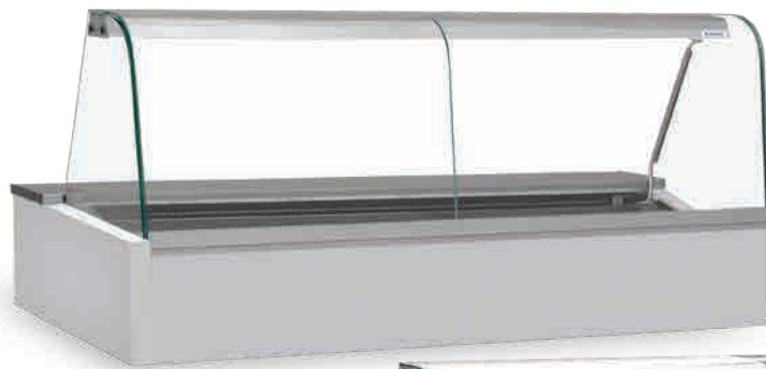




Instruction Manual

Salad Display Cases

Model: ESCD & TCTD



TCTD



ESCD

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 **IGLOO**
REFRIGERATION LTD.

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1 UNLOADING

The unit should be transported in vertical position, and it should be properly secured and packed. The manufacturer ships the equipment on a skid secured with cardboard angle sections and foil.

2 PROPERTIES OF THE UNIT

2.1. Purpose

“ESCD” and “TCTD” are a universal cooling device used to store and display a wide assortment of grocery products in singular packages, cooled to storage temperature. “ESCD” display case is used to store for example fruit and vegetable salads in stainless steel containers. Our display cases ensure universal and efficient display area for all types of commercial establishment. Temperature inside the display case equals +2°C/+8°C with ambient temperature of +15°C/+25°C and relative air humidity of up to 60%. It depends on the location of unit.

2.2. Description of the unit

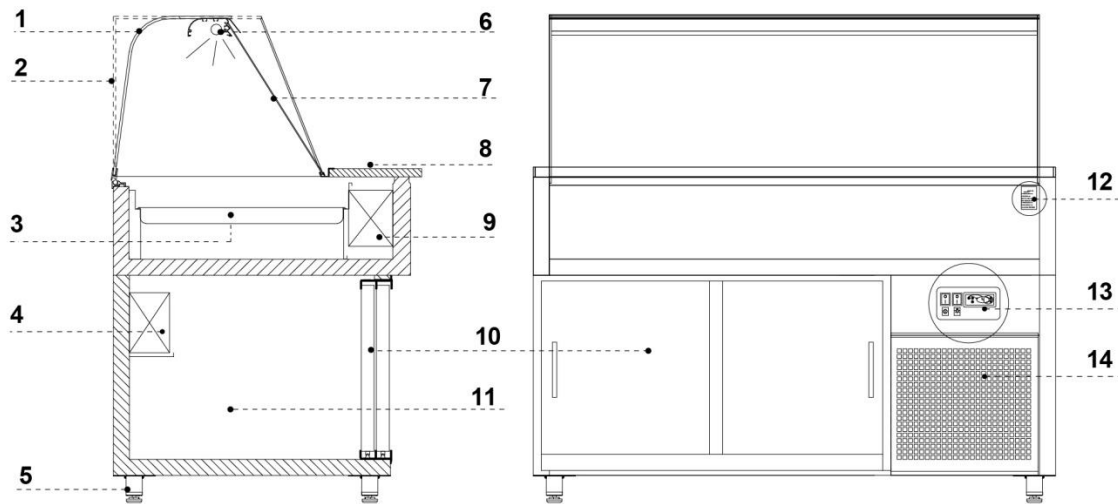
“ESCD” and “TCTD” display case have static cooling and equipped with internal aggregate.

The display cases are equipped with automatic defrosting and automatic condensate evaporation. “ESCD” is divided into two parts: display part and storage chamber.

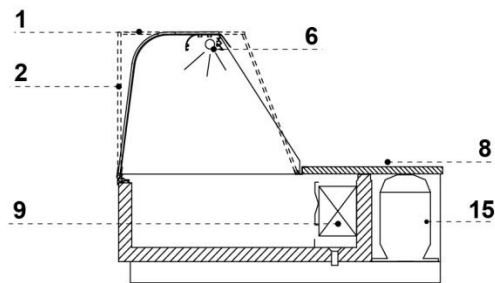
“ESCD” is available in stationary or mobile version.

Our equipment is manufactured according to modern technologies and all have certificates required by law.

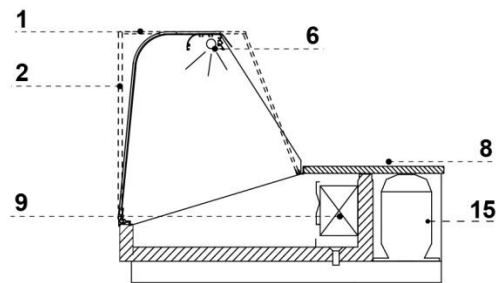
The description in this box signifies important information for user security and for proper operation of the device.



ESCD – Display case with cooled storage chamber



TCTD – Countertop display case with straight top



TCTD – Countertop display case with oblique top

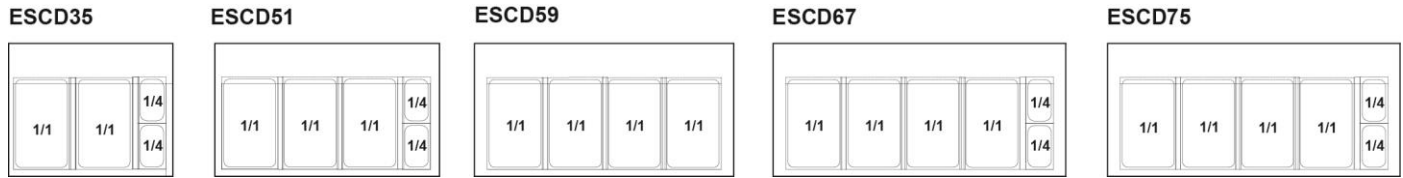
Figure 1 ESCD and TCTD overview

- 1 – Curved front glass
- 2 – Straight front glass (optional)
- 3 – Containers
- 4 – Evaporator in the storage chamber
- 5 – Leveling legs
- 6 – LED lamp
- 7 – Night screens
- 8 – Worktop
- 9 – Evaporator
- 10 – Sliding doors of storage chamber
- 11 – Storage chamber
- 12 – Serial plate
- 13 – Control panel
- 14 – Condenser cover (DO NOT block the air louver)
- 15 – Compressor

Table 1 Cross-bars under containers in “ESCD”

Model	ESCD35	ESCD51	ESCD59	ESCD67	ESCD75
Number of cross-bars	2	3	3	4	4

Figure 2 Layout of containers in “ESCD”



2.3. Technical data

Table 2 Technical data - ESCD

Model	Voltage [V/HZ]	Rated Current [A]	Max Capacity [L]	Weight [lbs/kg]
ESCD35	115/60	6 (max.fuse:15)	57	264/120
ESCD51	115/60	8 (max.fuse:15)	77	297/135
ESCD59	115/60	8 (max.fuse:15)	90	341/155
ESCD67	115/60	8 (max.fuse:15)	100	363/165
ESCD75	115/60	8 (max.fuse:15)	120	396/180

Table 3 Technical data - TCTD

Model	Voltage [V/HZ]	Rated Current [A]	Max Capacity [L]	Weight [lbs/kg]
TCTD39	115/60	8 (max.fuse:15)	90	132/60
TCTD51	115/60	8 (max.fuse:15)	120	176/80
TCTD59	115/60	8 (max.fuse:15)	140	211/96
TCTD67	115/60	8 (max.fuse:15)	160	243/110

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.
- Plug into an outlet designed for the plug.
- 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.

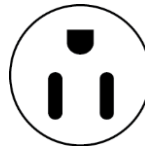
The equipment may be turned on after confirmation of the fire protection efficiency with results of measures performed according to binding regulations!

Use of adapter plugs

The incoming power source to the device and adapters used must have the adequate power available and must be properly grounded.

■ NEMA Plugs

IGLOO refrigeration uses this type of plugs. If you do not have the right outlet have a certified electrician install the correct power source



115/60/1
NEMA-5-15R

3.2. Unit location

- Remove cardboard angles and protective foil.
- Install the unit on a strong and level surface.
- 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.
- High ambient temperatures will cause the compressor to overwork.
- Humidity may cause rust, condensation around the glass or stainless and decrease the efficiency of the unit.

3.3. Connection and start-up

- Place the unit on an even and hard base. Then level the unit with the levelling legs.
For mobile version, use wheel brake to immobilize the unit during operation. (Figure 2)
- Remove the protection foil from the elements of the unit (e.g. from the inside of the unit and working top)
- To securely transport the equipment, the unit may be shipped partially disassembled. If the user received the unit partially disassembled, perform the following operations:
 1. Install glass sides (Figure 4/8)
 2. Install aluminum lamp and light on glass sides(Figure 4/2)
 3. Install front glass, basing it on the lamp and glass sides(Figure 4/1)
 4. Place cross bars before placing containers as per Table 1.
 5. Install night screens (Figure 5)
 6. (Concerns “TCTD” model) Place a condensate container or tray under water outlet hose (Figure 6)
- Turn on the main switch. (Figure 7/1)
- Set the temperature on thermostat panel. (Figure 7/3)

- Turn on the light switch. (Figure 7/2)
- 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 wet towel.

After installation of the equipment at the destination place it should be left to rest for at least 2 hours before turning it on (for devices with built in compressor) to set the level of refrigerant in order to prevent problems with starting up the unit.
WARNING: Keep the cooling circuit away from damage!

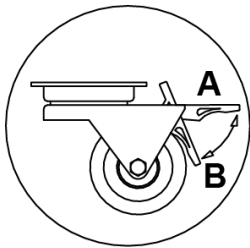


Figure 3 Caster wheels

- A –Moving position
- B –Brake

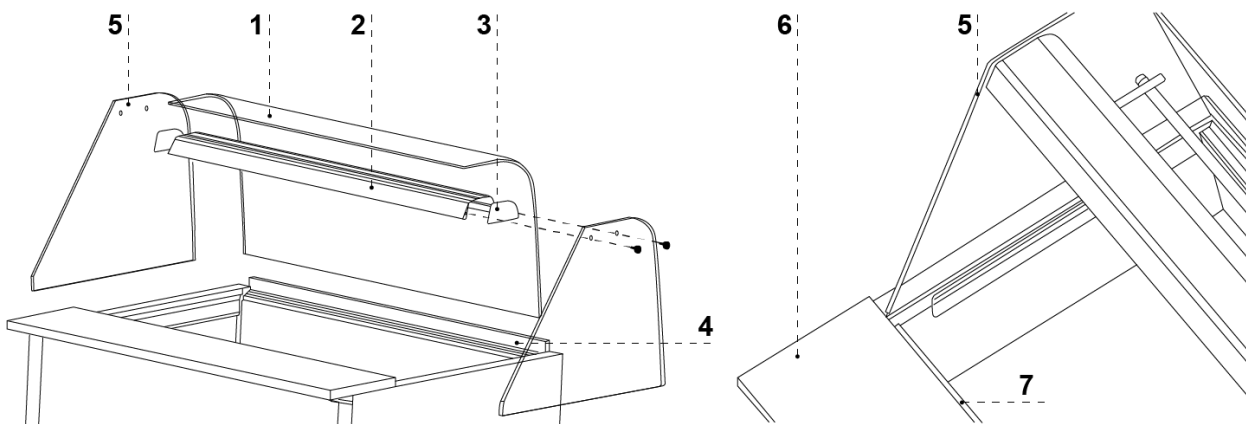


Figure 4 Assembly of glass elements and aluminum lamp

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Curved front glass 2. Aluminum lamp 3. Aluminum lamp end panel 4. Upper aluminum profile (lift guide) | <ul style="list-style-type: none"> 5. Glass side panel 6. Working countertop 7. Night screen guide |
|---|---|

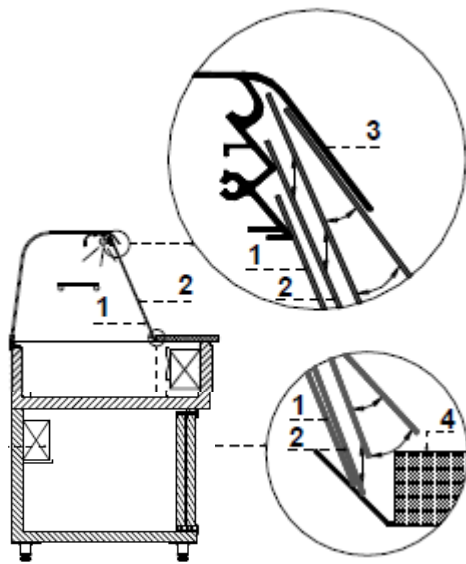


Figure 5 Assembly of the night screens

- 1 – Install shorter night screen first
- 2 – Install longer night screen second
- 3 – Lamp overhangs to hold the night screen in place
- 4 – Working countertop

Figure 6 Condensate tray (concerns “TCTD” model)

- 1 – Rail water outlet hose
- 2 – Condensate tray (empty the condensate!!!!)

(Concerns “TCTD” model) Condensate tray should be placed under the body of the case, directly under water outlet.

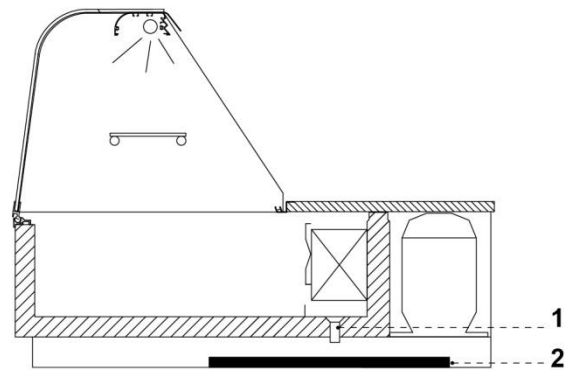
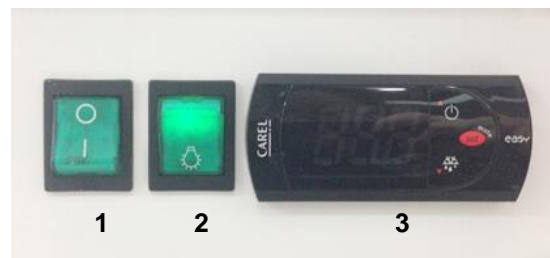


Figure 7 Control panel

- 1 – Main switch (turns on/off the unit)
- 2 – Lighting switch
- 3 – Thermostat (temperature regulator) panel
(Service details in Chapter No. 4)



4. UNIT START UP

Temperature of the cooled space and aggregate operating cycle may fluctuate. They depend 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, ensuring proper air exchange (distance between the wall and the equipment– min. 10cm), out of sunlight, kept far from heat sources and devices enforcing air flow (ceiling and portable ventilators, blow-in heaters). The equipment functions properly in a room, where temperature falls within appropriate climatic class. The operation of the equipment may worsen when operates outside the stated temperature range.

Remarks and indications

- **After transporting the equipment, wait about 2 hours before its start-up.**
- **The first filling of cooling space should be performed after its previous cooling to working temperature. This principle should also be observed after longer pause in operation.**
- **Do not block any ventilation holes, which would hamper circulation of the cooled air (Do not place the products directly to the screen!). It is also necessary to ensure proper airflow around the equipment (Ventilation holes cannot be covered).**
- **Do not place hot products in the device.**
- **Keep the condenser clean. Impurities may lead to overheating of the compressor and may result in damage, which is not covered by warranty.**
- **Do not use electric devices inside grocery product storing chamber.**

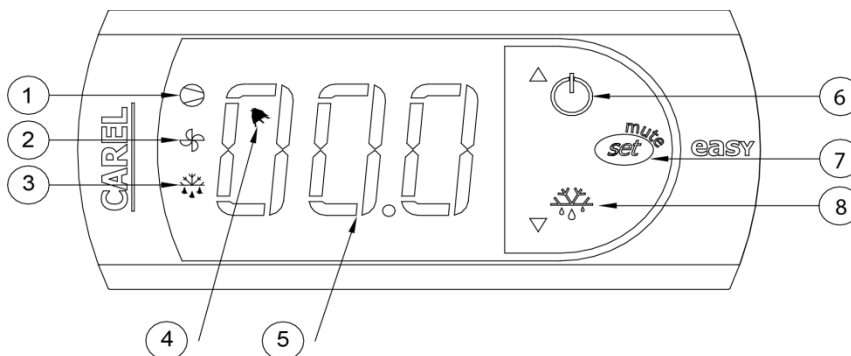
4.1. Temperature regulation

The thermostat is to control the cooling unit to obtain the set temperature within the equipment and maintain it within the determined temperature ranges. The producer enters all settings of temperature regulators required for normal functioning of the equipment. Before primary actuation the user should control and possibly set the required temperature inside the equipment on the control panel.

Digital display – displays the current temperature inside the equipment

Do not interfere with systemic parameters of the thermostat, as this can lead to serious consequences, including the damage of the cooling unit!

Figure 8 “Carel” thermostat control panel



WHAT DO DIODES ON CONTROL PANEL SIGNIFY

Diode 1 - Compressor: This symbol is visible when the compressor is working. It blinks 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 - Ventilator: This 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 - Defrosting: This 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 - Alarm: This symbol is visible when the alarm is activated.


Diode 5 - Current temperature: inside the equipment is displayed (decimal places displayed after the comma).

Diode 6 – On/Off Switch: Pressing this button alone: for more than 3 sec. switch On/Off,
Pressing with other buttons: pressed together with 8 activities/deactivates the continuous cycle.


Diode 7 – Set/ Mute: Pressing this button alone: 1 sec. displays /sets the set point, more than 3 sec. accesses the parameter setting menu (enter password 22), mutes the audible alarm (buzzer), **Start Up:** hold the set/mute button for 1 sec. RESET current EY set / Pressed together (7 and 8) activate parameter reset procedure.

Diode 8 – Defrost: Pressing this button alone: more than 3 sec. activates/deactivates the defrost.
Pressing with other buttons: pressed together with 6 activates/deactivates the continuous cycle,
Start Up: hold for 1 sec. displays firmware version.

SETTING THE DESIRED TEMPERATURE

- Press the set button  for 1 second leading value shall be displayed on the screen

- Increase or decrease the leading value by means of  and  , switches, until the desired value shall be obtained;

- Press the set button  once again in order to confirm the new value of the setting point.

MANUAL INPUT OF THE DEFROSTING CYCLE


Defrosting shall be released 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.

Table 4 Table of alarms and signals

alarm code	buzzer and alarm relay	LED	alarm description	reset
E0	active	ON	probe 1 error= control	automatic

E1	active	ON	probe 2 error= defrost	automatic
E2	active	ON	probe 3 error= condenser/product	automatic
EE	active	ON	unit parameter error	not possible
EF	active	ON	operating parameter error	manual
Ed	not active	ON	defrost ended by timeout	On first defrost ended correctly
CHt	active	ON	dirty condenser alarm	manual

MODIFYING THE PARAMETERS

Parameter navigation

The operating parameters, modifiable using the keypad, are divided into two types: frequent (type F) and configuration (type C). Access to the latter is protected by password (default= 22) to prevent accidental or unauthorized modifications.

Accessing the type F parameters:

- Press the SET button for more than 3 s (if there are active alarms, mute the buzzers). The display shows the parameter code 'PS' (password);
- Use the UP and DOWN buttons to scroll the parameters. The LED corresponding to the category of parameters will be on;
- Press SET to display the value associated with the parameter
- Increase or decrease the value using the UP or DOWN button respectively;
- Press SET to temporarily save the new value and display the parameter again;
- Repeat the procedure for any other parameters that need to be modified;
- Press the SET button for more than 3 s to permanently save the parameters and exit the parameter setting procedure.

Table 5 Table of easy compact parameters for ESCD and TCTD models

Par.	Description	Def.	UOM.	Min	Max
St	set point	2	°C	r1	r2
PS	password	22	-	0	99
/2	probe measurement stability	4	-	1	15
/4	select probe displayed	1	-	1	3
/5	select °C/°F	0	-	0(°C)	1(°F)
/6	disable decimal point	0	-	0	1
/C1	probe 1 offset	0.0	°C	-50.0	50.0
/C2	probe 2 offset	0.0	°C	-50.0	50.0
/C3	probe 3 offset	0.0	°C	-50.0	50.0
rd	control differential	3.0	°C	0	19.0
r1	minimum set point value	0.0	°C	-50.0	r2

r2	maximum set point value	15.0	°C	r1	99
r3	select direct/reverse operation	0	-	0	2
r4	night-time set point delta	3.0	°C	-50	50
c0	compressor and fan start delay on power-up	1	min	0	100
c1	minimum time between consecutive compressor starts	1	min	0	100
c2	minimum compressor off time	1	min	0	100
c3	minimum compressor on time	0	min	0	100
c4	compressor on time with duty setting	50	min	0	100
cc	continuous cycle duration	2	2	0	15
c6	temperature alarm bypass after continuous cycle	2	h	0	15
d0	type of defrost	0	-	0	4
d1	interval between defrosts	5	h	0	199
dt	end defrost temperature set point	12.0	°C	-50	130
dP	maximum defrost duration	40	min	1	199
d4	defrost when switching the instrument on	0	-	0	1
d5	defrost delay on power-up or when enabled by digital input	0	min	0	199
d6	freeze control temperature display during defrost	1	-	0	1
dd	dripping time	2	min	0	15
d8	alarm bypass time after defrost	1	h	0	15
d9	defrost priority over compressor protectors	0	-	0	1
d/	defrost probe reading (2)	-	°C	-	-
dC	time base	0	-	0	1
A0	alarm and fan temperature differential	2.0	°C	-20	+20
AL	absolute/relative temperature for low temperature alarm	0.0	°C	-50	+99
AH	absolute/relative temperature for high temperature alarm	0.0	°C	-50	+99
Ad	temperature alarm delay	0	min	0	199
A4	3rd input configuration	0	-	0	11
A7	digital input alarm delay	0	min	0	199
A8	enable alarm "Ed" (end defrost by timeout)	0	-	0	1
AC	set point dirty condenser alarm	60	°C	-50	250
AE	dirty condenser alarm differential temperature	3.0	°C	0.1	20
AcD	dirty condenser alarm delay	0	min	0	250
H0	serial address	0	-	0	207
H1	AUX output configuration	0	-	0	2
H2	enable keypad	1	-	0	2
H4	disable buzzer	0	-	0	1
H5	ID code (read-only)	1	-	1	+199
EZY	restore the Default settings	2	0	0	1

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.
- Make sure to cover the fan motor to prevent moisture damage.
- Dore gaskets, shelves and supports should be cleaned on a regular basis.
- Fan blades and guards should be cleaned with a soft cloth.

5.1 Cleaning and maintenance

- **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 wet cloth**
- **Do not use any sharp objects to remove filth!**
- **Devices with wheels can't be used on uneven surfaces!**
- **When cleaning inside the device, do not leave the front glass lifted in the aluminum profile. This may cause the damage to the glass and not covered by warranty. Please remove the glass during cleaning. (Figure 9)**

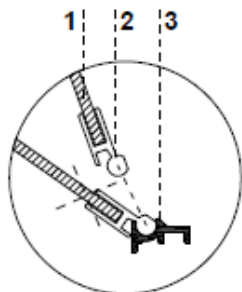


Figure 9 Front glass disassembly

- 1 – Front glass
- 2 – Upper aluminum profile (lift guide)
- 3 – Lower aluminum profile (catch)

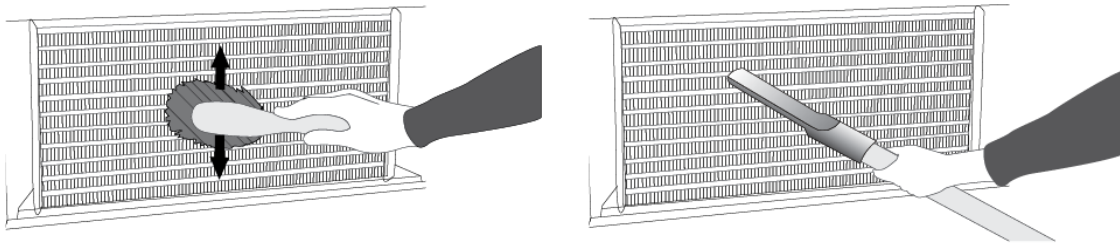
It is recommended to make a break in the operation **once a month** in order to clean the interior, naturally defrost the evaporator and clean the condenser and verify the condition of door seals

If the unit is not equipped with automatic condensate evaporation, it is essential to remove the condensate from the container when filling the container. Frequency of removing condensate (number of removals) depends on device operating conditions (air humidity, door opening frequency, the amount and temperature of products entered for storage).

Do not use mechanical agents to quicken the defrosting process!

It is essential to keep the condenser of the device clean. Dirt may hinder the heat exchange, causing mainly increase in electric energy consumption and may cause damage of the compressor. In order to clean the condenser it is necessary to unscrew the sheet metal screws and pull the wind brace out of catch by lifting it up. Clean condenser lamellas with help of soft brush or paint brush. If the condenser is extremely dirty (blocking of lamellas), use vacuum cleaner or compressed nitrogen to suck/ blow the dirt from between lamellas.

Figure 10 Cleaning the condenser



The seller shall not be held responsible for damages of the condenser unit resulting from non-observance of condenser cleaning instructions

Door seal should be cleaned solely with clean water without any cleansing agents and it should be thoroughly dried. The seal cannot get into contact with oily substances or grease! Ensure door closed properly during maintenance procedures.

Test: place a sheet of paper between the seal and the casing and close the door. The paper should pose a tangible resistance during an attempt to pull it out

Elements of equipment can corrode as result of improper use and maintenance. To prevent damage: Do not allow contact of the 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:

- The equipment is connected to the power supply.
- Voltage and frequency in the network are compliant with those recommended by the manufacturer, 115V/60Hz or 115V/220V/60Hz.

- The main switch is turned on.
- Thermostat is turned on.

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

- Light switch is turned on.
- Lamp or starting switch of the equipment is not burnt.

Water leakage from under the device:

- Check whether the equipment is properly levelled.
- Empty the condensate container.

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.
- Thermostat works properly.
- The condenser is clean, if necessary – clean the condenser.
- Ambient temperature does not exceed 25°C.
- Enough time has passed for products to be cooled.
- Ventilation holes are not blocked.

Thermostat displays E0 or E1 or L0 or HI or EE or Ed or DF instead of temperature:

- E0 – failure of temperature sensor inside the chamber – call authorized service.
- L0 – low temperature alarm (lower than temperature range set within the equipment– call authorized service.
- HI – high temperature alarm – call authorized service.
- EE – internal defect of the regulator – call authorized service.
- Ed – maximum defrosting time exceeded.
- DF – defrosting in progress (this is not an alarm signal).

The equipment is working too loud...– Make sure that:

- The equipment is standing stably and properly levelled.
- Furniture adjoining the equipment does not vibrate when self-contained compressor is working.

Noises made by the operating device are a normal phenomenon. The units are equipped with ventilators, engines and compressors, which turn on and off automatically. Each compressor makes certain noises when operating. These sounds are made by the aggregate engine and by cooling agent flowing through the circuit. This phenomenon constitutes a technical feature of cooling devices and does not signify equipment failure.

Steam precipitation on glasses is a normal phenomenon in the event of high relative air humidity exceeding 60% and does not require calling for service.

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.