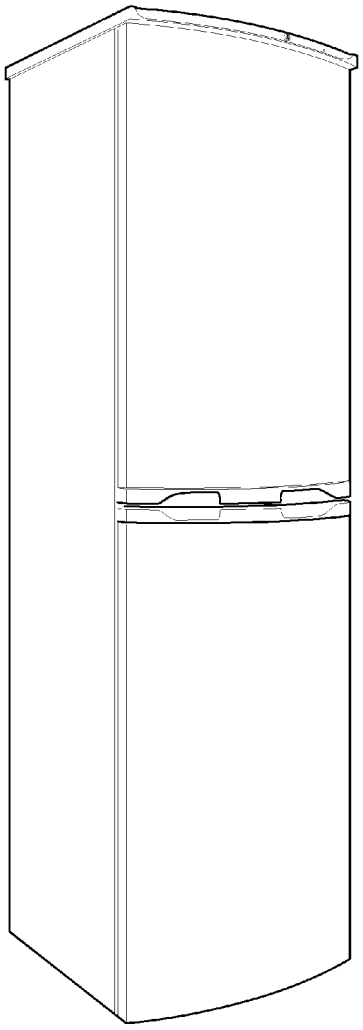
Electrolux
DISTRIPARTS

SERVICE MANUAL
REFRIGERATION



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R600a
NOFROST
REFRIGERATORS

© ELECTROLUX ZANUSSI S.p.A.
VIA GIARDINI CATTANEO, 3
I - 33170 PORDENONE (ITALY)
Fax (0434) 394096

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CONTENTS

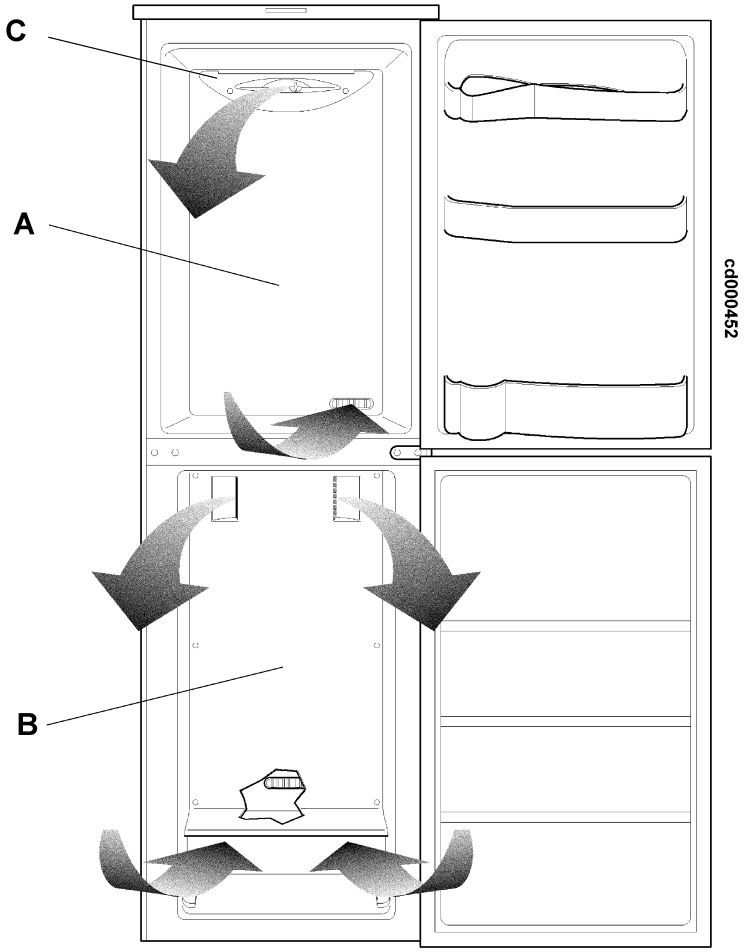
1. INTRODUCTION

This manual describes NOFROST models loaded with R600a refrigerating gas.

There are three basic models and the only difference between them is volume:
260 litres (ex C9, pnc 925886…), 262 litres (ex C10, pnc 925887…) and 290 litres (ex C11, pnc 925888…).

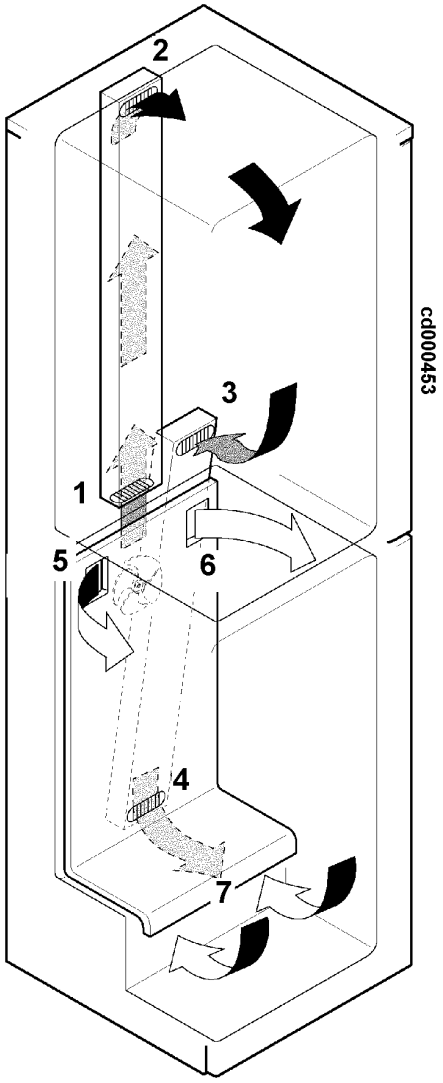
The NOFROST refrigerators consist of a refrigerator compartment **A** and a freezer compartment **B**.

The cold produced by the battery-driven evaporator in the freezer compartment is then distributed through the refrigerator and freezer compartment by the fan located above the battery.

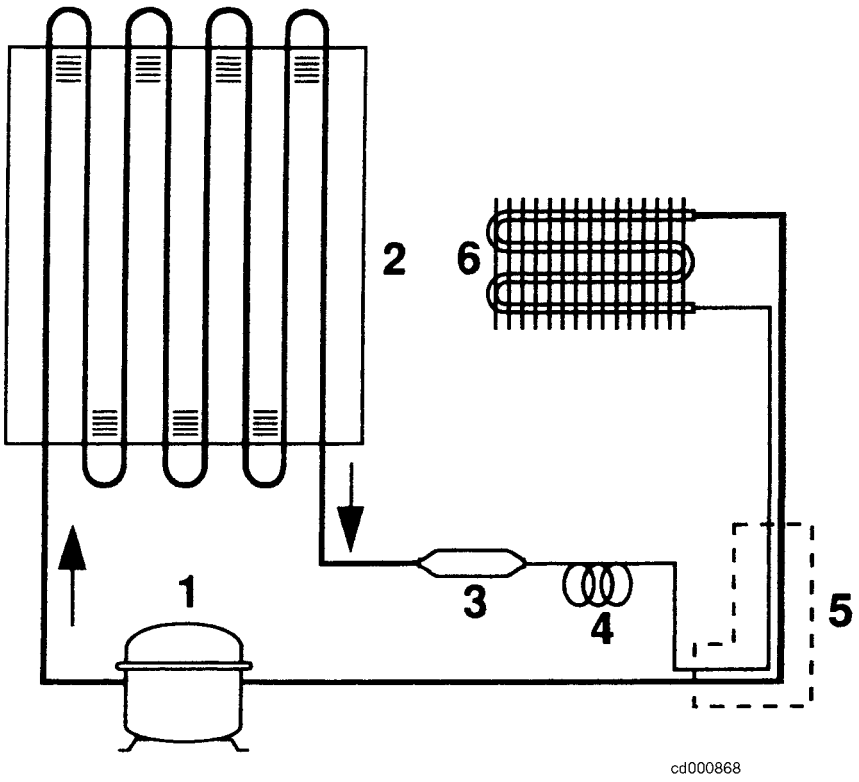


REFRIGERATOR COMPARTMENT (A)
The air is pushed by the fan down the foam duct at the bottom of the compartment: it enters by nozzle **1** and comes out of nozzle **2**. Manual flap **C** enables to regulate the flow of cold air and therefore the temperature inside the compartment.
The thermostat bulb is located inside the flap and reacts both to the air temperature of the air coming out of nozzle **2**, and to the air temperature inside the refrigerator compartment.
The air returns to the air compartment through the foam duct at the bottom of the compartment, entering from nozzle **3** and leaving from nozzle **4**.

FREEZER COMPARTMENT (B)
The cold air is pushed into the compartment by the fan through the two nozzles **5** and **6**. After circulating, the air is rechannelled to the evaporator battery through opening **7,** under the protection panel.



2. REFRIGERATION CIRCUIT

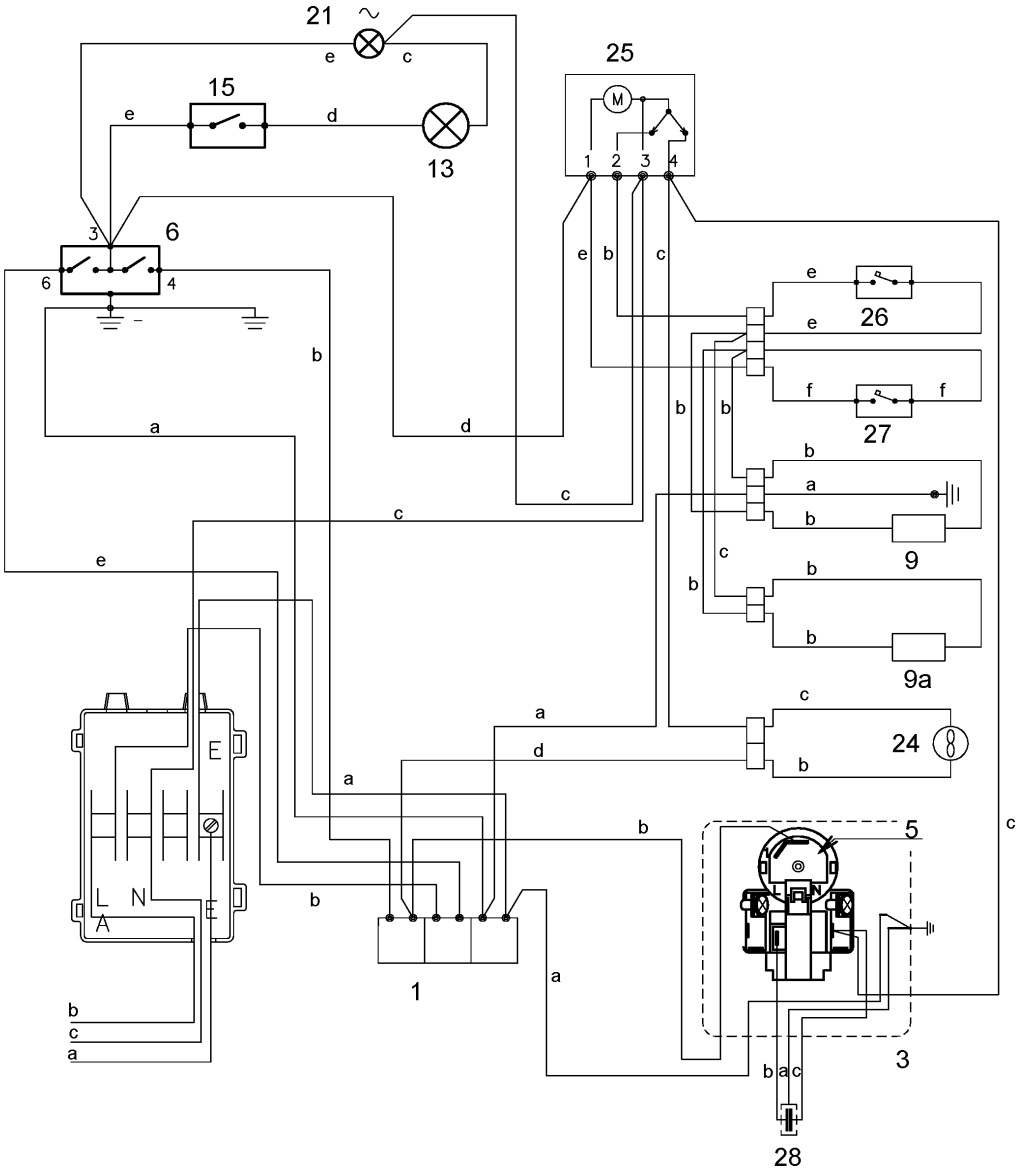


Legend:

1. compressor
1. capacitor
2. filter
3. capillary
4. heat exchanger
5. battery evaporator

3. ELECTRIC WIRING

(check the specific diagram for each model !)



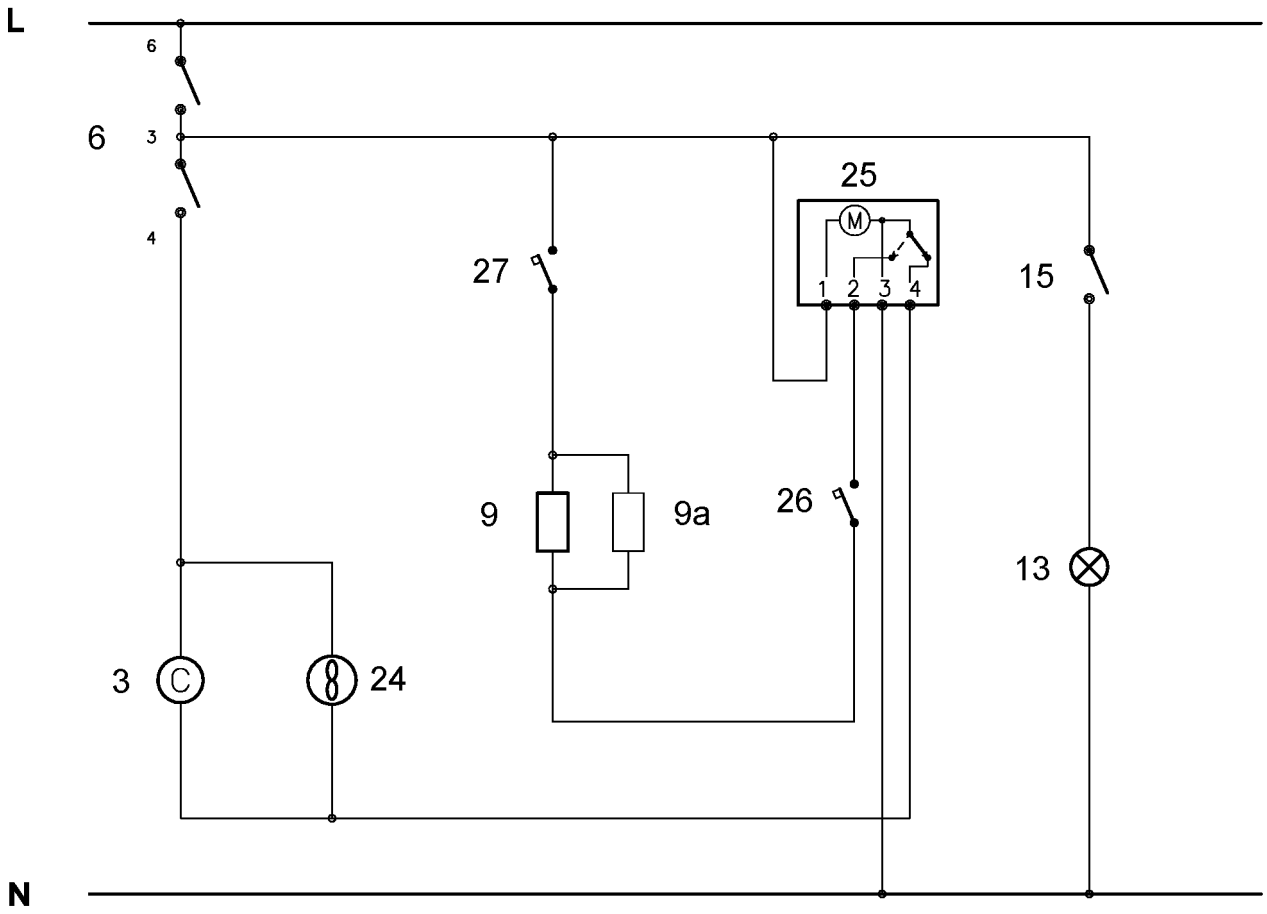
Legend:

1. 3 ways junction box
3. freezer compressor junction box
5. overload cut-out
6. refrigerator thermostat
9. stylus defrosting heater
9a. armored defrosting heater
13. refrigerator lamp
15. light switch
24. battery fan
25. timer
26. safety thermal switch (+ 40 °C)
27. defrosting cut-out switch (+ 10 °C)
28. running capacitor

a. yellow-green
b. brown
c. blue
d. white
e. black
f. grey

4. FUNCTIONAL DIAGRAM

(check the specific diagram for each model !)



Legend:

6. 3 ways junction box
3. freezer compressor junction box
5. overload cut-out
6. refrigeraotr thermostat
9. stylus defrosting heater
9a. armored defrosting heater
13. refrigeraotr lamp
15. light switch
24. battery fan
25. timer
26. safety thermic switch (+ 40 °C)
27. defrosting cut-out switch (+ 10 °C)
28. running capacitor

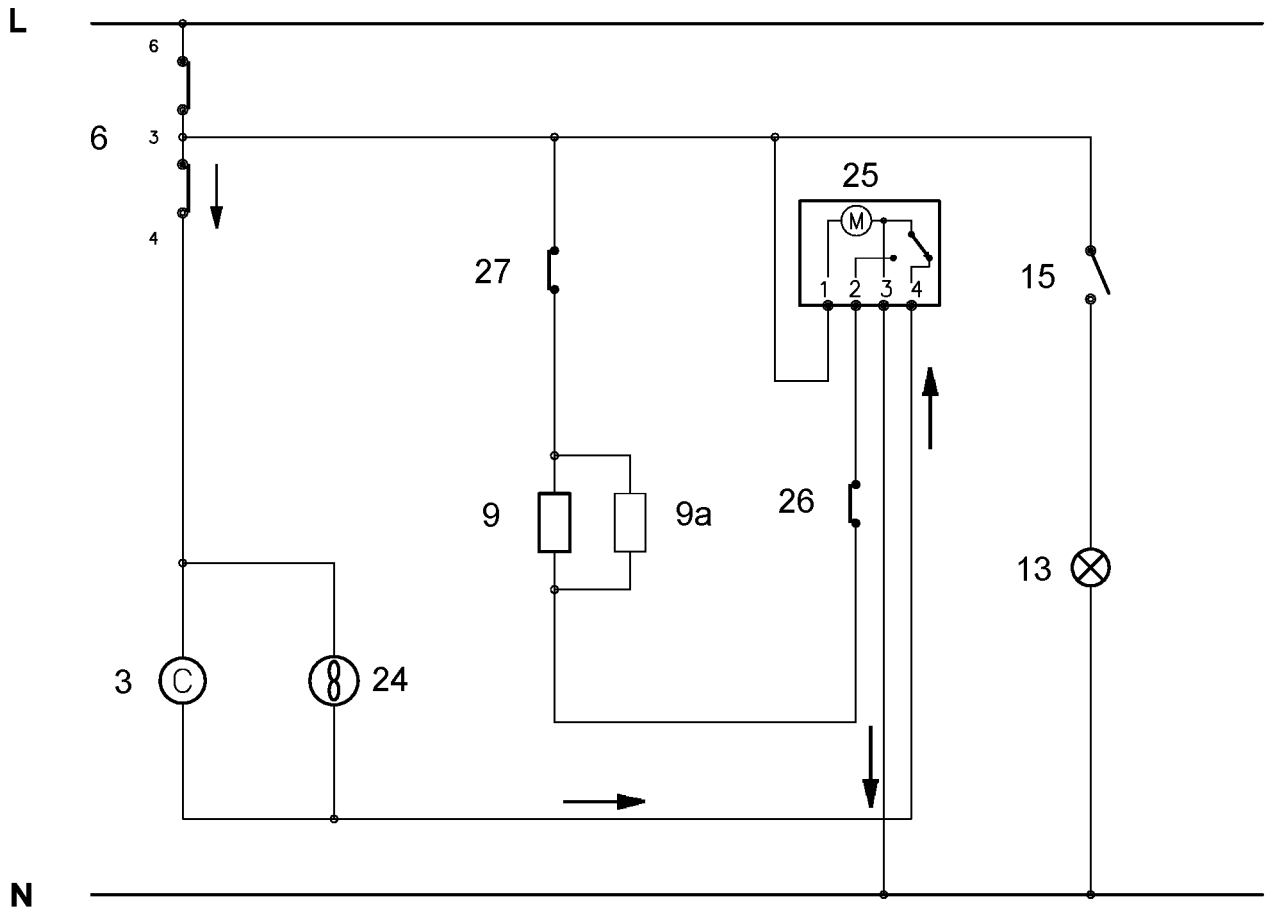
5. OPERATION

5.1 NORMAL

In NOFROST refrigerators, the humidity inside the compartments (freezer or refrigerator) accumulates on evaporator battery thanks to the air circulation, avoiding the formation of frost on food.

During normal operation the cam of the timer closes contacts **3-4** thus powering the compressor and fan circuits. The operating time lasts about 14 hours.

The arrows in the picture show the current path.



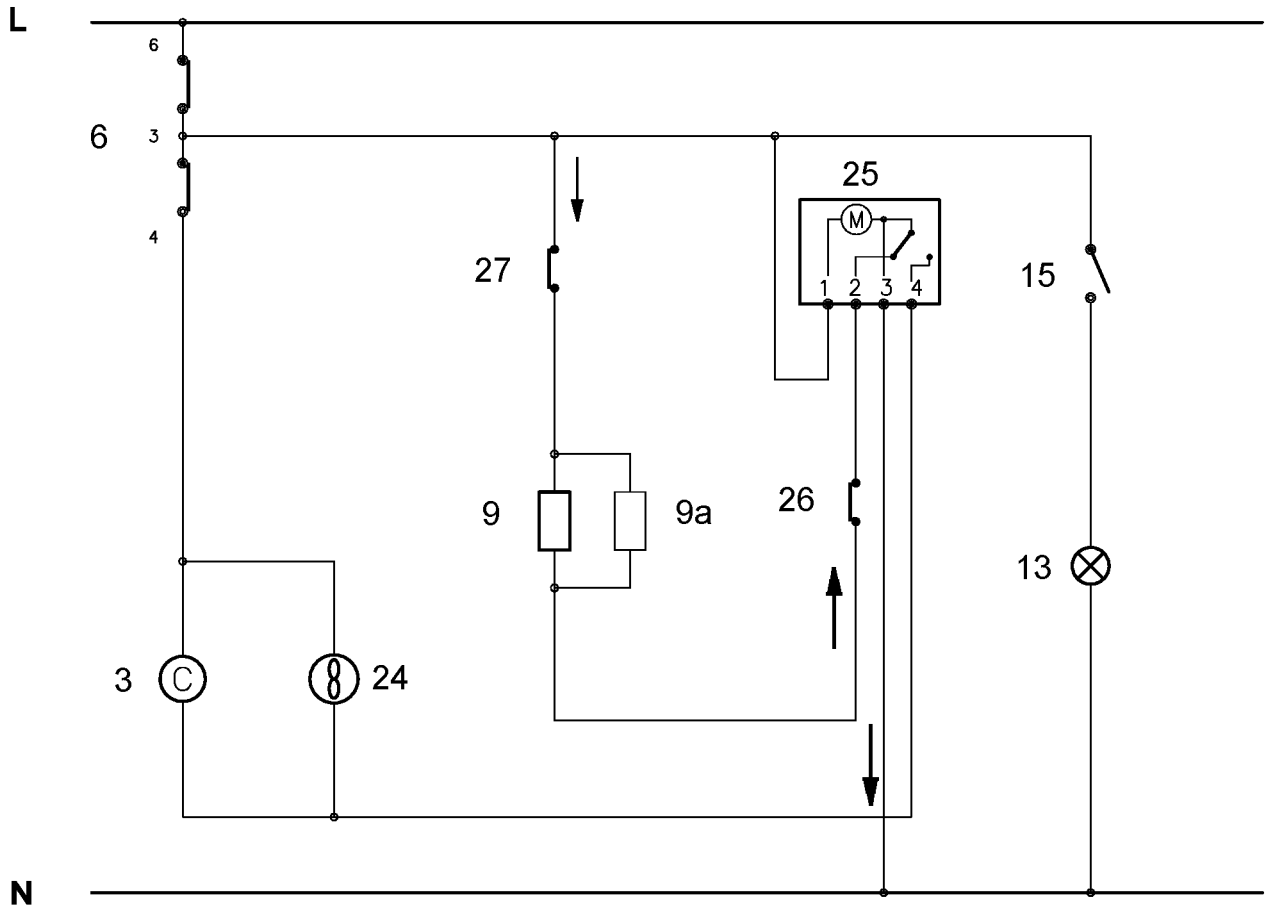
5.2 DEFROSTING

The ice on the battery must be removed regularly, therefore after about 14 hours of operating, the timer **(25)** switches from contac **3-4** to contact **3-2**, disconnecting the compressor and the fan and switching on the stylus defrosting heater **(9)** and armored **(9a).**
For safety reasons and rules in the evaporator battery there are two defrosting heaters that are simultaneously powered, since they are connected in parallel.

After 36 minutes defrosting, the timer switches to contact **3-4** again, switching on the compressor and the fan and disconnecting the heating elements.

If the battery temperature reaches +10°C in less than 36 minutes, the heaters are switched off by the defrosting cut-out switch **(26).** If, for any reason, it does not switch on and the battery temperature reaches +40°C , the heating elements will be switched off by the safety thermal switch **(27)**.

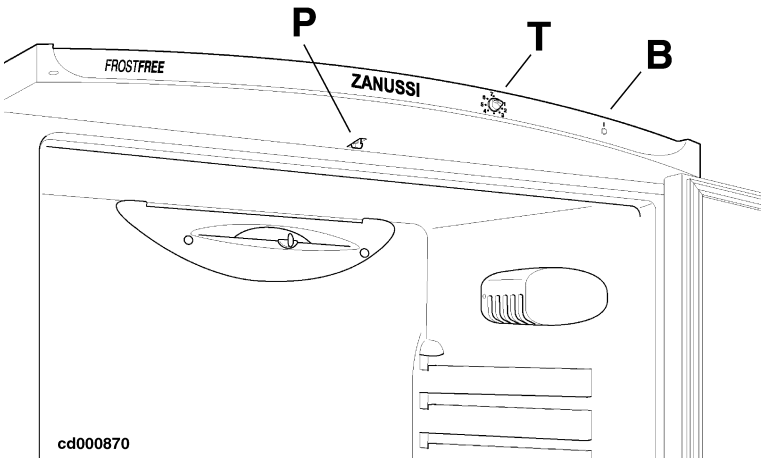
The arrows in the picture show the current path.



6. COMPONENTS

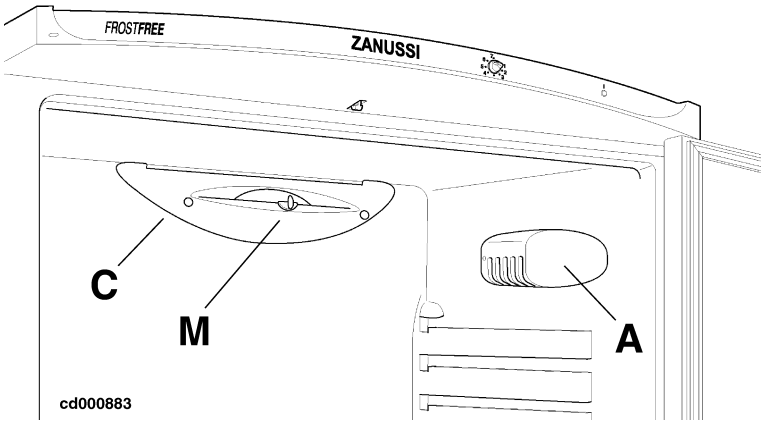
6.1 CONTROL PANEL :

- pilot lamp **B.**
- thermostat knob **T**.
- light button **P**.



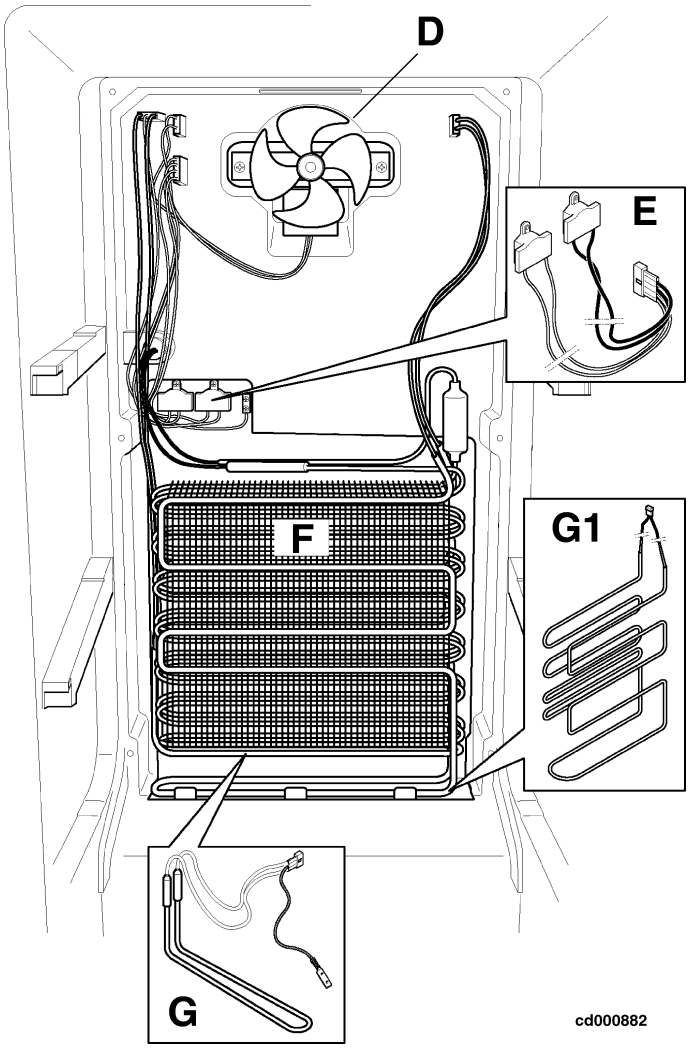
REFRIGERATOR COMPARTMENT:

- flap **C**: it enables to regulate the flow of air coming from the freezer compartment through the knob **M**.
- lampholder **A.**



6.3 FREEZER COMPARTMENT:

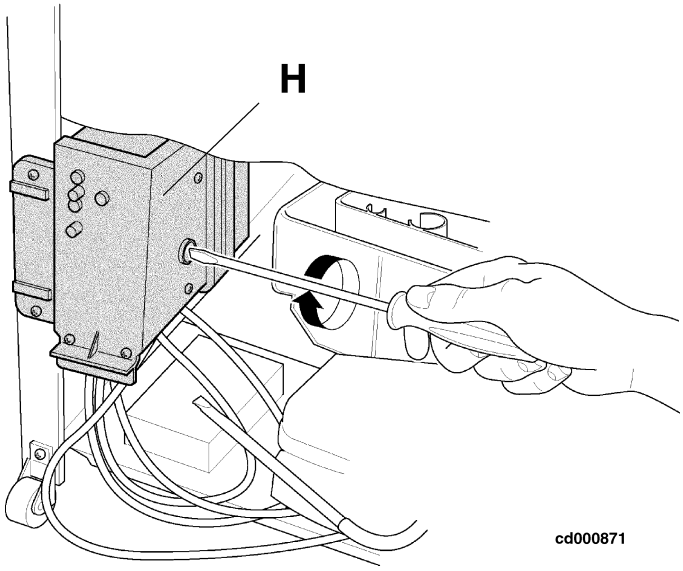
- fan **D**;
- couple of thermal overload cut-outs **E**
- evaporator battery **F**
- stylus defrosting heater **G** (117 W – 494 Ω)
- armored defrosting heater **G1** (118 W – 482 Ω)

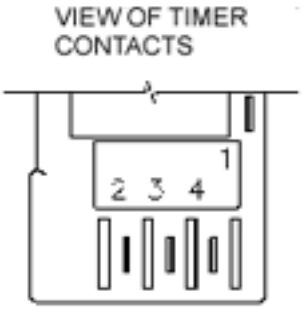


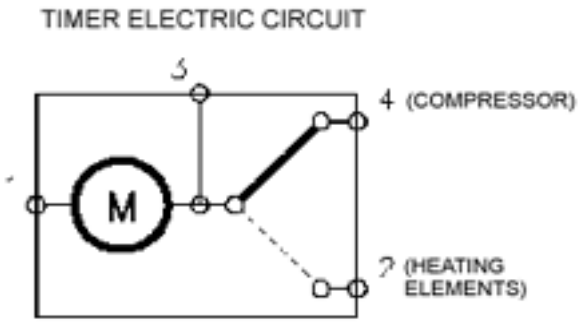
TYPE OF THERMAL OVERLOAD CUT-OUT	OPERATING TEMPERATURE	
	OPENING	CLOSURE
DEFROSTING	+ 10 °C	- 1 °C
SAFETY	+ 40 °C	+ 30 °C

6.4 COMPRESSOR COMPARTMENT:

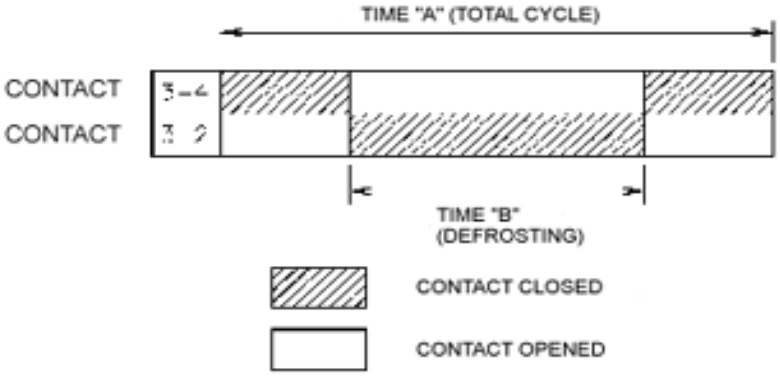
At the back of the appliance there is the timer **H**; by using a screwdriver it is possible to rotate the shaft cam manually, only clockwise, to switch the 3-4 and 3-2 contacts switch.



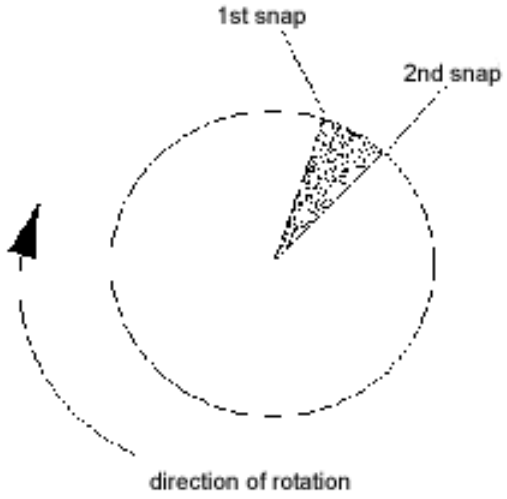




TIME “A”	TIME “B”
14 h 26 ‘	36 ‘



By rotating the timer shaft clockwise with a screwdriver, you can hear two snaps that indicate the contacts closure. As you can see in the picture (the position of the snaps is merely indicative), between the 1st snap and the 2nd snap the run is minimum, between the 2nd and the 1st snap the run is longer:



Warning :

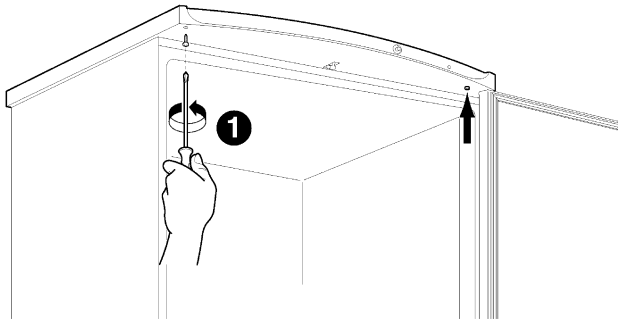
- In order to test the appliance during “normal” operation, you need to rotate the timer cam till the 2nd snap so as to close 3-4 contact;
- In order to test the appliance during “defrosting” operation, you need to rotate the timer cam till 1st snap so as to close 3-2 contact.

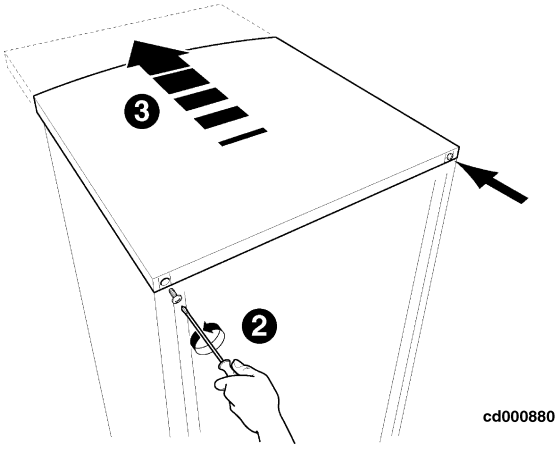
7. ACCESSIBILITY

7.1. CONTROL PANEL ACCESSIBILITY

To access the components of the control panel (thermostat, pilot lamp and light button) carry out the following operations:

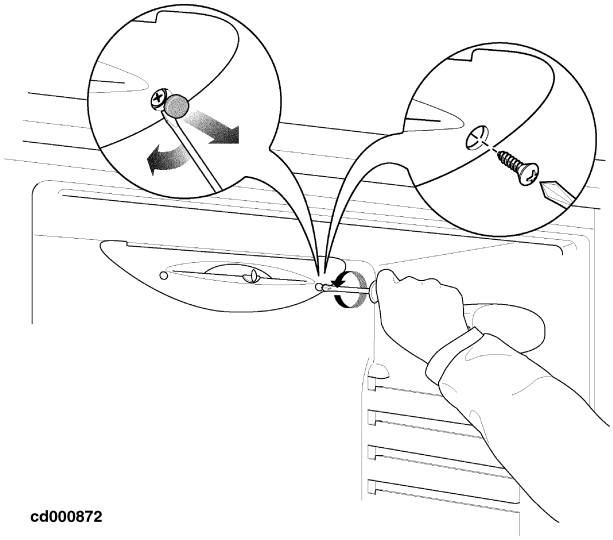
1- remove the 2 fixing screws from the hinges;
2- remove the 2 fixing screws placed behind the appliance;
3- push forward the top.





7.2. REFRIGERATOR COMPARTMENT ACCESSIBILITY

To access the flap:
- remove the caps that cover the two screws;
- loosen the two screws;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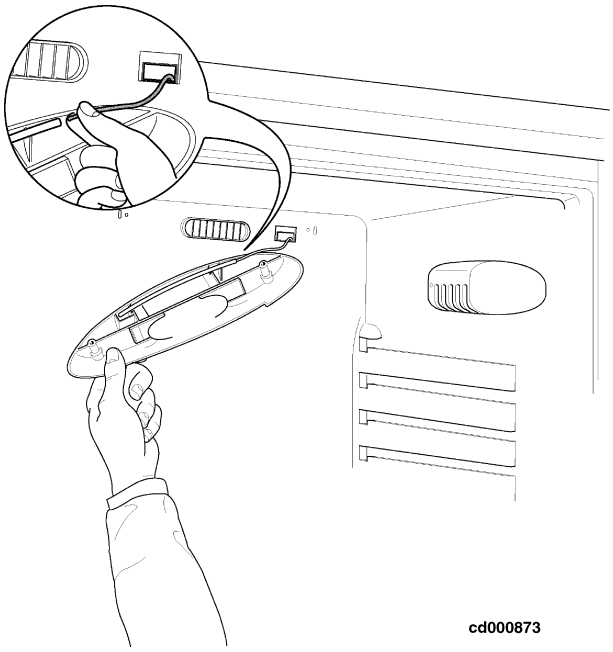
The thermostat bulb is inserted into the rear of the flap (see detail).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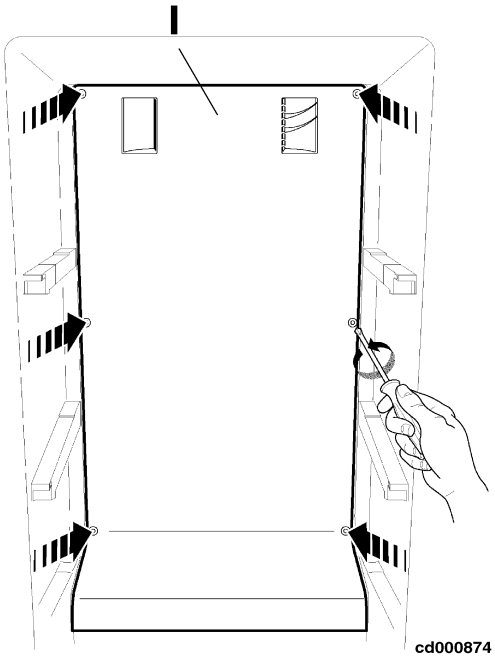
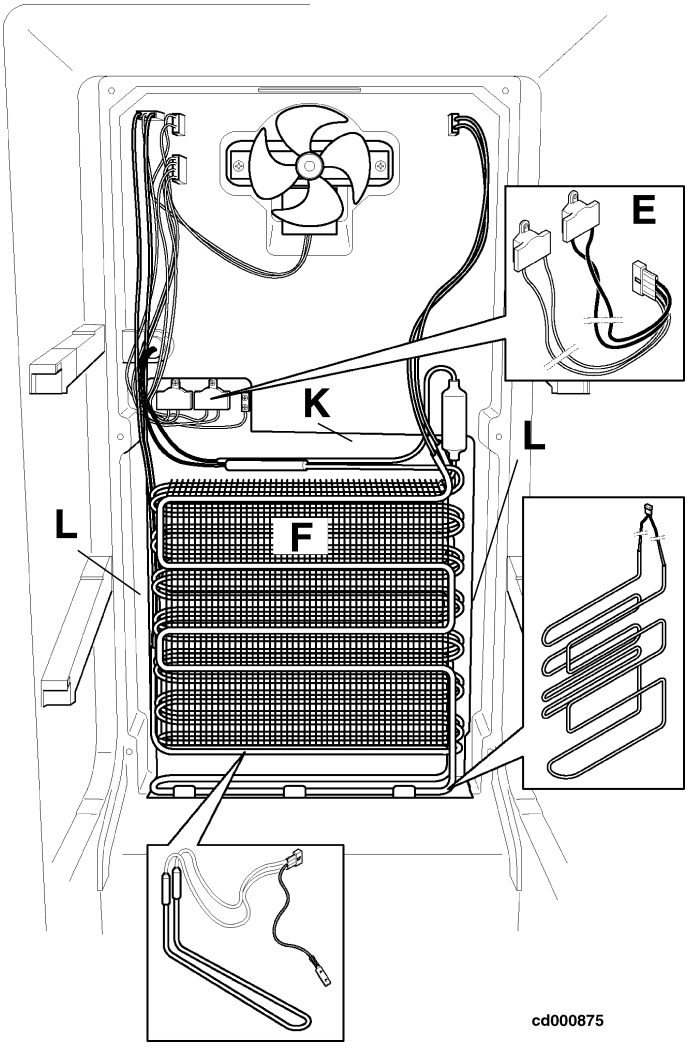
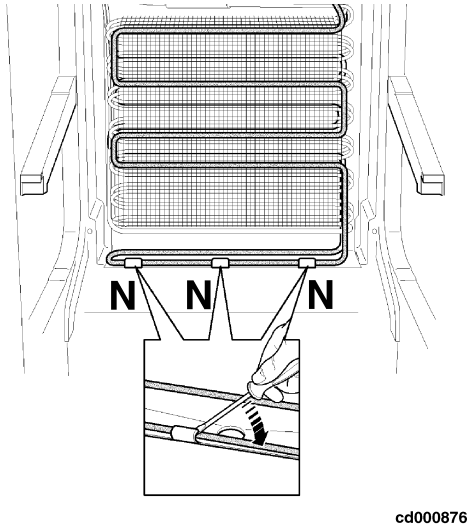
7.3. FREEZER COMPARTMENT ACCESSIBILITY

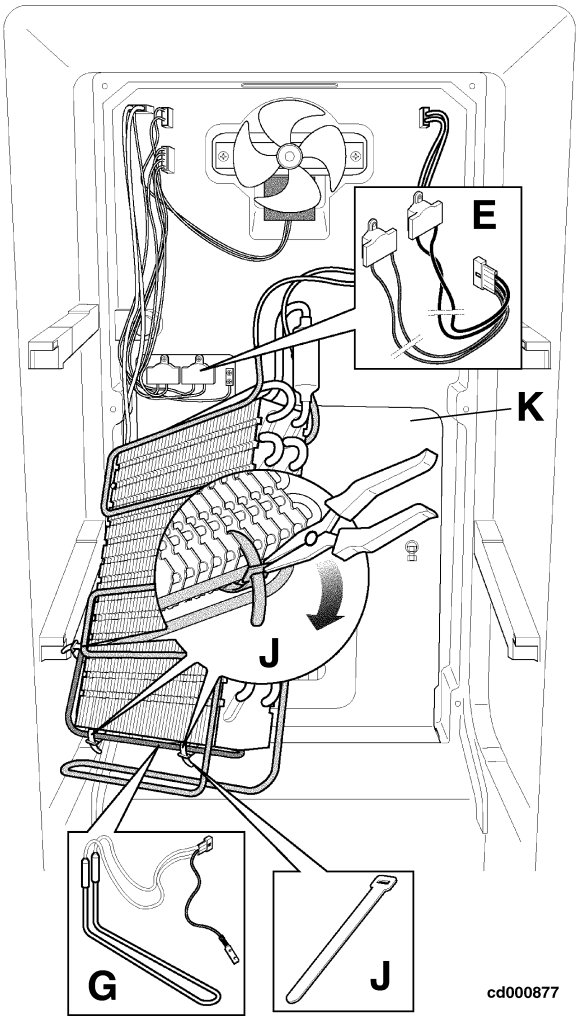
To access the components of the freezer compartment it is necessary to remove **I** protection.





Evaporator battery
F evaporator battery is fixed to container **K** by two lateral clips **L** and by three hooks at the bottom **N,** removable with a screwdriver.





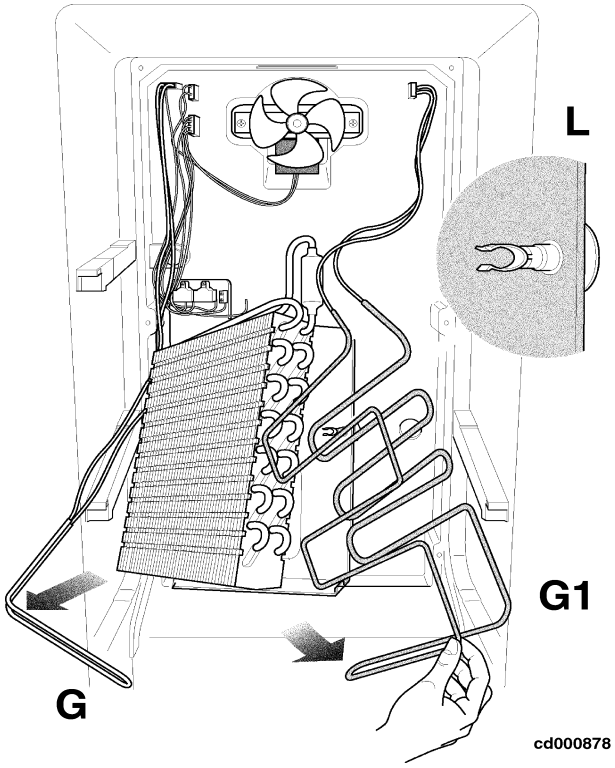
Thermal overload cut-outs
The two +10°C and +40°C thermal overload cut-outs are connected together in one component **E** and therefore are not available as single spare part. They are fixed to the conveyor **K** with two screws.

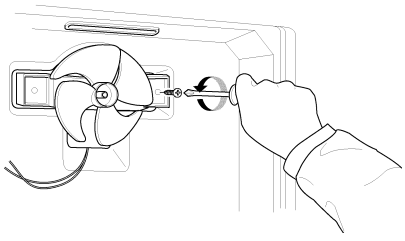
Once the battery is unhooked, it can be folded, as pictured, to access the heating elements, paying attention to the pipes.

Stylus defrosting heater
The stylus defrosting heater **G** is fitted to the battery by three clamps **J**; to replace it, remove the clamps with a pliers (it is not necessary to cut them because they can be used again).

Armored defrosting heater
The armored defrosting heater **G1** is inserted into the aluminium wings of the battery; to replace the heater, it is necessary to remove it from the wings of the battery paying attention not to bend them.

The conveyor
The conveyor **K** for the defrosting water is fitted to the bottom of the compartment with two clips **L**; to unhook the conveyor it is necessary to push down the two clips.





The fan
The fan is fixed with two screws.

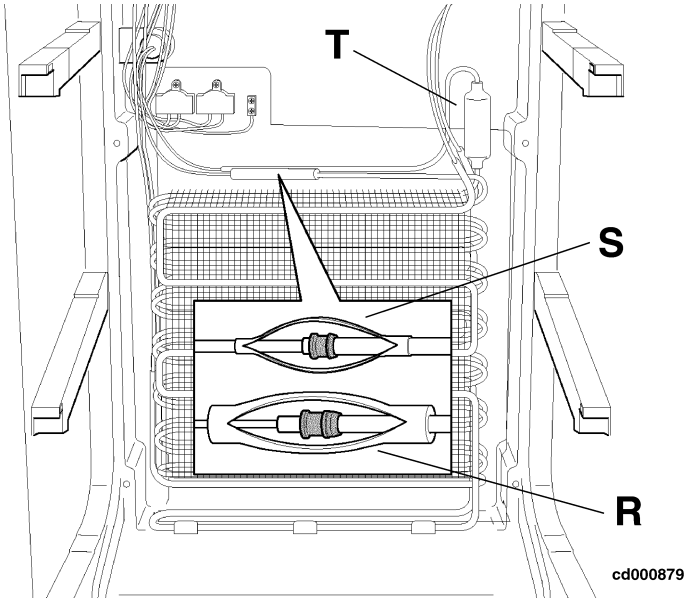
8. TROUBLESHOOTING

WARNING !

Unplug the appliance before operating.

Discharged circuit:

In case of refrigerating gas leak, the troubleshooting must be carried out not only in the traditional weldings, but also in the junctions with LOKRING ring of the pipes battery-capillary **R** and battery-return pipe **S** and in the weldings of cylinder **T**.



Excessive ice on the battery:

If the rubber valve remains open, since the air outside the freezer compartment is humid, it penetrates inside and forms too much ice on the battery. The valve remains open if there are foreign bodies or if it loses elasticity, therefore, in the first case it is necessary to remove the foreign bodies, while in the second case it is necessary to replace the rubber valve.

Failed defrosting:

If no defrosting cycle occurs, the possible causes could be:

Sequence n°	POSSIBLE CAUSES	HOW TO VERIFY	CORRECTIVE ACTION
1	One or both defrosting heaters are interrupted	Disconnect the heaters connectors and check with the tester the correct heater value to the connector clamps	If the value of stylus heater is not about 490 Ω and the armored one is not about 480 Ω then replace the interrupted heater
2	One or both thermal overload cut-out switches are open	Freeze the battery, then unplug the appliance, disconnect the thermal switches connector and check with the tester the electrical continuity of the thermal switches to the connector clamps	If the heater value is ∞ Ω (infinite=open circuit) replace the thermal switches. If the heater value is 0 Ω then check sequence no. 3
3	Timer blocked or faulty	Unplug the appliance, place the thermostat knob on ON, then access timer box and measure with the tester the electrical continuity: a) between the clamp 1 of timer and the line clamp of the feeding plug; b) between the clamp 3 of timer and the clamp of the feeding plug neutral wire.	If the heater value [a) and b)] are 0 Ω, then replace timer

Burn out lamp:

After replacing the burn out lamp, verify the correct operating of the light button **P** with its manual actioning then try again, actioning the light button from the closure of the refrigerating door and verify the switching off of the lamp moving slightly the magnetic seal of the door.

Warning: the **Q** lampholder seal is a component that concerns the appliance safety, therefore it is obligatory to insert it again into the lampholder after an eventual replacement of the lamp!