



Instruction Manual

Heated Display Cases

Models: HBTD



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REFRIGERATION LTD.

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1 UNLOADING

The unit should be transported in vertical position, and it should be properly secured and packed.

2 PROPERTIES OF THE UNIT

2.1. Purpose

“HBTD” display cases are used to display and short-lasting storage of previously prepared hot dishes in containers before serving them. These units constitute basic elements of equipment in mass feeding facilities. Scope of water temperature regulation in tank chamber ranges between +30°C/+90°C.

2.2. Description of the unit

“HBTD” is a water bain-marie. Containers are placed over the water bath heated with electrical heaters placed under the bain-marie tank, transferring heat in direct manner. Dishes may be additionally heated with infrared radiators placed in the upper lamp. The display case is equipped with mechanical temperature regulator and front glass hot air blow. Our equipment is manufactured according to modern technologies and all have certificates required by law.

The description in this box signifies important information for user security and for proper operation of the device.

Figure 1 “HBTD” overview

- 1 – Lamp (ceramic infrared radiators; bulbs)
- 2 – Cured front glass, lifted
- 3 – Containers
- 4 – Lower part of the bain-marie tank filled with water
- 5 – Front glass hot air blow
- 6 – Front bumper
- 7 – System of electric heaters
- 8 – Bain-marie water outflow ball valve
- 9 – Leveling legs
- 10 – Ventilator
- 11 – Granite top
- 12 – Serial plate
- 13 – ABS sides with glass
- 14 – Perforated door hole plug
- 15 – Air louver
- 16 – Control panel

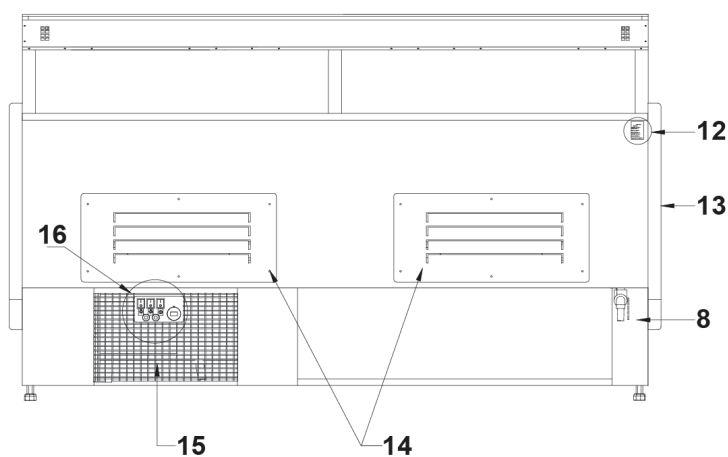
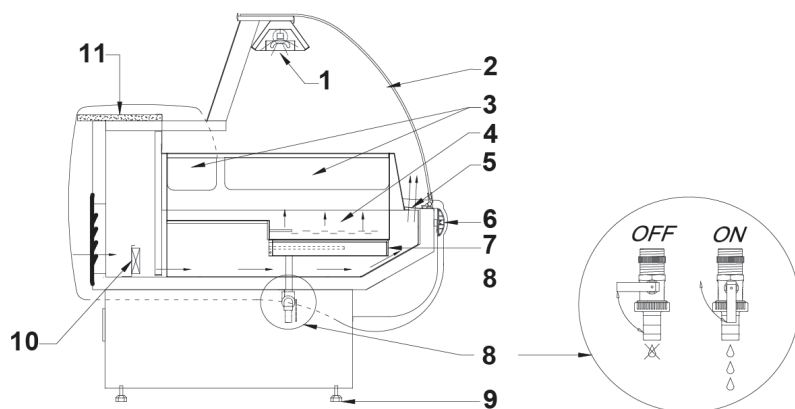


Figure 2 Layout of cross-bars under containers

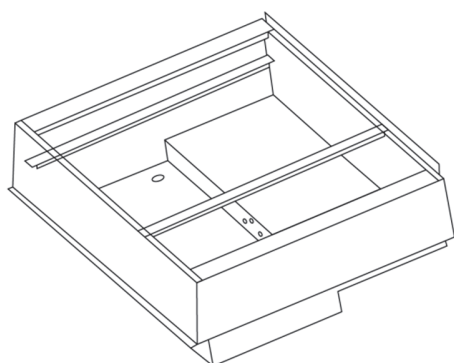
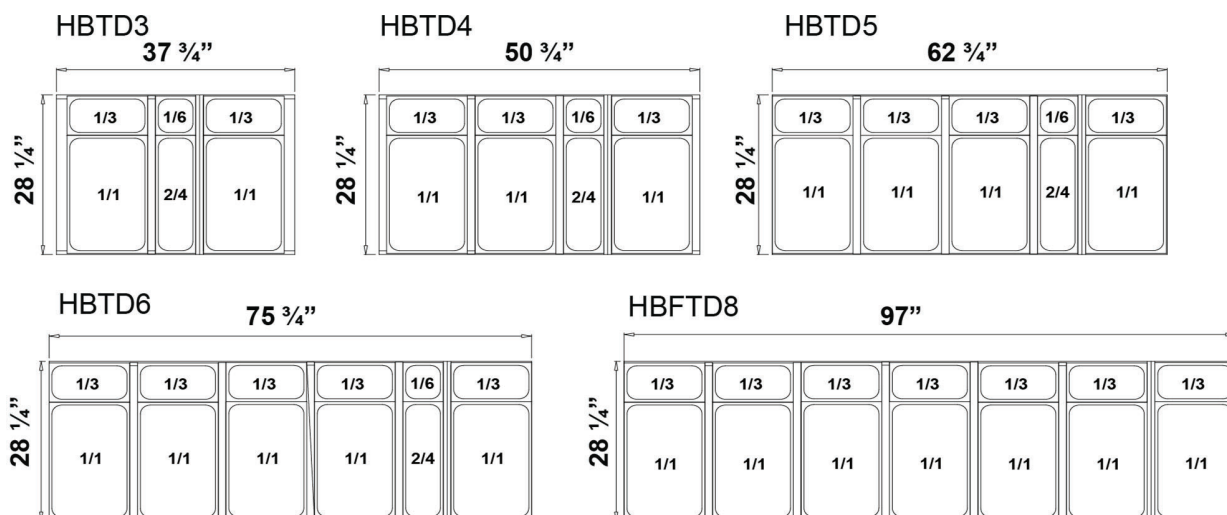


Table 1 Cross-bars under containers

Model	HBTD3	HBTD4	HBTD5	HBTD6	HBTD8
Number of cross-bars	2	3	4	5	6

Figure 3 Layout of containers



2.3. Technical data

Table 2 Technical data

Model	Voltage [V/Hz/Ph]	Rated Current [A]	Optimal water volume [l]	Weight [lbs/kg]
HBTD3	115/220/60/1	10 (max.fuse:15)	17	324/147
HBTD4	115/220/60/1	13 (max.fuse:15)	23	412/187
HBTD5	115/220/60/1	17 (max.fuse:25)	28	501/227
HBTD6	115/220/60/1	20 (max.fuse:25)	35	617/280
HBTD8	115/220/60/1	25 (max.fuse:30)	45	736/334

3. PREPARING THE DEVICE FOR START UP

The unit must be properly installed and located in accordance with the installation instructions before it is used.

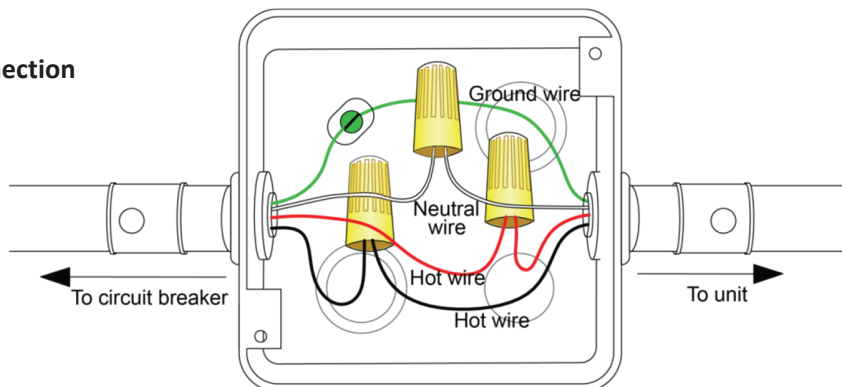
3.1. Installation requirements

- Always use a dedicated circuit with the amperage stated on the unit.
- Do not overload the circuit.
- Do not use extension cords.
- Never use adapters.
- Never plug in more than one unit per electric circuit.
- If in doubt, call an electrician.

IGLOO will not warranty any equipment that is connected to an extension cord or adapter plug.

The equipment may be turned on after confirmation of the fire protection efficiency with results of measures performed according to binding regulations!

Figure 4 Permanent connection



3.2. Unit location

- Remove cardboard angles and protective foil.
- Place the unit on an even and hard base. Then level the unit with the levelling legs. (Figure 5)
For units with casters, use wheel brakes to immobilize the unit during operation. (Figure 6)

Figure 5 Leveling legs

A –Screw the leg in nuts

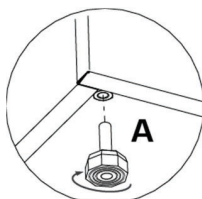
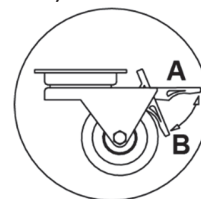


Figure 6 Caster wheels

A –Moving position

B –Brake



- To ensure proper operation the unit must be leveled from front to back and left to right with the leveling legs.
- Unit may malfunction if improperly leveled.
- Be sure there is sufficient ventilation around the entire unit
- Select a location a way from heat and moisture generating equipment.
- Avoid installation in a high ambient or humid location.
- Humidity may cause rust, condensation around the glass or stainless and decrease the efficiency of the unit.

3.3. Connection and start-up

- The first cleaning of the equipment should be provided right after unpacking, and before turning it on. The unit should be cleaned with water at a temperature not exceeding 40°C with a neutral detergent. For washing and cleaning the equipment it is prohibited to use products containing chlorine and sodium varieties, which destroy the protective layer and components of the equipment! Any residue of adhesives or silicone on metal elements should be removed only with extraction naphtha (not applicable to items made of plastic!). Do not use other organic solvents.

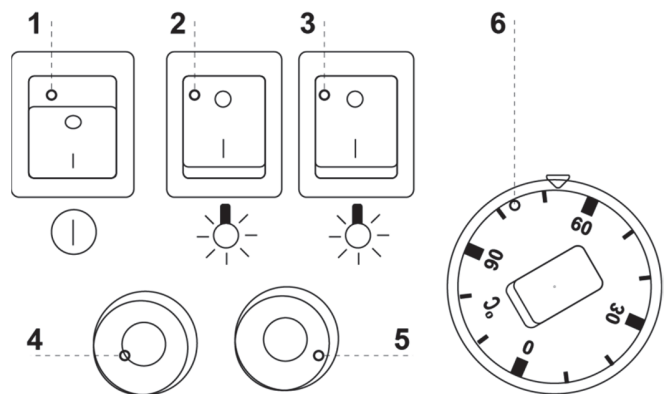
When cleaning the unit, do not use water jet. The unit should be cleaned with a moist cloth.

- Check whether the water outflow ball valve is closed. (Figure 1/8)

- Fill bain-marie tank with proper amount of clean water.
- Place cross-bars under containers on the bain-marie tank. (Figure 2)
- Place empty containers in the chamber according to (Figure 3)
- Place the plug of the connecting cable directly in plug-in socket. (it is forbidden to connect the device by means of extension cords or dividers!)
- Turn on the main switch (Figure 7/1), which activates the electric heaters of bain-marie tank.
- Set the desired temperature on thermostat control panel. (Figure 7/6)
- After obtaining the desired water temperature, put hot grocery products in containers.
- Turn on the lighting switch. (Figure 7/2; 3)

Figure 7 Control panel

- 1 – Main switch (turns on/off bain-marie heaters)
 2; 3 – Lighting switch (bulbs; infrared radiators)
 4 – Red diode – signals very low water level
 5 – Green diode – signals low water level.
 6 – Temperature regulator knob.



4. UNIT START UP

Temperature of the heated display space may vary. It depends on numerous factors, such as amount and temperature of products placed in the device and temperature of the surroundings. The equipment should be placed in a dry and well ventilated place.

Remarks and indications

- ***Before placing hot products in the display case, an empty display case should operate until the desired working temperature shall be obtained.***
- ***Do not block any ventilation holes, as this could hinder the front glass hot air inlet. (Figure 1/5)***
- ***Do not place cold products in the unit.***

4.1 Water level in bain-marie tank

Before connecting water bain-marie it is essential to check the closure of ball valve located below the display case body (Figure 1/8) and fill the tank with proper amount of clean water. We pour the water directly into the bain-marie tank (ex. With rubber hose) to avoid flooding the electric part!

Optimal level of poured water should fall slightly above the level (2) (Figure 8). The level of poured should not be too high, as this can prolong the water heating time. Apart from the above, the water may not reach the proper, high temperature, and heaters may work continuously, which will cause greater power consumption and quicker wear and tear of the heaters.

To ensure minimal electric energy consumption, it is essential to:

- Add water of highest possible temperature in order to shorten the actuation time.
- When the unit is operating, please cover the bain-marie tank with containers in order to decrease water evaporation and shorten the water heating time.

Bain-marie is equipped with **SPW-4 water level regulator** used to control and manage tank water level. This regulator is equipped with sound and light signaling (Figure 7/4, 5) illustrating bain-marie operating condition.

Green diode – signals low water level, the heating function is still active – pour the water into the tank, until the diode will be off.

Red diode – signals very low water level in the tank, the heating function is still active (until sound signaling will be activated) – it is absolutely necessary to pour the water until the red diode, and then the green diode will be off.

When bain-marie tank is properly filled with water, control panel diodes should not be illuminated at all.

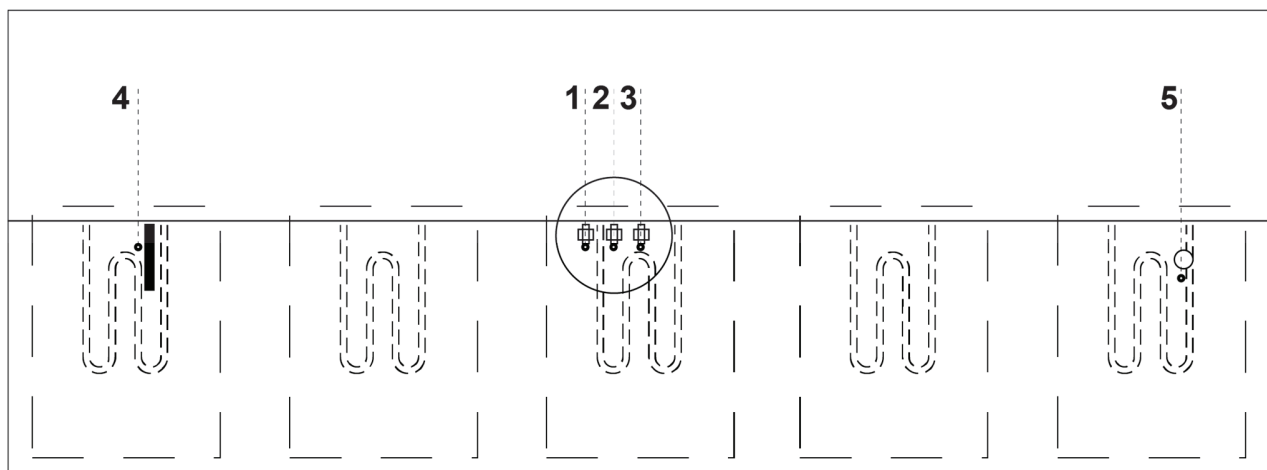


Figure 8 Bain-marie tank

- 1 – **Alarm level** sensor – very low level of fluid in the tank (red diode signal), when fluid level falls below this sensor sound alarm is activated and heating function is simultaneously inactivated
- 2 – **Optimum fluid level** sensor (green diode shall illuminate when fluid falls below this level)
- 3 – Minimum fluid level sensor (red diode is illuminated)
- 4 – Water temperature sensor
- 5 – Tank water outlet hole

4.2. Temperature regulation

Bain-marie is equipped with mechanical temperature regulator. Temperature sensor is located in the bain-marie tank (Figure 8/4). We set the desired water temperature in the tank (Figure 7/6) with the help of regulating knob by turning it and setting in proper position. Turning the knob clockwise increases the set temperature, and turning it in the opposite direction causes the decrease of temperature. Turning the knob left; until it reaches the final position turns off the heaters, despite the fact that the power supply is activated.

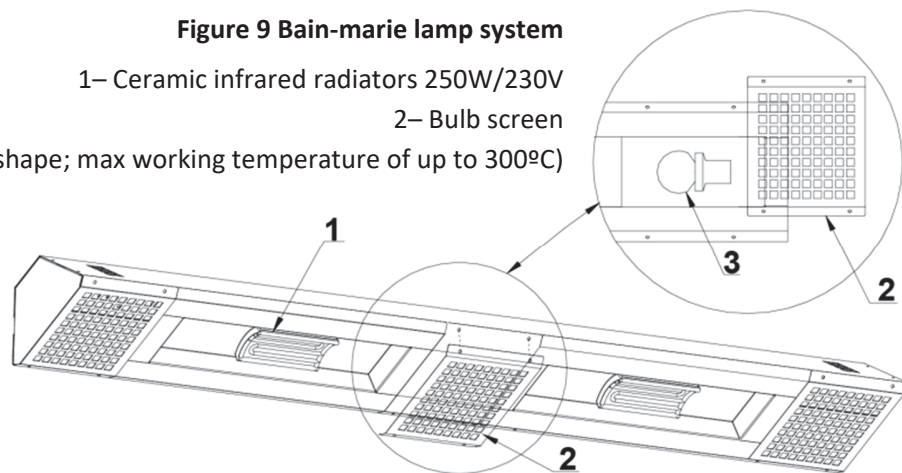
4.3. Lamp system

The lamp system includes ceramic infrared radiators and bulbs aimed to operate in high temperatures.

Infrared radiators are used for additional, superficial dish heating. They use the phenomenon of temperature radiation, aiming in absorbing and changing the radiation energy falling on heated dishes into heat. Radiated waves fall through air without any difficulties and do not emit heat until they reach the heated surface. Bulbs and infrared radiators may be turned on/ turned off independently with switches placed on control panel (Figure 7/2;3).

Figure 9 Bain-marie lamp system

- 1– Ceramic infrared radiators 250W/230V
- 2– Bulb screen
- 3– 40W bulb (E27; P45 bulb shape; max working temperature of up to 300°C)



5. MAINTENANCE

- Do not use steel wool, abrasive cleaners, bleach or cleaners containing chlorine or sodium to clean the unit.
- Do not use pressure washer or water-jet to clean the unit.
- The first cleaning of the unit should be done right after unpacking and before turning it on.
- The unit should be cleaned with warm water and mild soap.

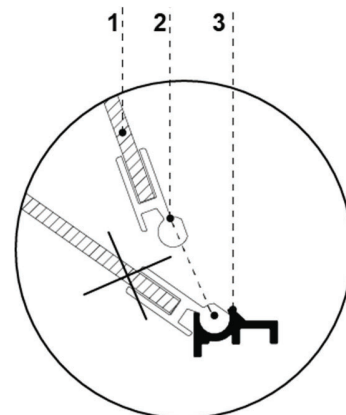
5.1 Cleaning and maintenance

It is recommended to make a break in the exploitation of the device **once a week** in order to clean its interior. Remove the dirty water from the tank by opening the water outflow ball valve placed below the body of the unit (Figure 1/8).

- ***All maintenance services need to be performed after disconnecting the equipment from power supply!***
 - ***Protect electric installation against any damage or water spillage.***
 - ***Do not use water stream to clean the equipment, only a moist cloth.***
 - ***Do not use any sharp objects to remove dirt!***
 - ***Devices with wheels can't be used on uneven surfaces!***
-
- ***When cleaning inside of the device do not leave the front glass panel lifted in the aluminum profile, this may cause damage to the glass and is not covered by warranty. Please remove the glass with profile during the cleaning process. (Figure 10)***

Figure 10 Disassembly of the front glass

- 1 – Front glass
- 2 – Upper aluminum profile (lifted guide) of the glass
- 3 – Lower aluminum profile (hinge) of the glass



Elements of equipment can corrode as result of improper use and maintenance. To prevent damage: Do not allow contact with substances containing chlorine and/ or baking soda in different varieties, which destroy the protective layer and components of the equipment (also includes various stainless steel).

6. SERVICE

6.1. Faults identification and repair

In case of any difficulties during actuation of the equipment or during its operation, please return to the chapters in this manual, which explain the performed operation. This aims to ensure the equipment is properly operated. If you still experience difficulties, the following will help you solve the problems.

The equipment is not working... – Make sure that:

- Voltage and frequency in the network are compliant with those recommended by the seller.
- The unit is connected to the supply network.
- The main switch on the control panel is turned on.
- Temperature regulating knob is turned on.

The equipment is operating, but the light is off... – Make sure that:

- Light switch is turned on.
- Bulb in the lamp is not burnt.

The equipment does not reach the proper temperature, the light is on... – Make sure that:

- The main switch is on.
- Temperature setting on the thermostat is properly set.

The equipment is not working, sound signaling is activated...– Make sure that:

- The tank in the device is filled with water, in case of low water level; add water until diodes and sound signaling will be off.

6.2 Service

IGLOO Refrigeration service

Telephone number: 416-663-3051 or (toll free) 1-888-408-8819

E-mail: service@igloo400.com

If after checking points described in chapter 6.1 “Faults identification and repair” the equipment still does not work properly,

Please contact Technical Service of the IGLOO Refrigeration.

* Information included in this document may be altered by “IGLOO” without noticing the user.



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