

**USER'S MANUAL  
REFRIGERATED DISPLAY UNIT**

**WKM - Series**

## **1. General Information**

The Refrigerated Display Unit (Fig. 1) is an appliance for daily exposition of foods in lower temperatures. Lower temperatures are achieved by blowing cooled air into the unit.

The Unit is equipped with lamps that provide natural light structure and ensure the displayed products look fresh and beautiful.

The appliance has been awarded the “Certificate allowing the manufacturer to label its product with the safety mark” by the PREDOM-OBR Research & Development Center and at the same time comply with standard PN-EN 60335-2-89:2003 Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor” at the ambient temperature of  $25^{\circ}\text{C}\pm 1^{\circ}\text{C}$  and humidity of  $60\%\pm 5\%$ .

## **2. Technical Characteristic**

Body of the Refrigerated Display Unit is made of electro-galvanized steel sheet that is powder-lacquered and placed on a shape steel footing. The body is insulated with a layer of foamed polystyrene.

Sidewalls of the Unit are made of plastics insulated with foamed polyurethane. In the bottom part of the appliance there is an energy-saving refrigerating unit (or two refrigerating units) with its (their) automatic control unit.

The appliance’s operation is based on a single-stage compressor refrigerating cycle.

The appliance is protected from negative impact of lightning strokes by means of a grounding system. The Unit must be connected to a grounded socket only.

*Note: Manufacturer reserves the right to modify the constructional solutions and apply different subassemblies that on no account will influence the appliance’s parameters.*

## **3. Electrical installation**

The Refrigerated Display Unit should be supplied from a separate low-voltage circuit.

The electrical installation is provided with a lightning protection system applying the grounding solutions (Fig. 2).

Prior to starting the appliance make sure the supply voltage is adequate and complies with the refrigerating unit’s voltage. Ensure an adequate 16 A fuse-element has been installed in front of the plug.

The electrical installation must be performed by an authorized electrician. Following any repairs or overhauls ensure the electrical connections are made in compliance with the enclosed circuit diagram.

## **4. Appliance's operation**

### **4.1. Locating and installing the unit**


The Refrigerated Display Unit should operate in a place free from direct sunlight, away from any heat sources, within a distance from the wall of at least 100 mm, and it should be placed so to provide direct access to the plug of the feeder cable.

Ensure that the inlet openings in the refrigerating unit's chamber (perforations in the lower part of the RDU) are never blanked off so that to provide a free air circulation to cool the refrigerating unit.

If the Refrigerated Display Unit is appropriately leveled, it is possible to obtain noise-free operation and proper outflow of water when the Unit is defrosted.

The appliance must be connected to a grounded socket, see Section 2.


### **4.2. Commissioning and start-up**



The appliance is turned on and off with the switch on the thermostat panel in the lower part of the display. To turn the lighting on use the button marked with the  sign.

After the appliance is connected to the power supply and turned on, wait until the RDU has cooled down before placing any food in there. As soon as the required temperature is reached, the temperature controller turns the refrigerating unit off. Only then can the RDU be filled with goods and fully utilized. The Refrigerated Display Unit has been checked and regulated in-house and operates properly in the ambient temperature from +10°C to +25°C ± 1°C and the air humidity not exceeding 60±5%.

When operating failure-free, the refrigerating unit makes breaks, i.e. after running for a few (up to twenty) minutes, the refrigerating unit stops for a few (up to twenty) minutes. How long are the running and break times depends on such factors as: the ambient temperature, volume and type of products placed inside the RDU and volume of frosting on the evaporator.


If the Refrigerated Display Unit fails to reach the required temperature (within the range of +1°C to +10°C), it is possible to adjust its operation.

In order to change the thermostat's settings push the  button. The button's green LED turns on and the panel displays the recently programmed temperature.

- The temperature is adjusted by means of the  and  buttons. By pushing and holding any of the buttons you can respectively fast rewind or fast forward the settings.


- After selecting the desired temperature push the P button again.

The green LED then turns off and the temperature controller leaves the programming mode and starts the new program.

If the  button is not pushed at the end to confirm the new setting, the thermostat will automatically leave the programming mode after approx. 5 seconds from the moment any button is pushed the last time. The new value of temperature will not be saved and applied.

It is not always advisable to set the working temperatures to low values; overloading the Refrigerated Display Unit with goods will result in continuous operation of the refrigerating unit and thus dew deposition.

Dew deposition on elements of the air-cooling duct can be observed also if the Unit operates in the ambient temperature exceeding 25°C or humidity exceeding 60% - such dew deposition is not the appliance's fault.

In the Refrigerated Display Unit the evaporator's defrosting process is performed in cycles – the Unit is brought to a standstill approximately every 4 hours. During the defrosting process water outflows in a PVC hose – a container for collecting the water must be provided. In working conditions difficult for the appliance (i.e. at excessive humidity of the atmosphere, overloading with goods), if the cooling efficiency significantly drops, there is a need for additional evaporator defrosting. On such an occasion press the button on the face plate of the temperature controller marked with the  symbol. A green LED with the “dF” sign, if turned on, signifies that the defrosting process is being carried out.

**IMPORTANT:**

1. *Never apply any mechanic measures other than recommended by the manufacturer to accelerate the defrosting process.*
2. *Never use any electric appliances other than recommended by the manufacturer inside the food storage compartment.*
3. *Protect the cooling circuit from damaging.*

## **5. Maintenance**

Regular maintenance of the appliance is to be performed by the user by means of:

- Washing the appliance periodically with warm water and washing agents adequate for washing dishes. In order to clean the area where the glass pane touches the sidewall, remove the grips holding the side glass pane. After cleaning mount the elements back in a reversed order. When removing and mounting the elements back, exercise special care. Never use sharp instruments to remove dirt from the Unit's inside or outside surfaces.

**IMPORTANT!** *Never use cleaning agents containing chlorine or any other aggressive chemicals.*

- Cleaning the condenser in the refrigerating unit's chamber. First you need to remove the shield of the refrigerating unit's chamber. The condenser must be cleaned every three months by means of a hard brush and a vacuum cleaner. If the condenser gets very dirty in quicker time, perform the cleaning more often. Dirty condenser may result in overheating of the refrigerating unit and subsequently the appliance's failure that is not subject to warranty.

- Replacing the fluorescent lamp. First remove the lamp's shield and then turn it by 90° and slide away from the grips. Replace the fluorescent lamp with an identical one. Reverse the above steps to mount the elements back.

**IMPORTANT:** *The appliance must be disconnected from the power supply (remove the feeder cable from the electrical socket), before the washing, condenser cleaning and fluorescent lamp replacement operations are started.*

## **6. Safety at work rules**

- On no account connect the appliance to power supply without the grounding protection.
- The electrical installation must be performed by an authorized electrician.
- Any repairs or adjustments in the electrical or cooling circuit may be performed exclusively by an authorized electrician.
- In the event any failures or defects are determined, such as sparking, breakdown, etc., disconnect the appliance from the power supply by removing the feeder cable's plug from the electrical socket and consult an electrician for a remedy.
- Wash and clean the appliance only when it is disconnected from the power supply.
- Remember to clean the condenser and empty the drip container regularly.

Do not:

- Fill the Refrigerated Display Unit with goods before it cools down.
- Overload the RDU with excessive volume and weight of goods.
- Fill the RDU with warm or hot products.

## **7. Specification of spare parts**

- Temperature controller  
Manufacturer: GECO (G-207,G-202), CAREL
- Dewaterer filter
- Compressor SC 15 DL, SC 12 DL, SC, SC 21CL, SC 18 MLX  
Manufacturer: Danfoss.


Note: The used-up elements discard in compliance with applicable regulations.

## **CAREL Thermostat**

### SETTING THE DESIRED TEMPERATURE

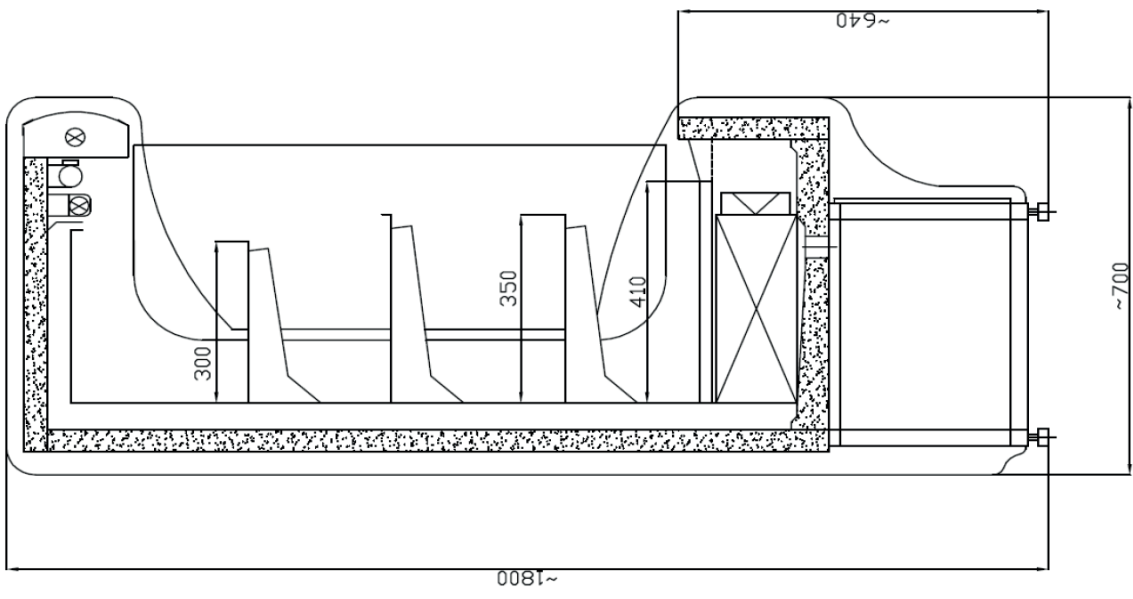
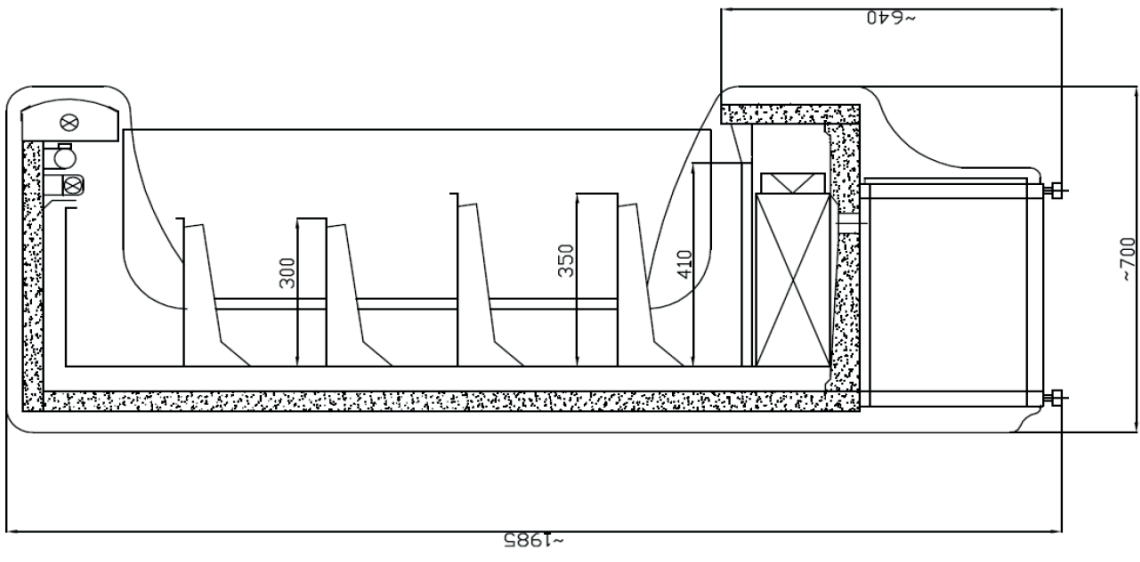
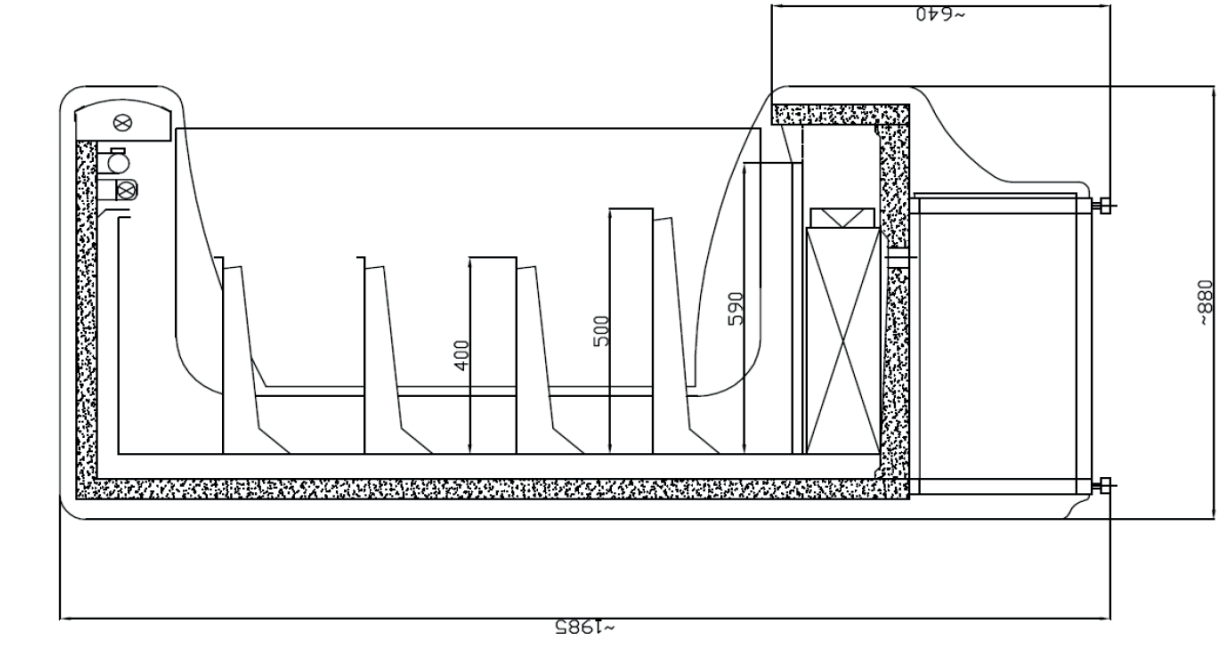
- keep **SEL** pressed for 1 second: the main value will appear on the screen;
- after two seconds the value will start to flash;
- increase or decrease the main value using the ^ and ~ keys until you achieve the desired value;
- press **SEL** again in order to confirm the new set point value;

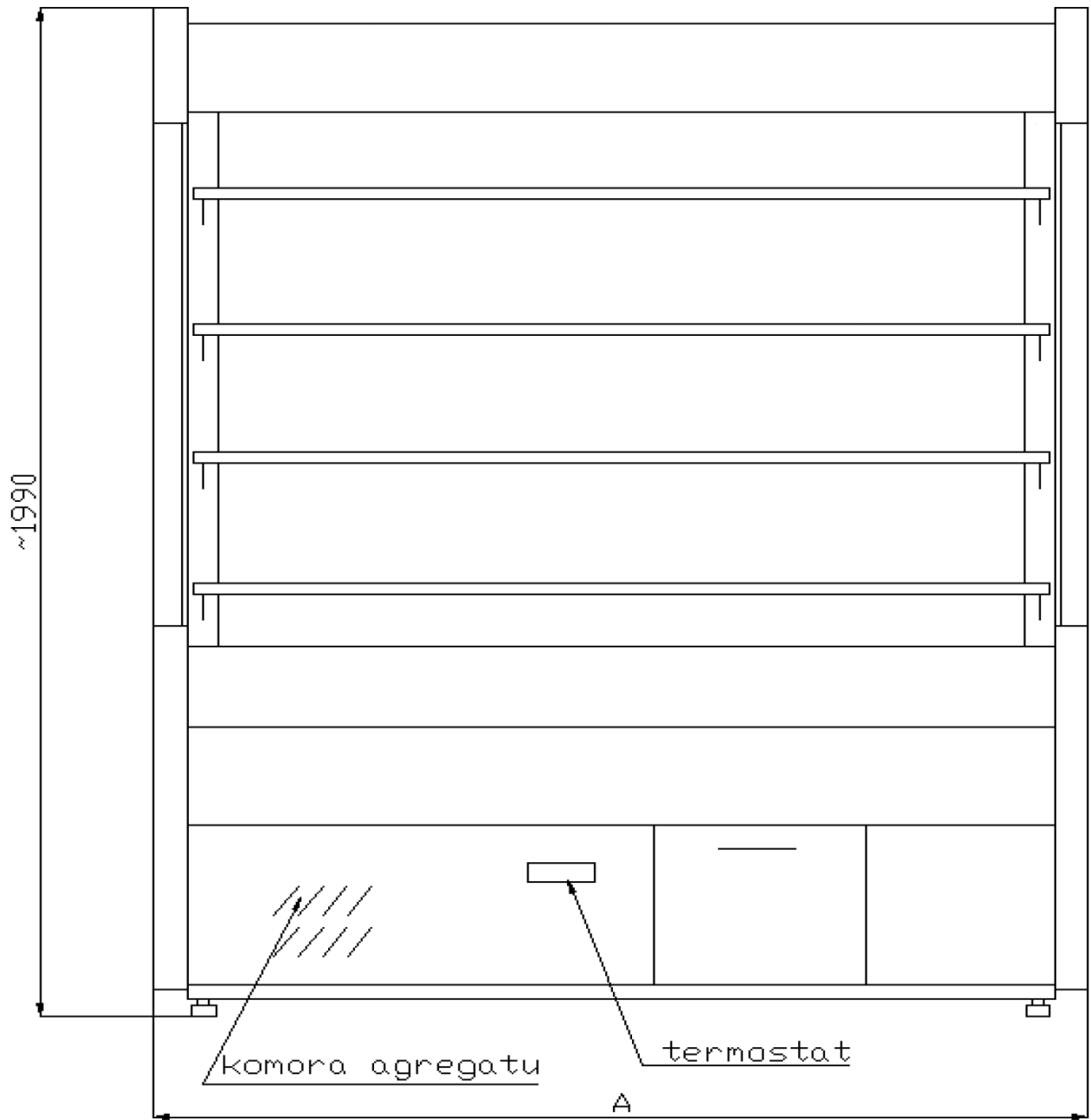
### MANUAL INPUT OF THE DEFROSTING FUNCTION

Defrosting takes place automatically. You may however, manually initiate the defrosting procedure at any time by pressing and holding the  button for at least 5 seconds.

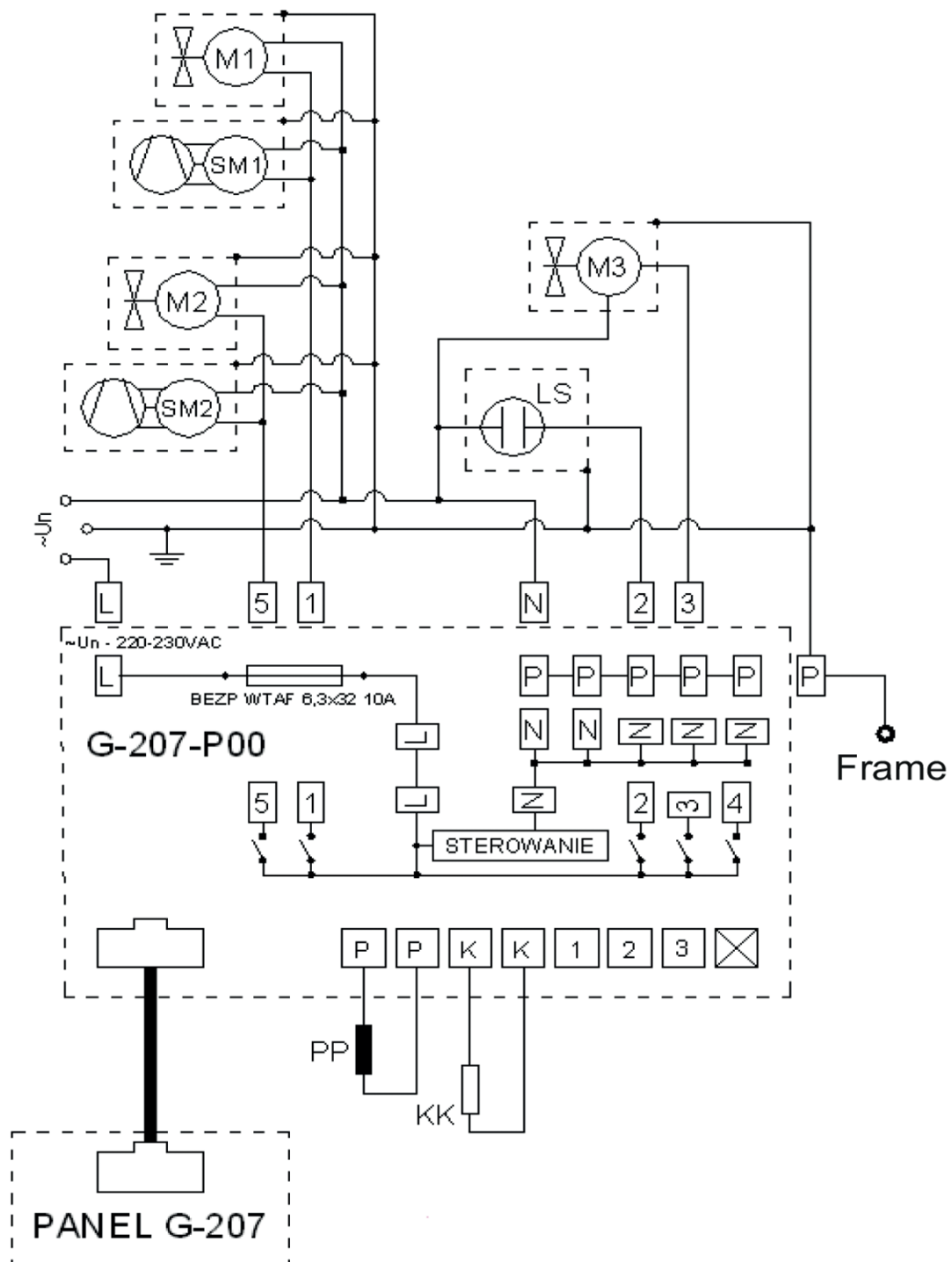
## 8. Technical Data

TYPE	Length mm	Width mm	Height mm	Range o fworking temp. °C	Voltage	Compressor	Cooling agent	Daily energy consumption KWh/24 H	Display area m <sup>2</sup>	Max. shelf load KG	Installed power W	Fluorescent lamp power W
RCH4 1,1/0,9	1180	890	1985	+1 do +10	230 V~, 50 Hz	SC 15DL	R 507	9,0	2,3	35	800	30 + 18
RCH4 1,3/0,9	1310	890	1985	+1 do +10	230 V~, 50 Hz	SC 18MLX	R 507	13,0	2,8	40	962	36 + 36
RCH4 1,6/0,9	1570	890	1985	+1 do +10	230 V~, 50 Hz	SC 18MLX	R 507	15,0	3,4	45	972	36 + 36
RCH5 0,7/0,7	710	700	1985	+1 do +10	230 V~, 50 Hz	SC 12DL	R 507	6,5	1,08	15	680	18 + 18
RCH5 0,9/0,7	910	700	1985	+1 do +10	230 V~, 50 Hz	SC 12DL	R 507	9,0	1,42	20	680	18 + 18
RCH5 1,5/0,7	1510	700	1985	+1 do +10	230 V~, 50 Hz	SC 18MLX	R 507	14,0	2,45	35	962	36 + 36
RCH5 2,0/0,7	2010	700	1985	+1 do +10	230 V~, 50 Hz	2XSC 12DL	R 507	18,0	3,30	50	1414	58 + 58
RCH5M 0,7/0,7	710	700	1800	+1 do +10	230 V~, 50 Hz	SC 12DL	R 507	6,0	0,90	15	680	18 + 18
RCH5M 0,9/0,7	910	700	1800	+1 do +10	230 V~, 50 Hz	SC 12DL	R 507	8,5	1,17	20	680	18 + 18









## CONNECTION DIAGRAM

G-207-P00 – electronic temperature controller

SM – motor of compressor no. 1

SM – motor of compressor no. 2

M1 – motor of refrigerating unit's fan

M2 – motor of refrigerating unit's (no. 2) fan

M3 – motor of air-blast fan

LS – fluorescent lamp

PP – evaporator's sensor (grey)

KK – chamber's sensor (white)

