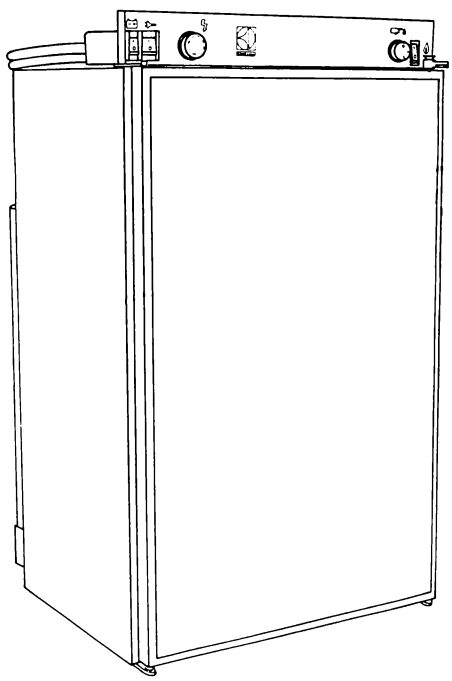
Electrolux

MANUAL CARAVAN

RM 275



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OPERATING AND INSTALLATION INSTRUCTIONS FOR ELECTROLUX REFRIGERATORS.

INTRODUCTION

We are pleased that you have chosen this refrigerator and hope you will derive much satisfaction from using it, but first a few well-meant words of advice:

It is important to read through these instructions carefully before beginning to use the refrigerator.

The refrigerator is designed for installation in caravans or campers. To ensure good refrigeration and economical operation, the refrigerator must be installed and used as described in these instructions.

TRANSIT DAMAGE

Transit damage must be reported without delay to whoever is responsible for transport but not later than seven days after the refrigerator was delivered.

UNPACKING

Inspect the refrigerator for damage.

Check the data plate, inside the refrigerator, to ensure that you have received the right model.

The right gas pressure is 30 mbar.
The right voltage is 240 volts.

The **data plate** contains e. g. the following details:

Model designation RM .....
Product number .....
Serial number .....

Since these details will be needed if you have to get in touch with service personnel, it is a good idea to make a note of them here.

WARNING - USE ON BOATS

Because of the hazards associated with the use of continuously operating bottled-gas appliances with open-flame burners in difficult-to-ventilate confined spaces, and other considerations, Electrolux do not recommend the installation of their bottled-gas caravan refrigerators on boats, and refrigerators so installed will not be covered by the Company's guarantee.

If, however, a boat installation is planned, reference should be made to British Standard 5482. Part 3, 1979 and to the Thames water Authority „Launch Digest" and „Launch Specification". Also, current Guide Lines published by local Water Authorities, or the Ship and Boat Builders' National Federation.

It should be noted that special Marine Refrigerators are available from Electrolux for use on boats.

CONTENTS

OPERATING INSTRUCTIONS

CONTROLS

The refrigerator can be run on either 240 V, 12 V or LP gas. Changing between these modes of operation is carried out by means of the controls of the control paner shown in Fig 3.

Two rocker switches are used to select the electric power supply, one for 240 V (2) and one for 12 V (1).

Refrigerator temperature is controlled by a thermostat (3) when the refrigerator runs on 240 V.

The gas supply is turned on/off by means of the knob (4). It also serves to select one of two different gas inputs.

The refrigerator is fitted with a safety device which automatically shuts off the supply of gas if the flame goes out. The safety device can be opened manually by depressing control (4).

The gas flame is electronically lit, monitored and relit if necessary. For this the toggle switch (5) should be „on" during gas operation.

An indicator lamp in the switch flashes when the automatic igniter attempts to light the burner. Otherwise this lamp is off.

STARTING THE REFRIGERATOR

The position numbers refer to fig. 3.

Caution! Only use one source of energy at a time

LP Gas operation

After initial installation, after servicing, changing gas cylinders etc.,the gas lines may contain some air which should be allowed to escape by briefly turning on the refrigerator or other appliances. This will ensure that the flame lights immediately.

Before you start gas operation:

1. Open the shut-off valve of the gas bottle (check that there is enough gas). Open any on-board shut-off valve.
2. Check that the switches for mains and 12 V operation are off.

Then you proceede as follows:

3. Turn the gas control (4) to position „max".
4. Turn on the electric igniter (5). A ticking sound will be heard and a lamp in the switch will start flashing.
5. Depress the knob (4) of the flame failure device.
6. When the lamp stops flashing the flame is alight.
7. Keep the flame failure knob depressed for a further 10-15 seconds.

To terminate gas operation, set knob (4) to „0" and switch (5) to „0".

240 V Operation

- Turn off gas or 12 V operation when applicable.
- Turn the knob (3) of the thermostat to its highest (coldest) position.
- Set switch (2) to position I. The switch will light up green when the power supply is connected.

12 V Operation

Only operate your refrigerator on 12 V when the engine of the vehicle is running - otherwise your battery will soon be discharged.

- If applicable turn off the gas operation
- Set the 12 V rocker switch (1) to I. The switch will light up red when the power supply is connected.

WINTER OPERATION

If the refrigerator has been left switched off in an unheated caravan when the outside temperature is below – 12 °C the cooling unit will become so cold that it cannot be started in the 240 V or 12 V modes of operation. In such event the refrigerator must be started on LP gas.

Some caravans with outside ventilation may have so called winter covers to protect the refrigerating unit from too cold air (ask your dealer). They should only be mounted at the ventilation grilles when the outdoor temperature is less than 0 °C. The refrigerator can subsequently be switched over to electric operation after five hours if the ventilation grilles are fitted with winter covers. **DO NOT COVER THE FLUE OUTLET!**

REGULATING THE TEMPERATURE

The position numbers refer to fig. 3.

Once the refrigerator has been started it will take a few hours to become cold.

On 240 V operation the refrigerator is controlled by a thermostat and the thermostat knob (3) should be set at 3-5. If a lower (colder) temperature is desired, set the thermostat to a higher figure.

On 12 V operation the refrigerator works continuously.

On LP gas operation the refrigerator temperature is regulated by means of the gas control (4), Fig. 3, which should be set at „max". This setting provides a suitable refrigerator temperature in warm weather. Should the storage compartment for fresh items grow too cold, particularly in cold weather, set the valve to „min". Do not forget to restore it if the weather turns warmer.

TRAVEL CATCH

Make sure that the travel catch is engaged when the caravan is on the move, (fig. 1).

The travel catch at the top of the door can be set in two different positions. In one position the door is held tightly shut. In the other position the door is secured ajar so that the refrigerator can be aired when not in use.

FOOD STORAGE

Always keep food in closed containers. Never put hot food in the refrigerator; allow it to cool first.

Never keep items in the refrigerator which might give off flammable gases.

The 2-star (**) frozen food compartment is intended for the storage of frozen food and for making ice. It is not suitable for freezing items of food.

Never put bottles or cans of fizzy drinks in the frozen food storage compartment as they may burst when freezing. Also don't give children ice lollies straight from the compartment as they could cause frost burns.

Most kinds of frozen food can be stored in the frozen food compartment for about a month. This period of time may vary, however, and it is important to follow the instructions on the individual packings.

ICE-MAKING

Fill the ice tray just below the brim with drinking water and put the tray on the freezer shelf.

It is possible to make ice faster by turning the control knob temporarily to its highest value but do not forget to turn it back to its regular setting afterwards as the refrigerator might otherwise become too cold.

DEFROSTING

Frost will gradually accumulate on the refrigerating surfaces. It must not be allowed to grow too thick as it acts as an insulator and adversely affects refrigerator performance.

Check the formation of frost regularly every week and when it is about 3 mm thick it will be necessary to defrost the refrigerator.

To defrost the refrigerator, turn it off and remove the ice tray and all food items. If desired, defrosting may be speeded up by filling the ice tray with hot water and placing it in the frozen food compartment.

Do not try to accelerate defrosting by using any kind of heating appliance as the plastic surfaces of the refrigerator might then be damaged. Neither should any sharp objects be used to scrape off the ice.

The defrost water runs from a collector channel down a tube to a drip tray at the rear of the refrigerator where it evaporates. When all the ice has melted, wipe the refrigerator dry and restart it.

Place the food items back inside but wait until the refrigerator is cold before making ice cubes.

CLEANING THE REFRIGERATOR

Clean the inside of the refrigerator regularly to keep it fresh and hygienic.

Soak a cloth in a solution consisting of a teaspoon of bicarbonate of soda to half a litre of warm water. Wring out the cloth and use it to clean the interior of the refrigerator and its fittings.

Never use detergents, scouring powder, strongly scented products or wax polish to clean the interior of the refrigerator as they may damage the surfaces and leave a strong odour.

The exterior of the refrigerator should be wiped clean now and again, using a damp cloth and a small quantity of detergent. But not the door gasket, which should only be cleaned with soap and water and then thoroughly dried.

The cooling unit behind the refrigerator should be cleaned with a brush from time to time, but make sure that the refrigerator is switched off when doing this.

TURNING OFF THE REFRIGERATOR

If the refrigerator is not to be used for some time:

- Shut off any on-board valve in the gas line to the refrigerator.
- Set electric switches to „0".
- Set the gas valve to 0.
- Empty the refrigerator. Defrost and clean it as described earlier. Leave the doors of the refrigerator and the froozen food compartment ajar. Use the travel catch to hold in this position.

IF THE 'FRIDGE FAILS TO WORK

Check the following points before calling a service technician:

1. That the **„STARTING THE REFRIGERATOR"** instructions have been followed.
2. The refrigerator is level, fig. 2.
3. If it is possible to start the refrigerator on any of the connected sources of energy.
4. If the refrigerator fails to work on gas, check:
   - That the gas bottle is not empty.
   - That all LP-gas valves are open.
5. If the refrigerator fails to work on 12 V, check:
   - That the 12 V supply is connected to the refrigerator.
   - That the fuse on the 12 V supply is intact.
   - That the 12 V switch is on.
6. If the refrigerator fails to work on 240 V, check:
   - That the 240 V supply is connected to the refrigerator.
   - That the fuse is intact.

If the refrigerator is not cold enough it may be because:

1. The ventilation is inadequate owing to reduced area of the ventilation passages (partial blockage of grilles from wire mesh etc).
2. The evaporator is frosted up.
3. The temperature control setting is incorrect.
4. The gas pressure is incorrect - check the pressure regulator at the gas container.
5. The ambient temperature is too high.
6. To much food is loaded at the same time.
7. The door is not properly closed or the magnetic sealig strip is defective.
8. More than one source of energy is used at the same time.

If the refrigerator still does not work properly, call a service technician.

The sealed cooling system must not be opened, since it contains corroding chemicals under high pressure.

MAINTENANCE

Inspect the gas hose periodically for cracks or deep chafing marks. Couplings can be tested for leaks using a soap solution. **DO NOT USE AN OPEN FLAME!** If there is any suspicion of damage, call for a service technician.

We recommend that a service technician check the refrigerator once a year.

SOME USEFUL HINTS

Make sure that:

- The refrigerator is not operating on 12 V when the vehicle is parked, otherwise you will drain the car battery in a short time.
- Defrosting is carried out periodically.
- The refrigerator is clean and dry with the door left open when it is not to be used for some time.
- Liquids or items with a strong odour are well packaged.
- The ventilation openings are unobstructed.
- The door is secured by means of the travel catch when the caravan is on the move.
- Only one mode of operation at a time is used to run the refrigerator.

GUARANTEE

The refrigerator is guaranteed for one full year on condition that it is used in a correct manner and in accordance with these operating and installation instructions.

It is also embraced by a European guarantee as described in the brochure supplied with the refrigerator.

SERVICE AND SPARE PARTS

Service and spare parts are obtainable from your dealer or Electrolux - consult the yellow pages of the telephone directory.

TECHNICAL DATA

	RM 275
Overall dimensions, refrigerator	
Height (incl. controls)	831 mm
Width	486 mm
Depth (incl. cooling unit)	
without door	435 mm
with door	476 mm
Build-in dimensions	
Height	835 mm
Width	490 mm
Depth	460 mm
Capacity	
gross	70 lit
net	60 lit
frozen food compt.	6,9 lit
Weight (whithout packaging)	23 kg
Electrical data	
Input 240 V	125 watt
12 V	120 watt
Energy consumption/24 hours	2,5 kWh
Lp gas data	
Input	232 watt
ditto, low flame	116 watt
Energy consumption/24 hours max.	0,43 kg
min.	0,22 kg
Cooling medium	Ammonia or R 717

INSTALLATION INSTRUCTIONS

REPOSITIONING THE HINGES

The door hinges can be moved to the opposite side in the following way:

- Unscrew the hinge pins and travel catch.
- Mount the lower hinge pin on its new place.
- Fit the door.
- Mount the upper hinge pin and travel catch on their new places.
- Check that the door closes properly and seals all round.

DOOR PANEL

The door panel can easily be mounted or changed. The dimensions of the panel must be:

	RM 275
Height	738 ±1 mm
Width	465 ±1 mm
Thickness	max 3,8 mm

- Remove the door, see **REPOSITIONING THE HINGES.**
- Remove the lower trim moulding and then withdraw the panel by sliding it downwards.
- Fit the new panel in place and slide it up as far as possible.
- Fit the trim moulding back in place.

BUILDING-IN

The refrigerator is intended for installation in a caravan or camper van, and the description relates to this application.

The refrigerator must not be exposed to radiated heat from hot objects (e.g. below a cooker whitout proper heat shielding).

Recess for Installation

The refrigerator should be installed in a recess with the dimensions given in **TECHNICAL DATA**. The refrigerator must be installed level, i.e. parallel to the floor. The walls and floor of the recess must be strong enough to take the weight of the appliance.

The refrigerator must be fixed in the recess in such way that the motion of the vehicle cannot cause it to work loose. But it must be easy for customers service to remove the refrigerator.

Slide in the refrigerator until it is flush with the front of the recess. There must be 10-20 mm free space behind the refrigerator.

When the refrigerator is in the correct position, drill four screw holes though the sides of the recess into the sheet metal casing of the refrigerator (see Figure 2). Then secure the refrigerator with wood screws. The screws should penetrate 10-15 mm into the refrigerator insulation.

VENTILATION OF THE UNIT

At high ambient temperatures the refrigeration unit will only perform adequately when properly ventilated.

The refrigeration unit is ventilated via two openings in the wall of the caravan (see Fig. 10). Fresh air enters

through the lower opening and warm air is discharged through the upper one.

Locate the lower opening immediately above the floor of the recess, and the upper one as high as possible above the condenser (C) of the refrigeration unit, at least as shown in Fig. 9 but preferably as shown in Fig. 10.

The openings in the caravan wall must be fitted with suitable grilles with sufficient heat resistance.

The grilles must have a free flow-through area of at least 250 cm. Please observe that fly netting behind the grilles can reduce the area by as much as 50%.

Grilles specially developed for this application - with fly netting and sufficient area, can be obtained from **ELECTROLUX** (model A 1609).

Removal of Flue Gases (Alt. I), Fig. 10.

The ventilation passage at the rear of the recess is limited by the caravan wall and the rear of the refrigerator, see Fig. 10. It must be completely sealed from the interior of the caravan. Neither flue gas nor air from the ventilation openings in the wall of the caravan must be able to pass into the interior of the caravan.

The top, bottom and sides of the ventilation passage must be thermally insulated to prevent the formation of condensate and cold draughts. The inside upper surface of the recess above the flue pipe must be made of heat resistant material.

The bottom of the lower ventilation opening must be at floor level, so that any leaking LP gas can escape.

This alternative is recommended because draught is inhibited (winter camping) and because no special flue outlet is needed.

Removal of Flue Gases (Alt. II), Fig. 9.

Flue gas must be exhausted through a flue extension, Fig. 4. The distance between the tube and combustible material must not be less than 20 mm at any point.

The space round the tube where it passes through the caravan wall must be packed with glass wool. On both sides the wall must be protected with the sheet metal plates belonging to the set. Install the flue extension as shown in Fig. 5.

The **ELECTROLUX** grille, fig. 8, comes with an integrated flue outlet. In this case the traditional flue outlet, fig. 4 is not needed which simplifies the installation.

It is a good idea to install a vent grille above the condenser, (C) in fig 9, if there is free space above the enclosure (e.g. refrigerator built-in under a work top).

If there is no outer grille at floor level where leaking gas can escape, a 40 mm hole should be made in the floor of the recess to drain the gas. The hole should be fitted with wire mesh and an angled plate to protect it from stones, mud etc.

LP GAS CONNECTION

The refrigerator is designed for operation on LP gas of Butane type the pressure of which must be 28 mbar for Butane and 37 mbar for Propane. Check that this is stated on the data plate.

The refrigerator is not designed for operation on town gas or natural gas.

CAUTION
CHECK THAT THE GAS SUPPLIED TO THE REFRIGERATOR IS AT THE CORRECT PRESSURE. SEE THE REDUCING VALVE ON THE LP GAS CONTAINER.

The gas installation should only be carried out by a person experienced in gas fitting. It is recommended that the gas pipe feeding the refrigerator is run underneath the caravan and is so arranged that it is possible to turn off the supply to all appliances other than the refrigerator when they are not required. The supply pipe should preferably be of copper. If any other material is used, it must be of a type approved for use with continuously operating bottled gas appliances, and have threaded compression connections throughout. **PUSH-ON CONNECTIONS MUST NOT BE USED** (We do not recommend the use of „rubber" type flexible tubing for connecting permanently operating appliances of this type in the United Kingdom). All connectors etc. should be of a type specifically designed for the type and diameter of the connection pipe used, and screwed joints should be sealed with a joining compound approved for use with bottled gas.

The gas supply pipe should be connected to the gas inlet pipe on the right hand side of the gas control valve by means of a suitable threaded coupling.

In making the connection to the refrigerator, a union gas cock of an approved type bottled-gas must be incorporated in the supply line in a position which is readily accessible to the user. For eventual servicing purposes, the union should be on the outlet side of the cock and the pipework should be positioned so as not to prevent the refrigerator from being readily withdrawn.

ELECTRICAL CONNECTION

The electrical installation must be carried out in a proper and durable manner, taking into account all relevant regulations and codes of practice. For mains voltage operation, it is important that the circuit to and in the caravan is effectively earthed. **ALL MAINS VOLTAGE WIRING IN THE CARAVAN MUST BE INSTALLED IN ACCORDANCE WITH CURRENT I.E.E. REGULATIONS INCLUDING THE USE OF AN OUTLET AND COUPLER TO BS4343/- CEE17.**

For connection to a 240 V electricity supply, the refrigerator has a 3-core mains lead which is intended for connection to a properly earthed plug and socket outlet. The socket outlet should be fitted in the caravan in a position readily accessible to the user, within reach of the mains lead. In the United Kingdom, the plug and socket outlet should be of the non-reversible type.

IMPORTANT: The wires in the mains lead of this appliance are coloured in accordance with the following code:

GREEN-AND-YELLOW = EARTH

BLUE = NEUTRAL

BROWN = LIVE

As the colours of the wires may not correspond with the coloured markings identifying the terminals in your plug, in the United Kingdom, proceed as follows:

The wire which is coloured **GREEN-AND-YELLOW** must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⏚ or coloured green or green-and-yellow.

The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter L or coloured red.

WARNING - THIS APPLIANCE MUST BE EARTHED.

In the United Kingdom, the plug or circuit to the refrigerator must be fitted with a fuse not greater than 5 amps. If a 13 amp.(B.S.1363) fused plug is used, it should be fitted with a 3 amp. fuse. In other countries, the fuse rating will depend upon the voltage and local practice.

240 V Supplies.

Check that the voltage stated on the data plate is the same as the mains voltage in use (240 V).

Plug the 240 V refrigerator power cord into an easily accessible wall socket.

Electrical leads must be routed and secured so that they cannot come into contact with hot or sharp parts of the refrigerator.

12 V Supplies

Connect the refrigerator to the vehicle battery or alternator by a direct cable. To avoid a voltage drop, the cross-section area of the connecting cable between battery/ alternator and refrigerator must be at least 2.5 mm^2 if the distance is less than 9 meters, and at least 4 mm^2 if the distance is more than 9 meters.

To ensure satisfactory operation, the positive lead must be fitted with a fuse rated at max. 16 A.

To prevent the refrigerator from draining the battery, make sure that the current supplied to the caravan is cut off when the vehicle engine is not running, for example by fitting an ignition control relay.

Wiring diagram, see Fig. 6.

The notations in the wiring diagramme are:

I. Diagramme for the mains installation.

II. Diagramme for the 12 V installation.

A. Electronic igniter/reigniter
B. Electrode (at burner)
C. 12 V heating element
D. Switch for 12 V operation
E. Switch for reigniter (gas op.)
F. Electric thermostat
G. Heating element, 240 V
H. Switch for 240 V operating

L. Terminal block
M. Terminal block

12 V supply of reigniter

Fig. 6 shows the wiring diagramme of the refrigerator as delivered. The 12 V supply enters at (L). The reigniter (A) is fed via two wires (1) ans (2) at terminal block (M).

It is advisable to feed the reigniter from a separate 12 V source. To do this: remove the wires (1) and (2) and connect the supply as is shown in Fig. 7.

The reigniter should not be connected directly to a battery charger but only over a battery.

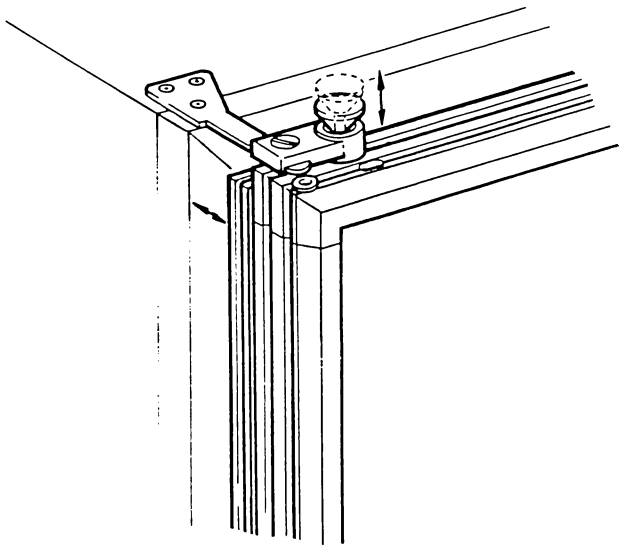

Fig. 1

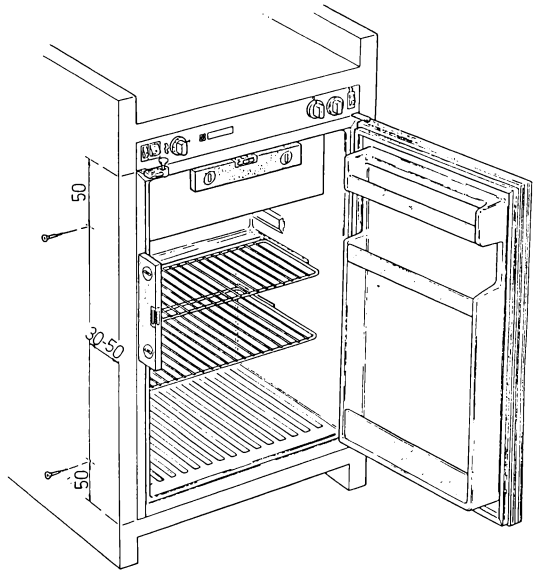

Fig. 2

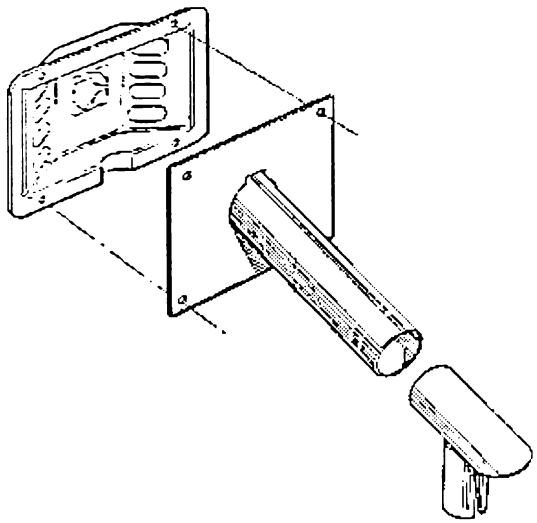

Fig. 4

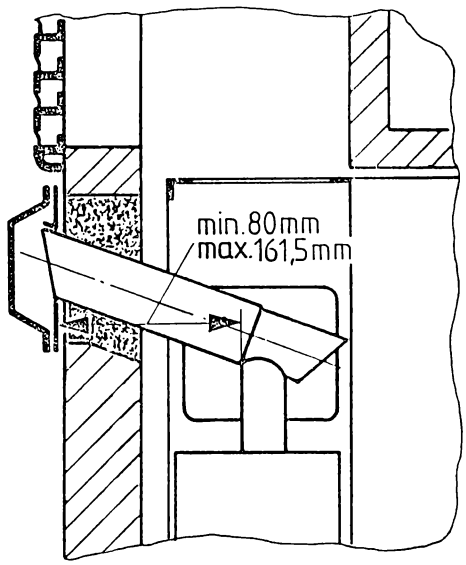

Fig. 5

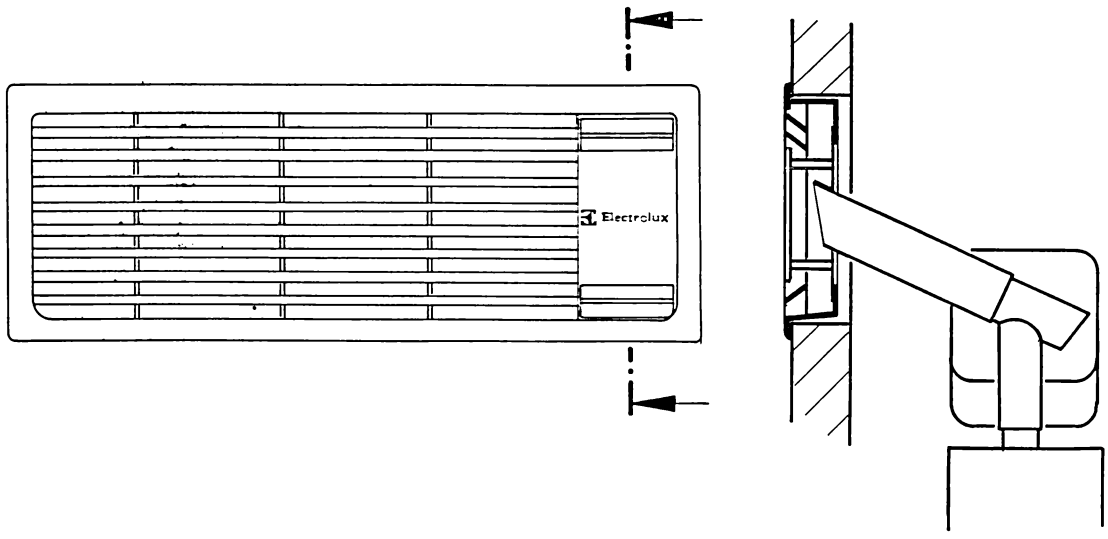

Fig. 8

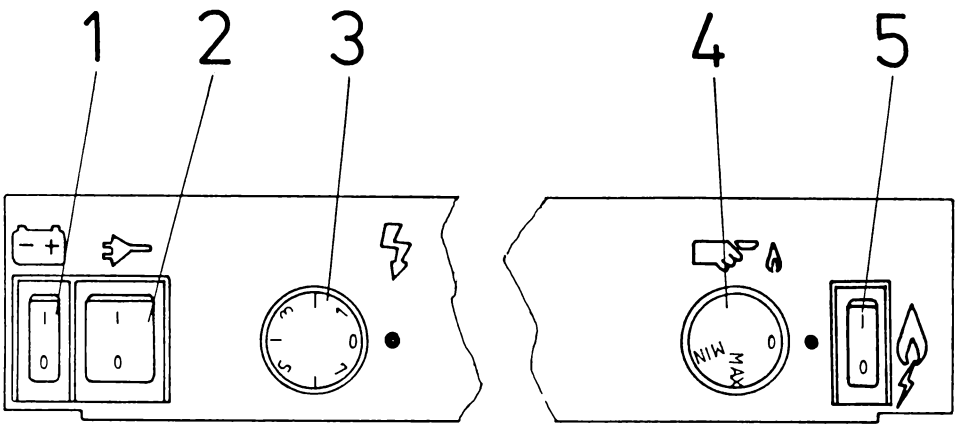

Fig. 3

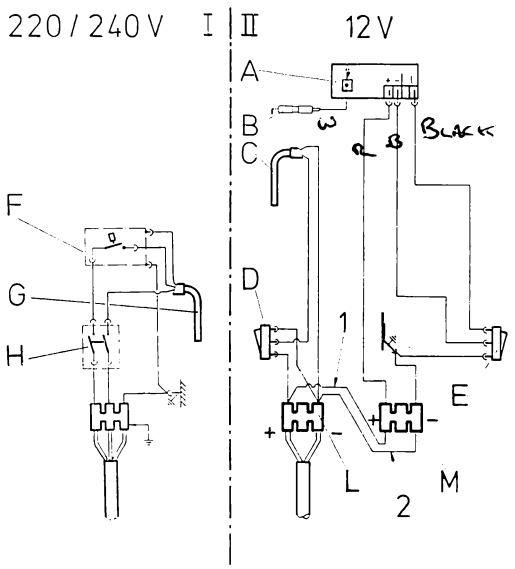

Fig. 6

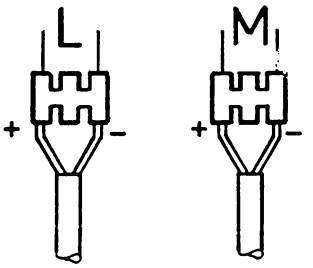

Fig. 7

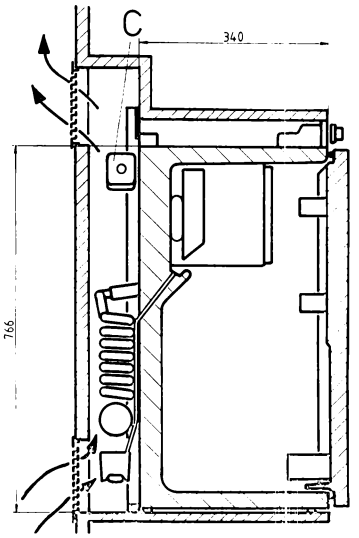

Fig. 9

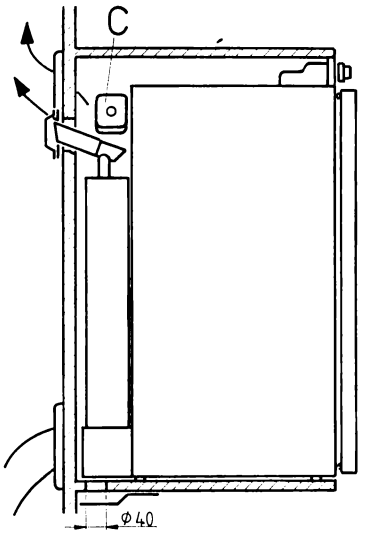

Fig. 10