.



# How to upgrade the program

1. Download the program received from the homepage or the customer service center of the company to a USB memory.
2. Open the small cover on the upper left corner on the right side of the system.
3. Insert the USB memory into the USB port of the USB Download PCB.
4. Turn off the power switch on the front side of the system, and then turn it on.
5. Wait until the indicator of the USB Download PCB turns green (about 5 ~ 10 minutes).
6. Remove the USB memory and put back the cover.




〈 USB DOWNLOAD PCB 〉

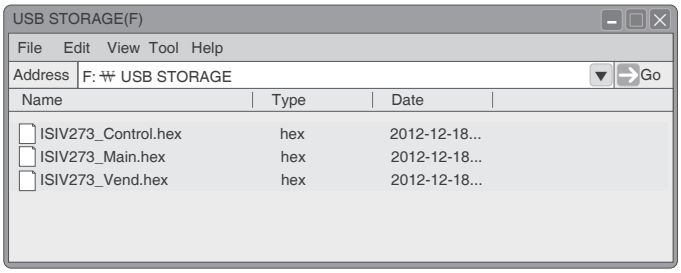
# How to use USB downloader

## 1. How to write programs on main PCB, vent PCB, control PCB .

1-1. Follow the steps as described below with USB downloader connected to main PCB, vent PCB, control PCB:

1-2. Turn power off to the self machine off.

1-3-1). Copy the main PCB program on the USB memory root folder in name of “ISIV273_Main.  hex.”
3-2). Copy the vend PCB program on the USB memory root folder in name of “ISIV273_Vend.hex.”
3-3). Copy the control PCB program on the USB memory root folder in name of “ISIV273_Control.hex.”




1-4. Insert the USB memory stick in the USB downloader.
1-5. Turn power to the self machine on.
1-6. The red, the green and the yellow LED’s lights on the USB downloader.
1-7. The red LED is extinguished, the green LED extinguished, and the yellow LED lights on the USB downloader.
1-8. The red LED blinks, the green LED extinguished, and the yellow LED is extinguished on the USB downloader.
1-9. The red LED is extinguished, the green LED blinks, and the yellow LED is extinguished on the USB downloader.
1-10. The red LED is extinguished, the green LED extinguished, and the yellow LED blinks on the USB downloader.
1-11. The red LED is extinguished, the green LED blinks, and the yellow LED blinks on the USB downloader.
1-12. The red LED is extinguished, the green LED lights, and the yellow LED is extinguished on the USB downloader.

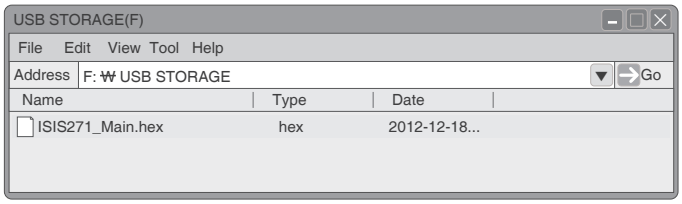
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 2. How to write program on main PCB only.

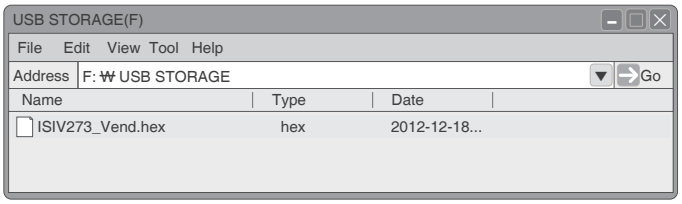
2-1. Copy the main PCB program on the USB memory root folder in name of “ISIV273_Main.hex.”
There shall be no “ISIV273_Vend.hex“, “ISIS271_Control.hex“ file in the USB root folder.




2-2. Insert the USB memory stick in the USB downloader.
2-3. Turn power to the self machine on.
2-4. The red, the green and the yellow LED’s light on the USB downloader.
2-5. The red LED is extinguished, the green LED extinguished, and the yellow LED lights on the USB downloader.
2-6. The red LED blinks, the green LED extinguished, and the yellow LED is extinguished on the USB downloader.
2-7. The red LED is extinguished, the green LED lights, and the yellow LED is extinguished on the USB downloader.

## 3. How to write program on vend PCB only.

3-1. Copy the vend PCB program on the USB memory root folder in name of “ISIS271_Vend.hex.”
There shall be no “ISIS271_Main.hex“, “ISIS271_Control.hex“ file in the USB root folder.




3-2. Insert the USB memory stick in the USB downloader.
3-3. Turn power to the self machine on.
3-4. The red, the green and the yellow LED’s light on the USB downloader.
3-5. The red LED is extinguished, the green LED extinguished, and the yellow LED’s lights on the USB downloader.
3-6. The red LED is extinguished, the green LED blinks, and the yellow LED is extinguished on the USB downloader.
3-7. The red LED is extinguished, the green LED lights, and the yellow LED is extinguished on the USB downloader.

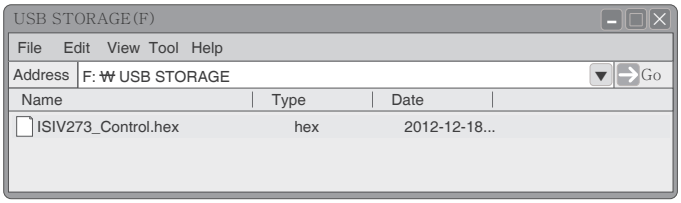
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 4. How to write program on control PCB’ s only.

4-1. Copy the control PCB program on the USB memory root folder in name of “ISIV273_Control.hex.”
There shall be no “ISIV273_Main.hex“, “ISIV273_Vend.hex“ file in the USB root folder.




4-2. Insert the USB memory stick in the USB downloader.
4-3. Turn power to the self machine on.
4-4. The red, the green and the yellow LED’s light on the USB downloader.
4-5. The red LED is extinguished, the green LED extinguished, and the yellow LED’s lights on the USB downloader.
4-6. The red LED is extinguished, the green LED extinguished, and the yellow LED blinks on the USB downloader.
4-7. The red LED is extinguished, the green LED blinks, and the yellow LED blinks on the USB downloader.
4-8. The red LED is extinguished, the green LED lights, and the yellow LED is extinguished on the USB downloader.

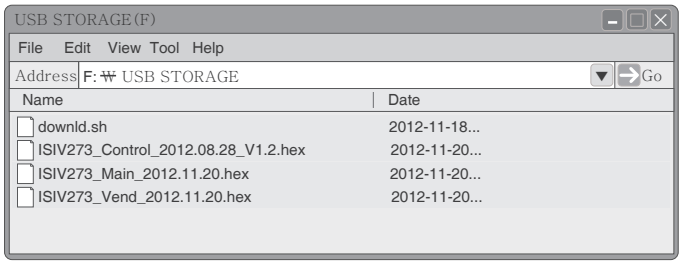
For your information

The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 5. How to write programs on main PCB, vent PCB, control PCB by making use of scripts.

5-1. Perform the jobs described below with USB downloader connected to main PCB, vent PCB, control PCB.
5-2. Turn power to the self machine off.
5-3. Copy the hex files of the main, the vend, the control PCB programs on the USB memory root folder together with the downld.sh file.




5-4 .Opening the downld.sh file in the notepad shows as follows.
Change the hex file name in dark characters to a hex file name to write.
(Do not use special characters such as parenthesis, comma, and exclamation mark for file name.)

```
#!/bin/sh

down_file=/mte/downld.ex
hex1_file=/mnt/ISIV273_Main_2012.11.20_.hex
hex2_file=/mnt/ISIV273_Vend_2012.11.20_.hex
hex3_file=/mnt/ISIV273_Control_2012.08.28_V1.2.hex
hex4_file=/mnt/ISIV273_Control_2012.08.28_V1.2.hex

chmod a+x $down_file

if [ -f $hex1_file ]; then
                    echo "Now, download 1..."
                    $down_file 1 $hex1_file
fi
if [ -f $hex2_file ]; then
                    echo "Now, download 2..."
                    $down_file 1 $hex2_file
 fi
 if [ -f $hex3_file ]; then
                    echo "Now, download 3..."
                    $down_file 1 $hex3_file
 fi
 if [ -f $hex4_file ]; then
                    echo "Now, download 4..."
                    $down_file 1 $hex4_file
 fi
```

5-5. The procedures hereafter are identical with those in item 1-2 and thereafter of Item 1.

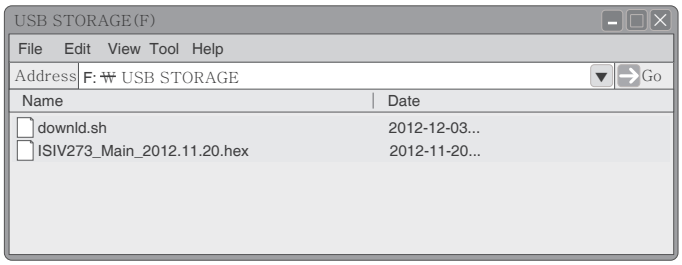
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 6. How to write program on main PCB only by making use of scripts.

6-1. Turn power to the self machine off.
6-2. Copy the hex files of the main PCB program on the USB memory root folder together with the downld.sh file.




6-3 .Opening the downld.sh file in the notepad shows as follows.
6-4. Change the hex file name in dark characters to a hex file name to write.
(Do not use special characters such as parenthesis, comma, and exclamation mark for file name.)

```
#!/bin/sh
down_file=/mte/downld.ex
hex1_file=/mnt/ISIV273_Main_2012.11.20_.hex

chmod a+x $down_file

if [ -f $hex1_file ]; then
                    echo "Now, download 1..."
                    $down_file 1 $hex1_file
fi
```

6-5. The procedures hereafter are identical with those in item 2-2 and thereafter of Item 2.

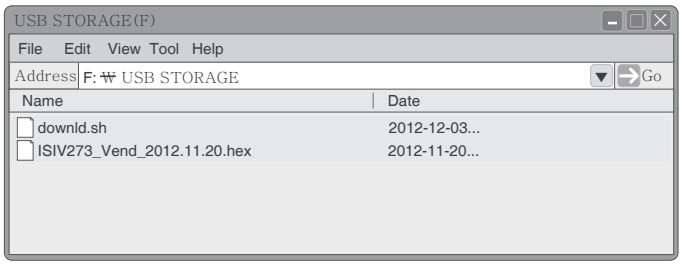
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 7. How to write program on vend PCB only by making use of scripts.

7-1. Turn power to the self machine off.
7-2. Copy the hex files of the vend PCB program on the USB memory root folder together with the downld.sh file.




7-3 .Opening the downld.sh file in the notepad shows as follows.
Change the hex file name in dark characters to a hex file name to write.
(Do not use special characters such as parenthesis, comma, and exclamation mark for file name.)

```
#!/bin/sh

down_file=/mte/downld.ex
hex2_file=/mnt/ISIV273_Vend_2012.11.20_.hex

chmod a+x $down_file

if [ -f $hex2_file ]; then
                    echo "Now, download 2..."
                    $down_file 2 $hex2_file
fi
```

7-4. The procedures hereafter are identical with those in item 3-2 and thereafter of Item 3.

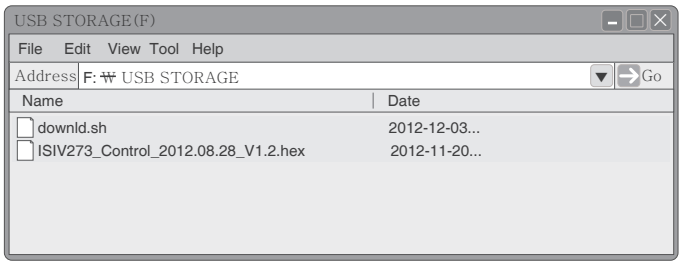
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to use USB downloader

## 8. How to write program on control PCB's only by making use of scripts.

8-1. Turn power to the self machine off.
8-2. Copy the hex files of the control PCB program on the USB memory root folder together with the downld.sh file.




8-3 .Opening the downld.sh file in the notepad shows as follows.
Change the hex file name in blue characters to a hex file name to write.
(Do not use special characters such as parenthesis, comma, and exclamation mark for file name.)

```
#!/bin/sh

down_file=/mte/downld.ex
hex3_file=/mnt/ISIV273_Control_2012.08.28_V1.2.hex
hex4_file=/mnt/ISIV273_Control_2012.08.28_V1.2.hex

chmod a+x $down_file

if [ -f $hex3_file ]; then
                    echo "Now, download 3..."
                    $down_file 3 $hex3_file
fi
if [ -f $hex4_file ]; then
                    echo "Now, download 4..."
                    $down_file 4 $hex4_file
fi
```

8-4. The procedures hereafter are identical with those in item 4-2 and thereafter of Item 4.

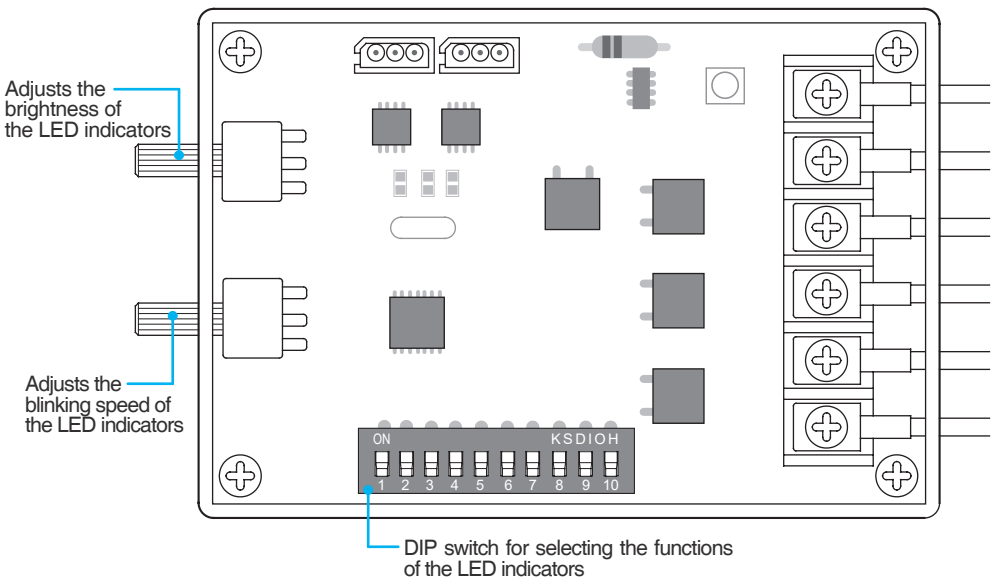
For your information

- The red LED lights, the green LED is extinguished, and the yellow LED is extinguished if error takes place during writing the programs.

# How to adjust the LED indicators

Remove the screws on the LED controller cover on the right side of the system to detach the cover.
Adjust the DIP switches in the LED dimmer controller as follows to select the LED indicators:닏

- Turning “1” on lights the red LED indicator.
- Turning “2” on lights the green LED indicator.
- Turning “3” on lights the blue LED indicator.
- Turning “4” on lights the yellow LED indicator.
- Turning “2” and “3” on simultaneously lights the sky blue LED indicator.
- Turning “3” and “1” on simultaneously lights the violet LED indicator.
- Turning “4” on lights the LED indicator of a fixed color in single mode.
- Turning “5” on dims the LED indicator in the selected color in compound mode. (The LED lamp slowly turns on and off repeatedly)
- Turning “6” on causes the LED indicator to blink in the selected color in compound mode (the LED indicator turns on and off repeatedly).
- Turning “7” on causes the LED indicator to blink psychedelically in the selected color in compound mode.
- Turning “8” on operates the LED indicator in compound mode with a rainbow cluster effect.(LED lamp turning on and off repeatedly in the sequence of rainbow colors)
- Turning all switches off stops the functions of all the indicators.
- Turning 5, 6, 7, and 8 on simultaneously repeats the performance of four types of actions from No. 5 to No. 8.




[ LED DIMMER CONTROLLER ]

# Service for Refrigerant Lines

Removal and replacement of freezing parts

CAUTION

1. This unit should be diagnosedd and repaired only by qualified service personnel to reduce the risk of death, electric shock, serious injury, or fire.
2. Move the ELCB switch to the "OFF" position before servicing
3. CHOKING Hazard : Ensure all components, fasteners, and screws are securely in place after the unit is serviced.
4. Make sure hopper and cylinder in the ice-cream maker are clean after the unit is serviced.

A. Service for Refrigerant Lines

WARING

1. Repairs requiring the refrigeration circuit to be opened must be performed by Properly tarined service personnel.
2. Always recover the refrigerant and store it in an approved container. Do no discharge the refrigerant into the atmosphere.
3. Use an electronic leak detector or soap bubbles to check for leaks. Add a trace of refrigerant to the system (if using an electronic leak detector), and then raise the pressure using nitogen gas (140PSIG). DO NOT use R-404A, R-452A as a mixture with pressurized air for leak testing

CAUTION

1. The Polyol Ester (POE) oils used in R-404A, R-452A units can sbsorb moisture quickly. Therefore it is important to prevent moisture from entering the system when replacing or servicing parts.
2. Always install a new drier every time the ealed refrigeration system is opend.
3. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
4. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250℉ (121℃)
5. Do not leave the system open for longer than 15 minutes when replacing or servicing parts.

# Service for Refrigerant Lines

1. Refrigerant Recovery

This ice cream vending machine has a refrigerant service valve (nipple).
Recover the refrigerant through this nipple and keep the recovered refrigerant in an approved storage bin. Never discharge the recovered refrigerant to the atmosphere.

2. Brazing

**WARING**

1. R-404A itself is not flammable at atmospheric pressure and temperatures is to 176℉(121℃)
2. R-404A itself is not explosive or poisonous. However, when exposed to high temperatures (open flames), R-404A, R-452A can be decomposed to form hyfrofluoric acid and carbonyl fluoride both of which are hazardous.
3. Do not use silver alloy or copper alloy containing arsenic.
4. Use an electronic leak detector or soap bubbles to check for leaks. Add a  then raise the pressure trace of refrigerant to the system (if using an electronic leak detector), and using nitogen gas (140PSIG). DO NOT use R-404A, R-452A  as a mixture with pressurized air for leak testing

1) When brazing copper pipe, purge the pipe with nitrogen gas at pressure of 3~4 psig.

**CAUTION**

1. Always install a new drier every time the sealed refrigeration system is opened.
2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250℉ (121℃)

2) Use an electronic leak detector or soap bubbles to check for leaks.
Add a  trace of refrigerant to the system (if using an electronic leak detector), and  then raise the pressure using nitogen gas (140PSIG). DO NOT use R-404A, R-452A as a mixture with pressurized air for leak testing.

3. Vacuuming and recharging (R-404A, R-452A )

1) Install the vacuum pump on the system. Connect the charging hoses on the charging nipples of both high-pressure and low-pressure ends.

> **IMPORTANT**
> The vaccum level and vacuum pump may be the same as those for current refrigerants. However, the rubber hose and gauge manifold to be used for evacuation and refrigerant charge should be exclusively for POE oils.

2) Turn the vacuum pump on and open the manifold valve.
The oil of the vacuum pump shall not be allowed to leak into the system.

3) Wait until the desired vacuum level is obtained. Vacuuming time may vary depending on the capacity of the vacuum pump.

4) Open the manifold valves on the high- and low-pressure ends.

5) Remove the manifold hose from the vacuum pump and connect the hose to the refrigerant service cylinder. Purge air from the hose with the hose kept slightly open. Use pure refrigerant with no foreign materials.

6) The use of liquid refrigerant is recommended.
Turn the service cylinder upside down on a scale and open the manifold valve on the high-pressure end.

7) Wait until an adequate amount of refrigerant is injected.

8) If necessary, inject the remaining refrigerant into the low pressure-end. Inject refrigerant into the low-pressure end while the system operates.

9) Close the manifold valves on the high- and low-pressure ends. Remove the manifold hoses.

10) Reattach the caps on the nipples.

# Removal and Replacement of Compressor

B. Removal and Replacement of Compressor

**WARING**

1. Always install a new drier every time the sealed refrigeration system is opened.
2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250℉ (121℃)

When replacing the compressor with defective winding, replace the start capacitor and the start relay as well.
The compressor shall be replaced and serviced within 15 minutes since the POE oil inside the compressor rapidly absorbs moisture.

1) Turn off the power of ELCB.
2) Open the side door.
3) Recover the refrigerant using an adequate vessel.
4) Remove the terminal cover of the compressor and disconnect the compressor cable.
5) Remove the discharge and the suction pipes.
6) Remove the bolts, washers, and rubber grommets from the compressor.
7) Remove the compressor. Remove the packaging of the new compressor.
8) Insert the rubber grommets in the new compressor.
9) Place the compressor on the system and assemble it on the system by tightening the bolts and the washers.
10) Replace the drier with a new one.
11) While purging with nitrogen gas at pressure of 3-4 psig, braze the copper connections.
12) Inject nitrogen at pressure of 140 psig and check for leaks with electric leak detector or soap water.
13) Vacuum the system and inject the refrigerant.
14) Connect the terminal and assemble the terminal cover on its position.
15) Close the side door.
16) Turn on the power of ELCB.

# Removal and Replacement of Capillary Tube

C. Removal and Replacement of Capillary Tube

> ⚠ CAUTION
>
> 1. Always install a new drier every time the sealed refrigeration system is opened.
> 2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
> 3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250°F(121℃)

1) Turn off the power of ELCB.
2) Open the side door.
3) Recover the refrigerant using an adequate vessel.
4) Remove the capillary tube and install a new one.
5) Replace the drier with a new one.
6) While purging with nitrogen gas at pressure of 3~4 psig, braze the copper connections.
7) Inject nitrogen at pressure of 140 psig and check for leaks with electric leak detector or soap water.
8) Vacuum the system and inject the refrigerant.
9) Close the side door.
10) Turn on the power of ELCB.

# Removal and Replacement of Hot Gas Valve or Liquid Line Valve.

D. Removal and Replacement of Hot Gas Valve or Liquid Line Valve.

**IMPORTANT**

1. Always use a copper tube of the same diameter and length when repalcing the valve lines; otherwise, performance may be affected
2. Always replace the strainer when replacing the hot gas valve

**WARING**

1. Always install a new drier every time the sealed refrigeration system is opened.
2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the and drier 4-way valve from overheating, Do not allow the drier to exceed 250℉ (121℃)

1) Turn off the power of ELCB.
2) Open the side door.
3) Recover the refrigerant using an adequate vessel.
4) Remove the bolts and the solenoid valves.
5) Disassemble the valve. When replacing the hot gas valve, replace the strainer as well.
6) Install the new valve and strainer.
7) Replace the drier with a new one.
8) While purging with nitrogen gas at pressure of 3~4 psig, braze the copper connections.
9) Inject nitrogen at pressure of 140 psig and check for leaks with electric leak detector or soap water.
10) Vacuum the system and inject the refrigerant.
11) Connect a new solenoid valve.
12) Install the solenoid on the valve body and tighten the bolts.
13) Close the side door.
14) Turn on the power of ELCB.

# Removal and Replacement of Condenser'

E. Removal and Replacement of Condenser'

**WARING**

1. Always install a new drier every time the sealed refrigeration system is opened.
2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250°F(121℃)

1) Turn off the power of ELCB.
2) Open the side door.
3) Recover the refrigerant using an adequate vessel.
4) Remove the condenser filter, if any.
5) Remove the inlet and the outlet from the condenser.
6) Open the back panel cover.
7) Remove the harness from the fan motor.
8) Remove the four screws from the fan motor assembly.
9) Remove the screws fastening the bracket that fixes the condenser (total of 4 screws on the left and the right).
10) Replace the condenser with a new one.
11) Tighten the screws fastening the bracket that fixes the condenser (total of 4 screws on the left and the right).
12) Replace the drier with a new one.
13) While purging with nitrogen gas at pressure of 3~4 psig, braze the copper connections such as the condenser inlet and outlet.
14) Inject nitrogen at pressure of 140 psig and check for leaks with electric leak detector or soap water.
15) Vacuum the system and inject the refrigerant.
16) Tighten the four screws from the fan motor assembly.
17) Connect the harness to the fan motor.
18) Tighten the screws on the back panel cover.
19) Close the side door.
20) Turn on the power of ELCB.

# Replacement of Fan motor

F. Replacing the fan motor

1) Turn off the power of ELCB.
2) Open the back panel cover.
3) Remove the harness from the fan motor.
4) Remove the four screws from the fan motor assembly.
5) Remove the fan motor and the fastening brackets (total of four bolts).
6) Replace the motor with a new one.
7) Assemble the fan motor and the fastening brackets (total of four bolts).
8) Tighten the four screws from the fan motor assembly.
9) Connect the harness to the fan motor.
10) Tighten the screws on the back panel cover.
11) Turn on the power of ELCB.

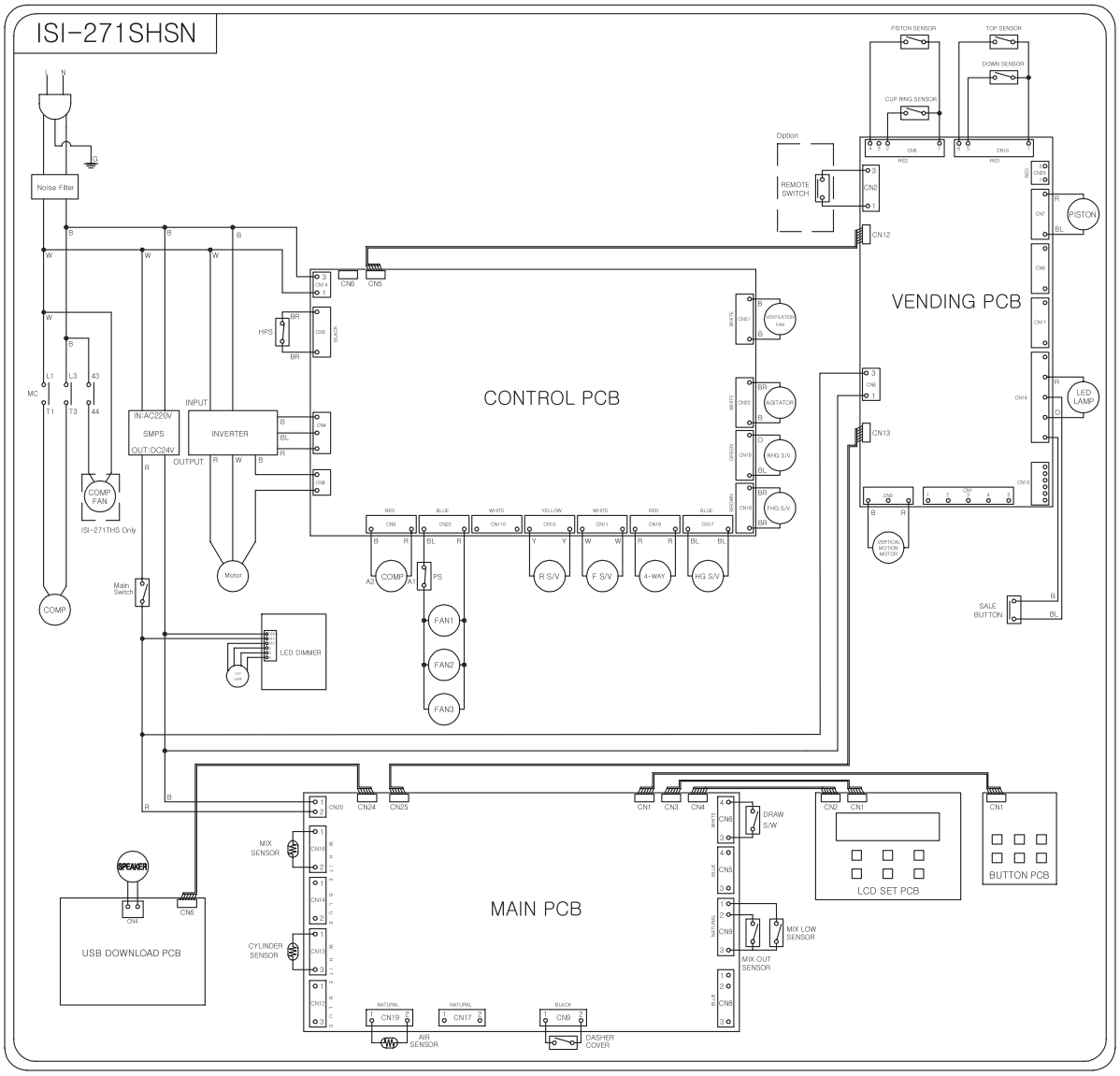
# Replacement of 4-way valve

**WARING**

1. Always install a new drier every time the sealed refrigeration system is opened.
2. Do not replace the dried until after all other repair or replacement has been made. Install the new drier with the arrow on the drier in the direction of the refrigerant flow
3. When brazing, protect the drier and 4-way valve by using a wet cloth to provent the drier and 4-way valve from overheating, Do not allow the drier to exceed 250°F(121℃)

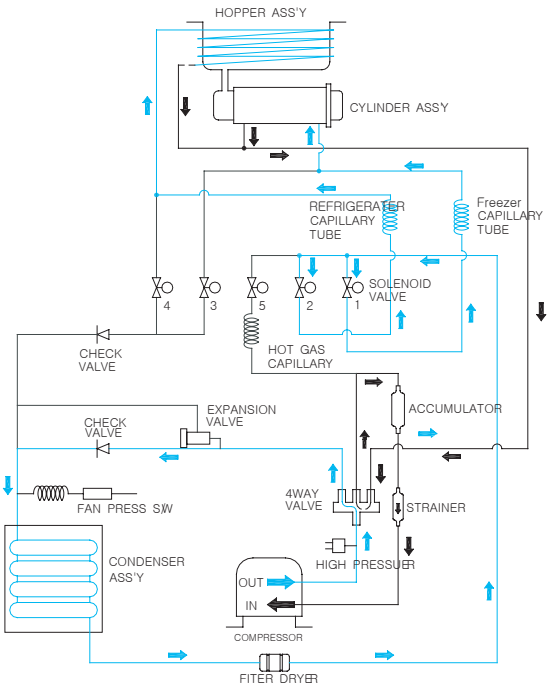
1) Turn off the power of ELCB.
2) Open the side door.
3) Recover the refrigerant using an adequate vessel.
4) Remove the insulator from the 4-way valve assembly.
5) Remove the harness from the 4-way valve.
6) Remove the solenoid coil from the 4-way valve (1 bolt).
7) Remove the 4-way valve (four brazing points).
8) While purging with nitrogen gas at pressure of 3~4 psig, braze a new 4-way valve.
9) Replace the drier with a new one.
10) Inject nitrogen at pressure of 140 psig and check for leaks with electric leak detector or soap water.
11) Assemble the solenoid coil connected to the 4-way valve (1 bolt).
12) Assemble the harness on the 4-way valve.
13) Vacuum the system and inject refrigerant.
14) Close the side door.
15) Turn on the power of ELCB.

# Wire diagram

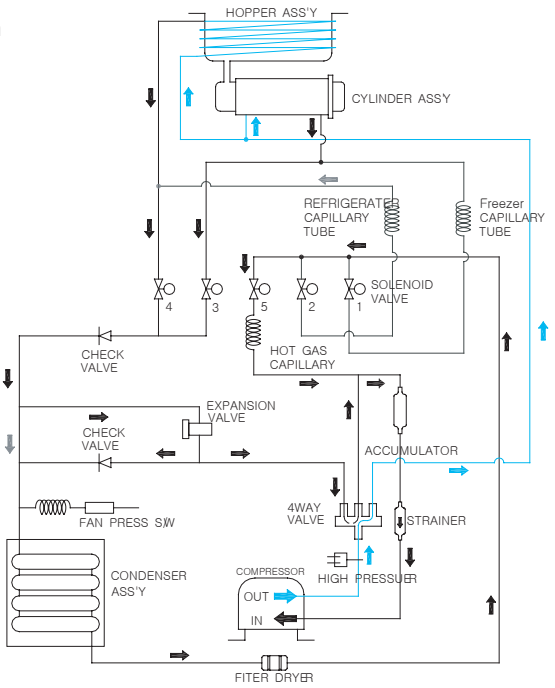


# Refrigeration Wire diagram

normal operation




Sterilization operation



# Before requesting service

The soft ice cream self machine can operate abnormally because you are not familiar with the method for use or due to another insignificant reason. It does not necessarily mean a malfunction. In this case, check the following items to resolve a simple problem on your own without the help from the service center. If you still can't resolve it after checking the following items, please contact our service center.

| State | Please check |
|---|---|
| The machine does not work! | 1. Contact an electrician or the customer satisfaction team in case a phase error occurred.<br>2. Check whether the ELB and switch are turned off.<br>3. In case the display (front display) is on, turn the ELB (breaker) and switch on. |
| Does not stop but continues to operate! | 1. Check whether dust is stacked in the ventilation hole. Take out the filter and remove the dust.<br>2. If the machine is close to the wall and has no ventilation, it can stop. Please, secure it at least 20~50cm from the wall.<br>3. Check whether the carburetor hole is blocked and if so clean out the hole.<br>4. Check whether the temperature in the ventilation hole (inhalation hole) is high. Set the inhalation temperature of the condenser lower than 38℃. |
| Soft ice cream is thin! | 1. Check whether the carburetor is inserted.<br>2. In case there are no sales for more than 3 hours, the soft ice cream can be melted and made one more time by using the recycling function (cover the carburetor hole during recycling).<br>3. Check whether a sweet raw material is being used and adjust the sweetness (when the raw material is different from the one used during the initial installation education, adjust the level value of the soft ice cream or contract the customer satisfaction team). |
| The noise is disturbing! | 1. This product is an industrial machine and has some operation noise when compared to household appliances. This product is designed to generate noise that is less than 70dB. the customer satisfaction team in case abnormal noise is generated during machine operation.<br>2. A clicking sound can be generated during the initial operation. This is the sound of plastic blade (dasher blade)that cleans the wall of the cylinder while making soft ice cream. |
| Cup does not rise! | 1. Place a cup and press the push button (for free supply).<br>2. Press the Remote control button once and place a cup (Remote for sale).<br>3. Select the function of free supply or Remote for sale to operate the system in the selected function.<br>4. This trouble occurs if there are foreign materials at the cup sensor.<br>5. This trouble also occurs if ice cream production is not complete.<br>6. Ice cream is dispensed in AUTO operating mode only. |
| Soft ice cream dose not come out enough! | 1. The soft ice cream ejection amount can be adjusted by a manager. The default standard is 70g, but the ejection amount can change according to the raw material, overrun, and so forth. Therefore, refer to the user manual and make the necessary adjustments.<br>2. Is the raw material need lamp blinking? In the case of MIX LOW, the ejection amount can become small. In the case of MIX LOW, replenish the raw material.<br>3. The ejection amount can change by carburetor hole. The ejection amount can be large when a large hole is used.<br>4. Has the ice cream level been set high? Setting the ice cream level high may dispense a small quantity of ice cream; setting the level low may dispense a large quantity of ice cream. Setting the ice cream level excessively high may disrupt the dispensing of ice cream. |
| Soft ice cream comes out too much! | 1.The soft ice cream ejection amount can be adjusted by a manager. The default standard is 70g, but the ejection amount can change according to the raw material, overrun, and so forth. Therefore, refer to the user manual and make the necessary adjustments.<br>2. Soft ice cream becomes thin and ejection amount may become large as time passes. Remake soft ice cream by using the recycling function to solve the problem.<br>3. Ejection amount can change by carburetor hole. The ejection amount can be small when a small hole is used.<br>4. Has the ice cream level been set low? Setting the ice cream level high may dispense a small quantity of ice cream; setting the level low may dispense a large quantity of ice cream. Setting the ice cream level excessively high may disrupt the dispensing of ice cream. |

# Before requesting service

| State | Please check |
|---|---|
| The overrun is not good | 1. Learn the method for making soft ice cream from the manual before using the machine.<br>2. Overrun becomes better when the small carburetor hole is used.<br>3. Overrun may become bad when selling soft ice cream for a long time.<br>Then block the carburetor hole of the hopper and defrost to check the level of the raw material.<br>If the raw material is more than 2/3 inside the cylinder, the overrun has become bad.<br>At that point, drain the raw material so that it is less than half inside the cylinder and remake soft ice cream to achieve better overrun. |
| The ejection amount is not constant. | 1. Is the hardness of the soft ice cream too hard?<br>If the hardness of the soft freezer is too hard, the deviation of the ejection amount can be bigger.<br>2. This product controls the ejection amount of Soft ice cream by time.<br>Therefore, the product is sensitive to the quality of the raw material, the level of raw material in the hopper, ice quality after soft freezer making and the change of ice quality in the case of no sales for a long period of time.<br>A certain level of constant management is possible by referring to this manual. |
| Soft ice cream has gone bad. | 1. This product must be cleaned daily.<br>The remaining raw material must be wasted and new raw material must be used to make Soft ice cream.<br>Pasteurization must be performed daily in case of no cleaning.<br>The manufacturer is not responsible if this is not observed. |

# Replacement cycle of consumable parts

| PART NAME | Replacement cycle | Quantity | SIZE |
|---|---|---|---|
| PACKING DASHER COVER | 6 months | 1EA | Φ116.5(Φ5.5) |
| PACKING PIISTON TOP | 6 months | 2EA | Φ30.4(Φ3.2) |
| CABURATOR PACKING | 6 months | 1EA | Φ22(Φ3) |
| MIXING SHAFT | Once a year (recommended) | 1EA | L: 353mm |

# Error Codes and Corrective Actions

The soft ice cream self machine may malfunction due to incorrect operation procedure or a trivial cause other than machine defect or failure. If the following corrective actions fail to correct the problem, or the error code is not presented below, or the same error persists, contact the nearest After Service Center.

※ Before contacting the After Service Center, turn power off, wait for five minutes, then turn power on and start the machine again.

| Error code | | Possible Cause | Corrective Action | Release | Action |
|---|---|---|---|---|---|
| Er00 | Mix Out | Fall short of row material | Refill row material in the storage container | Auto release | Stop |
| Er01 | Hop. Sensor Op. | Cooler sensor OPEN | Sensor failure(contact A/S Center) | Auto release | Stop |
| Er02 | Hop. Sensor St. | Cooler sensor SHORT | Sensor failure(contact A/S Center) | Auto release | Stop |
| Er03 | Cyl. Sensor Op. | Cooler sensor OPEN | Sensor failure(contact A/S Center) | Auto release | Stop |
| Er04 | Cyl. Sensor St. | Cooler sensor SHORT | Sensor failure(contact A/S Center) | Auto release | Stop |
| Er05 | Air. Sensor Op. | Condenser OPEN | Sensor failure(contact A/S Center) | Auto release | operation |
| Er06 | Air. Sensor St. | Condenser SHORT | Sensor failure(contact A/S Center) | Auto release | operation |
| Er07 | EOCR | Motor over current detected | Melt the ice cream and restart the machine | Reset | Reset operation |
| Er08 | High Pressure | Over voltage detected | Clean the filter unit, check exhaust air line | Auto release | Stop |
| Er09 | noLA | Product immature yet | Refrigerant problem (contact A/S Center) | Auto release | operation |
| Er10 | Low Voltage | Supply voltage exceeded by -15 % | Power supply problem (contact A/S Center) | Auto release | Stop |
| Er11 | High Voltage | Supply voltage exceeded by +15 % | Power supply problem (contact A/S Center) | Reset | Stop |
| Er12 | Draw Switch Er. | Discharge lever error | Lift the discharge lever . | Auto release | operation |
| Er13 | Condensor OH | Abnormal temperature of condenser | Check the vent for clogging. | Auto release | operation |
| Er14 | Motor Belt Er. | Defective drive shaft | Melt the ice cream and restart the machine | Reset | Reset operation |
| Er15 | EEPROM Error | EEPROM fault | PCB fault(contact A/S Center) | Reset | operation |
| Er16 | Reverse Phase | Reverse phase sensing | Power supply problem (contact A/S Center) | Auto release | Stop |
| Er17 | Heating Error | Defective sterilization function | Replace the ice cream row material and clean the machine | Other operation | operation |
| Er18 | Cover Error | Defective dasher cover | Mount the dasher cover at correct position | Auto release | Stop |
| Er19 | Eva. Sensor Op. | Eva. Sensor OPEN | Sensor failure(contact A/S Center) | Auto release | operation |
| Er20 | Eva. Sensor St. | Eva. Sensor SHORT | Sensor failure(contact A/S Center) | Auto release | operation |
| Er21 | Motor Power Er. | Failed to detect electric motor current | Machine failure (contact A/S Center) | After reset release | Reset operation |
| Er22 | Power Fail Er. | Power turned off | Taking place in blackout (no corrective action) | Auto release | operation |
| Er30 | Vend Error | Defective main body of the dispenser | Turn power ON and OFF, then restart the machine | After reset releaseReset | Stop |
| Er31 | Top Sensor Er. | TOP sensor error | Remove the foreign matter from the cup transfer line | After reset | Stop |
| Er32 | Down Sensor Er. | DOWN sensor error | Remove the foreign matter from the cup transfer line | After reset | Stop |
| Er33 | Piston NO Er. | Piston NO. input error | Remove the foreign matter from the piston travel way | After reset | Stop |
| Er34 | Piston NC Er. | Piston NC. input error | Remove the foreign matter from the piston travel way | After reset | Stop |
| Er35 | Cup Ring Sensor | Cup holder(Feeder) sensor input error | Clean up the sensor detector part (remove foreign matter) | Auto release | Stop |

# Error Codes and Corrective Actions

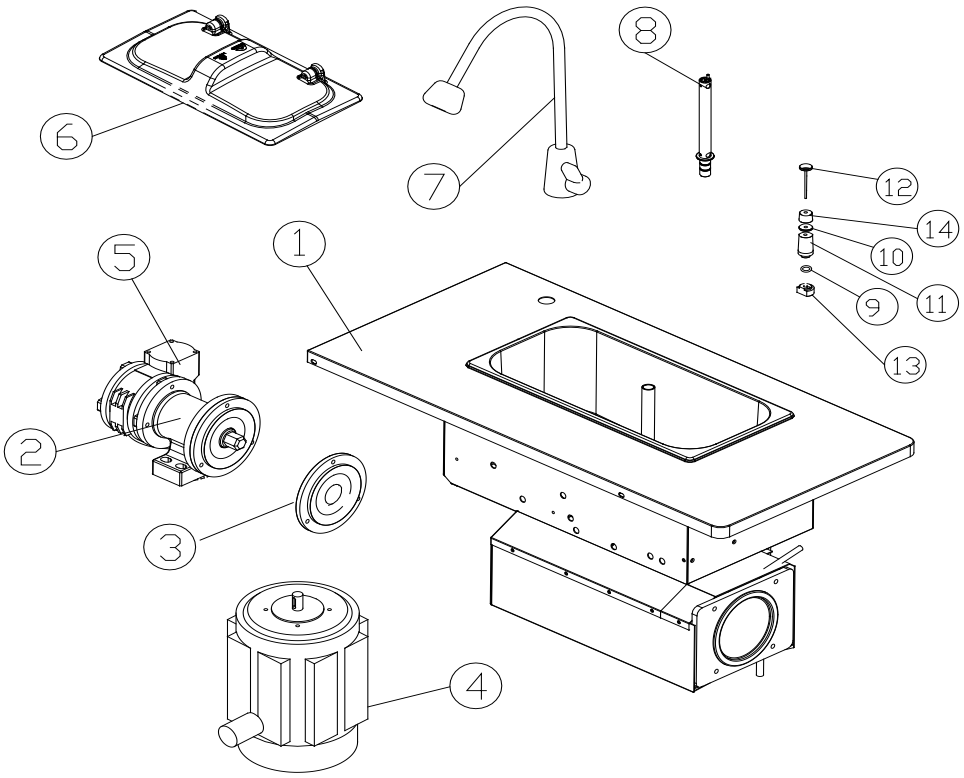
| Error code | | Possible Cause | Corrective Action | Release | Action |
|---|---|---|---|---|---|
| Er36 | Cup Out Sensor | Cup discharge sensor input error | Clean up the sensor detector part (remove foreign matter) | Auto release | Stop |
| Er37 | Step Origin Er. | Motor origin input error | Remove the foreign matter from the cup transfer line | After reset release | Stop |
| Er38 | Step Reduce Er. | Motor deceleration input error | Turn power ON and OFF, then restart the machine | After reset release | Stop |
| Er39 | Step Motor Er. | Step motor error | Remove the foreign matter from the cup transfer line | After reset release | Stop |
| Er40 | Cup Empty Er. | Cup exhausted | Fill with the cups | Auto release | Stop |
| Er41 | Vend Comm. Er. | Dispenser communication error | Turn power ON and OFF, then restart the machine | Auto release | Stop |
| Er42 | Cup Position Er. | Cup discharge error | Turn power ON and OFF, then restart the machine | After reset release | Stop |
| Er43 | Cup Empty Er. | Cup Exhaust switch opened | Fill with the cups | Auto release | Stop |
| Er44 | Vend Comm. | vend pcb communication error | PCB fault(contact A/S Center) | Auto release | Stop |
| Er45 | Door Open Er. | Door opening error | Removing foreign material from doors | After reset release | Stop |
| Er46 | Door Close Er. | Door closing error | Removing foreign material from doors | After reset release | Stop |
| Er47 | Coin Mechanism | Coin unit error | empty the coin | After reset release | Stop |
| Er48 | Bill Validator | Bill unit error | empty the bill | After reset release | Stop |
| Er49 | Door Comm. Er. | Door PCB communication error | PCB failure (contact A/S Center) | Auto release | Stop |
| Er50 | Power IC Er. | Power IC error | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er51 | Inverter DE error | Inverter PCB failure | PCB failure (contact A/S Center) | Auto release | Stop |
| Er52 | Invertor Comm. | Inverter communication error | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er53 | Invertor OC | Inverter over current | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er54 | Invertor OE | Inverter over voltage | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er55 | Invertor OH | Inverter over heat | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er56 | Invertor TH | Erroneous detection of temperature sensor | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er57 | Invertor LU | Inverter under voltage | Turn power ON and OFF, then restart the machine | Auto release | Stop |
| Er58 | Invertor COM | Communication failure detected | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er59 | Invertor OL | Mean overvoltage detected | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er60 | Invertor OT | Max. output protection | Sensor failure (contact A/S Center) | Auto release | Stop |
| Er61 | Control Comm. | Control pcb communication error | PCB failure (contact A/S Center) | Auto release | Stop |

For your information

When error occurs with regard to ice cream sale (e.g., ER35, 36, and 37),
Turn off the power and then turn it on again.

# Part List

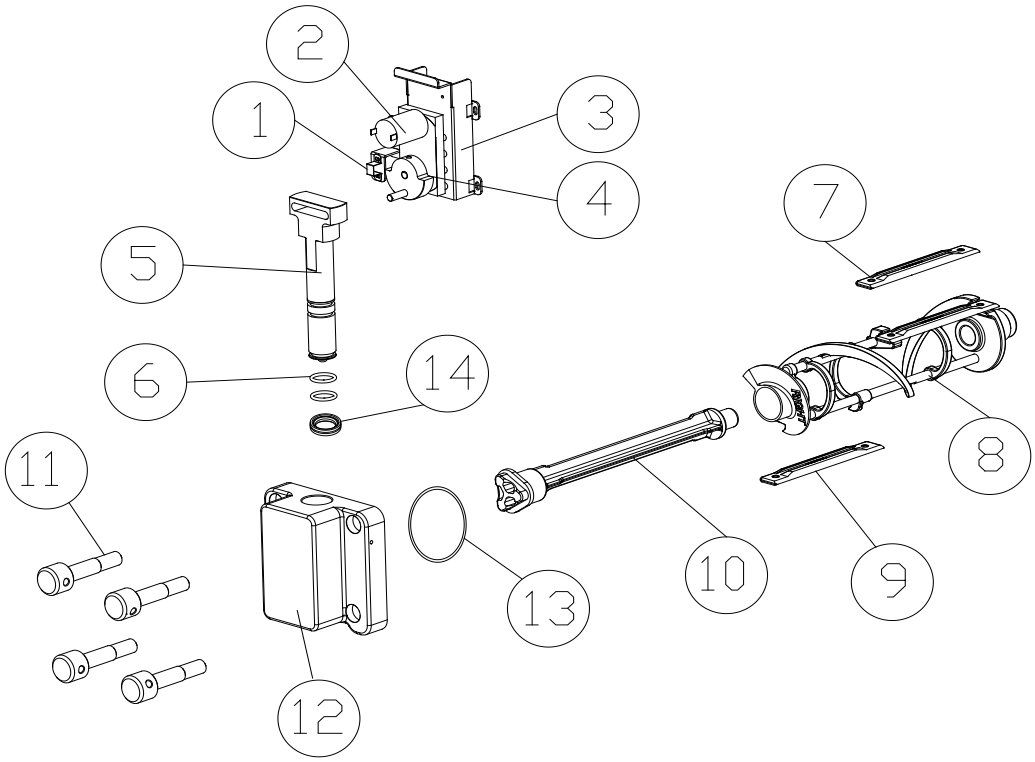
## DRUM ASSY




| NO | Part Name |
|---|---|
| 1 | DRUM ASSY |
| 2 | ASSY HOUSING SHAFT |
| 3 | POM FLANGE |
| 4 | DASHER MOTOR |
| 5 | SPEED REDUCER |
| 6 | COVER BASKET |
| 7 | WATER VAVLE |
| 8 | CARBURETOR ASSY |
| 9 | PACKING PUMP BODY |
| 10 | MIX SENSOR MIDDLE |
| 11 | MIX MIDDLE CAP |
| 12 | MIX SENSOR SHAFT |
| 13 | MIX DOWN CAP |
| 14 | MIX TOP CAP |

# Part List

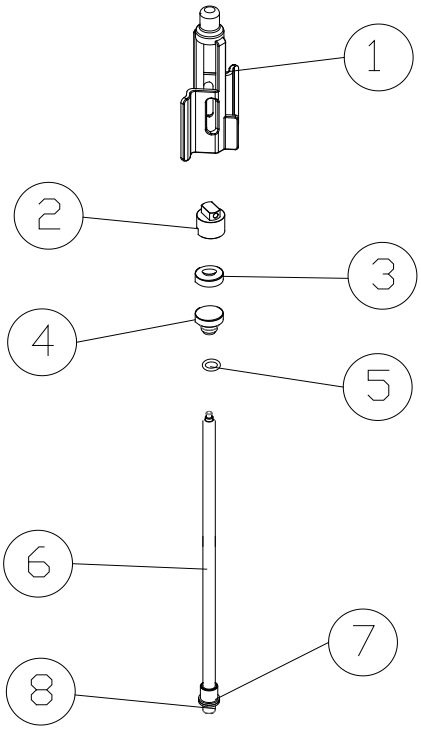
## DASHER ASSY

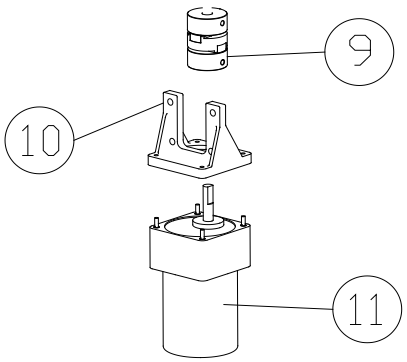



| NO | Part Name |
|---|---|
| 1 | PROXIMITY SENSOR |
| 2 | ASSY PISTON MOTOR |
| 3 | BKT PISTON MOTOR |
| 4 | PISTON CAM |
| 5 | PISTON SHELF |
| 6 | PACKING PISTION TOP |
| 7 | DASHER LUG BACK WHITE |
| 8 | DASHER ASSY |
| 9 | DASHER LUG FRONT WHITE |
| 10 | MIXING SHAFT (WHITE) |
| 11 | JOINT BOLT TOP |
| 12 | DASHER COVER |
| 13 | PACKING DASHER COVER |
| 14 | PACKING DOWN (L/R) |

# Part List

## ANGLE ASSY

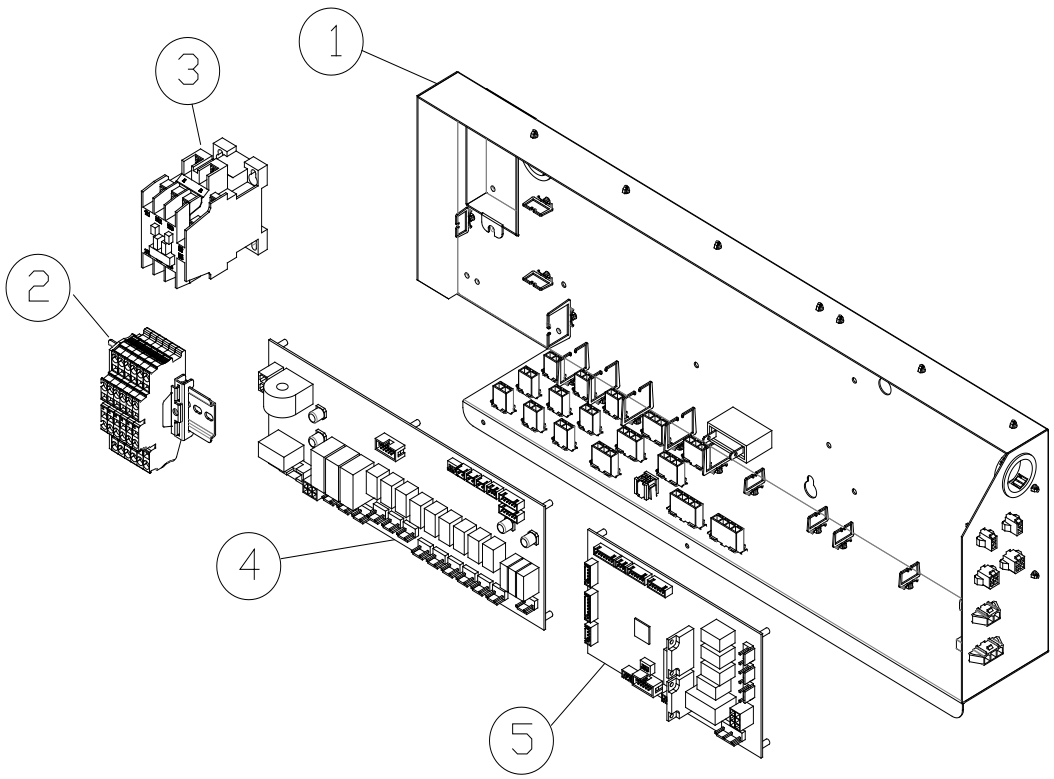



| NO | Part Name |
|---|---|
| 1 | AGITATOR IMPELLAR |
| 2 | SHAFT CAP |
| 3 | AGITATOR SEALING PACKING |
| 4 | SHAFT TOP BEARING |
| 5 | AGITATOR TOP PACKING TWO |
| 6 | SHAFT AGITATOR |
| 7 | SHAFT DOWN BEARING |
| 8 | E RING AGITATOR |
| 9 | JAW COUPLING |
| 10 | AGITATOR MOTOR HOUSING |
| 11 | ASSY GEARED MOTOR/SPG/S6X57–X58 |

# Part List

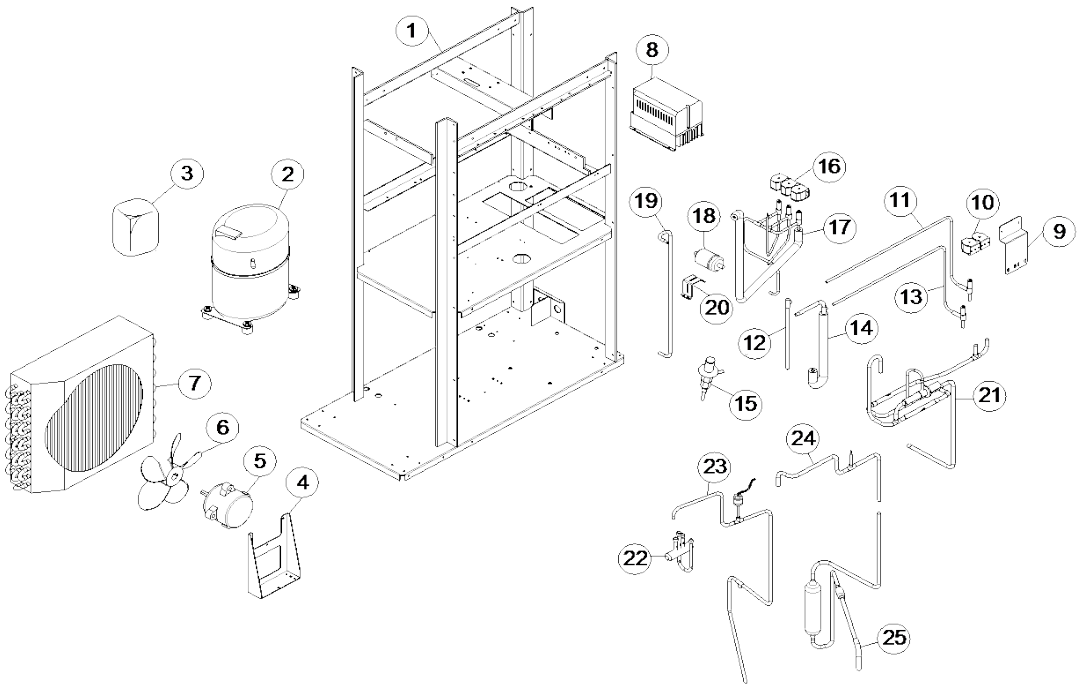
## CONTROL BOX ASSY




| NO | Part Name |
|---|---|
| 1 | CONTROL BOX |
| 2 | ASSY TERMINAL BLOCK |
| 3 | MAGNET CONTACTOR |
| 4 | CONTROL PCB |
| 5 | (+) VENDING PCB |

# Part List

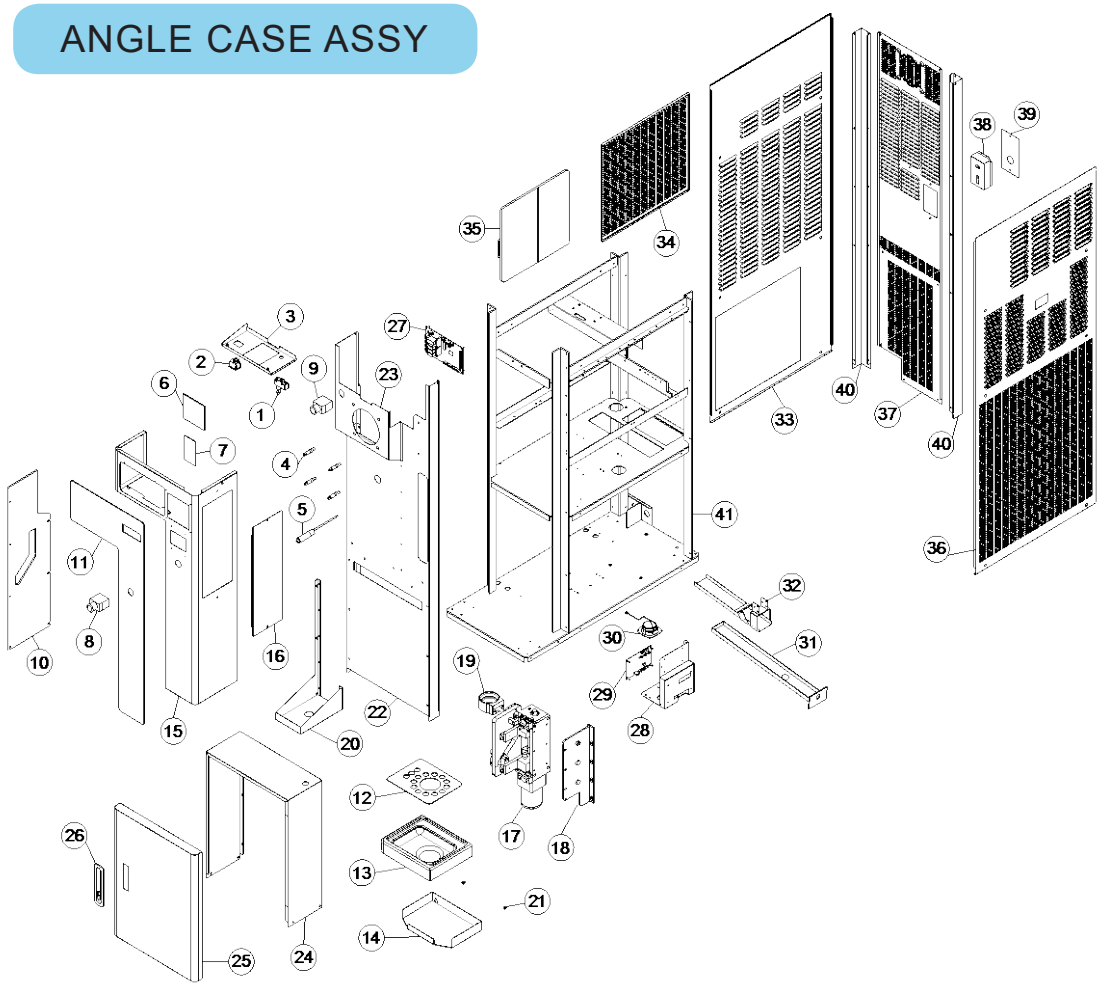
## FREEZER ASSY




| NO | Part Name | NO | Part Name |
|---|---|---|---|
| 1 | ASSY ANGLE 271SHSN | 15 | EXPANSION V/V |
| 2 | COMP/NJ9238GK | 16 | SOLENOID VALVE COIL |
| 3 | ASSY CSR BOX | 17 | SOL V/V ASSY |
| 4 | BKT FAN MOTOR | 18 | FILTER DRYER |
| 5 | FAN MOTOR/DAI-95254SECB | 19 | COND OUTLET PIPE |
| 6 | FAN | 20 | BKT FILTER |
| 7 | CONDENSER ASSY | 21 | COND INNET ASSY |
| 8 | INVERTER | 22 | 4 WAY VALVE BODY |
| 9 | SUPPORT VALVE | 23 | DISCHARGE PIPE ASSY |
| 10 | SOLENOID VALVE COIL 2 | 24 | SUCTION PIPE 1 ASSY |
| 11 | HOT GAS 냉장 PIPE ASSY | 25 | SUCTION PIPE 2 ASSY |
| 12 | 냉장 IN PIPE ASSY | | |
| 13 | HOT GAS 냉동 PIPE ASSY | | |
| 14 | 냉동 IN PIPE ASSY | | |

# Part List

## ANGLE CASE ASSY




| NO | Part Name | NO | Part Name | NO | Part Name |
|---|---|---|---|---|---|
| 1 | ASSY MICRO SWITCH | 16 | COVER SIDE PCB 7–11 | 30 | SPEAKER |
| 2 | SWITCH | 17 | ASSY FEEDER | 31 | DRAIN SLUG |
| 3 | FRONT COVER SUP | 18 | SUPPORT FEEDER | 32 | ASSY DRAIN SLUG |
| 4 | BOLT FRONT DRAWING | 19 | CUP HOLDER | 33 | SIDE PANEL (L) |
| 5 | ASSY PHOTO SENSOR | 20 | BASE FRONT COVER | 34 | BKT FILTER |
| 6 | LCD SET PCB | 21 | DRAIN FIX BOLT | 35 | FILTER CONDENSER |
| 7 | BUTTON PCB | 22 | FRONT COVER DOWN | 36 | SIDE PANEL (R) |
| 8 | PUSH BUTTON | 23 | FRONT COVER TOP | 37 | BACK PANEL |
| 10 | COVER FEEDER | 24 | FRONT CASE BODY | 38 | PUSH S/W BOX |
| 11 | FRONT DISPLAY | 25 | FRONT CASE DOOR | 39 | PUSH S/W COVER |
| 12 | DRAIN BOX UP | 26 | DOOR KEY | 40 | COLUMN BACK (L/R) |
| 13 | DRAIN BOX | 27 | MAIN PCB | 41 | ASSY ANGLE 271SHSN |
| 14 | BKT DRAIN BOX | 28 | BKT USB PCB | | |
| 15 | FRONT FEEDER COVER | 29 | USB DOWNLOAD PCB | | |

# Product warranty

If a quality warranty or receipt is not received or missing or if the date of purchase can't be verified due to other reasons, then the quality warranty period is deemed to be 6 months from the date of manufacturing.

[ Free repairs ]

1. Performance or functional failure occurring under the normal condition of use within the qualified warranty period.

[ Chargeable repairs ]

1. The warranty period is expired.
2. Reinstallation due to incorrect initial installation by the shop (customer).
3. Installation due to the product having been moved or moving to a new location.
4. Malfunction caused by the defects of products from other companies.
5. Malfunction caused by incorrect use of the electrical capacity.
6. Malfunction caused by consumable parts or optional parts not designed or supplied by our company.
7. Malfunction caused by external impacts or falling.
8. Natural disasters (thunderbolt, fire, earthquake, flooding, tsunami etc).
9. Due to the expiration of a consumable part. (Packing, blade, cleaning brush etc)
10. Foreign substances in the product (water, drink, coffee, toys) caused malfunctions.
11. Product damages or functional failures caused by external impacts during installation or use.
12. Product malfunction caused by consumable parts or parts which are not the authentic ICETRO.
13. Malfunctions caused by neglecting the installation standard in the user manual.
14. Lost accessories or damaged parts caused by arbitrary disassembly by the customer.
15. Malfunction caused by repairs or remodeling performed by someone other than ICETRO engineer
16. Malfunction caused by neglecting the safety warning and cautions in the user manual.
17. Winter freezing or clogging of the water supply pipe or the water discharge pipe caused the malfunction.

● Manufacturer : ICETRO

7, GEOMIDAN-RO 54BEON-GIL,
SEO-GU, INCHEON, KOREA

● Seller :

MEMO

Online Internet Service
http://www.icetro.com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