

SELF-CONTAINED CRESCENT CUBER

INSTRUCTION MANUAL

KM-40C-HC KM-60C-HC KM-80C-HC KM-140-HC KM-40C-HC-W KM-60C-HC-W KM-80C-HC-W KM-140C-HC-W



KM-80C-HC

HOSHIZAKI (SUZHOU) CO., LTD. No. 15 Qingqiu Street, Suzhou Industrial Park, Suzhou 215126 China

L1F158111 (121622)

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IMPORTANT SAFETY INFORMATION

Throughout this manual, notices appear to bring your attention to situations which could result in death, serious injury, or damage to the unit.

	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a hazardous situation which, if not avoided, could result in damage to the unit.
	Indicates important precautions for hygiene and food safety.
IMPORTANT	Indicates important information about the use and care of the unit.

This icemaker uses HFC-free refrigerant (propane) that is a non-ozone-depleting and environmentally sustainable material having very low global warming potential.

AWARNING

This icemaker contains flammable refrigerant in its cooling unit; installation, handling, servicing and disposal must therefore only be carried out by authorized technicians.

The refrigerant contained in this icemaker is flammable and sealed in the refrigeration system. Although the refrigerant does not leak out under normal usage, take utmost care when handling this icemaker so as not to cause any damages to the system.

In the case of accidental damage to the refrigeration system causing refrigerant leak:

* Do not create a source of ignition in the area.

* Do not operate electrical switches or plugs in the area.

* Do not use naked flame.

* Immediately ventilate the area by opening doors and/or windows.

* Call service engineer.

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 icemaker, 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.

The installation, and relocation if necessary, must be carried out by qualified personnel, in accordance with current regulations, according to the manufacturer's instructions.

Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.

Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

The use of any electrical appliance involves the observance of some fundamental rules. In particular:

- *Instances of high humidity and moisture increase the risk of electrical short circuits and potential electrical shocks. If in doubt, disconnect the icemaker.
- *Do not damage the power cord or pull it in order to disconnect the icemaker from the electrical supply network.
- * If the supply cord and/or the plug should need to be replaced, it should only be done by a qualified service engineer.
- * Do not touch the electrical parts or operate the switches with damp hands.
- *This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, it can however 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 providing they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- *Children shall not play with the appliance.
- *Cleaning and user maintenance shall not be made by children without supervision.
- *Do not attempt to modify the icemaker. Only qualified personnel may disassemble or repair the appliance.

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

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

I. INSTALLATION INSTRUCTIONS

1. CONSTRUCTION



	KM-40C-HC KM-60C-HC KM-80C-HC	KM-140C-HC	KM-40C-HC-W KM-60C-HC-W KM-80C-HC-W	KM-140C-HC-W
Instruction Manual	1	1	1	1
Scoop	1	1	1	1
Leg	4	4	4	4
Pan Head Screw with Washer (M4 x 30) (louver fixing)	2	-	-	-
Thumbscrew (louver fixing)	-	-	2	1
Spacer (M4) (louver fixing)	-	-	2	-
Cleaning Pack Assy	-	-	1	1
Dual Check Valve	1	1	1	1





Cleaning Pack Assy Dual Check Valve

3. UNPACKING

AWARNING

Children should not be allowed in reach of the packaging elements (plastic bags and expanded polystyrene) as they are potential sources of danger.

ACAUTION

Do not lift or manoeuvre the carton by using the shipping bands.

When moving the unit by hand, remove the louver and hold the unit bottom. Do not hold the top panel or door. It may come off and cause injury.

Always wear protective gloves when carrying the unit.

When handling the carton or the unpacked unit, work in pairs to prevent injury.

NOTICE

Remove shipping carton, tape(s) and packing. If packing material is left in the icemaker, it will not work properly.

- 1) After removing the packaging, make sure that the icemaker is in good condition. If in doubt, please do not use the icemaker but apply to professionally qualified personnel.
- 2) Remove the shipping tape holding the door and separator.
- 3) Remove the protective plastic film from the exterior. If the icemaker is exposed to the sun or to heat, remove the film after the icemaker cools.
- 4) Remove the package of accessories. Check the contents according to "2. ACCESSORIES".

4. LOCATION

This icemaker is not intended for outdoor use.

The icemaker should not be located next to ovens, grills or other high heat producing equipment.

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

ACAUTION

The location should provide a firm and level foundation for the icemaker.

NOTICE Do not place anything on top of the icemaker or in front of the louver. **IMPORTANT** Normal operating ambient temperature should be within 7°C to 38°C. Normal operating water temperature should be within 7°C to 32°C. Operation of the icemaker, for extended periods, outside of these normal temperature ranges may affect production capacity. Allow the clearance specified below for proper air circulation and ease of maintenance and/or service should they be required. [KM-40/60/80C-HC(-W)] **Top View** Side View Rear Тор 15 mm 15 cm Front Left 40 cm 15 cm Rear Right 15 cm 15 cm ICEMAKER ICEMAKER Front [KM-140C-HC(-W)] **Top View** Side View Rear 15 mm Тор 5 cm 15 mm 5 cm 15 mm Left Right ICEMAKER 40 cm Front ICEMAKER Rear Front In some high humidity environments, condensation may form inside the machine and drip onto the floor. Do not install where the floor can be affected by water. Avoid prolonged exposure of the appliance to direct sunlight.

5. INSTALLATION

Incorrect installation can cause harm to people, animals or other items, for which the manufacturer cannot be held responsible.

- * Place the icemaker in the selected permanent site.
- * The appliance must be positioned so that the plug is accessible.
- * Level the icemaker in both the left-to-right and front-to-rear directions by adjusting the legs.

6. ELECTRICAL CONNECTIONS

THIS APPLIANCE MUST BE EARTHED

This icemaker requires an earth that meets the national and local electrical code requirements.

To prevent possible severe electrical shock to individuals or extensive damage to the unit, install a proper earth wire to the icemaker. Disconnect the main power supply before any maintenance, repairs or cleaning is undertaken.

* This appliance requires a separate 220 - 240VAC, 10A supply. The electrical supply must be protected by a suitable circuit breaker.

* The main control box fuse is rated at 5A and should only be replaced by a qualified service engineer.

* Usually an electrical permit and services of a licensed electrician are required.

7. WATER SUPPLY AND DRAIN CONNECTIONS

AWARNING



Connect to potable cold water supply only.

* The service of a licensed plumber may be required to ensure the installation is in accordance with the local codes and regulations.

[Connection to the water supply]

- ^t The connections to the mains water supply must be made in accordance with the Plumbing Code of Australia and in accordance with AS / NZS 3500.1 and AS / NZS 3500.2. The dual check valve (backflow prevention) supplied with this unit must be connected between the main supply outlet and water inlet of icemaker.
- * Icemaking water must be potable water. Where scaling can be caused by water quality, installation of an external filter or softener is recommended. Contact your local water treatment professional or Hoshizaki service agent.
- * Water supply pressure should be minimum 0.07 MPa (0.7 bar) and maximum 0.8 MPa (8 bar). If the pressure exceeds 0.8 MPa (8 bar), use a proper pressure reducing valve. Do <u>NOT</u> throttle back the supply tap.
- * The dual check valve must be connected in the icemaker water supply between the main water supply outlet and the straight connection of the inlet hose as shown.
- * Ensure rubber tap washers are correctly positioned. Hand tighten the dual check valve and inlet hose sufficiently to provide a leak free joint.



[Connection to the drain]

- * Hand tighten grey flexible outlet hose (accessory) onto the fitting on the rear of the icemaker as indicated, ensuring rubber washer is correctly positioned to obtain a leak free joint. The pipe can be cut to length as necessary to suit position of main drain.
- * Drain lines should not be installed directly to the sewer system. A vertical air gap of a minimum of 5 cm should be between the end of the drain hoses from the icemaker and the floor drain.
- * To prevent a backflow into the storage bin, the outlet hose must be laid as shown.





II. OPERATING INSTRUCTIONS

NOTICE

All parts are factory-adjusted. Improper adjustments may result in failure.

If the unit is turned off, wait for at least 3 minutes before restarting the icemaker to prevent damage to the compressor.

AHYGIENE

This icemaker is designed to produce edible ice. To keep the icemaker hygienic:

- * Wash your hands before removing ice. Use the plastic scoop provided (accessory).
- * The storage bin is for ice use only. Do not store anything else in the bin nor use other electrical appliances in the bin.
- * Clean the storage bin before use (see "III. 1. CLEANING").
- * Keep the scoop clean. Clean it by using a neutral cleaner and rinse thoroughly.
- * Close the door after removing ice to prevent entrance of dirt, dust or insects into the storage bin.



The installer will normally commission the icemaker to start the automatic icemaking process. To ensure continuous operation, make sure that:

* The water supply tap is on,

* The icemaker is connected to the power supply, and

* The display shows "run".

2. USER SETTINGS

The settings listed below are adjustable by the user.

1) Press and hold the reset button for 3 seconds to enter the user setting mode. The display shows one of the setting codes.

2) Use the up or down button until the display shows the desired setting code. Then, press the enter button.

3) Use the up or down button to adjust the setting. Then, press the enter button.

4) After finishing the settings, use the up or down button until the display shows "END". Then, press the enter button to exit the user setting mode.

Code	Item	Description	Default
U.04	Drain frequency	0: No drain 1: Every 1 cycle 2: Every 2 cycles 5: Every 5 cycles 10: Every 10 cycles 20: Every 20 cycles	10: Every 10 cycles
U.44	Automatic water cleaning frequency	0: No automatic water cleaning 5: Every 5 cycles 10: Every 10 cycles 15: Every 15 cycles 20: Every 20 cycles 40: Every 40 cycles 60: Every 60 cycles	20: Every 20 cycles
U.49	Number of chemical doses (*)	When chemical doses reach set number of times, notice code "n93" appears to show no chemical is left.	KM-40: 15 times KM-60: 13 times KM-80: 12 times KM-140: 16 times
U.50	Fully automated chemical cleaning frequency (*)	Start fully automated chemical cleaning at set frequency. Adjustable from every 400 to 1000 cycles (in 100-cycle steps) e.g. 40 = 400 cycles	-

Code	ltem	Description	Default
U.51	UV-LED irradiation time (**)	Irradiate UV-LED for set period of time. None or adjustable from 10 to 30 minutes (in 1-minute steps)	-
U.52	UV-LED irradiation frequency (**)	Irradiate UV-LED in freeze cycle after set period of time. Adjustable from 30 to 300 minutes (in 10-minute steps)	120 minutes
U.53	Operation mode	nor: Normal mode cln: Sanitation mode (After 4 continued hours of inactivity, water circuit is automatically cleaned and refreshed to prevent bacterial proliferation.)	nor: Normal mode
U.54	Fully automated chemical cleaning mode (*)	When "cln" (sanitation mode) is selected, unit runs one cycle of fully automated chemical cleaning by using fully automated cleaning kit (option) regardless of frequency set by U.50.	_
U.55	Reset number of chemical doses (*)	hical doses Reset notice code "n93" (no chemical is left) and number of chemical doses.	
U.56	Reset settings	Reset all user settings to default.	-
U.58	Forced shut down	Shut down unit under any conditions.	-
U.59	Forced drain	Shut down and drain unit under any conditions.	-
U.60	Notice (e.g. maintenance)	Notice code "n99" appears after set period of time. Adjustable from 0 (none) to 6000 hours (in 100-hour steps)	0: None
U.68	Reset notice	Reset counting for notice U.60.	-

* Applicable only to the fully automated cleaning model (-W) or when the fully automated cleaning kit (option) is used. ** Applicable only when the UV-LED (option) is used.

3. PREPARING THE ICEMAKER FOR LONG STORAGE

NOTICE

This icemaker will not work at subfreezing temperatures. To prevent damage to the water supply line, drain the icemaker when air temperature is below zero.

AHYGIENE

When shutting down the icemaker for two or more days, drain the icemaker to prevent contamination in the water circuit.

1) Chemically clean the water circuit according to "III. 1. [e] Icemaking Water System".

2) Press the ON/OFF buton. The display shows "oFF".

3) Press and hold the reset button for 3 seconds to enter the user setting mode.

4) Set the user setting "U.59" to "1" to drain the icemaker.

5) Unplug the icemaker or disconnect the power supply.

- 6) Close the water supply tap, and remove the inlet hose.
- 7) Remove all ice from the storage bin, and clean the bin.
- 8) Before resuming the use of the icemaker, clean the water circuit again with fresh water or a chemical solution according to "III. 1. [e] Icemaking Water System".

III. MAINTENANCE

1. CLEANING

WARNING

Before carrying out any cleaning or maintenance operations, unplug the icemaker from the electrical supply network.

This appliance must not be cleaned by use of a water jet.

ACAUTION

When using a neutral cleaner or sodium hypochlorite, thoroughly read and understand the instructions provided to prevent potential health problems.

NOTICE

Ask a trained service person to clean and sanitise the icemaker water system at least twice a year and to check and clean the condenser at least once a year.

To prevent possible damage, do not clean the plastic parts with water above 40°C or in a dishwasher.

Do not use any alcohol for cleaning/sanitisation of the icemaker. It may cause cracks on the plastic parts.

AHYGIENE

To ensure their effects and hygienic quality, prepare the cleaning and sanitising solutions just before their use.

[a] Machine and Bin Exterior

Wipe the exterior at least once per week with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off grease or dirt.

[b] Scoop and Storage Bin Handle Cleaning/Sanitisation (Daily)

- 1) Either mix 3 litres of water with 11 ml of 5.25% sodium hypochlorite solution in a suitable container, or the recommended Hoshizaki sanitiser as directed.
- 2) Soak the scoop in the solution for more than 3 minutes. Rinse thoroughly, and shake to remove surplus liquid.

Note: Using a cloth to dry may re-contaminate.

3) Use a neutral cleaner to wash the storage bin handle. Rinse thoroughly.

4) Soak a clean cloth with the sanitising solution, and wipe the handle. Use fresh water and a clean cloth to rinse/dry.

[c] Storage Bin Interior Cleaning/Sanitisation (Weekly)

- 1) Open the storage bin door, and remove all ice.
- 2) Remove the scoop holder from the slope.
- 3) Wash the bin liner and scoop holder with a neutral non-abrasive cleaner. Rinse thoroughly.
- 4) Soak a clean cloth with the neutral cleaner, and wipe both sides of the slope and the door inner surface. Wipe off the cleaner with a clean damp cloth.
- 5) Either mix 3 litres of water with 11 ml of 5.25% sodium hypochlorite solution in a suitable container, or the recommended Hoshizaki sanitiser as directed.
- 6) Soak a clean sponge or cloth with the solution, and wipe the bin liner, bin door, slope and scoop holder.

Note: Clean every surface of the door gasket which gets soiled easily. It is readily removable for cleaning.



IMPORTANT

The door gasket is provided with a magnet at the top and both sides. To ensure air tightness of the door, refit the gasket properly in its correct position.

7) The remaining solution can be used to sanitise utensils.

Note: Do not wipe dry or rinse after sanitising, but allow to air dry.

[d] Air Filter

Plastic mesh air filters remove dirt or dust from the air, and keep the condenser from getting clogged. If the filters get clogged, the icemaker's performance will be reduced. Remove and clean the air filter(s) at least twice per month:

1) Remove the air filter.

Note: Do not put your hand inside the machine compartment.

- 2) Clean the air filter by using a vacuum cleaner. When severely clogged, use warm water and a neutral cleaner to wash the air filter.
- 3) Rinse and dry the air filter thoroughly.

NOTICE

After cleaning, be sure to place the air filter back in position.

[e] Icemaking Water System

Water Cleaning

Clean the water circuit with fresh water either automatically or manually. Automatic water cleaning: Set the user setting "U.44" to a desired frequency (see "II. 2. USER SETTINGS"). Manual water cleaning: Press the cleaning button while the display does not show "oFF". The icemaker automatically resumes icemaking operation after cleaning the water circuit.

Automated Chemical Cleaning

Sanitising:

Effectively clean the water circuit by manually feeding a chemical.

ACAUTION

Wear protective equipment (e.g. protective glasses) when using the citric acid or sodium hypochlorite solution. The solution may spout out and splash into your eyes. In that case, wash your eyes with clean water.

NOTICE

If the citric acid solution is found dripping on the sheet metal parts, wipe it off thoroughly to prevent rust.

1) Make either of the following solutions to fit the intended purpose.

Cleaning (descaling): 3.5 litres of 2% citric acid solution

3.5 litres of water mixed with 13 ml of 5.25% sodium hypochlorite solution

- 2) Open the door, and remove all ice from the storage bin. Check that the separator is attached in its correct position as shown. Otherwise, the solution may splash onto the ice in the storage bin.
- 3) Press and hold the cleaning button for 3 seconds. The display flashes Set the current mode. For example, the display showing "run" during the icemaking operation starts to flash "run".

4) When the display changes to "cln", pour the following amount of solution into the water tank carefully not to overflow it.

KM-40C-HC:	2.0 litres
KM-60C-HC:	2.5 litres
KM-80C-HC:	3.0 litres
KM-140C-HC:	3.5 litres



5) Rinse the bin liner with clean water to remove any solution spilled in the storage bin. Then, close the door.

6) Press the cleaning button (or wait for 15 minutes) to start the automated chemical cleaning.

7) The unit resumes the original state when the cleaning is over.

AWARNING

If the ice made after the automated chemical cleaning tastes wrong, immediately stop using the icemaker and call for service.

Fully Automated Chemical Cleaning (*)

* Available only for the fully automated cleaning model (-W) or when the fully automated cleaning kit (option) is used. The fully automated cleaning kit automatically feeds a chemical (1250 ml of 40% citric acid solution) and descales the water circuit at a desired frequency. Make necessary settings according to "II. 2. USER SETTINGS". For further details, see the instruction manual of the fully automated cleaning kit ACK.

2. BEFORE CALLING FOR SERVICE

Do not damage the refrigerant circuit.

If the icemaker does not work properly or does not work at all, before calling for service, check that:

* The power is supplied to the unit.

* The water is turned on.

* The air filter is clean.

If the problem still exists, turn off the power supply, turn it back on, and press the reset button. If the problem persists, check whether the error code "E" is indicated on the display or the dot at the center is on, and contact your local Hoshizaki service agent.

If one of the following notice codes appears, follow the instructions below.

Code	Description
n92	Abnormal high temperature. Clean air filter. Check for proper installation according to "I. 4. LOCATION".
n93	No chemical is left (when fully automated cleaning kit (option) is used). Replace or refill chemical container, and reset by user setting "U.55" (see "II. 2. USER SETTINGS"). To change frequency of notice, use user setting "U.49".
n99	Period of time set by user setting "U.60" (see "II. 2. USER SETTINGS") has passed and maintenance is required. When maintenance is done, press reset button.

For further assistance or advice, contact your local Hoshizaki service agent.

3. DISPOSAL

Comply with local regulations regarding disposal of this appliance and its refrigerant gas. Before you scrap the appliance, take off the door to prevent children trapped.



AWARNING

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

4. 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 two years 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, or the nearest Hoshizaki Service office:

Hoshizaki Lancer TEL: +61 8 8268 1388 FAX: +61 8 8268 1978 info@hoshizaki.com.au http://www.hoshizaki.com.au

To register your product for warranty with Hoshizaki, visit http://www.hoshizaki.com.au/warranty-registration or scan the QR code.



SPECIFICATIONS

Model	KM-40C-HC	KM-60C-HC	KM-80C-HC	KM-140C-HC
Туре	Air-cooled, crescent ice	Air-cooled, crescent ice	Air-cooled, crescent ice	Air-cooled, crescent ice
Power Supply	1 phase 220 - 240V 50Hz			
Electric Consumption	209W	242W	299W	564W
Ice Production per 24h	43kg (ambient 10°C, water 10°C)	60kg (ambient 10°C, water 10°C)	75kg (ambient 10°C, water 10°C)	135kg (ambient 10°C, water 10°C)
Dimensions	452mm(W) x 610mm(D) x 988mm(H)	605mm(W) x 610mm(D) x 988mm(H)	605mm(W) x 712mm(D) x 988mm(H)	630mm(W) x 719mm(D) x 1333mm(H)
Refrigerant	R290, 68g	R290, 90g	R290, 147g	R290, 110g
Insulation Foam Blowing Agent	HFC-free	HFC-free	HFC-free	HFC-free
Weight	Net: 39kg (Gross: 49kg)	Net: 45kg (Gross: 57kg)	Net: 50kg (Gross: 63kg)	Net: 69kg (Gross: 81kg)
Ambient Temp	7 - 38°C	7 - 38°C	7 - 38°C	7 - 38°C
Water Supply Temp	7 - 32°C	7 - 32°C	7 - 32°C	7 - 32°C
Water Supply Pressure	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)
Voltage Range	Rated voltage ± 6%			
	1	[1	
Model	KM-40C-HC-W	KM-60C-HC-W	KM-80C-HC-W	KM-140C-HC-W
Туре	Air-cooled, crescent ice, fully automated cleaning			
Power Supply	1 phase 220 - 240V 50Hz			
Electric Consumption	209W	242W	299W	564W
Ice Production per 24h	43kg (ambient 10°C, water 10°C)	60kg (ambient 10°C, water 10°C)	75kg (ambient 10°C, water 10°C)	135kg (ambient 10°C, water 10°C)
Dimensions	452mm(W) x 610mm(D) x 988mm(H)	605mm(W) x 610mm(D) x 988mm(H)	605mm(W) x 712mm(D) x 988mm(H)	630mm(W) x 719mm(D) x 1333mm(H)
Refrigerant	R290, 68g	R290, 90g	R290, 147g	R290, 110g
Insulation Foam Blowing Agent	HFC-free	HFC-free	HFC-free	HFC-free
Weight	Net: 41kg (Gross: 51kg)	Net: 47kg (Gross: 59kg)	Net: 52kg (Gross: 65kg)	Net: 71kg (Gross: 83kg)
Ambient Temp	7 - 38°C	7 - 38°C	7 - 38°C	7 - 38°C
Water Supply Temp	7 - 32°C	7 - 32°C	7 - 32°C	7 - 32°C
Water Supply Pressure	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)	0.07 - 0.8 MPa (0.7 - 8 bar)
Voltage Range	Rated voltage ± 6%			