



COMMERCIAL UNDERCOUNTER REFRIGERATOR / FREEZER


INSTRUCTION MANUAL

RTV-128A
RTV-126A
RTV-158A
RTV-156A
RTV-188A
RTV-186A
FTV-128A
FTV-126A
FTV-158A
FTV-156A
FTV-188A
FTV-186A



L1KT01102 (031726)

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I. Installation Instruction

1. Safety Instruction



WARNING: Risk of fire flammable material.

Never store any flammable, explosive and corrosive liquid or gas product in appliance.

WARNING: These appliances contain small quantity of flammable refrigerant. All machines are to be serviced only by trained technicians for handling of hydrocarbon refrigerant. All electric components in this cooler are spark free, while replacing please ensure these are replaced with genuine authenticated components.



CAUTION: Hazards or unsafe practices that may result in severe personal injury and/or property damage.

These **WARNING** signs are here to prevent injury to you and others. Please follow them carefully. After reading this section, keep it in a safe place for future reference.

2. Severe WARNING signs for transportation and site



WARNING: Risk of Fire/ Flammable material

- Keep clear of obstruction and ventilation openings in the appliance enclosure or in the structure for building in.
- Risk of fire flammable material. Never store any flammable, explosive and corrosive liquid or gas product in the appliance.
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

WARNING

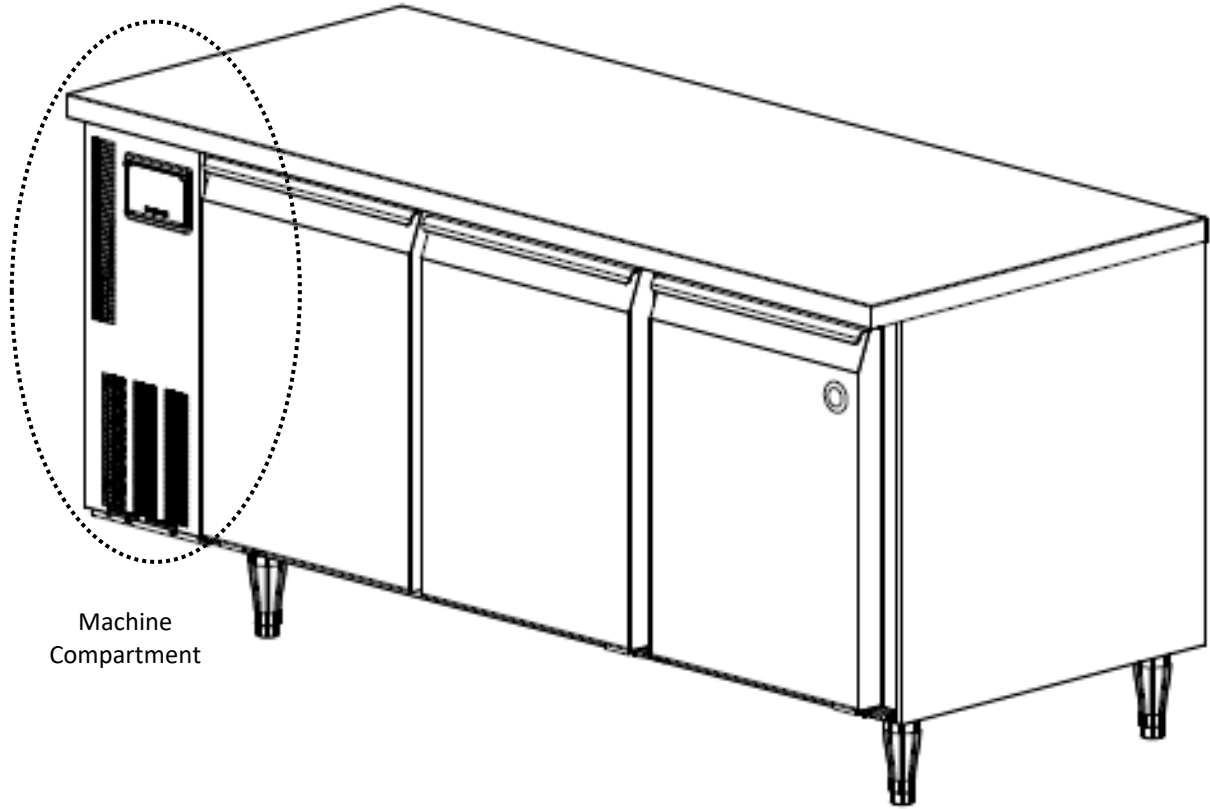
- Do not wet the product or use it in potentially wet conditions. This may cause electrical leakage, resulting in electric shock or fire.
- The refrigerated unit contains R-290 and polyester lubricant. These components have a high moisture absorbing characteristics. Exposure to ambient condition should be avoided. Only approved polyester lubricants to be used. Failure to do so will void all parts and compressor warranty.
- Keep the cabinet surrounding open in order to get proper ventilation.
- Do not damage the refrigeration circuit.
- In case of damage to wiring/power cord, do not replace/repair yourself. Call your authorised service person.
- Do not use electrical appliances inside storage compartment.
- Do not move the unit while in use.

IMPORTANT

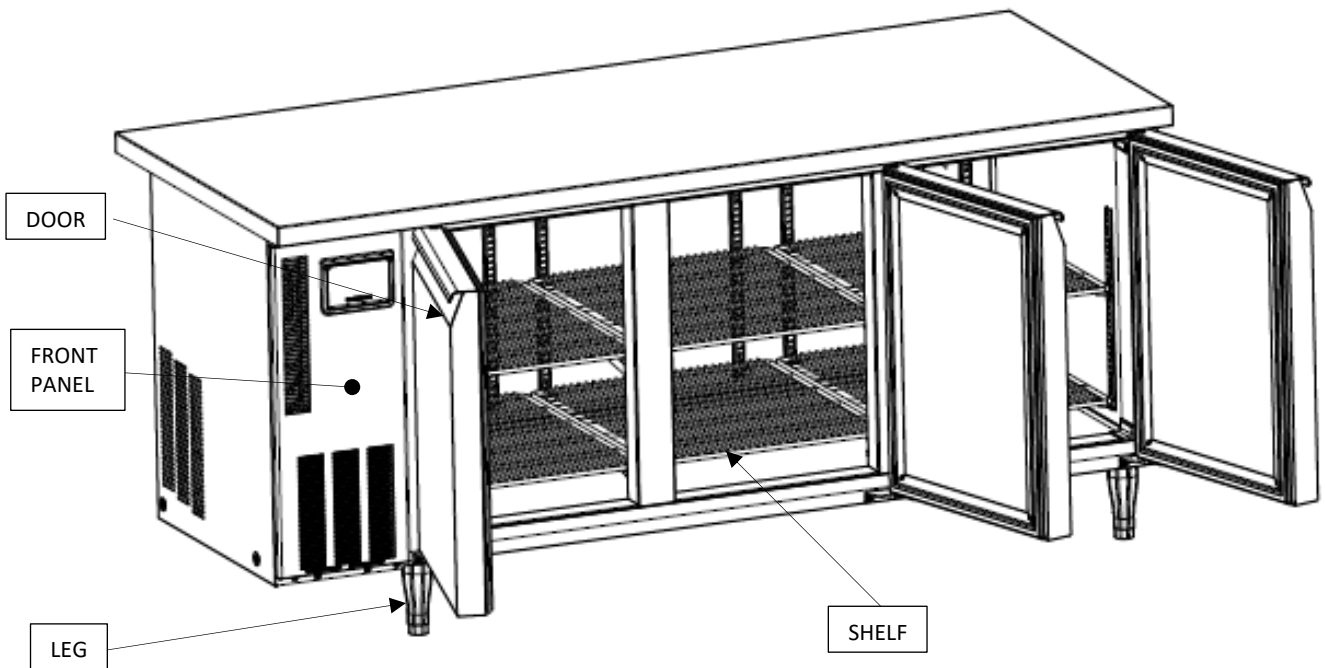
- This booklet is an integral and essential part of the product and should be kept and preserved by the user. Please read carefully the guidelines and warnings contained herein as they are intended to provide the installer/ user with essential information for the proper installation and the continued safe use and maintenance of the product. Please preserve this booklet for any further consultation that may be necessary.
- This is a commercial undercounter refrigerator/freezer, and should be destined only to be used for the purpose for which it has been expressly designed. Any other use should be considered improper and therefore dangerous. The manufacturer will not be held liable or responsible for any damage caused by improper, incorrect and unreasonable use.
- 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 they have been given supervision or instruction concerning use of the appliance in 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. Children should be supervised to ensure that they do not play with the appliance.

3. Construction

A. RTV/FTV-188/186A



Machine
Compartment



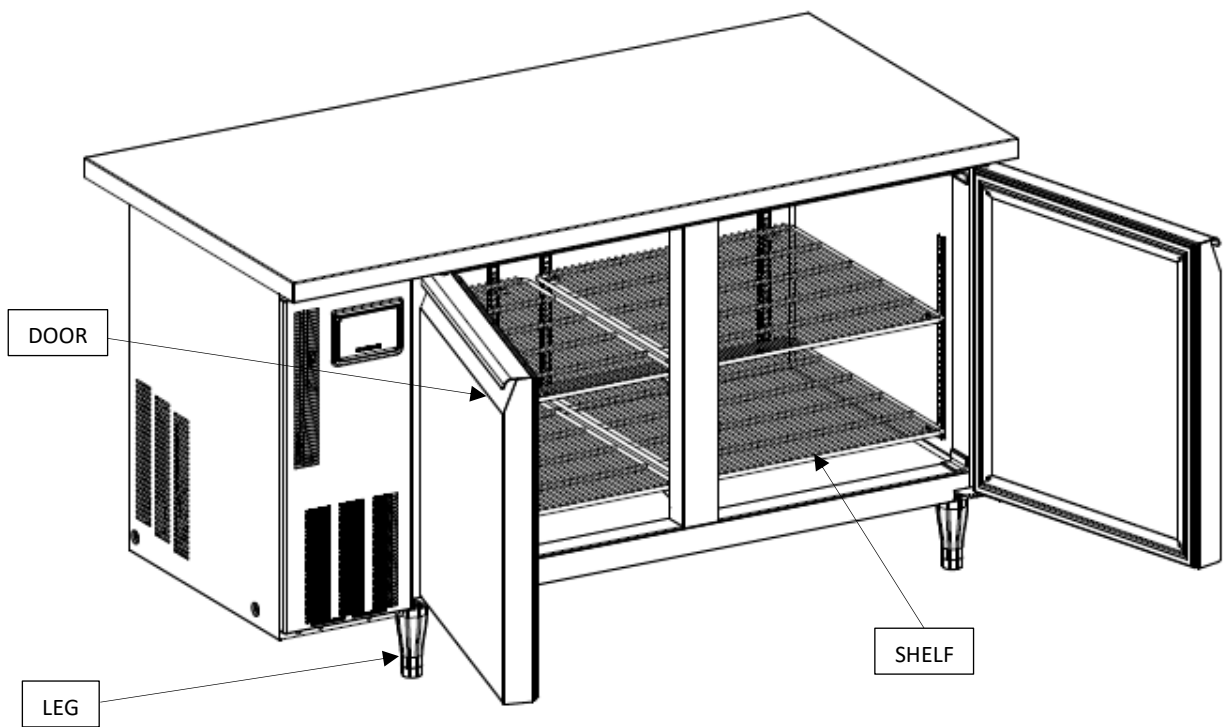
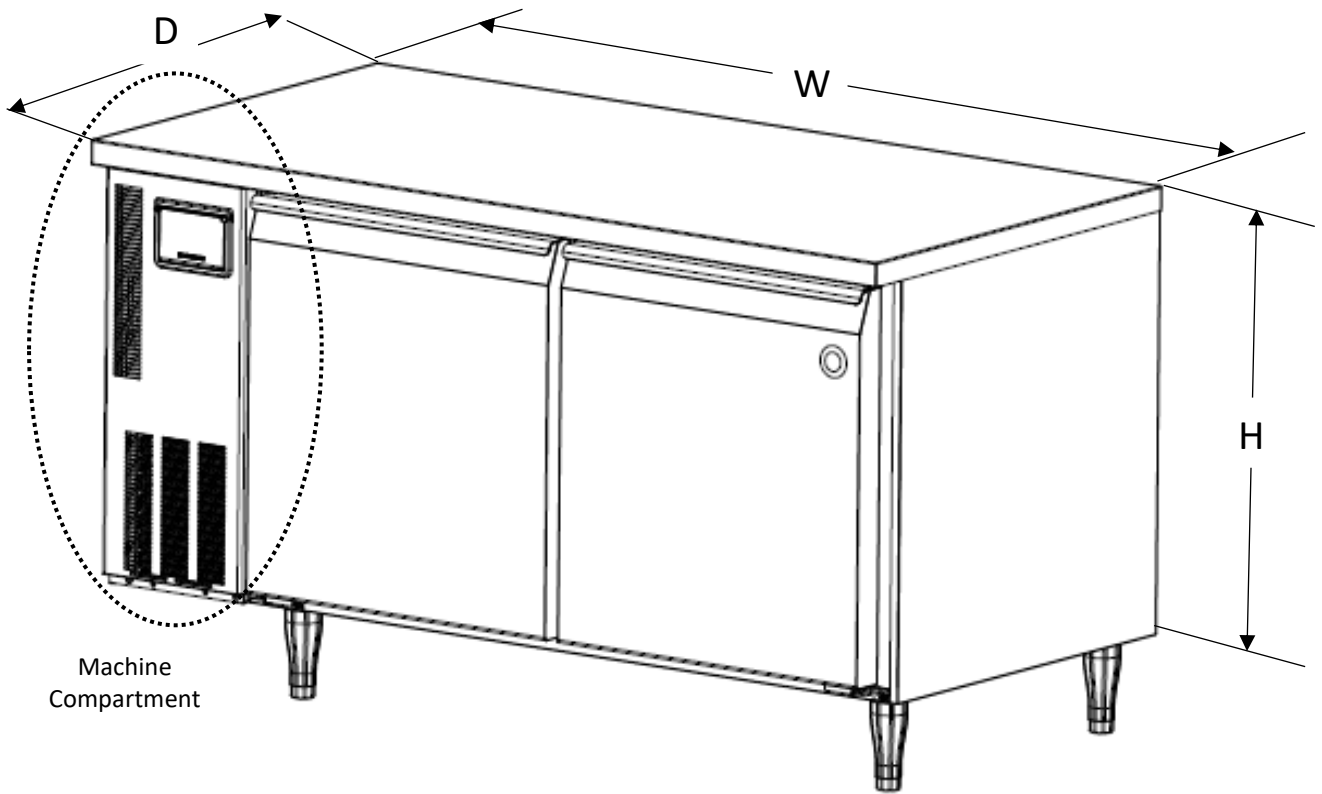
DOOR

FRONT
PANEL

LEG

SHELF

B. RTV/FTV-128/126/158/156A



4. Specification

A. REFRIGERATOR SPECIFICATIONS: 50 Hz

Model	RTV-128A	RTV-126A	RTV-158A	RTV-156A	RTV-188A	RTV-186A
Power supply	Single phase, 220 - 240V AC, 50Hz					
Rated current	1.7 Amp	1.7 Amp	2.1 Amp	1.7 Amp	2.1 Amp	2.1 Amp
Rated power	340 Watt	340 Watt	420 Watt	340 Watt	420 Watt	420 Watt
Power cord	10 Amp/3 meter					
Effective capacity	296 Liters	223 Liters	408 Liters	308 Liters	512 Liters	386 Liters
External dimensions (W X D X H)	1200 (W) x 750 (D) x 850 (Height with 150mm LEG)	1200 (W) x 600 (D) x 850 (Height with 150mm LEG)	1500 (W) x 750 (D) x 850 (Height with 150mm LEG)	1500 (W) x 600 (D) x 850 (Height with 150mm LEG)	1800 (W) x 750 (D) x 850 (Height with 150mm LEG)	1800 (W) x 600 (D) x 850 (Height with 150mm LEG)
Internal dimensions (W X D X H)	832 (W) X 630 (D) X 588 (H)	832 (W) X 480 (D) X 588 (H)	1132(W) X 630 (D) X 588 (H)	1132(W) X 480 (D) X 588 (H)	1432(W) X 630 (D) X 588 (H)	1432(W) X 480 (D) X 588 (H)
Insulation foam blowing agent	Cyclopentane					
Refrigerant	R-290					
Temperature controller	Electronic					
Operating condition	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C
No of shelves	4	4	4	4	6	6

B. FREEZER SPECIFICATIONS: 50 Hz

Model	FTV-128A	FTV-126A	FTV-158A	FTV-156A	FTV-188A	FTV-186A
Power supply	Single phase, 220 - 240V AC, 50Hz					
Rated current	2.5 Amp	2.5 Amp	2.5 Amp	2.5 Amp	2.5 Amp	2.5 Amp
Rated power	550 Watt	550 Watt	550 Watt	550 Watt	550 Watt	550 Watt
Power cord	10 Amp/3 meter					
Effective capacity	296 Liters	223 Liters	408 Liters	308 Liters	512 Liters	386 Liters
External dimensions (W X D X H)	1200 (W) x 750(D) x 850 (Height with 150mm LEG)	1200 (W) x 600 (D) x 850 (Height with 150mm LEG)	1500 (W) x 750 (D) x 850 (Height with 150mm LEG)	1500 (W) x 600 (D) x 850 (Height with 150mm LEG)	1800 (W) x 750 (D) x 850 (Height with 150mm LEG)	1800 (W) x 600 (D) x 850 (Height with 150mm LEG)
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Insulation foam blowing agent	Cyclopentane					
Refrigerant	R-290					
Temperature controller	Electronic					
Operating condition	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C	+5°C to +43°C
No of shelves	4	4	4	4	6	6

5. Accessories

Component	128/126/158/156	188/186
Shelf	4 pcs	6 pcs
Shelf Clip	16 pcs	24 pcs
Instruction Manual	1 pc	1 pc
Leg	4 pcs	4 pcs

Note: Customized products may have different numbers of accessories.

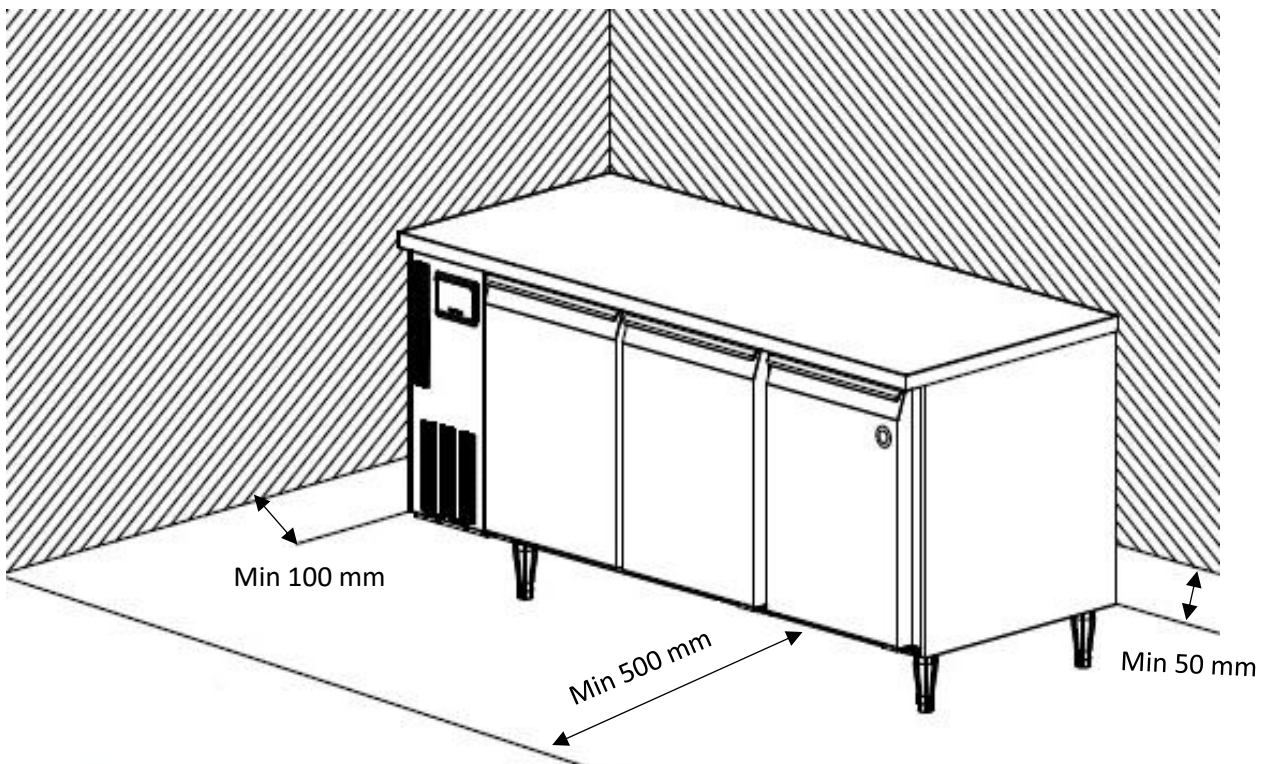
6. Location

IMPORTANT

This appliance is suitable for use only in climatic class 5 i.e. At 40°C and 40% RH.

For best operation result:

- The refrigerator/freezer should not be located next to ovens, grills or other high heat producing equipment.
- The location should provide a firm foundation for the equipment.
- Avoid a site where dripping is not allowed. Especially, a side-by-side or back-to-back installation (possibly with other manufacturer's unit) may cause condensation between the two units, resulting in dripping onto the floor.
- Do not expose the unit to direct sunlight or higher temperatures.
- Allow at least 500 mm clearance at the front of the unit for smooth door operation. Also allow at least 300 mm clearance from the ceiling to the top of the unit for proper air circulation.

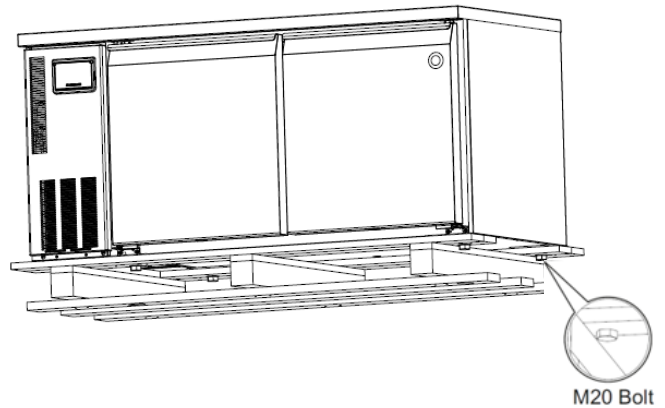
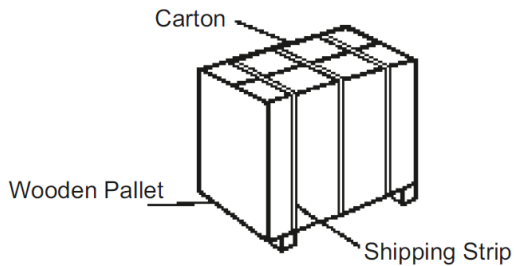


7. Set Up

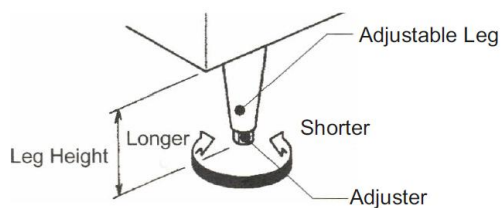
IMPORTANT

1. Do not tilt the unit more than 45° when mounting the legs.
2. Carry the unit by holding bottom.

- 1) Cut the vinyl shipping strip and remove the carton.
- 2) Take out the accessory shelves, shelf clips and legs. Attach the four shelf clips horizontally to the shelf posts. Place the shelf on the shelf clips.
- 3) Remove the four bolts from the bottom of the unit.



- 4) Turn the unit 90 degrees on the pallet, tilt the unit sideways, and screw in the two adjustable legs.
Note: Keep the adjusters 2 cm longer to make it easy to pull out the pallet.
- 5) Before operating the unit, remove all shipping carton, packing, tape(s) and protective plastic film on the exterior, interior and top panel. Be careful not to damage the exterior panels.
- 6) Position the unit in a selected site.
- 7) Clean the interior with a soft cloth soaked in cold or warm water containing the proper amount of neutral cleaner and wrung dry.
- 8) Level the refrigerator/freezer in both the left-to-right and the front-to-rear directions. To adjust the height of the unit, turn the adjusters of the adjustable legs.



- 9) Follow the same procedure mentioned for legs to fix caster wheels. Front & Rear casters are with lock. Height cannot be adjusted with caster wheels.

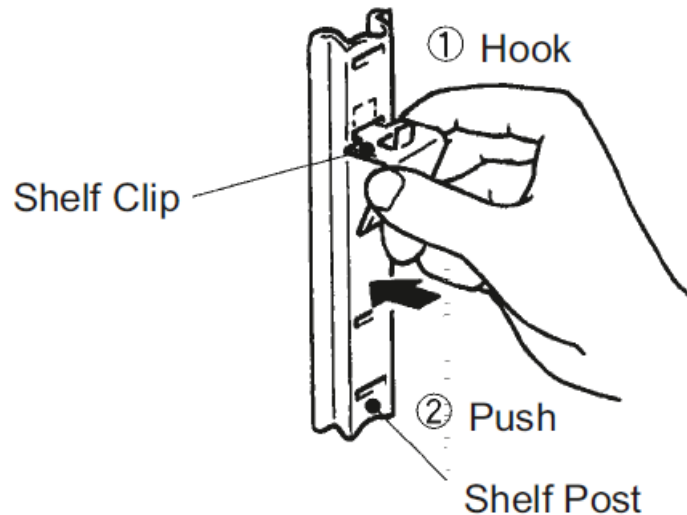
CAUTION

Do not move the unit in fully loaded condition. It may cause human fatigue.
Front caster must be locked while unit is in use, and can be unlocked while moving.

- 10) Remove the protective plastic film from the doors and front canopy panel.

8. Shelf and Shelf Clip

- The shelf is adjustable in 12.7 mm increments. Adjust the shelf clips according to the height of stored items.
- To attach the shelf clip, insert the upper tab into an adjust hole in the shelf post to hook the shelf clip, and push the lower tab into another adjust hole until it locks in place. To detach the shelf clip, reverse the above procedure.



CAUTION

Attach the shelf clips properly to make the shelf level.

9. Electrical Connections

IMPORTANT

This appliance has no power switch, earth leakage circuit breaker or overcurrent protection. Install an earth leakage circuit breaker with overload protection rated at least 10A on the main power supply.

This is equipped with 10A supply cord.

- This Appliance must be plugged into the separated power receptacle which is readily accessible and has enough capacity. The maximum allowable voltage variation should not exceed ± 6 percent of the nameplate rating. See the nameplate.
- If the supply cord and the plug should need to be replaced, it should only be done by a qualified service engineer to avoid any danger.
- Ensure proper earthing provided.



II. Operating Instruction

1. Use the appliance only at the specified voltage. (As specified in the name plate).
2. Use standard socket. Do not use multisocket.
3. Be careful not to wet the machine compartment. This might cause failure or electric shock hazard.
4. To prevent electric shock, do not touch the attachment plug with wet hands.
5. Do not store any explosive substances such as Aerosol with a flammable propellant, in this appliance.
6. This appliance is designed only for temporary storage of foods. Use for any other purposes (e.g. storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
7. Do not throw anything onto the shelves or load more than 20 kg on each of them. They may fall off and cause injury.
8. Do not store bottles or cans near the air outlet. They may freeze up and break, causing a risk of injury.
9. Do not use combustible spray or place volatile and flammable substances near the unit. They could catch fire from a spark of a switch or the like.
10. Do not put anything into the machine compartment or the air inlet/outlet. The fan rotating rapidly inside may cause injury or heat.
11. Energies the appliance for 1 hour and check for proper temperature before putting foods in the cabinet.
12. Do not block the air inlet/outlet with foods.
13. Do not pack the cabinet with foods. Allow some space between them to ensure a good air flow.
14. Do not put in warm or hot foods. Let them cool first, or they will raise the cabinet temperature and could deteriorate other foods in the cabinet or overload the refrigerator/freezer.
15. Make sure all items are snug on each shelf.
16. Moist or fresh foods and those with a strong smell like seafood should be wrapped up in a plastic film or packed in a container. Otherwise the foods may dry up or give their smells to other foods.
17. Foods containing acetic acid or yeast should be wrapped up in a plastic film. Otherwise they may accelerate corrosion of the evaporator and copper tubes, resulting in failure.
18. Foods intended for direct human consumption should be stored on the shelf in a proper container and protected from direct contact with the cabinet walls.
19. Do not use the freezer to freeze foods. It is designed only to store frozen foods.
20. To use freezer for ice cream, set temperature must be below -20°C.
21. The doors may become difficult to open just after closed because of the negative pressure created inside the cabinet. Wait for about 30 seconds.
22. If machines are used and then kept unused for long duration, then faults may arise in the machine i.e. oxidation, gas leak, motor jam etc. which are not in the scope of warranty as this is due to the improper storage and wrong usage.
23. Machines installed in coastal belt, around sea front area require regular preventive maintenance, otherwise oxidation related faults may arise due to extremely high salt & humidity in the environment in such areas, which are also not in the scope of warranty coverage.

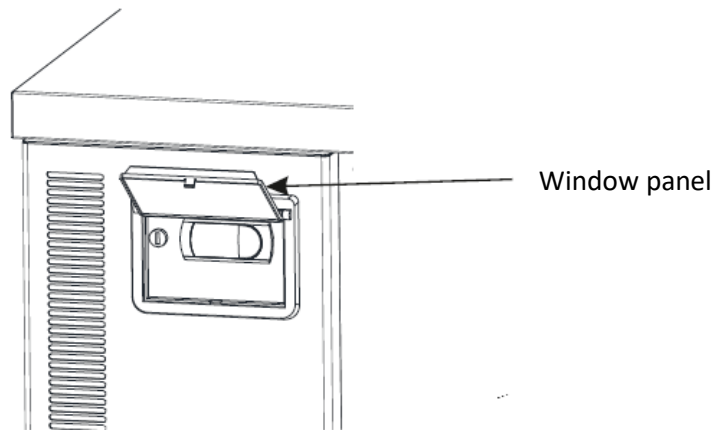
1. Start Up

- a. Plug in the unit.
- b. The compressor and condenser fan motor will start in 3 minutes.

2. Front Panel & Window Panel

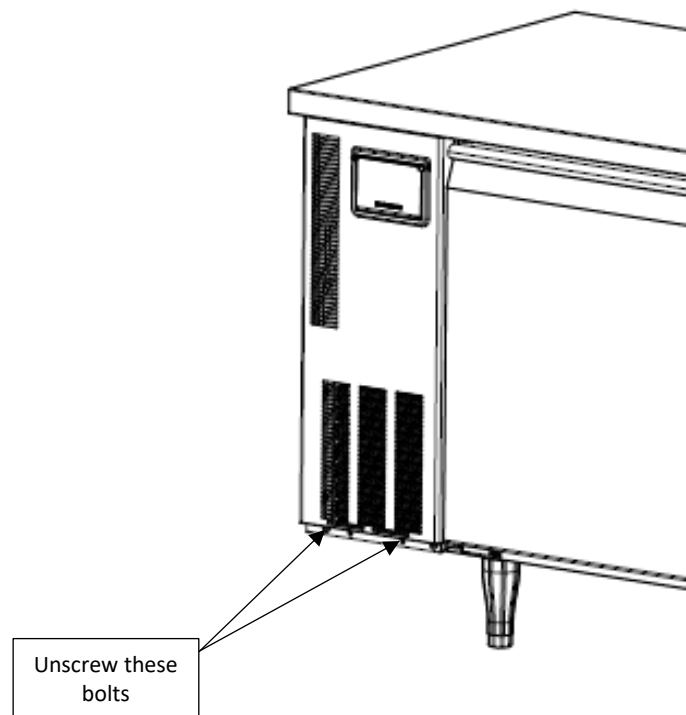
1. To open and close the window panel:

- a. Pull with the grip provided on transparent window panel and swing up as shown.
- b. Controller is accessible from this window.



2. To open and close the front canopy panel:

- a. Unscrew the bolts shown below and pull the front panel down.
- b. To close the front panel, fit both sides of the bottom securely in the grips.

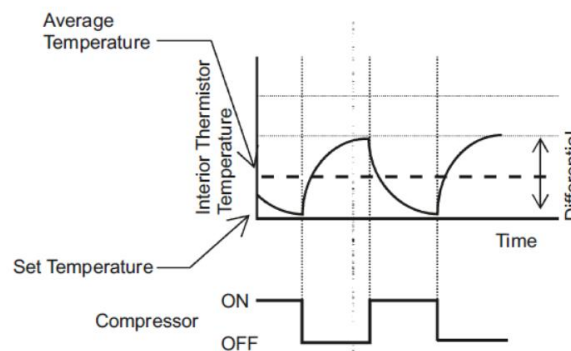


- 1) Push the SET key for more than 2 seconds to change the Set point value.
- 2) The value of the set point will be displayed and the “°C” LED starts blinking.
- 3) To change the Set value, push the up or down arrows within 10s.
- 4) To memorize the new set point value, push the SET key again or wait 10s.

Function	Set range	Default	Unit
Temperature Setting (Refrigerator)	-2 To 12	+2	°C
Temperature Setting (Freezer)	-7 To -23	-20	°C

C. Refrigerator/Freezer (Common):

- 1) The compressor stops when the cabinet temperature reaches down to the set temperature or minimum compressor ON time whichever comes later, and starts when the cabinet temperature rises to the set temperature + differential or minimum compressor OFF time whichever comes later. The average cabinet temperature will be around the set temperature. Refer temperature controller setting sheet of respective model for actual differential value.



4. Defrost

Automatic defrost cycle

A. Freezer:

Automatically defrost the evaporator after 5 hours from previous defrost or from refrigeration start or based on auto defrost start temperature. The defrost indication will turn on and display the message "dF".

B. Refrigerator





Automatically defrost the evaporator after 4 hours from previous defrost or from refrigeration start. The defrost indication will turn on and display the message "dF" alternating with the temperature measured by control probe.

Manual defrost cycle





Push the defrost key for more than 2 seconds and a manual defrost will start. The defrost indicator will turn on and display the message "dF".

5. [Indicator Lights](#)

A. [Refrigerator:](#)

Indicator	Symbol	Status	Function
Compressor		On	Compressor on
		Off	Compressor off
Time delay		On	Compressor is ON and in time delay for switching OFF
		Flashing	Compressor is in time delay and about to start
Alarm		On	Alarm indication ON
		Off	Alarm indication OFF
Temperature		On	When temperature is displayed in degree Celsius

B. [Freezer:](#)

Indicator	Symbol	Status	Function
Compressor		On	Compressor on
		Off	Compressor off
		Flashing	Compressor start delay
Evaporator fan		On	Evaporator fan running
		OFF	Evaporator fan off
		Flashing	Evaporator fan start delay
Defrost		On	Defrosting
		Off	Defrost is off
Temperature		On	Measurement Unit
		Flashing	Programming mode

6. [Shut Down](#)

1. Before shutting down the unit, move the stored foods into another storage refrigerator/freezer.
2. Unplug the unit or disconnect the main power supply.
3. When preparing the unit for long storage, clean the cabinet interior and door gaskets, dry them thoroughly and store the unit in a dry place.

III. Service of Appliance

IMPORTANT

1. Disconnect the Appliance from power source during servicing & when replacing parts.
2. For good performance of cabinet, clean the condenser once in a month.
3. Clean the dust from condenser by means of soft wire brush, blower or vacuum cleaner (Do not use water for cleaning condenser).
4. Do not touch or wet the machine compartment parts. This could result in failure or breakdown.
5. To prevent possible damage, do not clean the plastic parts with water above 40°C.

1. Interior, Exterior, Shelf

- Disconnect the appliance from power source before cleaning.
- Clean the interior and exterior at least once a week for sanitation.
- Clean off the interior and exterior with a soft cloth soaked in cold or warm water containing the proper amount of neutral leaner and wrung dry. Do not use a water jet to clean the machine compartment.
- Chemical agents other than neutral cleaner might cause damage to the interior and exterior surfaces.
- Any remaining detergent will damage metal or plastic surfaces. Use a soft cloth dampened with warm water to wipe it off.
- Do not use the following items. They could damage painted or plastic surfaces:
Polishing powder, alcohol, thinner, benzine, acidic or alkaline detergent, hot water, petroleum, soap powder, metal scourer or brush, etc. Especially detergent to clean grease on ventilator or microwave.



- * The door gasket and its contact surface get soiled easily. Clean every surface of these parts thoroughly. Remnants of food will accelerate aging.
- * Use a cloth to wipe off any water staying inside the cabinet.

Note: Some solutions other than the above may also damage painted or plastic surfaces. Immediately stop using such solutions if they cause any problems.

2. Before calling a service agent ✂

IMPORTANT

1. If the screen on the operation panel indicates an error code or something seems wrong with the unit, check for possible causes according to the following instructions. If the problem still exists, immediately contact an authorized HOSHIZAKI service company.
2. When contacting a service company, let them know the model name, serial number, date of installation (see warranty card) and state of the trouble.
3. Do not attempt to repair the unit yourself.

3. [Troubles with error code indication](#)

A. [Refrigerator](#)

Code	Possible Cause	Operation and Remedy
AL/AH	Cabinet sensor error	Compressor will follow cycle of 30min on and 15min off. Press any key to stop beep. When troubleshooting is over, system recalculates compressor delay time. Immediately contact to an authorized Hoshizaki service company.
DL/DH	Defrost sensor error	Defrost termination temperature is invalid. Press any key to stop beep. Immediately contact to an authorized Hoshizaki service company.

B. [Freezer](#)

Code	Possible Cause	Operation and Remedy
P1	Cabinet sensor error	Compressor will follow cycle of 20min on and 10min off. Press any key to stop beep . When troubleshooting is over, system recalculate compressor delay time. Immediately contact an authorized HOSHIZAKI service company.
P2	Defrost sensor error	Defrost termination temperature is invalid. Press any key to stop beep. Immediately contact an authorized HOSHIZAKI service company.

* The code "dF" is not an error code but indicates the unit is in defrost cycle.

4. [Troubles without error code indication](#)

- i) Unit fails to operate:
 - (1) Unplugged.
 - (2) Power failure.
 - (3) Main power supply disconnected.
 - (4) Switch off from controller.

- ii) Poor cooling performance:
 - (1) Ambient temperature too high (above 43°C).
 - (2) Door(s) opened too often.
 - (3) Cabinet temperature setting too high.
 - (4) Too packed with foods.
 - (5) Air circulation path blocked.
 - (6) Door(s) left open.

- iii) Condensation around door(s):
 - (1) Ambient humidity too high.
 - (2) Door(s) not closed properly.

- iv) Noise:
 - (1) Normal operating sounds of compressor or condenser fan.

- v) Frosting inside compartment:
 - (1) Ambient humidity too high.
 - (2) Door(s) opened too often.
 - (3) Door(s) not closed properly.
 - (4) Too packed with foods beyond load line.

5. [Disposal](#)

To prevent 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 environmentally safe recycling.

IMPORTANT



The insulation foaming agent used for the unit body contains flammable gas cyclopentane. With this in mind, dispose of it properly.

6. Warranty

HOSHIZAKI warrants to the original owner/user that all HOSHIZAKI branded products shall be free of defects in material and/or workmanship for the duration of the “warranty period”. The warranty shall be effective for one year from the date of installation. HOSHIZAKI’s liability under the terms of the warranty are limited and shall exclude routine servicing, cleaning, essential maintenance and/or repairs occasioned by misuse and installations not in accordance with HOSHIZAKI guidelines. Warranty repairs should be completed by an approved HOSHIZAKI dealer or service agency using genuine HOSHIZAKI components.

To obtain full details of your warranty and approved service agency, please contact your dealer/supplier.

MANUFACTURING ADDRESS:

ASIA REFRIGERATION INDUSTRY JOINT STOCK COMPANY (ARICO)

A HOSHIZAKI Company

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