

## Summarize

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◆ The hard ice-cream machine of OPH76 is a new product from Our company R&D. It integrates the advanced refrigeration and control technology from several patents and is manufactured with precise equipment and technique. As a kind of commercial refrigeration equipment, this new ice cream machine in our company has a good design、high refrigeration efficiency、good operation performance、convenient use, etc.

◆ The machine applies the technology using a hermetic compressor and evaporation patented to our Company. This technique applies the refrigeration theory to cool and beat up the ice cream mix properly at the same time. The ice cream mix will be in a half-solid state until the temperature is right (generally  $-4^{\circ}\text{C}$  to  $-6.5^{\circ}\text{C}$ ).it will be edible after splits out the hard ice cream and places it in refrigerator at least 2 hours (generally  $-18^{\circ}\text{C}$  ). This machine has fairly high refrigeration efficiency performance.

◆ The machine should always be placed uprightly and rear turn truckles and brake equipment are installed it can be moved on firm and flat ground.

◆ For control, the machine applies an advanced digital display technology, the set hardness value, working process and the operating condition can be indicated at one time. The operation control is designed, for an easy usage and the hardness of the products and output velocity can be controlled conveniently.

◆ The machine is matched with single phase 220V-60Hz, and can operate normally between 198V-242V, and therefore can be used in hotels、restaurants、shops etc.



Note: This equipment is mainly used for food production and is recommended to be stationary in a room. The equipment will radiate a large quantity of heat during operation and produces noise that may cause interference in some degree. It may also cause interference to transmitters or other wireless equipment during start-up, so the operator should take necessary safeguard preparation for this phenomenon.



Caution: Please alert to the instructions of operation and maintenance in the accompanying book.



Warning: This operate miss may cause harm to the people and the machine itself.

## Safety precautions



### ◆ Electrocution

- Install the grounded equipment according to the standards of family use and industrial applications.
- Use power-supply circuitry according to present safety standards, including the means of connection and electric appliance.
- Make sure have the equipment of power-supply circuitry short and the protection equipment of creepage.
- Do not touch switch or plug without safety gear or if you are wearing wet clothes.

### ◆ Mechanical damage

- Do not touch moving drive of the machine during operation. (见图 1)
- When removing machine, be sure to use the correct way and keep the safety distance.
- After the machine is put in place, lock the brakes.

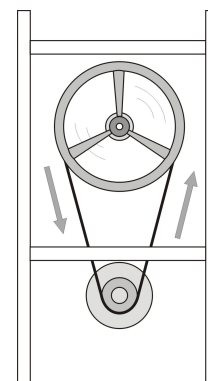


Chart 1

### ◆ Cleaning and sanitizing

- If the machine is not sanitized correctly it can cause food pollution, that may results in disease or serious health affects, sometime lethal. This may result in claim for compensation or lawsuit.
- Keep regular cleaning and sanitizing, dispose surplus in time to prevent the machine from becoming corrupted.
- Always clean the machine according to a fixed schedule and make sanitizing strictly according to the operator manual.

### ◆ Fire

- As one of the high-power electrical appliances, the power-supply circuitries must meet the requirement of the maximum current that can occur, and should also have proper margin. If the wire is made for the current carrying capacity it may result in over-heat, short-circuit and self-ignition. This may result in possible fire damage so be always attentive of this danger!

◆ **Operation**

- 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 concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- The product of the machine is related to food production, so the operator must fully understand the special requirements for food sanitation, should have a up-to date certificate issued by local government sanitation management department and a health certificate according to the law provision
- The operation process must be according to the request of food sanitation, this includes the tools used for assistance and whose sanitation is identified as eligible、and used in sanitizing work, such as mantle for head、respirator、gloves, etc.

## Safety Warning of Machine



### ◆ Cautious Transporting the machine

• The machine is for commercial refrigerant equipment , during transportation , the machine must be kept stand-up , fiercely striking or shaking is not allowed . it is also forbidden to place the machine slantingly or make it inversion . wrong ways to transport it will result in machine damage. (chart 2)

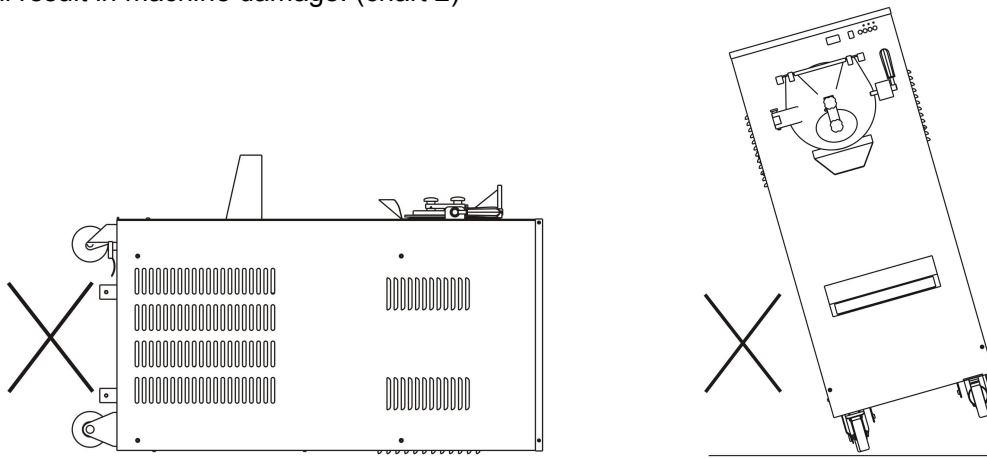


Chart 2

### ◆ Reasonable Installation

• The specified ways and required conditions in the manual must be strictly followed when installation . the following phenomenon may cause the machine Loss of function, shorten its using life or even damage : over-high or over low voltage , heavily heat-radiating ,ruined by water , no way for air entry or exhausted , over-high percentage of corrosive air or dust .

### ◆ Correctly Operation

• Three-phases voltage supply of 220V/60HZ is provided to the machine . it is of great importance that the power supplied to the machine must be within the permitted range 198V~242V. when operation , the air temperature within the range of 10 °C ~38 °C is permitted . and the altitude should below 2000 M , If beyong the specified range , the machine performances will be degraded , even damaged .

### ◆ Troubleshooting Guide

• If you have any problems during installation or operation , please find out relevant in the manual book .

- If you could not catch the key point in the manual when you read or the problems could not be solved according to the manual instruction , please immediately contact with your supplier or directly call the service center of the Oceanpower Corporation to seek professional help .



**Note** : Within the guarantee time , if the machine is damaged caused by wrong use , which is not according to the specified ways and required conditions in the manual , the promise for free maintenance will be invalid .

## Convey the machine

### ◆ Using pedestal and package

Before transportation ,the machine must be placed on a pedestal for special purpose , and it is suggested that the machine is lifted directly by manual or by forklift. (chart 3)

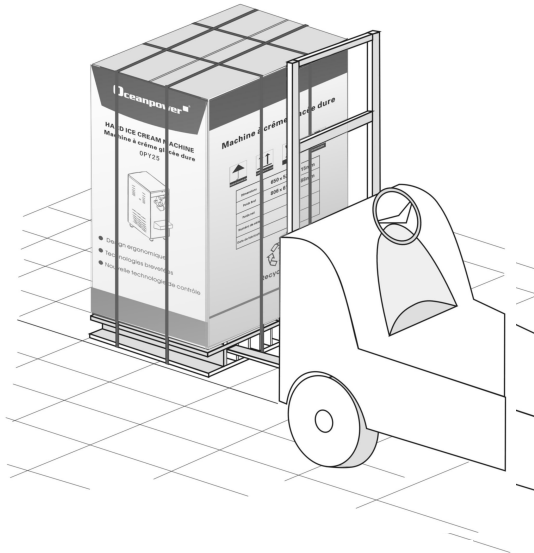


Chart 3

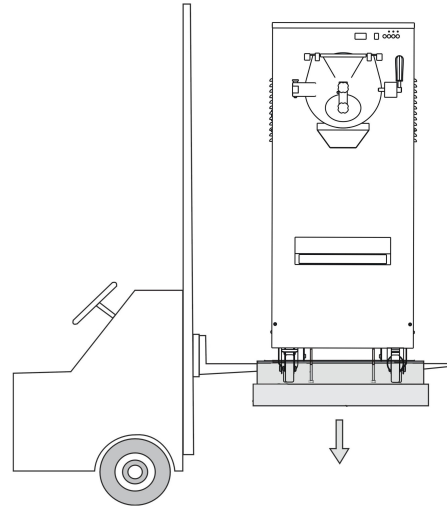


Chart 4

### ◆ Convey

- During the process of transportation , the machine must be placed on the pedestal and should be in package . and fiercely shake and strike must be avoided . The largest gradient should be within 45° . The machine is absolutely forbidden to lie or invert .
- The machine without package is forbidden to transport with machine . Long-distance transportation is not permitted either .

### ◆ Method of unpacking

- When unpacking , please raise the machine up and care must be taken to remove the package stuff around the machine . any tools with sharp parts are not permitted to use because they will damage the machine surface .
- The packing content of the machine mainly include mainframe, accessories、 datum and pieces easy to be ruined , packing material includes the carton ,filled material , protection film and so forth .

### ◆ Removing the pedestal

- Firstly , disassemble the bolt that connects pedestal and machine and then slowly lifts upward the machine and remove the pedestal , finally lays down the machine on flat floor .(chart 4)

## The convey and transit of the bare machine

•The machine in no package could only be lifted by soft band to lift or directly carried by person .(chart.5)

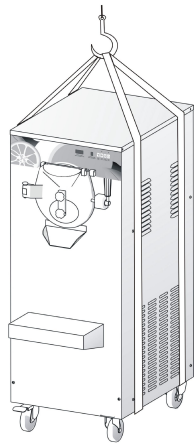


Chart 5

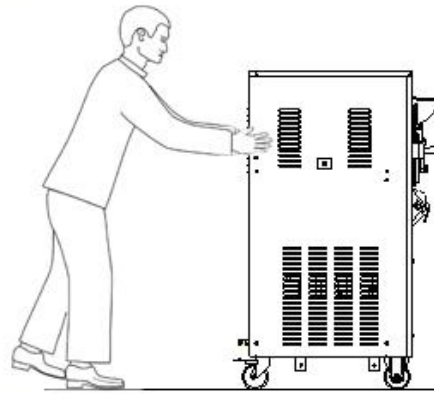


Chart 6

• the machine is allowed to push on the firm and flat ground , please loosen the brake equipment of the truckle when pushing ,, the front truckles of the machine are versatile ones , the rear are fixed . the maximum gradient allowed is 15 when pushing .(chart 6)

• when the machine is put in place , step on brake pedal pedal of the front truckles. (chart 7)

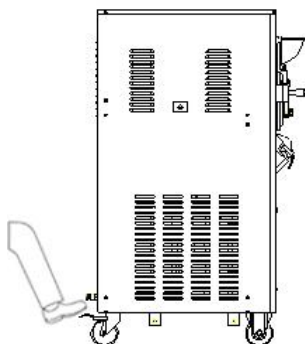


Chart 7

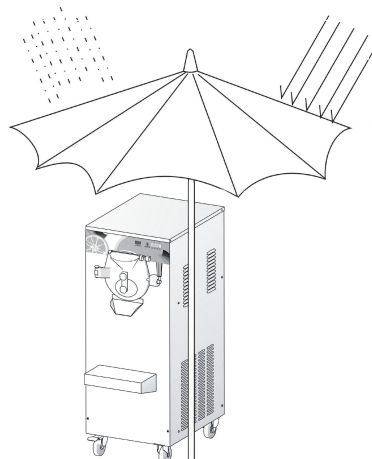


Chart 8

• The machine should be placed on the firm and dry ground , there should not have the heat source whose temperature is over 70 °C within 500mm , and it should not be caught in rain or be irradiated uprightly ,(chart 8)

## Installation environment

• The distance between the machine and the wall around or other objects should be more than 200mm. The ventilation of the machine should keep fluent, and no dust easy to be absorbed hereabout, the back of the machine is the outlet of condenser, its space should be as great as possible and there should have the channels through which the hot wind can be vented easily! (chart 9)

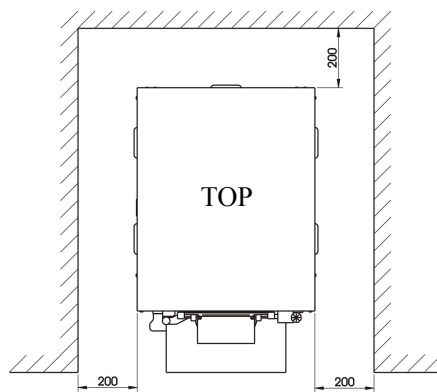
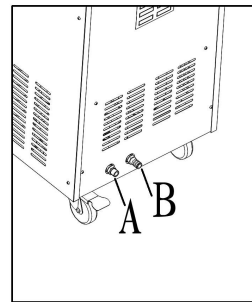


Chart 9



A-Water inlet pipe  
B-Water outlet pipe (ripple mouth)

Chart 10

• If the space is small, the runoff of exhaust fan in the machine should not lower than 1000 M3/h.

• This machine builds the circulatory system. For the water cooling type of machine, it must be connected to the case of the cooling water and run the machine.

### • Drain Installation

Entangle the raw material in the nozzle A, screw the joint A with the stainless steel connecting pipe and tighten. The other end of the stainless steel connecting tube connects to the inlet valve gate which you purchase. Remove the transparent wire tube in the annex, put on the plastic clincher, then load to the ripple mouth B and tighten.(as figure 10)



• **Hydraulic requirements: Current capacity in 100 milliliters/second to 200 milliliter/seconds. Water pressure is not more than 0.3Mpa (3KGF/cm2). It can trigger spray hose rupture if the pressure exceeds this requirement. If the machine is non-working state, turn off the inlet valve gate to extend the life of the connection pipe.**

### • Power Line Installation

User's wire requirements is copper cable, wire diameter of 4.0 mm<sup>2</sup>. Power requirement is the ONE-phase supply 220V/50HZ, can be normally used in the scope of 198V-238V, can be used in the food factory, hotels, restaurants, shops and other occasions. This machine is a high efficiency current collector, the front office should be configured with the line of no-fuse switch 18A, the cable cross-sectional area is a 4 square millimeters of copper sheathing line. Because the water condensing works is easily wetted, pay attention to the security of environment by all means, the best is to supply with leakage protection of your power.

## Production introduction

Main parameter of the OPH76hard ice cream machine

Model	OPH76	
Power supply	220V/50Hz	
Rating input current (A)	20	
Rating input power (W)	3500	
Cooling capacity (W)	2450	
Power of compressor (W)	1800	
dasher capacity(W)	1500	
Refrigeration method	Water	
Kind of refrigeration	R404A	
Weight of refrigeration (kg)	1.5	
Freezing cylinder volume available (L)	16	
Work Circumstance temperature	10℃-38℃	
Output (kg/once)	minimum	maximum
	4	8
Rating product (L/h)	76	
Night weight (kg)	225	
Dimensions (mm)	length 570×depth 830×height1260	

Note:

The rating production was measured while the surrounding temperature is 23℃。

## Machine function

### ◆ Main function of the machine

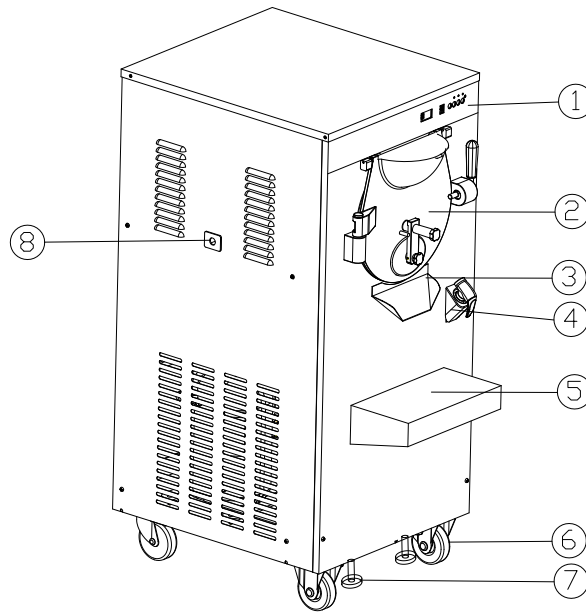


Chart 11

- 1、control panel 2、discharge port 3、stock guide 4、nozzle  
5、bracket 6、brake truckles 7、under-prop 8、water pan

### ◆ Control panel

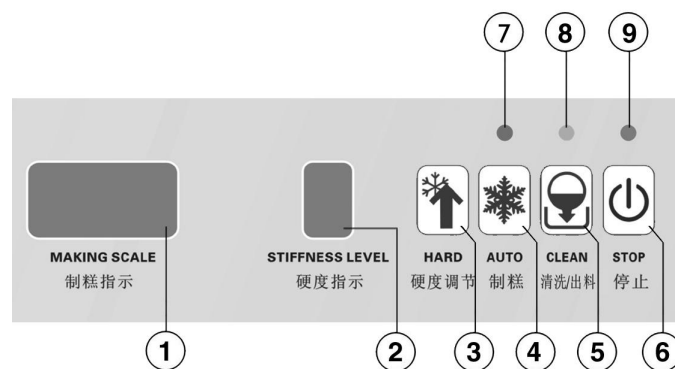


Chart 12

- 1、working indication 2、hardness indication (1~5) 3、hardness adjust 4、auto button 5、cleaning/discharge button 6、stop button 7、working indication (blue) 8、cleaning indication (green) 9、stop indication (red)

### ◆ Demonstration:



hardness adjust



Making



clean/discharge



stop

◆ The split and combination of discharge door schematic drawing

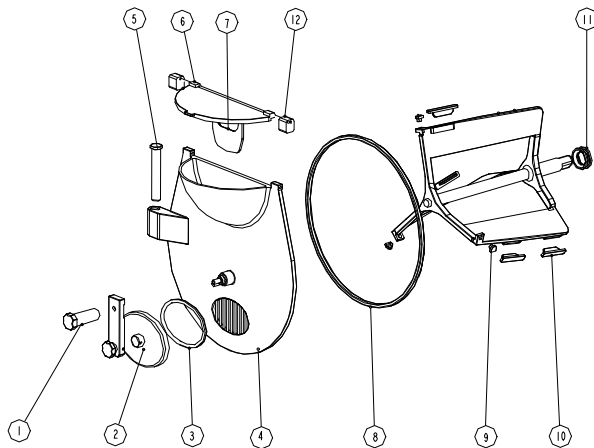


Chart 13

Number	Name	Quantity	Number	Name	Quantity
1	Lock nut	1	7	Shield board	1
2	Small door	1	8	Bid door ring	1
3	Small door ring	1	9	Stator	3
4	Discharge door	1	10	Scrapers	4
5	Dowel	1	11	Shaft end ring	1
6	Support of shield board	2			



**Warning: The beater should be assembled back after cleaning.**

◆Add food-approved lubricant

Please clean and sanitize every part, add food-approved lubricant on the following parts according to the requirements before starting the production.

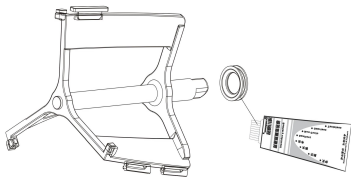


Chart 14

Put a thin layer of food-approved lubricant on the end section of the beater as showed in the above chart, then pull on the shaft end ring and put on a thin layer of food-approved lubricant.

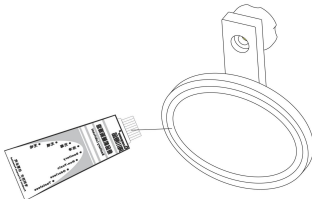


Chart 15

Pull on the small door ring into seal groove well according to the requirements, then add a thin layer of food-approved lubricant.

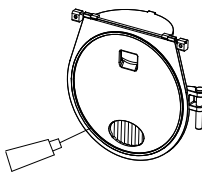
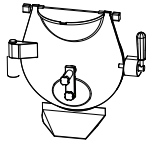


Chart 16

Pull on the discharge door ring well, and then add a thin layer of food-approved lubricant.

## Parts concepts and function explanation



**Discharge door**-used for the discharging and shaping of hard ice cream product. The shield board is installed on the top of discharge door (see Figure 13), and there is a magnetic switch on one end of the shield board. When the shield board opens, the machine will be at the outage state, until the shield board closed.



**Cleaning/Discharge button**-it means auto-cleaning, it is required to fill the cylinder with water, the green indicates the motor is working. Pressed the button after the process to discharge the product.



**Mix-making button**- the machine will stop automatic, when temperature and hardness meets the configured condition. If the temperature rise, the cooling cycle will start automatically and the blue light will indicate that normal operation occurs.



**Stop button**-when cleaning or working, it can make the machine stop working, the red indicates at this time.



MAKING SCALE  
DEGRE DE FABRICATION

**Rate of progress of working**— the screen indicates that the machine is working and the number indicates the average temperature of the mixing cylinder. The number's rule is from small to big, when meeting the configured number; the machine will stop automatically, this number can be changed with the hardness value set.



STIFFNESS LEVEL  
NIVEAU DE DURETE

**Hardness indication**-it can preset the set hardness value, from 1-5(recycle), the bigger the number is, the harder the product's hardness value is.



**Hardness adjusting**-the machine produces different products in the light of different mix, the hardness can also be adjusted according to special request.

## Accessories Installation

### ◆Beater and discharge door installation

• **Beater installation:** O-ring must be installed on the end of beater, otherwise it would cause water leakage, and missed material. Please firstly cover the rear end of the beater assembly with the sealed ring, and push it forward into the beater canister, run slightly, then make the shaft assorted with the hole back of the freezing cylinder, it feels stretchy when the shaft is well installed and will be sent out slowly if the shaft is well assorted with the cylinder after pushing it into the cylinder, shaft is more appropriate with cylinder (See Chart 17).

• **Discharge door installation:** Make sure that the machine is turned off when performing the following procedure. Hold the discharge door, make it in the panel aimed at the hinge, push it slightly and make the pin aiming at the hole, insert the plug, install the big O-ring.

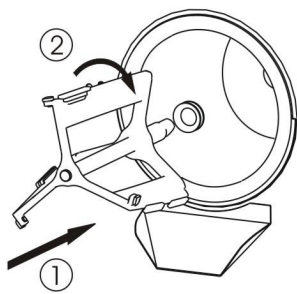


Chart 17

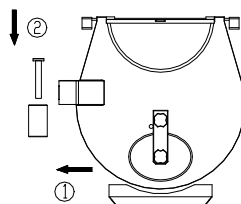


Chart 18

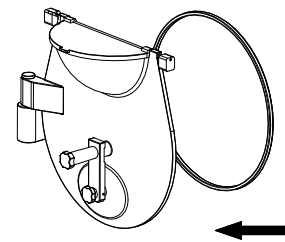


Chart 19

• After the installation of discharging doors, check whether the O-ring of discharge doors is combined with the cylinder closely.

• **Small door installation:** Firstly install the O-ring to the sealed grooves of small door (See chart 20), then small door install to discharge door, and tightening "Lock nut"(See chart 21).

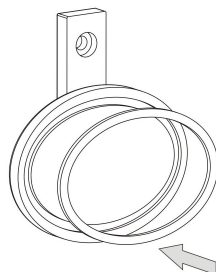


Chart20

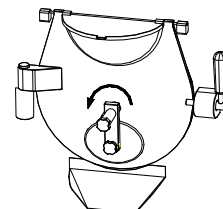


Chart 21

• **Installation Bracket:** front of the panel below the two different size nut screw loose, and then bracket at the two nut, downward pressure and tightening nut.

• After the installation to electrify, press the "clean" button, beater motor begin

startup, it is succeed for machine accessories installation.

## **Tryout of the Machine**

•After all the accessories are installed, before working, the test to this machine should be done to prove every function to be excellent.

### **NOTE:**

**The minute of refrigeration tryout of the machine must be under 1 minute when no mix is in the cylinder. It is forbidden to run the machine to refrigerate for a long time without any mix in cylinder, this operation may cause ice formation in the freezing cylinder and result in serious damage to the equipment. Don't try to touch the discharge door with any tools while the machine is running.**

### **◆ The goods and equipment provided for yourself**

- Cleaning towel ----used to clean the outside and inside of the machine and to absorb the water.
- Mix container-----made by stainless steel and plastic, is used for saving the mix and water.
- Thermometer-----used to measure the temperature of the surrounding、 the mix and the product.

**NOTE: Before using OPH76 should make sure the power supply must meet the request and source of water is clean. The filter meets request of water-press is recommended.**

### **◆Tryout of the Machine**

- There are three single drive equipments in the machine, they are beater motor, compressor, and condenser.
- Press the “Cleaning” button and then the motor can be started solely. The convey equipment can drive the beater assembly run after starting up the motor. Press “Stop” button and the run can be stopped.
- The machine should be in the refrigeration condition when pressing the “Auto”

button, the beater motor firstly run when the machine is started up and compressor and condenser run in seven seconds. The left outlet for the wind of the condenser have hot wind vent. Press "stop" button to stop compressor run, beater motor will be stop after seven seconds.

- After stop producing completion, container put on the bracket and "locknut" of small door screw loose, the upward rotation Small door components, and then fastening the "locknut", press "Cleans" button played hard ice cream.

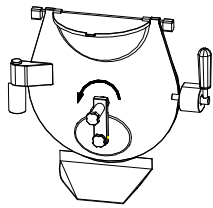


Chart 22

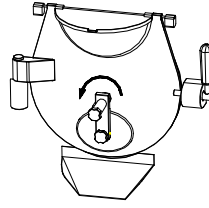


Chart 23

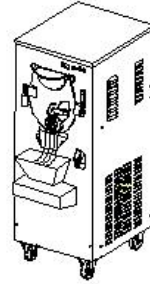


Chart 24

## Sanitizing of machine

To ensure the sanitation of the food, before or after use of machine, besides completely cleaning every part of the machine, the accessories and the container which are touched with the food also must be sanitized, the sanitizing solution can be supplied by our company and means and proportion also should be done in line with the manual prescribed by company.

### ◆ Confection of the sanitizing solution

- Fill the container with 5 L clean water, append a little bag of sanitizing solution powder (15 g) into it and beat it up for 2 minutes to make it dissolved completely for preparation (See Chart 25).

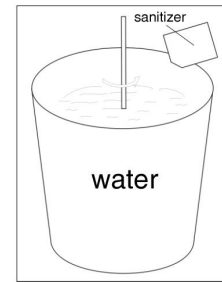


Chart 25

- The main ingredient of the special sanitizing is  $C_3N_3O_3CL_2Na$ ; also named SDC, the special product for food, please do not use others without our authority instead of our company products, avoid your being injured.

### ◆ The use of sanitizing solution

- The sanitizing of the parts may adopt the means of dipping it into the sanitizing solution or rinsing it by in pouring the sanitizing solution into it, to achieve the aim of sterilizing completely, the sanitizing must be kept for short time, the sanitizing solution usual can kill almost all king do bacteria, mildew, virus and others which can do harm to person. The basic character based the different species of germina and viruses; the sanitizing time of the apparatus should not be under 10 minutes.

- The means of dipping can be applied to the knock-down parts, such as the expansion valve, every part of draw valve, beater assembly, sealed ring, parts required sanitizing should be completely touched with the sanitizing solution, the parts of sealed ring and valve piston should be broken into the little species and disinfected again. (See former Chart 13)

- The means of in pouring is applied to the cylinder and transmit flitch of front panel, the sanitizing solution can be in poured into these parts when sanitizing. Make the

inside of these parts touched completely with the sanitizing solution and keep enough time. The clean rinse things such as towel, brush can be used when sanitizing for hopper, and for cylinder, besides, the above-mentioned means, it also can be cleaned and sanitized by the running of beater assembly in short time under the good condition of installation.

Note: sanitizer is a complex chemical, and which has injury and thrill on the skin and mucous membrane irritation, so be careful not splashed eyes, nose, mouth, skin in cleansing, otherwise wash it immediately with clean water, the serious should be to the hospital. In addition, disinfectant shall not be used for other purposes! Keep out of reach of children.

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## Cleaning before making

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### ◆ Cleaning of Mix cylinder

- Put through the power, press "clean" button, the beater motor is run at this time and drives the water in the cylinder to run and then clean the inside of cylinder. After three minutes, press "stop" button, and then fastening "Locknut," of -the small door, small upward turn small door components will discharge the wash water, Then turn exceed materials door downward until there is no water flow out from the small door, clean water emissions, and then handle upward is reset, cleaning is finished.
- Then clean outside surface of the material-out door and transmit plate.
- Ultimate cleaning should use purified water accorded with sanitation standard.



Warning: strictly prohibit to clean the machine with the water whose temperature is over 40 °C, because it can damage the components of the machine and make the sealed parts invalid ahead.

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## Preparation of mix

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**Example:** use hard ice cream powder to prepare the mix.

1. Firstly pour 2.5 Kg (2500ml) water into clean container, and put 1 kg the ice cream powder into it, beat up without cease up to the powder are poured completely (See Chart 26).

2. 15 minutes laying the mix which has been beaten up well and making it well-proportioned

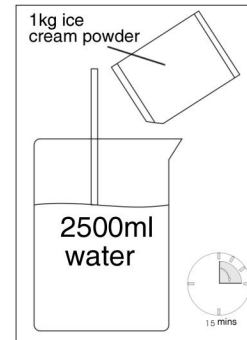


Chart 26

3. The well-proportioned mix should be poured immediately into the ice cream machine to produce ice cream

4. 715g powder is the lowest dosage when producing ice cream every time, then the lowest dosage of every mix is 2500g. Certainly, considering the practical dosage, it can prepare more mix according to different proportion and manipulation.

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## Making hard ice cream machine

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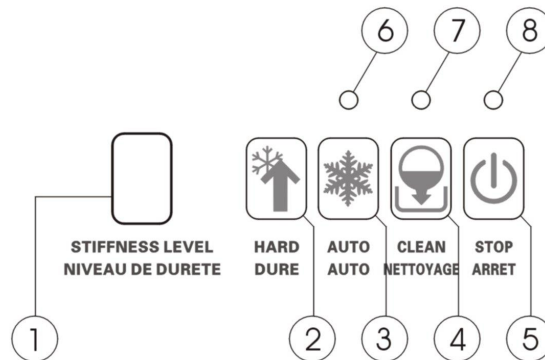
**Warning:**

When there have water in freezing cylinder, the machine is strictly prohibited to be on the condition id making, otherwise the bad frozen cylinder will be caused and may cause the parts of the machine to be ruined badly. So the water in cylinder must be drained completely before making and the water in hopper also should be absorbed entirely.

1. Press the “Clean” button and mixing for 3 minutes, then press the “AUTO” button to make the product.
2. Start to make ice cream machine, at this time, the beater motor should be run immediately; the compressor start to run in 7 seconds, the blue indication on he board lights, the outlet of wind on the left of the machine should have the hot wind vent. Observe the indication window, the number it indicates should gradually increase.
3. When the hardness is in line with the requested value, the compressor will stop running automatically, in approximate 7 seconds the beater motor also stops running automatically. Then, screw the small door “lock nut” loosely, turn the small door upward and fasten, press the “Clean” button, the requested hard ice cream will be extruded at this time. **If the hardness value is too high, the mix will not be able to be discharged out (There is no ice cream discharged out when you press the “Clean” button.) , you should press “Stop” button immediately , after 15 minutes press the “Clean” button again to discharge the ice cream.**
4. Put the ice cream into the refrigeration which the temperature is below 18 °C for more than 2 hours, then the hard ice cream can be eaten.
5. If you want to make ice cream in different flavors, the machine should be cleaned before making. (Please see “beater hopper clean”)
6. If you need to finish the making of ice cream, please press “stop” button, and clean, disinfect it in process. At last turn off the power.

## The examination and adjustment of the working hardness

• The hardness value should be set before every start-up. The hardness value has 5 grades, 1 indicate that the hardness is the smallest, 5 is the highest.



1. Hardness adjusting indication 2. Hardness adjusting 3. Making ice cream button  
4. Clean/discharge button 5. Stop button 6. Working indication 7. Clean indication 8.  
Stop indication

• On “cleaning” or “stop” condition, the hardness value showed has not any practical meaning

• The course of producing ice cream may change with the circumstance temperature, mix temperature and hardness value, generally, higher the circumstance and mix temperature are, longer the requested making time is, higher the hardness value set is, longer the requested time that meeting the corresponding value is.

• Press the button of adjusting hardness value, firstly set the hardness value 2, if the ice cream produced is too soft, then increase the hardness value gradually, if it is too hard, then reduce, adjust 1 channel every time.



It could not immediately achieve the desired hardness after resetting Hardness indicators, particularly for hardness, it must restart refrigeration cycle to achieve the desired hardness when the machines stop automatically.

## Cleaning after working

• Put 3L water and make it flowing into the cylinder from the material hopper doors.

Press "Clean" button to make the motor work. Loosely Screw the "Locking nut" of the small door, then push the small door upward, and make the water discharge to the cylinder containers after cleaning about 3-5 minutes.

◆ Repeat the above steps 3-4 times

• pull out the beater sealed ring together with the beater, then cleaning.

• Clean all the parts of the material hopper doors, discharge door, big sealed ring, beater patch and fixed patch, flow them with clean water, then Soak for 10 minutes with sanitizer, finally clean with water again.

• Disconnect and clean the Bracket, front panel and guided plate.

• Wipe the water of the front panel, guided plate, bracket and other parts with a towel to drain the water.

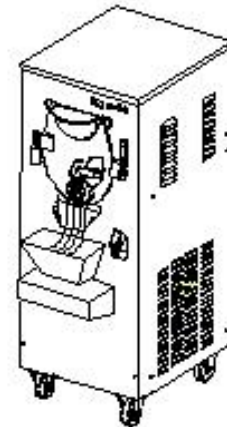


Chart 28

• Check the left side water box of the machine, operate like this: Pull out the water box to check whether there are leaked materials in it, if there are, clean it, if the leakage is more, please check the beater-sealed ring. (See Chart 28) then install all the parts as back.



Please keep the removed parts, and pay attention to maintaining ventilation and drying to avoid dust and pest contamination.

## Caution and preventive measures

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### ◆ Environment

1. The working operation of the machine should be in a relatively dry environment, and the air humidity should not generally exceed 90%, the altitude should not be over 2000 meters.
2. Used in the normal temperature, the ambient temperature should be 10 ° C to 38 ° C, in particular, to avoid excessive temperature.
3. Avoid using in the sunlight or the rain; do not let water or slurry infiltrated into the machine.
4. Avoid working in the dust serious containing area or corrosive gases environment.
5. Maintain good ventilation around the machine and avoid using in the locations where the space is used.
6. The machines should be located out of the rodent and pest area, keep controlling work regularly.

### ◆ Security Note

#### 1) Keep good ventilation

The machine is air-cooled model, it will have a strong hot air that need to be excluded so as to protect the normal refrigeration cycle when in the state of refrigeration. The operator should recognize that the ventilation area is not covered or jammed while using the machine, and we must pay attention to maintaining good ventilation, as this will be very important to ensure the performance and lifetime of the machine.

#### 2) Maintain the rated voltage

In generally, the machine can be used in the voltage range of 406V-354 V, if the power voltage is in excess of the allowable value, it will cause the automatic protection or damage to the machine, the operator should be aware of this situation and take appropriate preventive measures.

#### 3) Protect circuit capacity

The machine is high-power electricity equipment, the largest working current will achieve more than 12 A, if the supply line is too long or the diameter is too small, while start-up the machine, the lines pressure will be significantly increased, resulting the actual supply voltage drop, the machine will start difficult, damage, or even fire lines. The machine need to use an independent and secure power supply lines, cored wire cross-sectional area should be more than 2.5 mm<sup>2</sup>, and the length must be kept short mostly. If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

4) Reliable grounding protection

The plugs of each machine are equipped with ground-standards, and with ground markers "⏏", the grounding chassis has been reliably connected with the machine shell, and grounding through the protection device of the power supply line. In the operation of the machine, the grounding device of the power supply line should be guaranteed reliable and effective, in order to protect the shell reliable grounding, or to prevent the accident occur due to the failure or the release of static electricity.

## The problems may occur while operating process

Here cited phenomenon may be related to the raw materials, the environmental factors, the supply power situation, and the methods of operation, please try to improve the operating environment, or improve the methods of operation to avoid such incidents.

### ◆ The machine Can not work normally and no display data

1) Recognize the supply power of electricity supply lines is normal of this machine, the power switch has been opened, and have normal voltage output, the power connectors' specifications and type are as requested, check whether the contact of the plate inserted line has burned deformation or not. The general voltage is 380 V of single-phase, and the normal voltages are within 354 V-406V.

2)The power indicator is light ,press “AUTO” and “CLEAN” button but machine doesn't work.

- a.The reason may be the guard of the door is open ,please close the guard.
- b. The reason may be the door doesn't close ,please lock the door closely with the structure one the right side of the door .
- c.The electromagnet may be broken ,please replace it .

3)The machine works un-normally .Display “LLL” & value of temperature discontinuity and the buzzer is sounding at the same time.

- a.Maybe the voltage is low . Turn off the power ,test the voltage and do not use the machine until the voltage is up to the mustard.
- c.Maybe the wire on the board inside is not well inserted .Please turn off the power and open the top cover and insert the pink plug well .

◆OPH76 does not work, a start has been "Didi" alarm sound and display windows appear "FFF" words.

- 1) Four-port connection is bad or the cable signal line has been damaged.
- 2)The wires and cords of the pressure valve have been damaged.

So long as the above two items present one to be able to cause the warning, connect the poor contact and replace the damaged cable.

◆OPH76 does not work, after cooling, it appears "Didi" alarm sound and display windows appear "FFF" words.

- a. Check the valve is opened or not, water flow is required to meet the conditions of work or not, if the water flow meets the requirements, according to the above-mentioned things to check the four signal lines and pressure valve wires are bad or damaged.
- b. If the water flow, wire and port have no problem, refrigeration process has been the phenomenon of the above, then check the pressure valve, and look whether the indicator does refer to above approximately 23bar,if not in the up, can be adjusted to around 26bar.

◆ **No indication of the hardness indicator light, the cakes system instruction is normal, but the machine in the stop state.**

The following reasons may cause the machine be automatically protected

1. The shortage of material of the cylinder result to the beater has been freezing.

1. The remnants water of the tank is excessive when cleaning; the beater was frozen and blocked after making ice.
2. The machine is protected by low or high voltage protection system when the voltage in your area is less than 198V or more than 238V.
3. Proposed to purchase a 5 KVA exchange regulator to increase the stability if the machine is frequently to be protected.

In case of the above-mentioned phenomenon, the machines will be automatically protected. After waiting for 10 minutes, the machine will automatically revert to standby status, according to the "stop" button to manually reset operation. If the ice of cylinder doesn't melt, the machine will still be protected and locked after restarting. The voltage protection will be automatically eliminate when the voltage return to 198 V-238V

◆ **the machine can be started and done cleaning work normally, but no ice cream after a period of time work.**

This state shows that the main control circuit board is normal. The cause of the malfunction is the abnormality of the motor; it can be excluded by replacing the motor, and also should check the belt whether slipping. The phenomenon is caused by long-term work in the lower voltage of the motor. Recommend that the cored wire cross-sectional area of customers' machinery supply line need to be more than 2.5 mm<sup>2</sup>, and its length must be less than six meters.

◆ **Available use**

4. Exactly use the spare parts, such as Bracket, sealed ring and so on, protect quality and health and safety of the products.
5. Use fresh pulp with reasonable proportion, and maintain the flow of slurry. Prohibit adding water to the cylinder while doing ice cream.

◆ **The machine do not stop automatic during AUTO condition.**

1) Long time Refrigeration on refrigeration condition , The machine do not stop automatic during AUTO condition , the machine will alarm , press Stop button to stop machine .

Because of to little ice cream mixture in the cooling cylinder can not reach up the automatic stop temperature ,If in the end stage of the work, stop the machine

That the surrounding temperature is to high (>38 °C), Please check the

ambient temperature is higher than 38 °C , please try to cool down, Or long-term uncleaned of Condenser , rinsing radiator of condenser with certain pressure water .

2) The machine will not stop when pushing STOP button .

Cause: damaged of Circuit switch plate , change the Circuit switch plate

◆ **The ice cream is too soft.**

- 1) The hardness value is not properly set. : Increase the number of hardness indicator , for the most soft-1, 5 for the most hard.
- 2) The ice cream mix that is used is not suitable for this machine : contact with the original supplier and change another ice cream mix.
- 3) The ice cream is distributed before the refrigeration cycle is finished, Never start distribution ice cream before the cooling cycle is finished , please distribute the ice cream after the machine stop.

◆ **expand rate is too low**

Cause : too little or lack of air when refrigeration condition , avoid the mixture full filled cylinder.

◆ **abnormal friction noise from the cooling cylinder after shot time begin of refrigeration and can not distribute the hard ice cream or mixture , the frozen cylinder is occurred .**

Definition of frozen cylinder : when the refrigeration is finished , there is ice formation in the cooling cylinder for the Freezing point is too high or long time of refrigeration , this phenomenon call frozen cylinder .

The frozen cylinder occurs when there is ice formation in the cooling cylinder; this results in that the resistance on the beater and the motor become too larger for the machine to handle and may cause serious damage to the machine or even destroy the motor , please operate in right way to avoid the phenomenon occur .

Cause and Measures

1. Always follow the mixing rate specifies between the hard ice cream powder and the amount of the water , if more water was added , it may get frozen in the cylinder .
2. The cleaning water in the cooling cylinder is not completely removed, which will easily causes the frozen cylinder phenomena.

◆ **The edge of the discharge door leaks**

The O-ring of the discharge door is not properly installed, please install it again or change one.

◆ **The drip tray inside the machine leaks**

The ring assort with the beater is not installed or not properly installed, or has been severely worn. Please install it accordingly or change one.

◆ **The small discharge door leaks**

1. The ring of the small discharge door is not installed or damaged.
2. The “Lock screw” is not properly locked.

◆ **Discharge door dewing**

Normal phenomenon, caused by the water of condensation produced by excessive air humidity, please clean it up timely.

◆ **The machine not cooling after working for a continuous period of time.**

If the machine works over normal burthen, such as too high surrounding temperature, too long time work without cease, jammed ventilation and so on, the refrigeration system may suddenly enters protected mode and stops working, which means the machine has exceeded the normal burthen, the compressor thermal protection system (PTC controller) enters protected mode and stops working. Under this condition, the machine must stop working until the descendant temperature is in normal range and then normal operation can be restarted.

## Maintenance

Regular cleaning should be carried out to the surface and inside of the machine, including wiping off dust and anything attached inside of the machine. Clean water, brush and discloth can be used for the cleaning, detergent and aerosol are also applicable, but nothing as alcohol, gasoline and other poisonous organic solvents can be used in case the risk of poisoning, burnt and damage to the surface and inside of the machine.



**Warning:**

All maintenance, examine and repair work must be carried out on power-off condition. Please make sure the plug is unplugged before opening the shell of the machine.

1、Remove every panels around the machine, drip traylid etc. when maintaining, clean the inside of machine, the objects including the compressor, pipe path, base assembly and radiator of condenser, etc.

2、The disposal of ice cream feculence resulted from the aperture of the front panel.

3、The treatment of pest disaster and rat disaster inside of the machine, take corresponding measures if necessary.

4、Scrub away dust or feculence inside of machine with discloth or detergent, wash the radiator of condenser with pressed water, prevent the water from immersing into the electric accessories, after cleaning, dry it with compressed air.

5、Measure the condition of insulation with 500 VMΩ meter. Especially between outside power-supply wire and machine shell, motor unit, blowy appliance, the inside power wire of compressor and the machine shell. On general, the normal resistance should be over 1 MΩ.

6、Check the drive strap, under normal condition, press downward in the

middle position between two wheel with two fingers, the restoring distance should be about 15mm, if the distance is too great, then the strap is loosen, needed to adjust the screw for tighten adjustment or loosen adjustment, please keep the adjustment of the two screw same with each other. If the strap is broken or torn badly, replace a new one.

7、 Check if the inner accessories is loosen or rusty, if loosen, reinforce it, if rusty, remove it with antirust, please do not make the strap and other rubber accessories tainted

8、 Do not touch Electrical components ,expand valve and other Adjustable components when cleaning , Electric lid and heat preservation pipe should be restored after maintaining .

9、 Restore all the faceplate and tie the Screw after finishing the inside cleaning, and clean the surface , the Maintenance work is finished .

## The purchase and use of spare parts

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### Note:

- There are some free spare parts in the package when you purchasing the machine , including some spare parts equipped for machine and some easy broken parts . but the quantity of easy broken parts may be not enough for your long use . we advice you buy some additional easy broken parts .
- When the machines damaged, in need of repair, the same need of repair parts for the replacement of defective parts. The manufacturer will supply the spare parts for free in Warranty period, however, it need to return the broken parts . you need to buy the spare part when out off warranty period .



, When ordering spare parts, please fill the model of machine, Manufacturing Code ,Production dates and remarks in order to Simplify the delivery work and ensure you receive the spare parts in time .

Warning : Blind and imprudent overhaul may cause the expansion of machine malfunctions area and bring difficulties on formal overhaul . the driven part and electrical system contain dangerous factors when the current is switched on. serious incidents may cause physical disability or even death .



Note: when in warranty period , if unauthorized by Oceanpower , the user unauthorized wrong Overhaul to the machine , all the free maintenance guarantee by supplier will lose effectiveness .

Appendix 1

Electric connection chart

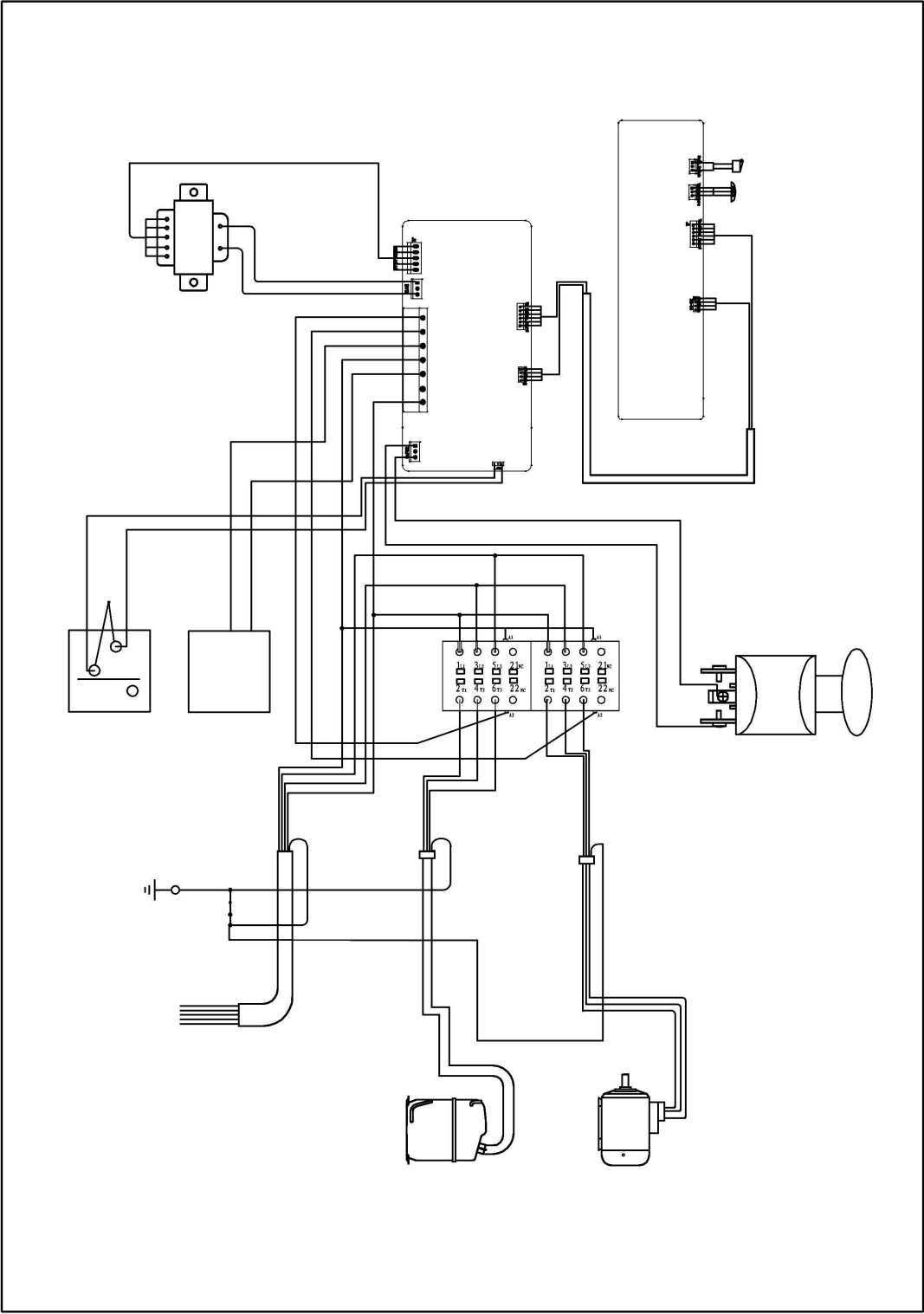
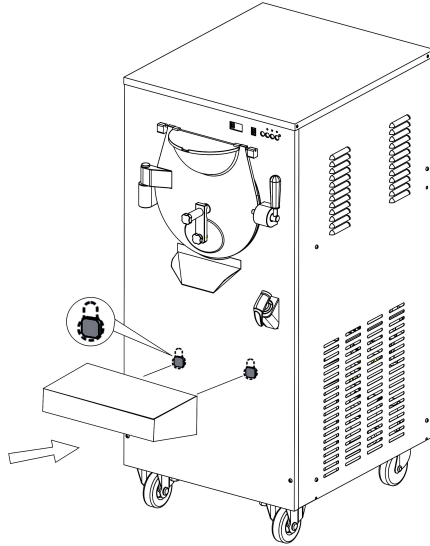


Chart 29

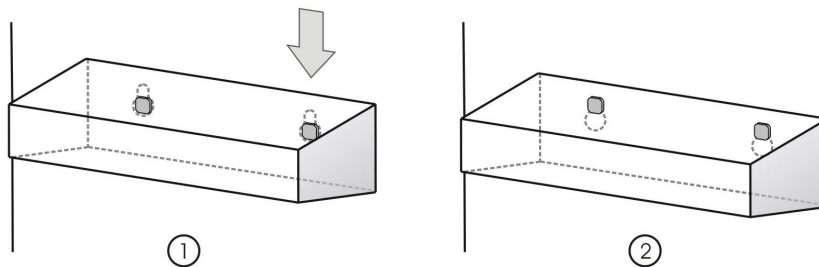
## Appendix 2

### Bracket installation instructions

1. First unscrew two different nut below front of the panel.



2. And then let the hole of bracket aim at the two nut , Downward pressure



3. At last , tightening nut to finish installation .

