

**TRANSLATED FROM
ORIGINAL USER
MANUAL**

REFRIGERATED FLOWER COUNTER

L-BK

EN

05/2022

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Please read this user manual carefully before using the device and keep it for future reference. Following the manual's recommendations guarantees long-lasting and failure-free exploitation of the device.



IT IS FORBIDDEN

1. Make repairs on your own and fail to comply with the rules contained in this manual regarding the connection and operation of the device;
2. Store substances that may explode in the device, such as aerosols filled with combustible propellants;
3. Place the device in the sun;
4. Covering the inlet and outlet of air from the aggregate;
5. **Switching the device on to the mains without a properly functioning protective circuit system;**
6. Use of extension cords and dividers to connect power.
7. Use devices/objects that could cause an electric spark inside the device and in the aggregate chamber.



WARNING!

1. **Incorrect connecting of the device to the mains may result in an electric shock.**
2. In the event of sparks or breakdowns, immediately disconnect the device from the power supply by pulling the plug from the socket and calling an authorized service technician.
3. It is necessary to protect the wiring system and control system against water and mechanical damage.
4. When servicing and replacing parts, the device must be disconnected from the power supply



CAUTION!

1. Before cleaning the condenser – **switch the device off!**
2. When cleaning the condenser, do not use tools/objects that could cause an electric spark.
3. Water condensation on glass panes and sheets at high relative humidity (over 60%) is a natural phenomenon. Long-term and frequent occurrence of dewing indicates inadequate ambient conditions and is not a basis for calling the service!
4. Take care when removing the glass panes. Breaking the glass panes can cause injury!



The device is not intended for household use.
The device is not intended for outdoor use.

1. APPLICATION AND DEVICE CODE MEANING

The device is stationary-type equipment intended for storing and expose food cut flowers at a reduced temperature.

DEVICE CODE MEANING

Example of device code:

L-BK/118/95

L – type of the device: refrigerated counter

BK – model: flower counter

118/95 – device dimensions (see table point 2)

Important information on the rating label of each device:

REFRIGERATED COUNTER FOR FLOWERS 		Name, logo, and type of device	
Typ urządzenia: L-BK / XXX / XX			
Serial no: XXXXXXXXX	Voltage: 230V~ / 50Hz	Device technical parameters	
Compressor no: XXXXXX/X	Rated current (A) XXX		
Controller no: XXXXXXXXX	Lighting power (W): -		
Compressor type: XXXXXX	Weight (kg): XXX		
Refrigerant: HC-290	Exposition area (m ²): XXX		
Refrigerant amount (kg): XXX	Climatic class: 3		
Equivalent CO ₂ (EqCO ₂): XX	Temperature scope (°C): +4 ÷ +10		
GWP: 3			
„RAPAPA” sp. j 9. Ceramiczna Street, 20-149 Lublin, Poland nr rej. BDO 000099031 tel. +48 81 718 46 50			Manufacturer contact details
   			

In the case of contact with the service department, prepare the following data for efficient service:

- > device type,
- > serial no

Climatic class means the maximum ambient temperature at which the device works without disturbances.

Climatic class **3**

- > maximum permissible ambient temperature of **+25°C**,
- > temperature test:
ambient temperature **+25°C ± 1°C**
humidity **60% ± 3%**

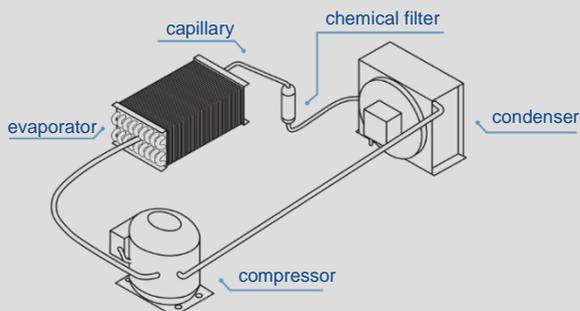
2. PRODUCT CHARACTERISTICS

- > rated voltage: **230V~ / 50Hz**
- > refrigerant: **HC-290**; ODP = 0, GWP = 3
- > working temperature: **+1°C + +10°C**
- > sound pressure level: **<70dB (A)**



Catalogue length/depth of the device [cm]	Device height [mm]		Exposition surface [m2]	Maximum quantity of containers for flowers (diameter 250 mm)	Maximum load [kg]
	closed	open			
820/950	1180	1910	0,5	6	50
1180/950			0,8	9	90
1450/950			1,0	12	120

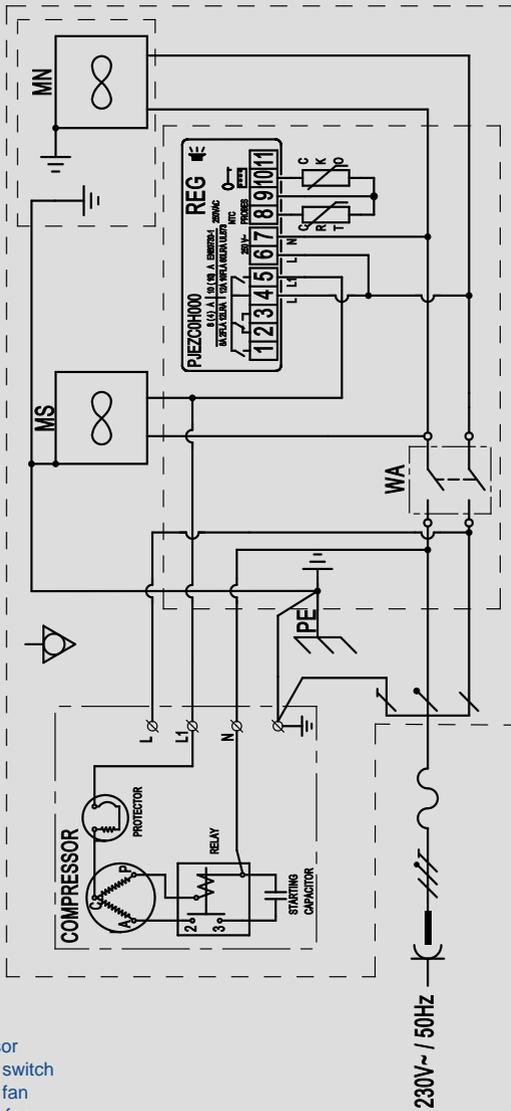
3. COOLING SYSTEM DIAGRAM



4. WIRING SYSTEM

1. The device is equipped with the protective PE cable.
2. Before connecting the device to the power supply, check the compatibility of the mains voltage with the device supplying voltage (data on the plate).
3. Connecting the device to the mains socket should be made so that the plug of the connecting cable is visible and easily accessible for the service.
4. The device should be connected to a separate, properly made electrical circuit protected by a fuse no greater than 10 A with a B-characteristic, ended with a socket with a protective pin.
5. The device may be started only after confirming the effectiveness of the shock protection with the results of measurements carried out in accordance with the applicable regulations.
6. Before carrying out any maintenance or cleaning, turn off the device with the switch and then remove the plug from the mains socket.
7. The device is started after connecting the plug to the mains socket, and then by turning on the switch. The backlight of the switch indicates that the device has been turned on.
8. Any repair of electrical installation and replacement of the connection cable (only into original one available from the manufacturer) may be carried out by an authorized electrician only.

5. WIRING SYSTEM DIAGRAM



SPR – compressor

WA – aggregate switch

MS – condenser fan

MN – evaporator fan

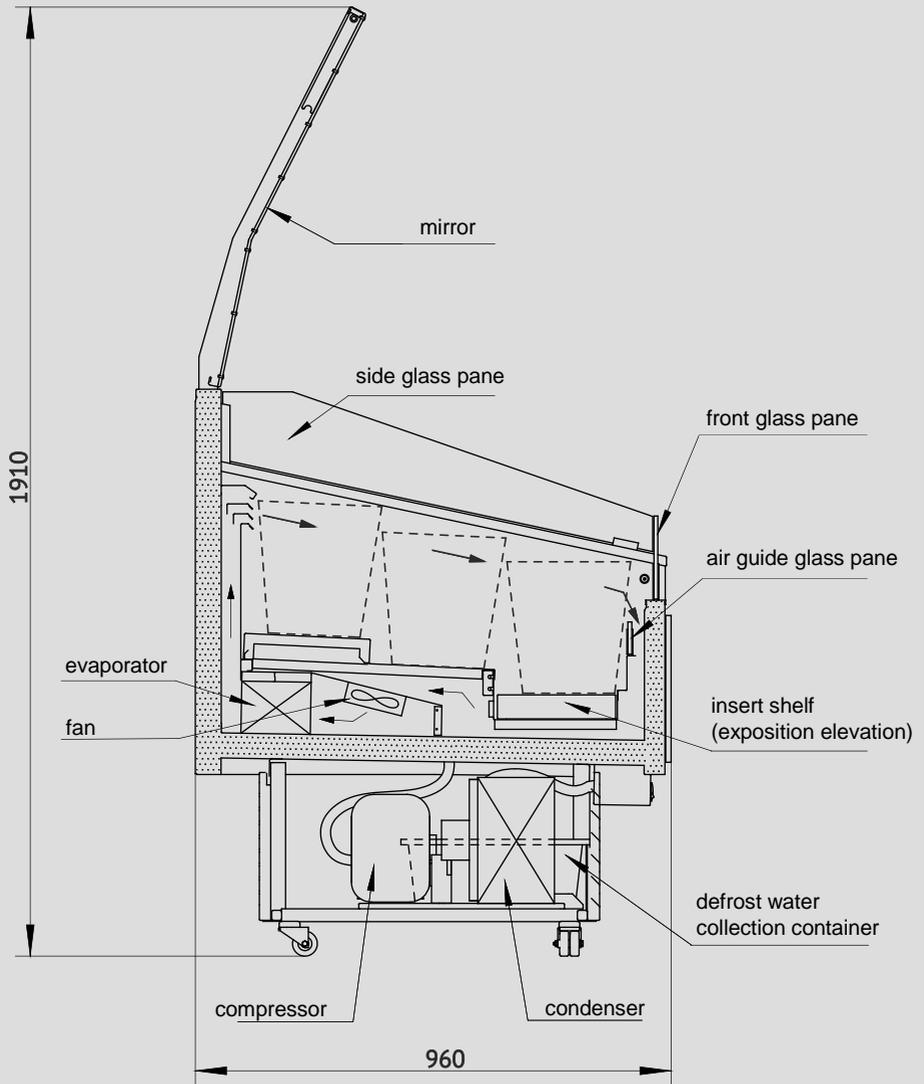
CKO – defrost ending sensor

CRT – electronic temperature regulator sensor

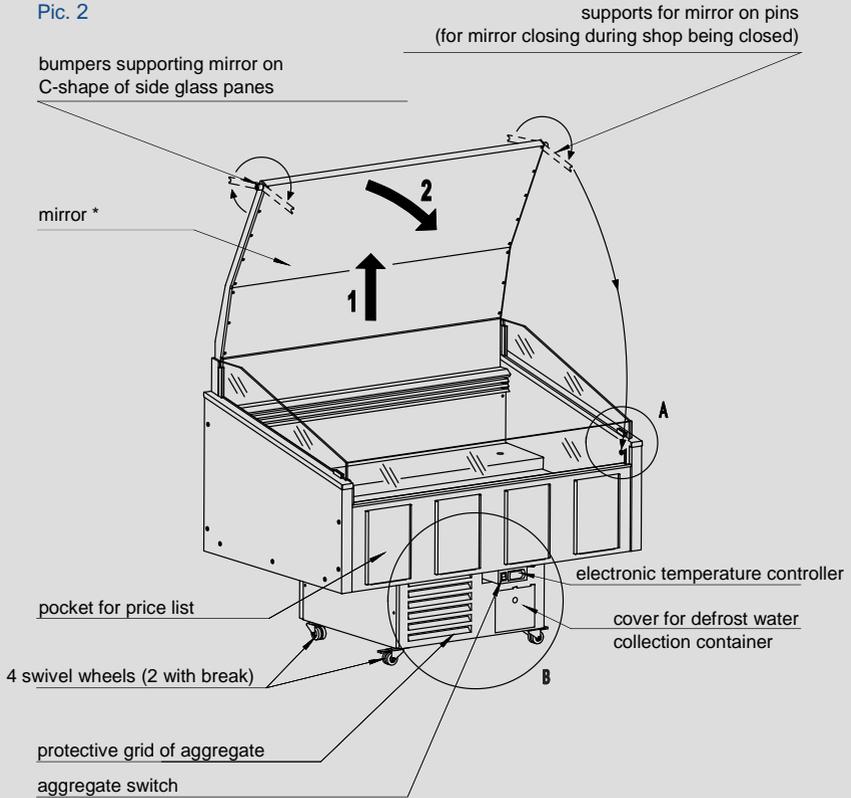
REG – electronic temperature controller

6. DRAWINGS

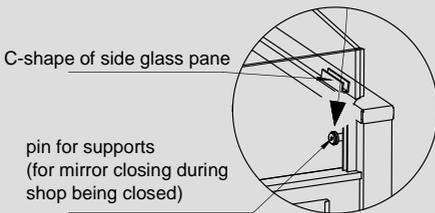
Pic. 1



Pic. 2

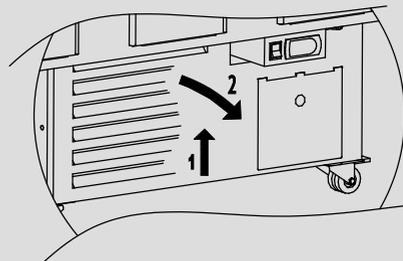


A detail



B detail

The method of opening the aggregate protective grid



* There is possibility to close the mirror for transport and operation of the device during the time of shop being closed. In order to do it there should be two persons on side of the device, grab the mirror by means of its sides, lift upwards and tilt the device forward. Then, properly place the appreciate elements of the device against each other (descriptions in the picture). In order to spread the mirror it is necessary to do it in reverse sequence.

7. POSITIONING, START-UP AND OPERATION

To ensure proper operation, the device should be placed in an area with a good air circulation, away from heat sources and sunlight, free from dust (the device is not dustproof), at ambient temperature from +16°C to +25°C – 3rd climatic class. The manufacturer is not responsible for interferences of the device operation in temperature beyond given range for 3rd climatic class.

Place the device horizontally and connect it to the power supply according to the guidelines included in the chapter No. 4 - "Wiring system".

WARNING:

The device cannot be placed below the floor level (in a hollow).

The room in which the device is located must have a minimum cubature of 4 m³.

Start-up and exploitation:

The aggregate are switched on and off by means of the switches shown on picture in the chapter No. 6. The temperature inside the device is adjusted by means of the electronic temperature controller, according to the instructions included in the chapter No. 10. After switching the device on, leave it empty until its switching off for the first time. After that it is ready to be filled with products.

Maximum load (see table in chapter 2) should be distributed evenly on whole area of exposition. Water collection container should be emptying when necessary.

8. MAINTENANCE

After disconnecting the device from power supply, the general maintenance should be done by the user, as follows:

1. washing with water of the temperature not more than +40°C with addition of natural cleaning agents. **To wash and clean the device it is forbidden to use agents containing of chlorine and sodium of various varieties, which destroy the protective layer and components of the device!** Any residual glue or silicone on the metal parts of the device should be removed only with gasoline (not applicable to plastic components!).

Do not use other organic solvents.

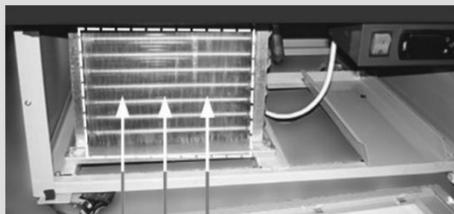
2. removing impurities from the condenser by means of vacuum cleaner **(from up to down - along the fins)** at least once a month so that the flow of the cooling air through the condenser fins is not hampered.

Not following the above instructions causes increased energy consumption, decreased refrigeration efficiency of the device and eventually result in aggregate overheating, which consequently may lead to failure.

While cleaning the condenser be careful not to deform the fins.

Do not wash the device with a water jet.

It is not advisable to clean the condenser with a brush as it causes impurities penetration deep into the condenser fins and finally block the air flow completely.



CLEAN THE CONDENSER WITH A VECUUM CLEANER HERE

9. TRANSPORT AND EQUIPMENT

While transporting secure the device to prevent its overturning, damage of the paint coat and breaking of the glass elements. When handling the device do not press the glass elements, do not grab the door or aggregate protective crate to lift the device. It is best to use belts and place them under the frame, between the feet (so that the belts do not slide). Do not lift the device directly with a forklift or a pallet truck without a palette, as it may damage the aggregate.

The device must be transported in its working position!

Equipment: user manual, defrost water collection container

10. TEMPERATURE CONTROLLER MANUAL

DISPLAY DESCRIPTION

The display is three digits with decimal point and 6 symbols (compressor, fan, defrost, AUX, alarm and clock).

1. COMPRESSOR

The symbol is visible when the compressor operates. It flashes when the compressor's start up is delayed because of protective procedure. It flashes in the cycle: two flashes – break when there is continuous operation mode activated.

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The symbol is visible when the compressor operates. It flashes when the compressor's start up is delayed because of protective procedure. It flashes in the cycle: two flashes – break when there is continuous operation mode activated.

2. FAN

The symbol is visible when there are evaporator fans switched on. It flashes when the fans start-up is delayed by means of external switching off or when there is other procedure in progress.

3. DEFROST

The symbol is visible when there is defrost function switched on. It flashes when the defrost start-up is delayed by means of external switching off or when there is other procedure in progress.

4. AUX

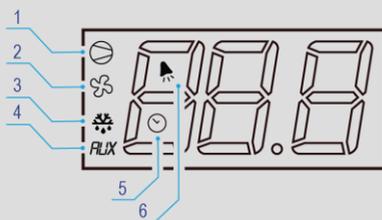
The symbol is visible when there is additional AUX output activated.

5. CLOCK

The symbol is visible when there is clock switched on – switching on by means of „tEn” switch or when there is time limit set. When switching on the symbols appears for few seconds as clock function availability.

6. ALARM

The symbol is visible when there is alarm activated.



SWITCHES DESCRIPTION

Information: Short pressing of any of the switches causes appearance of message related to the currently active function.

7. UP / ON OFF

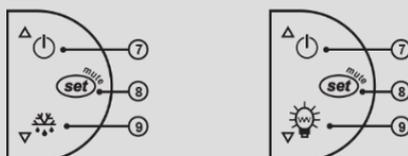
During normal operation of the controller; pressed for longer than 3 sec. will cause change of controller ON/OFF operation state, pressed along with the "DOWN" switch at the same time for longer than 3 sec. will cause activation or deactivation of continuous operation function (after pressing there will be shown on the display "CC" symbol). In the parameters setting mode: enable going to the next parameters settings. During setting parameter values: it causes parameter value increase.

8. SET / MUTE

Pressed during normal controller operation switches the alarm sound signal off; pressed for longer than 3 sec. shows setting point; pressed along with the "DOWN" switch at the same time while switching power supply of the controller on will cause return to the parameters fabric settings (there will be shown "CF" symbol on the display). In the parameters setting mode: its pressing changes the information shown on the display: parameter name/parameter value, pressed for longer than 3 sec. will cause saving of the set parameters. During setting parameter values: pressed it will cause saving of the entered parameter value.

9. DOWN / DEFROST

During normal operation of the controller; pressed for longer than 3 sec. will cause switching on/off of the manual defrost mode. In the parameters setting mode: it allows to go to previous parameter setting. During setting parameter values: it decreases setting value.



Set point setting (desired temperature value)

To view and modify the set point:

- > press the "SET" switch for 1 sec. – the set value will start flashing;
- > increase or decrease the value using the "UP" or "DOWN" switches;
- > press the "SET" switch to confirm the new value.

If the "SET" switch is not pressed for 60 sec., then the controller returns to previous settings.

Manual defrost

In order to activate the manual defrost press the "DOWN" switch for more than 3 sec. The essential condition is the temperature has to be lower than +6°C.

Temperature checking on the defrost probe

- > press the "SET" switch for longer than 3 sec. (in case there is the alarm is activated it is necessary to switch the sound alarm off first). On the display there will appear "PS" symbol (password);
- > go to the "d/" parameter by means of the "UP" and/or "DOWN" switches, then press the "SET" switch - there will appear temperature of defrost probe and the symbol ❄️ or ⚙️
- > hold the "SET" switch for longer than 3 sec. (after 60 sec. automatic return) – return to the temperature probe indication.

Access for operator to parameters configuration and its modification

- > press the „SET" switch for longer than 3 sec. (in case there is alarm activated, switch the sound alarm first). On the display will appear the „PS" symbol (service parameter password protected);
- > go to the next parameters by means of the "UP" and/or "DOWN" switches;
- > press the "SET" switch to view the current value of parameter setting;
- > increase or decrease setting value by means of the "UP" and "DOWN" switches;
- > press the "SET" switch to temporarily save the entered new value – it will cause as well return to the parameters list;
- > repeat the above operations – if it is necessary;
- > press and hold the "SET" switch for longer than 3 sec. – it will cause parameters saving and exit from the programming procedure.

Warning:

If no button is pressed for 60 sec., all the changes made to the parameters, temporarily saved in the RAM, will be cancelled and the previous settings restored. If power is disconnected from the instrument before saving the settings (pressing the "SET" switch for 3 sec.), all the changes made to the parameters and temporarily saved will be lost.

Symbol	Parameter	Unit	Fabric setting	min.	max.
d8	Alarm bypass time after defrost	h	2	0	15
A0	Alarm and fan temperature differential	°C	2	0	20
AL	Absolute or relative temperature for low temperature alarm	°C	2	0	150
AH	Absolute or relative temperature for high temperature alarm	°C	8	0	150
Ad	Temperature alarm delay	min	60	0	199

High temperature alarm activation = setting + AH

High temperature alarm deactivation = setting + AH – A0

Low temperature alarm activation = setting – AL

Low temperature alarm deactivation = setting – AL + A0

Description of the main signals and alarms

LED flashing – The activation of the corresponding function is delayed by a timer
 > awaiting an external signal or disabled by another procedure that is already in progress. e.g. if is a continuous cycle in progress and a defrost is called, the latter will remain pending until the end of the continuous cycle, and the corresponding LED (defrost) will flash.

OFF flashing – state of the controller - OFF, to return to working mode (ON) press and hold ON/OFF button for more than 3 sec.

E0 steady – temperature control probe error (1) – active sound signal:

- > probe not working: the probe signal is interrupted or short-circuited;
- > probe not compatible with the instrument.

The E0 alarm signal is constant when it is the only active alarm (the temperature value is not displayed).

E0 flashing – temperature control probe error (1), when other alarms are active or the second probe is displayed.

E1 flashing – evaporator probe error (2):

- > probe not working, the probe signal is interrupted or short-circuited;
- > probe not compatible with the instrument.

Ed flashing – The last defrost ended after exceeding the maximum duration rather than when reaching the end defrost set point. The message disappears when the next defrost ends correctly.

EF displayed during operation or on power-up – operating parameter reading error (controller automatic reset). Alarm reappearance after automatic reset – it is necessary to check the controller as there is no guarantee to keep the original precision of the operation.

EE – data errors – In certain operating conditions, the instrument may detect errors in the data saved. These errors may compromise the correct operation of the instrument. If the microprocessor detects a data saving error, the display shows the message “EE”. If the fault persists, the controller needs to be replaced. If, on the other hand, the message disappears, it can continue to be used. When “EE” error occurs frequently and/or remains for some time, the controller should be checked, as the original precision may not be guaranteed.

LO flashing – low temperature alarm. The probe has measured a temperature lower than the set point by a value that exceeds parameter AL:

> check parameters AL, Ad and A0.

The alarm is automatically reset when the temperature returns within the set limits (see parameter AL).

HI flashing – high temperature alarm. The probe has measured a temperature higher than the set point by a value that exceeds parameter AH.

> check parameters AH, Ad and A0.

11. NOTES

1. Attempts to repair the device on your own and not following the instructions described in the user manual as for equipment connection and use will result in the device malfunction.
2. The device is using natural and ecological refrigerant R-290 (propane).



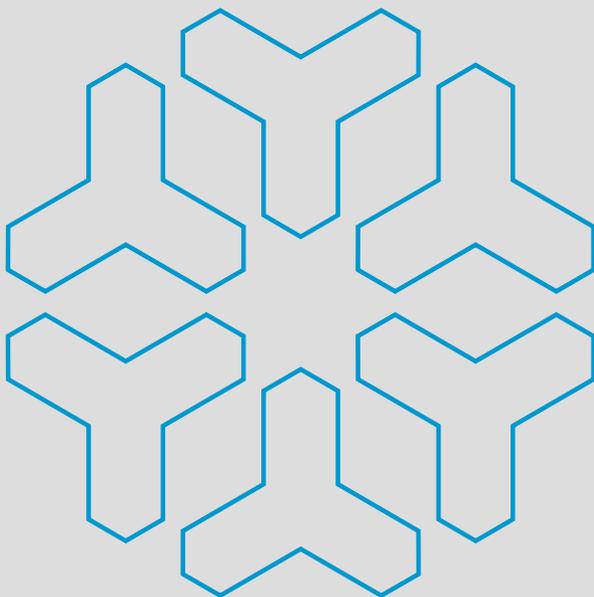
**Warning! In case of damage of the cooling system the refrigerator should be immediately disconnected from the mains, any open sources of fire located close to the unit removed and the area carefully ventilated.
Do not use electrical appliances inside the refrigerator.**

3. The manufacturer is not liable for damages resulting from the use of the device in a manner inconsistent with the information contained in hereby user manual.

12. INTERFERENCES

The most often occurring interferences of the device operation:

Reasons	Symptoms	Solution
Contaminated condenser	<ul style="list-style-type: none"> > Visible dust layer on the condenser fins, > hot air coming out of the aggregate chamber, > loud operation of the aggregate, > characteristic "clicking" coming out of the aggregate chamber every few minutes 	Before cleaning of the condenser it is necessary to switch the device off. Impurities on the condenser should be removed by means of vacuum cleaner equipped with brush, gently along fins to not to bend the lamella.
Device loaded with warm products	<ul style="list-style-type: none"> > hot air coming out of the aggregate chamber, > loud operation of the aggregate, > characteristic "clicking" coming out of the aggregate chamber every few minutes 	Goods loaded in the device chamber should be initially cooled up to maximum +4°C above the storage temperature .
Too high ambient temperature	<ul style="list-style-type: none"> > hot air coming out of the aggregate chamber, > loud operation of the aggregate, > characteristic "clicking" coming out of the aggregate chamber every few minutes 	Ambient temperature for proper operation of the device should not exceed respectively: for 3rd climatic class +25°C.
Improper goods distribution in cooling chamber	<ul style="list-style-type: none"> > goods distributed not in accordance with the description in the user manual 	The goods should be placed as described in user manual .
External source of heat causing the abnormal operation of the device	<ul style="list-style-type: none"> > hot air coming out of the aggregate chamber, > loud operation of the aggregate, > characteristic "clicking" coming out of the aggregate chamber every few minutes 	External source of heat might be any other device that emits heat such as gas burner, heater, other device equipped with a refrigerated aggregate etc. It is necessary to pay attention if above mentioned examples may have influence on the deterioration of device operation conditions.



The warranty card and conditions
are effective only in the area of Poland.

The package should be removed according
to the regulations of environmental



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