



CE 89/336
73/23

MODULAR ICE MAKER
MACHINE A GLACE MODULAIRE
EISBEREITER FÜR SEPARATEN VORRATSBEHÄLTER
IJSMACHINE MET LOSSE OPSLAGBUNKER
MAQUINA DE CUBITOS MODULAR
FABBRICATORE MODULARE DI GHIACCIO

INSTALLATION MANUAL NOTICE D'INSTALLATION INSTALLATIONSANLEITUNG INSTALLATIE VOORSCHRIFT MANUAL DE INSTALACION MANUALE PER L'INSTALLAZIONE

FOR QUALIFIED INSTALLER ONLY
RESERVE A L'INSTALLATEUR
FÜR DEN INSTALLATEUR
VOOR DE BEVOEGDE INSTALLATEUR
SOLAMENTE PARAINSTALADOR CUALIFICADO
SOLTANTO PER INSTALLATORI QUALIFICATI

FM-600AHE
FM-600AWHE
FMN-440AHE
FMN-440AWHE
FM-481AGE
FM-481AWGE
FM-481AGE-N
FM-481AWGE-N
FM-251AFE
FM-251AFE-N

HOSHIZAKI

IMPORTANT

1. In order to carry out safe and proper installation of the product, please read this booklet carefully beforehand and follow the instructions contained within.
2. On completion of the installation, start up the icemaker to check for any abnormalities, and instruct the user on how to use and maintain the icemaker in accordance with the Instruction Manual.
3. This booklet should be handed over to the user after the installation and be preserved by the user together with the Instruction Manual for any further consultation that may be necessary.

WARNING

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

1. UNPACKING

WARNING

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

CAUTION

1. Do not lift or manoeuvre the carton by using the shipping bands.
2. Remove shipping carton, tape(s) and packing. If packing material is left in the icemaker, it will not work properly.

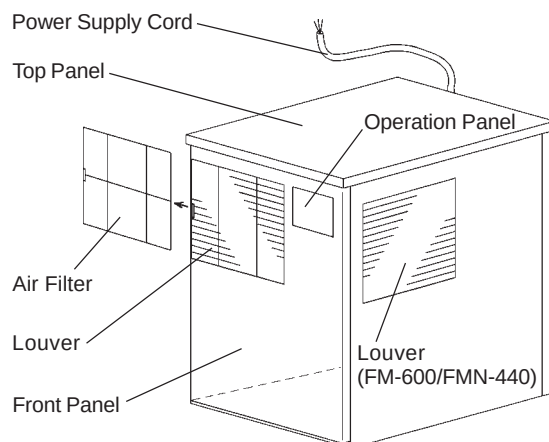
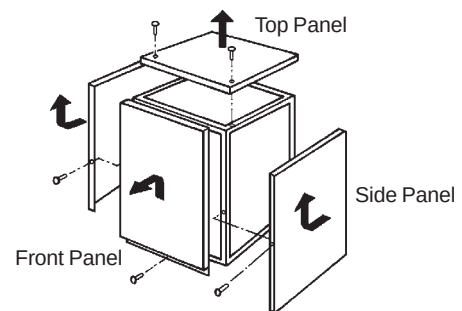


Fig. 1

Note: This icemaker needs a Storage Bin. The recommended Storage Bin is HOSHIZAKI ICE STORAGE BIN, Model B-300SD(PD) or B-500SD(PD) with Top Kit - 8C, B-700SD(PD) with Top Kit - 22C, or B-900SD(PD) with Top Kit - 22C and Top Kit - 8C.

- 1) After removing the packaging, make sure that the icemaker and the Storage Bin are in good condition. If in doubt, please do not use the equipment but apply to professionally qualified personnel. See the instruction sheet attached to the Storage Bin for its unpacking and installation guidelines.
- 2) Remove the shipping tape holding the panels.
- 3) Remove the Front, Top and Side Panels. See Fig. 2.



- Top Panel: Remove the screw(s). Lift off.
 Front Panel: Remove the screw. Lift up and pull toward you.
 Side Panel: Remove the screw. Pull slightly toward you, and lift off.

Fig. 2

- 4) Remove the package of accessories, and check the contents:
 - a) Installation Kit

[Air-Cooled Model]	
Inlet Hose	1
Outlet Hose	2
[Water-Cooled Model]	
Inlet Hose	2
Outlet Hose	3
1/2-3/4 Nipple	1
3/4-3/8 Nipple	1
b) Mounting Bracket	2
- 5) Remove the protective plastic film from the panels. If the icemaker is exposed to the sun or to heat, remove the film after the icemaker cools.

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2. LOCATION

IMPORTANT

1. This icemaker is not intended for outdoor use. Normal operating ambient temperature should be within 5°C to 40°C. Normal operating water temperature should be within 5°C to 35°C. Operation of the icemaker, for extended periods, outside of these normal temperature ranges may affect production capacity.
2. The icemaker should not be located next to ovens, grills or other high heat producing equipment.
3. The location should provide a firm and level foundation for the equipment.
4. Allow 15 cm clearance at rear and sides for proper air circulation and ease of maintenance and/or service should they be required. Allow 60 cm clearance on top to allow for removal of the Auger.
5. This appliance is not suitable for installation in an area where a water jet could be used and where dripping is not allowed.
6. Do not place anything on top of the icemaker or in front of the Louver.

3. INSTALLATION

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

- 1) Fully screw in the four legs provided (bin accessory) into the Storage Bin underside. See Fig. 3.

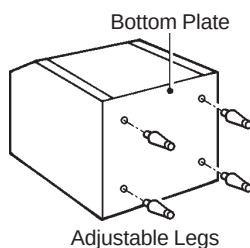


Fig. 3

- 2) Position the Storage Bin in the selected permanent site.
- 3) Place the icemaker on top of the Storage Bin by holding the bottom.

- 4) Secure the icemaker to the Storage Bin, by using the two mounting brackets and two bolts provided. See Fig. 4.

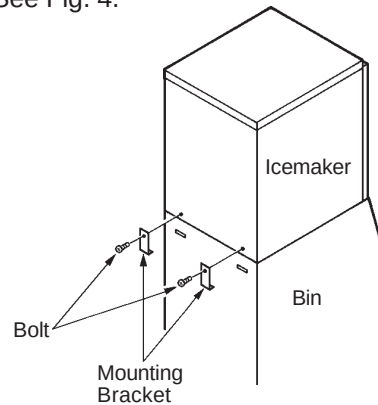


Fig. 4

- 5) Seal the seam between the icemaker and the Storage Bin with food grade sealant.
- 6) Refit the Side Panels in their correct position.
- 7) Adjust the four legs on the bottom (adjustable from 0 to 25.4 mm) to have the icemaker perfectly horizontal. Use the spirit level. See Fig. 5.

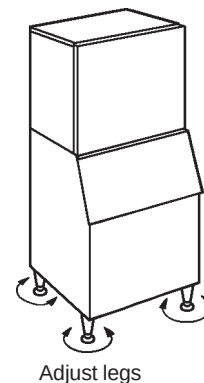


Fig. 5

4. ELECTRICAL CONNECTIONS

WARNING

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 equipment, install a proper earth wire to the icemaker. Disconnect the main power supply before any maintenance, repairs or cleaning is undertaken.

- * This icemaker should not be installed:
- a) Where the power supply is not within the range of 220 - 240V.
 - b) Where the icemaker cannot be connected directly into its own power supply without using an

extension cord or sharing a receptacle.

- * Usually an electrical permit and services of a licensed electrician are required.
- * If the supply cord and/or the plug should need to be replaced, it should only be done by a qualified service engineer.
- * In accordance with the requirement of the IEC standard, the maximum permissible system impedance (Z_{max}) at the interface point of the power supply to be connected with this icemaker must be $0.17+j0.10 \text{ ohm}$ (FM-600/FMN-440) or $0.2908+j0.18175 \text{ ohm}$ (FM-481/251). Determine in consultation with the supply authority, if necessary, that the icemaker is connected only to a supply of $0.17+j0.10 \text{ ohm}$ (FM-600/FMN-440) or $0.2908+j0.18175 \text{ ohm}$ (FM-481/251) or less.

[FM-600/FMN-440]

- * When the power supply cord is connected, it must have a capacity of not less than 20A. The main power supply must be equipped with an earth leakage circuit breaker of at least 20A with functions of overload and short circuit protection.
- * The fixed wiring must incorporate a means for disconnection from the supply having a contact separation of at least 3 mm in all poles.

[FM-481/251]

For the U.K. and the Republic of Ireland only

- * The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow = Earth
Blue = Neutral
Brown = Live

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Green-and-Yellow must be connected to the terminal in the plug which is marked with the letter E or by the symbol  or coloured Green or Green-and-Yellow. The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black. The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.

- * Should the socket outlets in the installation site not be suitable for the plug supplied with your product, the plug must be removed (cut off if it is moulded on plug) and an appropriate plug fitted.

If the non-rewirable plug has been cut from the power supply cord, it must be disposed of. There should be no attempt to reuse it. Inserting such a plug into a socket elsewhere presents a serious risk of electrical shock.

- * The non-rewirable plug must never be used without a fuse cover being fitted.

The correct replacement for the detachable fuse cover is identifiable from the manufacturer's reference number stamped on the plug.

Supply of replacement fuse covers can be obtained from Hoshizaki Parts/Service Centres.

Fuses should be rated at 13A (FM-481) or 10A (FM-251) and approved to BS 1362.

5. WATER SUPPLY AND DRAIN CONNECTIONS

(For the U.K. only, the connections must be in accordance with current requirements of the Model Water Byelaws 1986 SI No. 1147)

- * Only potable water should be used for the icemaker.
- * Water supply pressure should be minimum 0.5 bar and maximum 8 bar. If the pressure exceeds 8 bar, use a proper pressure reducing valve. Do NOT throttle back the supply tap.
- * A plumbing permit and services of a licensed plumber may be required in some areas.
- * The icemaker drain is gravity flow, so ensure drain pipe has an adequate pitch or fall.
- * Water should drain into an open trap.
- * On water-cooled model, a back flow preventer may be required in the cooling water circuit.

1) [Water-Cooled Model Only]

By means of a suitable spanner or wrench, tighten the 1/2-3/4 nipple (accessory) into the Rc1/2 fitting and the 3/4-3/8 nipple (accessory) into the Rc3/8 fitting on the rear of the icemaker as indicated. P.T.F.E. tape and/or a suitable sealing compound should be used to obtain a leak free joint.

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Note: Jointing compounds should be approved and suitable for potable water use.

- 2) Attach angled end of white flexible inlet hose (accessory) to the G3/4 fitting on the rear of the icemaker as indicated, ensuring rubber sealing washer is correctly positioned. Hand tighten sufficiently to provide leak free joint.

Note: On water-cooled model, make the same connection to free end of 1/2-3/4 nipple on the water-cooled condenser inlet.

- 3) Attach the other end of inlet hose(s) to the water tap, noting washer(s) is/are correctly positioned before hand tightening as above.

Note: If filtration or treatment is used, ensure icemaker section only is on treated water supply, not the condenser.

- 4) Attach grey flexible outlet hoses (accessories) to the R3/4 fittings as indicated, confirming fitment of rubber washers before finally hand tightening the joints. These pipes can be cut to length as necessary to suit position of main drain.

Note: On water-cooled model, make the same connection to free end of 3/4-3/8 nipple on the condenser outlet.

[Air-Cooled Model]

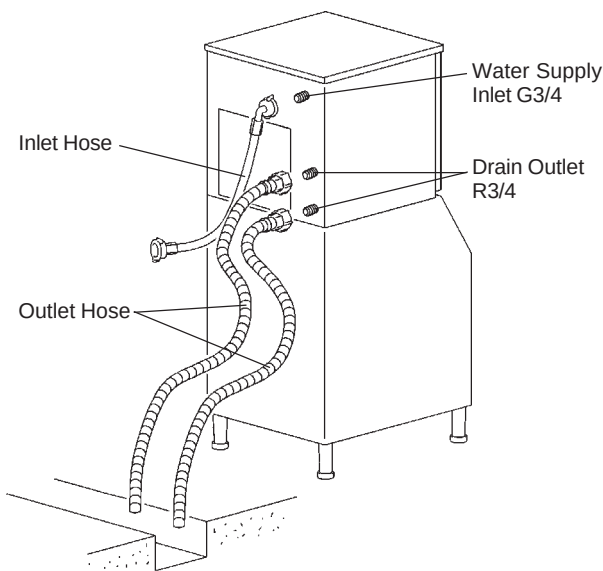


Fig. 6

[Water-Cooled Model]

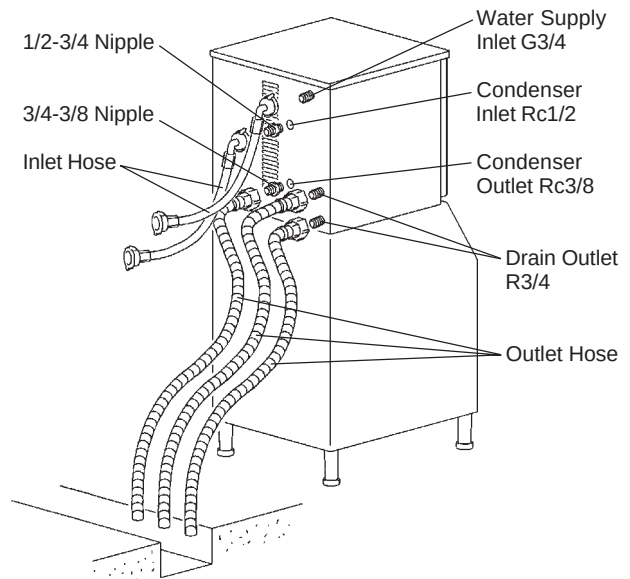


Fig. 7

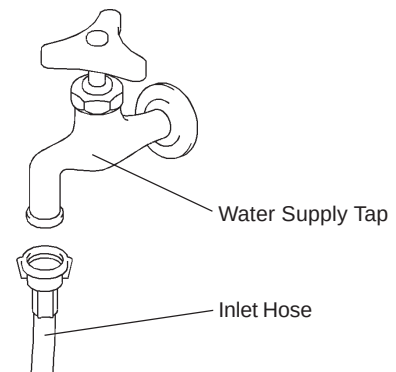


Fig. 8

6. START-UP PROCEDURE

- 1) Check that the power supply cord is disconnected.
- 2) Move the Operation Switch on the Operation Panel to the "ON" position.
- 3) Open the water supply tap.
- 4) Connect the power supply and energise.
- 5) The Display will illuminate in the "ICE" mode.
- 6) The following should occur in sequence:
 - a) Water Reservoir will fill.
 - b) Gear Motor will start.
 - c) Compressor will start.

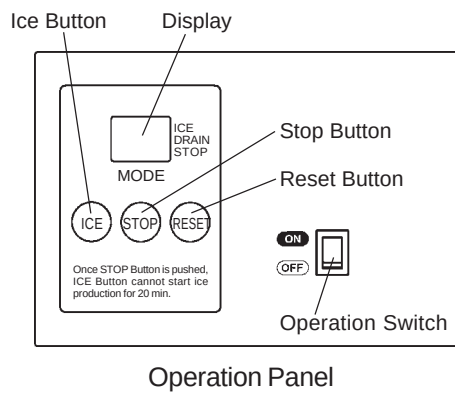


Fig. 9

IMPORTANT

1. Check the conditions and quality of the ice production.
2. Do not use ice produced in the trial run. It might be contaminated with foreign matter in the water circuit. Discard or flush down the drain.
3. Clean the Storage Bin before use (see "III. 1. CLEANING" in Instruction Manual).

7. FINAL CHECKS

- 1) Is installation free of water leaks?
- 2) Is the icemaker free from vibration?
- 3) Are all the panels fixed and secure?
- 4) Has the user been instructed on correct machine use and handed the Instruction Manual?

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