

User manual
Refrigerating cabinets

„CUBE / CUBE OPEN”

 **IGLOO**

Instruction manual **CUBE / CUBE OPEN**

1. UNLOADING

The device should be transported in vertical position, and it should be properly secured and packed. The manufacturer ships the device on a special wooden platform, secured with cardboard angle sections and foil.

2. PROPERTIES OF THE DEVICE

2.1. Purpose

The „Cube” refrigerated cabinets are universal cooling units intended for exhibition and short-term storage of confectionery: cakes, pies, cookies, desserts, etc. at +5°C/+15°C at ambient temperature of +15°C/+25°C and relative air humidity of up to 60%.

2.2. Description of the device

„Cube” features dynamic cooling. The device is equipped with automatic condensate evaporation and automatic defrosting. It is also fitted with an electronic thermostat, optionally working with the temperature recording module, which allows for recording and signaling whenever the temperature in the unit is too high or too low (applies to thermostat „Igloo”). The cabinets can be combined in rows and can be powered by an internal unit („-mod A”) or external unit („-mod C”). In the temperature range from +10°C/+15°C, it is possible to control the air humidity in the range of 30 to 80%. The display section of the cabinet consists of glass shelves placed on the frame. The frame can be of two heights – type 3P – three display shelves, 2P – two display shelves. Display shelves have the ability to change their height and angle. We also make „Cube Open” devices - cabinets that have a short front glass (screen) and are self-service devices. The cabinet uses energy efficient LED backlighting. „IGLOO” devices are made using modern technology and have the certificates required by law.

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Table 1 Technical data

4.



This marks information of particular importance for the safety of the user and for the proper operation of the device

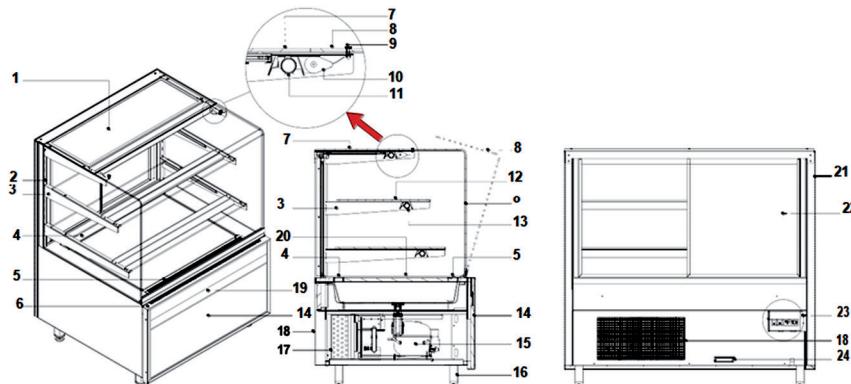


Fig.1 Dimensions of CUBE

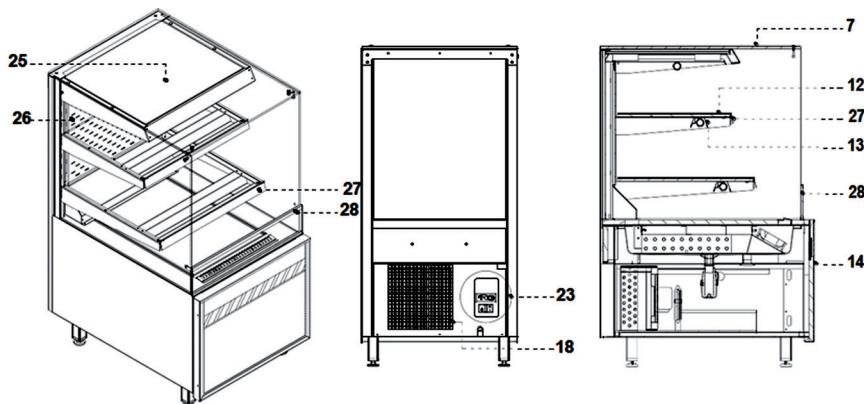


Fig.2 Dimensions of CUBE OPEN

DESCRIPTION OF FIGURES (Fig. 1; Fig. 2):

- 1 - Upper glass screen
- 2 - Internal frame (sheet metal)
- 3 - Hook under glass shelf (adapted for three-step angle adjustment)
- 4 - Cooled airflow (DO NOT BLOCK the vents!!!)
- 5 - Cooled air suction (DO NOT BLOCK the vents!!!)
- 6 - Blowing warm air on the glass front (DO NOT BLOCK the vents!!!) - (perforated sheet-metal element – Does not apply to „OPEN” cabinets)
- 7 - Upper glass
- 8 - Front glass (does not apply to „OPEN”)
- 9 - Attaching the retractor cord
- 10 - Retractor cord (does not apply to „OPEN”)
- 11 - Top backlight
- 12 - Glass display shelf on frame
- 13 - Shelf backlight
- 14 - Cabinet front (melamine)

- 15 - Cooling unit
- 16 - Feet for leveling the unit
- 17 - Condenser unit (Keep clean!)
- 18 - Wind chest (removal provides access to the condenser fins - DO NOT BLOCK THE VENTS!!!)
- 19 - Front insert of mirror or stainless steel
- 20 - Inside countertop
- 21 - Glass side
- 22 - Back door with composite glass (sliding in 0.9 and 1.3 or hinged in module 0.6) – does not apply to OPEN
- 23 - Control panel (thermostat panel, main switch and lighting switch)
- 24 - Wind chest notch for the condensate overflow tray (Does not apply to model type 0.6 – slide-out tray directly under the machine in specially mounted brackets placed under the frame - on the left as seen from the operating side)
- 25 - Insulated roof (only applies to „OPEN” - upper

backlight on the inside – LED)

26 – Perforated screen (back on the inside) – (DO NOT BLOCK THE VENTS that provide cooled air circulation inside the cabinet!!!) – (only applies to „OPEN”)

27 - Shelf guide with price strip (only applies to „OPEN”)

28 - Front screen (only applies to „OPEN”)

Type of unit	Rated voltage [V/Hz]	Rated current [A]	Rated lighting power [W]	Energy consumption electricity. [kWh/24h]	Usable space- [dm ³]	Cooling power demand [W/m ³]
CUBE						
1.3 3P	230/50	3.7	88	12.3	800	-
1.3 3P-mod/C	230/50	0.7	88	2.6	800	800
1.3 2P	230/50	3.6	66	12.0	530	-
1.3 2P-mod/C	230/50	0.6	66	2.2	530	800
0.9 3P	230/50	2.5	56	8.3	550	-
0.9 3P-mod/C	230/50	0.4	56	1.7	550	800
0.9 2P	230/50	2.4	42	8.1	365	-
0.9 2P-mod/C	230/50	0.4	42	1.5	365	800
0.6 3P	230/50	1.3	34	4.6	360	-
0.6 3P-mod/C	230/50	0.2	34	1.1	360	800
0.6 2P	230/50	1.3	25.5	4.5	240	-
0.6 2P-mod/C	230/50	0.2	25.5	1.0	360	800
CUBE OPEN						
1.3 3P	230/50	3.9	88	13.0	800	-
1.3 2P	230/50	3.8	66	12.7	530	-
0.9 3P	230/50	3.5	56	11.5	550	-
0.9 2P	230/50	2.4	42	8.1	365	-
0.6 3P	230/50	1.5	34	5.2	360	-

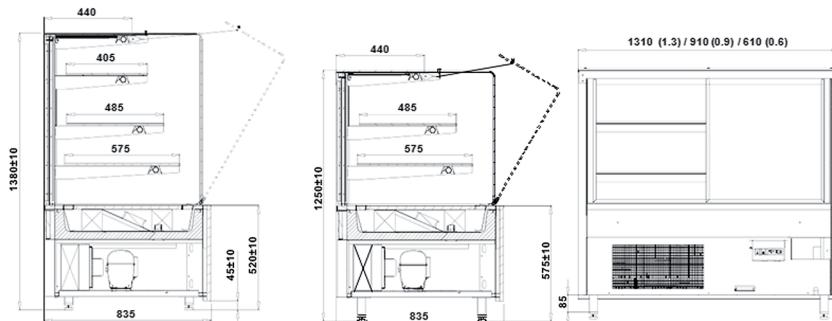


Fig.3 Dimensions of CUBE

3P – 3 display shelves on a frame;
2P – 2 display shelves on a frame.

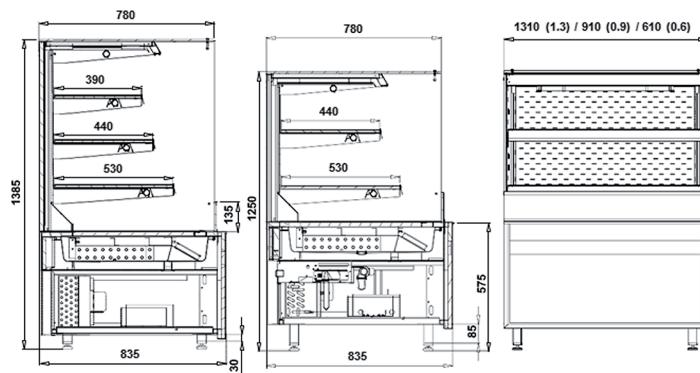


Fig. 4 Dimensions of CUBE OPEN

3. TRANSPORT AND UNLOADING

The manufacturer ships the unit properly secured and packed in a wooden crate. Be careful with glass components during transport and loading/unloading of the unit. The device should be transported in an upright position.



The manufacturer is not responsible for the unit that was damaged during transport

4. INSTALLATION AND USE

4.1. Requirements for the installation site

Place the unit in a dry, well-ventilated place without direct sunlight, ensuring good air exchange (distance between the wall and the device min. 10 cm), away from heat sources and devices forcing air flow (air conditioners, ceiling fans or portable bower heaters – they CANNOT blow or pull air from the cooling unit!). The unit is functioning properly in an environment where the temperature is in the appropriate climate class, as indicated on the nameplate. Operation of the device may deteriorate if the temperature was above or below the indicated range for a long period.

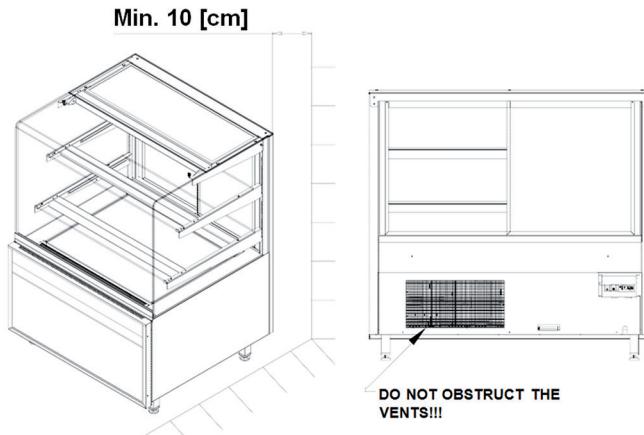


Fig.5 Appropriate positioning of the unit - to ensure proper ventilation

4.2. Electrical connection

- Check whether the voltage and frequency of the network are appropriate to those recommended by the manufacturer (see nameplate)
- Check whether the cross-section of power cables is suitable for the current consumption of the installed equipment
- It is forbidden to connect the device via extension cables or distributors
- The unit must be connected to a separate, properly prepared electrical circuit with a socket with protective pin (as per PBUE)



The unit may only be started after confirming the effectiveness of shock protection with the results of measurements carried out in accordance with applicable regulations.

- Check the condition of the unit's electrical equipment
-

4.3. Preparing the unit for start-up

- Unpack the unit from the box, remove the foil and cardboard angles.
- Place the unit on a level and sufficiently solid surface, and then level it with the feet.



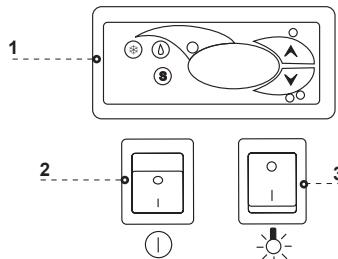
Accurate leveling of the unit (screwing or unscrewing the adjustable feet) will prevent noisy compressor operation and ensure proper water drainage (condensate) during defrosting.

- Wash the unit thoroughly, wipe dry or leave for some time to dry completely



Accurate leveling of the unit (screwing or unscrewing the adjustable feet) will prevent noisy compressor operation and ensure proper water drainage (condensate) during defrosting.

- Place the plug of the connection cable directly into the socket (it is forbidden to connect the device via extension cables or distributors!)
- The control panel includes the thermostat controls - 3
- Switch on the main switch 1 which will turn on the thermostat, and then the generator unit
- Switch on the lighting 2
- In cabinets equipped with a humidistat (does not apply to therm. Carel and OPEN cabinets) you can set the desired humidity inside the unit using a knob. In the temperature range from +10°C to +15°C, it is possible to control the air humidity in the range of 30 to 80%.

**Fig.6 Control panel**

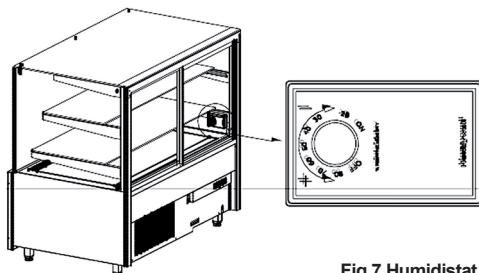
- 1 – Temperature control panel – for details of operation, see Section 6 (THERMOSTAT OPERATION)
- 2 – Lighting switch (works independently of the main switch being turned on)
- 3 – Main switch (turns the unit on/off)

The main task of the thermostat is to control the refrigerating unit, so as to reach the preset temperature within the unit and keep it within certain ranges. All temperature control settings necessary for normal functioning of the unit are introduced by the manufacturer. Before using the device, the user should check and set the desired temperature on the panel inside the device.

Digital display – displays the current temperature inside the device

4.4. Humidity control

(Does not apply to OPEN cabinets and the CAREL thermostat) The humidistat controls the humidity, when the temperature in the unit in the range from 10°C to 15°C. Using the humidistat knob, set the desired humidity in the unit in the range from 30 to 80% by turning the knob and setting it in place. Rotating the knob clockwise lowers the humidity setting, and turning it in the opposite direction increases it. Turning the knob to the left to the end position turns off the humidistat, regardless of the power being on.

**Fig.7 Humidistat**

4.5. Operation

The cooling temperature and the work cycle of the unit may fluctuate. They depend on many factors, e.g. the ambient temperature and the quantity and temperature of the products inside. Place the unit in a dry, well-ventilated place without direct sunlight, ensuring good air exchange (distance between the wall and the device min. 10 cm), away from heat sources and equipment forcing air flow (air conditioners, ceiling fans or portable fans, blow heaters – CANNOT blow or pull air from the cooling unit!). The unit is functioning properly in an environment where the temperature is in the appropriate climate class, as indicated on the nameplate. Operation of the device may deteriorate if the temperature was above or below the indicated range for a long period.

Notes and Tips

- When first filling the cooling space, do so after it has cooled down to operating temperature. This principle should also be observed after a long downtime.
- Do not insert hot products inside cooling equipment
- Do not block any vents, as could hinder the circulation of cooled air. You should also provide proper airflow around the unit (in any case, do not cover the vents).
- ⚠ • Keep the condenser and the filter clean. Impurities may cause overheating of the compressor and ultimately lead to failure, which is not covered by the warranty.
- Do not use electrical appliances inside the chamber for storing food products.
- All maintenance should be carried out when the device is disconnected from the power supply!
- Protect the electrical installation against damage or flooding
- Avoid opening the door unnecessarily and leaving them open for a long time (Does not apply to „OPEN“ cabinets)

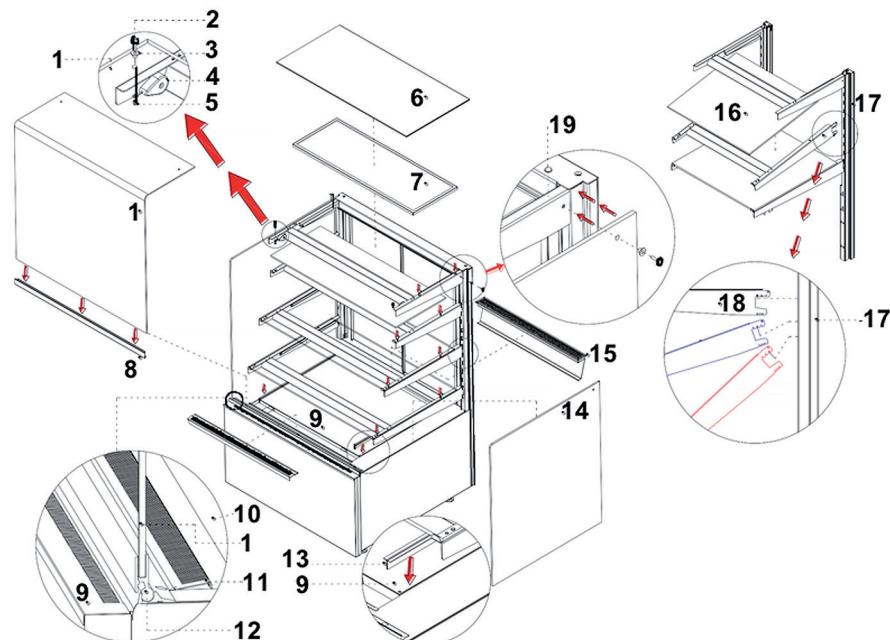


Fig.8 Installation of internal/external components in CUBE

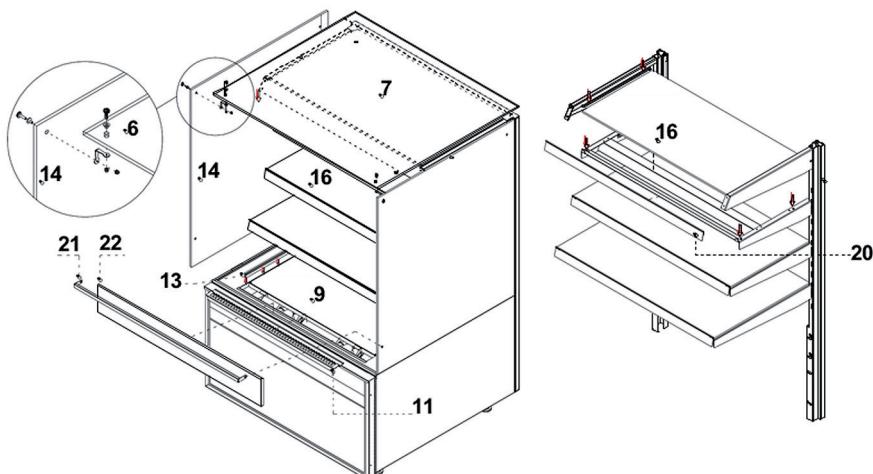


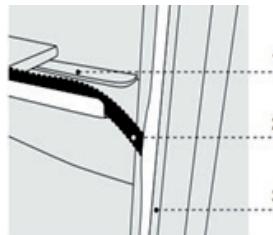
Fig.9 Installation of internal/external components in CUBE OPEN

DESCRIPTION OF FIGURES (Fig. 8; Fig.9):

- 1 – Front glass bent (does not apply to OPEN)
- 2 – Knurled screw
- 3 – Teflon pad
- 4 – Cord fixing the glass, with reel
- 5 – Bolt cap nut
- 6 – Top glass shelf
- 7 – Screen under top glass
- 8 – Upper glass SAPA profile
- 9 – Internal countertop
- 10 – Warm air flow on the glass front (DO NOT BLOCK the vents!!!)
- 11 – Cooled air suction (DO NOT BLOCK the vents!!!)
- 12 – Lower glass SAPA profile
- 13 – Countertop bracket
- 14 – Glass side
- 15 – Cooled airflow (DO NOT BLOCK the vents!!!)
- 16 – Display glass shelves on frame
- 17 – Internal frame (sheet metal)
- 18 – Hook under glass shelf (adapted for three-step angle adjustment)
- 19 – Bumpon – silicone element protecting glass components from moving and providing better grip (Do not damage during operation and maintenance!)
- 20 – Shelf guide with price strip
- 21 – Front glass handle
- 22 – Low front glass (front screen)

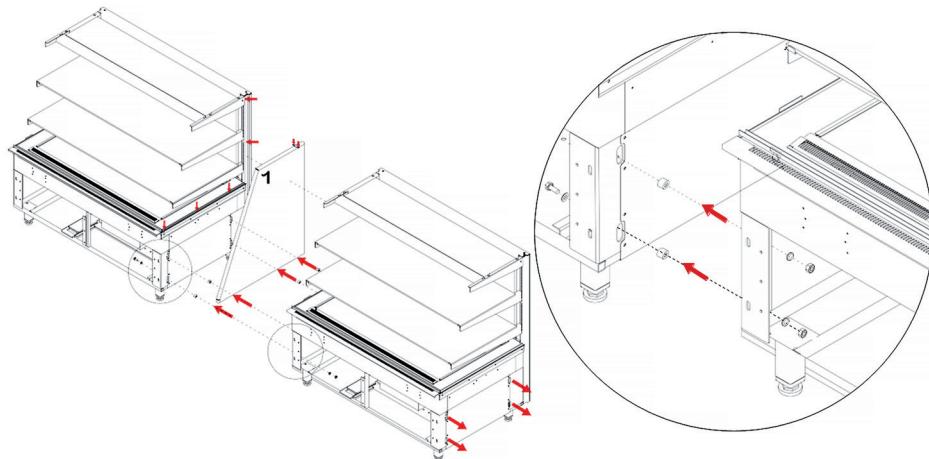
NOTE: To change the height of the hook, slightly tilt the PVC profile and drag the conduit tube to the appropriate position. Then pull the hook from the frame and place it in the appropriate position and angle.

- 1 – Hook
- 2 – The conduit tube shielding the lamp cord
- 3 – PVC profile masking the frame's vertical bar



4.6. Combining cabinets into rows

The cabinets can be combined in rows and can be powered by an internal unit („-mod A“) or external unit („-mod „C“)



5. INSTRUCTIONS FOR MAINTENANCE

The unit should be kept clean and serviced periodically.

At least once a month it is recommended to stop the operation of the device for cleaning the interior, natural defrosting of the evaporator, condenser cleaning and inspection of the doors.

- The device should be cleaned with water at a temperature not exceeding 40°C with added natural cleaning agents. **For washing the unit, it is prohibited to use products containing chlorine and sodium varieties that damage the protective layer and the unit's components (including various grades of stainless steel)!** Any residual adhesive or silicon on metal components may only be removed with petroleum ether (does not apply to plastics components!). Do not use other organic solvents.

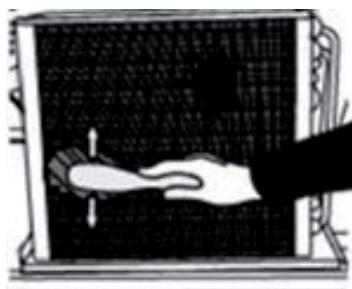


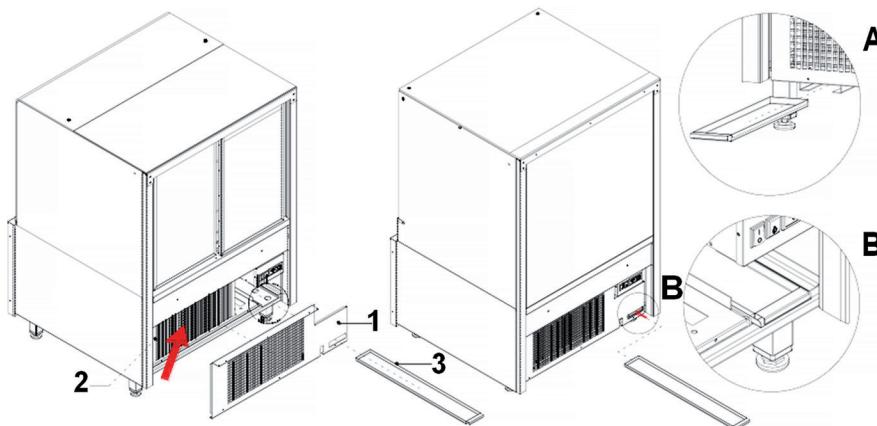
Fig.10 Cleaning the condenser fins

The unit's condenser should be kept clean. Impurities impede heat transfer, resulting e.g. in increased electricity consumption and could cause damage to the compressor unit.

Cleaning the condenser requires removing the windchest 1. Clean the condenser fins 2 with a soft brush. For strong soiling (clogging the fins) of the condenser, it is advisable to use a vacuum or compressed nitrogen to suck out/blow out the soil from between the fins. The filter should be cleaned on both sides and then put in the right position, and the wind chest reinserted.

Condensate overflow

As standard, „CUBE” and „OPEN CUBE” cabinets have automatic condensate evaporation (evaporator) and a metal condensate overflow tray (3). In Cube 0.6, the drip tray is inserted into the device in specially mounted brackets, placed under the frame on the left (from the operator's side).



1 – Perforated wind chest
 2 – Condenser fins (**CLEAN REGULARLY!!!**)
 3 – Metal condensate overflow tray

6. SERVICE AND TROUBLESHOOTING

6.1. Identification and repair of faults

In case of any problems at start-up or during operation, return to the chapters of the user's manual that explain the executed operations. This is to make sure that the device is operated properly. If the problem persists, the following tips will help in its removal.

The unit is not working... Make sure that:

- The unit is connected to the mains
- The voltage and frequency of the network are appropriate to those recommended by the manufacturer (see nameplate)
- On the control panel, the main switch WG and switches T1 and/or T2 are on
- The thermostat is turned on (Applies to them. CAREL: The display shows OFF and the temperature in the chamber, flashing alternately). In the thermostat panel, press 

Water leaks from under the device or into the chamber:

- Check the device for correct leveling
- Check the drainage pipes
- Verify that the trough and the evaporator do not have large amounts of ice - defrost, if necessary

The unit does not reach the right temperature... Make sure that:

- The main switch and switches T1 and/or T2 are on
- Temperature setting on the thermostat is set properly
- The thermostat is working properly
- The condenser and/or the condenser filter are not contaminated, clean if necessary
- The ambient temperature is not higher than 25°C

- There was enough time for cooling the products
- The unit's vents are not blocked
- The unit's doors and drawers close properly and the seals adhere properly to the body of the unit

(Applies to therm. „CAREL”) The thermostat displays E0 or E1 or L0 or HI or EE or Ed or DF instead of showing temperature:

- E0 - damage to the temperature sensor inside the chamber - contact an authorized service
- E1 - damage to the evaporator sensor - contact an authorized service
- EE - internal controller error - contact an authorized service
- Ed - max. defrosting time exceeded
- DF - defrosting in progress (this is not an alarm)
- L0 - low temperature alert (lower than the preset range inside the unit) - contact an authorized service
- HI - high temperature alert - contact an authorized service



L0 and HI – Displaying these alerts may be caused by incorrect parameters of the power supply. The alarm can be reset using the min switch. After a while, turn the unit on again. Should the problem persist (alert displayed again), contact an authorized service

The unit is too noisy... Make sure that:

- The unit is stable and is properly leveled
- Internal components are fixed in place correctly
- Furniture adjacent to the unit does not vibrate when the compressor works



Sounds made by equipment at work are normal. The equipment includes fans, motors and compressors, which turn on and off automatically. Every compressor produces a noise while at work. These sounds are generated by the motor unit and by the refrigerant flowing in the circuit. This phenomenon is a technical characteristic of refrigeration units and does not mean malfunction.

In the case of exceeding the ambient conditions as per third-class climate (relative humidity above 60%), the phenomenon of water transfer from the system with automatic condensate evaporation (evaporator) may be observed.

This case does not mean malfunction and does not require a service call.

Deposition of condensation on the unit's windows at high relative humidity above 60% is a natural phenomenon and does not require a service call!

6.2. IGLOO Service

Phone no. to the IGLOO service: +48 (14) 662 19 56 or +48 605 606 071
e-mail: servis@igloo.pl

If after checking the items described in section 5.1 „Identifying and repairing faults” the unit still does not work properly, please contact the Igloo Technical Support, giving the nameplate data:



- Serial number (NS)
- Production date
- Type (name of the device)
- Date when the device was purchased
- Description of the problem
- Your exact address and telephone number (with the code number)

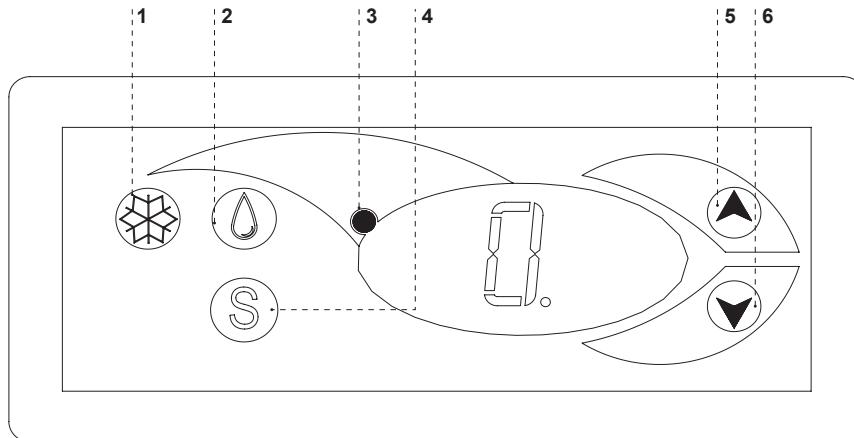
Fig.12 Data plate

- The data plate is located inside the device, on the screen, in its right upper corner

7. THERMOSTAT SERVICE

7.1. „IGLOO” thermostat

Fig.11 „Igloo” thermostat control panel



1 – Cooling on/off switch

2 – Manual defrosting switch

3 – Aggregate and defrosting operating control diode

4 – Temperature monitoring switch on defrosting sensor

5 – Temperature regulation switch (increase)

6 – Temperature regulation switch (decrease)

Verification of adjusted temperature (inside the device) – By pressing “▲” or “▼” switch once we can verify the adjusted temperature. The adjusted temperature shall be shown on the display with a visible red blinking spot (diode). The preview shall finish automatically after about 3 seconds.

Lowering (or increasing) the temperature – press “▼” (or “▲”) switch and the adjusted temperature shall be visible on control panel. By pressing the “▼” switch we decrease the temperature to the desired value. The preview shall finish automatically after about 3 seconds.

Manual defrosting – switch No. 2 enables to initiate the defrosting cycle at any moment when the device is working (regardless of the automatic defrosting function); the switch shall not operate when the temperature is higher than the final defrosting temperature.

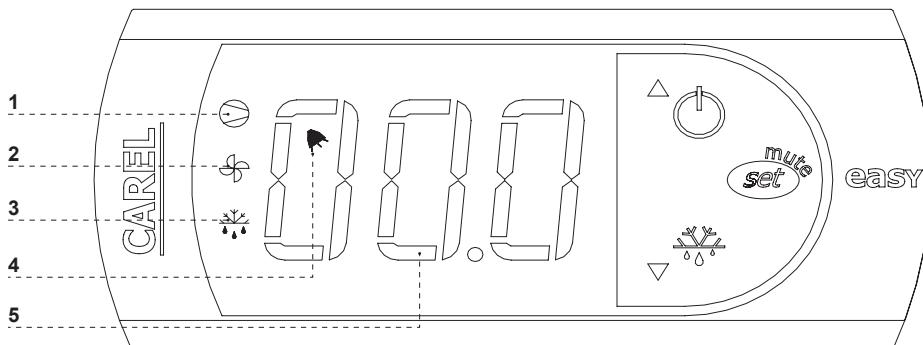


The user should switch on/ switch off the aggregate only by means of the main switch of the device, and not by means of the direct switch on thermostat control panel. Switching on the main switch shall automatically initiate the thermostat!

* Read more on www.igloo.pl

7.2. „CAREL” thermostat

Fig.12 „Carel” thermostat control panel



WHAT DO DIODES ON CONTROL PANEL SIGNIFY

Diode 1 is on - Compressor: the symbol is visible when the compressor is working. It is blinking when compressor actuation is delayed by security procedure. It blinks in the following cycle: two blinks – pause, when the constant working mode is activated.

Diode 2 is on - Ventilator: the symbol is visible when evaporator ventilators are turned on. It blinks when the actuation of the ventilators is delayed by external disengagement or when another procedure is in progress.

Diode 3 is on - Defrosting: the symbol is visible when the defrosting function is activated. It blinks when the actuation is delayed by external disengagement or when another procedure is in progress.

Diode 4 is on - Alarm: the symbol is visible when the alarm is activated.

5 – current temperature inside the device is displayed (decimal places displayed after the comma)

SETTING THE DESIRED TEMPERATURE

- press for 1 second leading value shall be displayed on the screen;
- increase or decrease the  value by means of  and  switches, until the desired value shall be obtained;
- press  once again in order to confirm the new value of the setting point;

MANUAL DEFROSTING CYCLE

Defrosting shall be realised in an automatic mode. It is possible to force defrosting at any moment by pressing and holding the  switch for minimum 5 seconds. Diode No. 1 shall blink during manual defrosting.

* Read more on www.alfaco.pl

NOTE: IN CASE OF NOT OBSERVING THE PRINCIPLES ON CONNECTING AND USING THE DEVICE INCLUDED IN THIS MANUAL, THE PRODUCER SHALL RESERVE THE RIGHT TO REcede FROM OBLIGATIONS OF THE GUARANTOR!!!

Information included in this document may be altered by "IGLOO" without noticing the user.

Copying the present manual without the consent of the producer is forbidden.

Images and drawings are of demonstrative character and may differ from the purchased device.

NOTE: If the switches: main WG and/or T1, T2 are switched on and the display alternately displays flashing OFF and the temperature, this means that the thermostat is turned off and should be started. You should then press the button: located on the control panel of the thermostat.



Korespondencja: ul. Kazimierza Wielkiego 13, 32-700 Bochnia, NIP: 868-000-50-40

Produkcja: Stary Wiśnicz 289, 32-720 Nowy Wiśnicz, Poland

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