



Installation Instructions

Absorption Refrigerator for Recreation Vehicles

RMD 8501 RMD 8505
RMD 8551 RMD 8555



Type C40 / 110

N 2

MBA 06/2014

289 0458 - 09



AUS / NZ

 **Dometic**
GROUP

 **Dometic**

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For your safety



WARNING!

The appliance may be installed by authorised personnel only!



WARNING!

Protect children:

When disposing of the old refrigerator, detach all refrigerator doors and leave the storage racks in the refrigerator. In this way inadvertent entrapment and suffocation is prevented.



DANGER !



Never use an unshielded flame to check gas bearing parts and pipes for leakage!

There is a danger of fire or explosion.



WARNING!

Never open the absorber cooling unit! It is under high pressure.

There is a danger of injury!



WARNING!

Work on gas equipment, exhaust system and electrical facilities must be carried out by authorised personnel only. Substantial damage to property and/or injury to persons can arise through unprofessional procedures.



WARNING!

Pay attention to clean and residue-free workmanship if silicone sealing compound or similar is used .

There is a danger of fire if silicone threads come into contact with hot parts or an open flame.



CAUTION!

It is imperative that the operating pressure corresponds to the data specified on the rating plate of the appliance. Any difference in values may result in damage the appliance.



CAUTION!

If the connection cable is damaged it must be replaced by the Customer Service at Dometic, or by respectively qualified personnel, in order to prevent any hazards.

CAUTION!

The refrigerator must not be exposed to rain.



Unpacking and transport

Lifting / carrying the refrigerator

CAUTION!

Never use parts on the refrigerator other than those shown in the illustration (particularly not the cooling unit, gas lines and control panel) for carrying or lifting the refrigerator !

This prevents damage to the refrigerator.

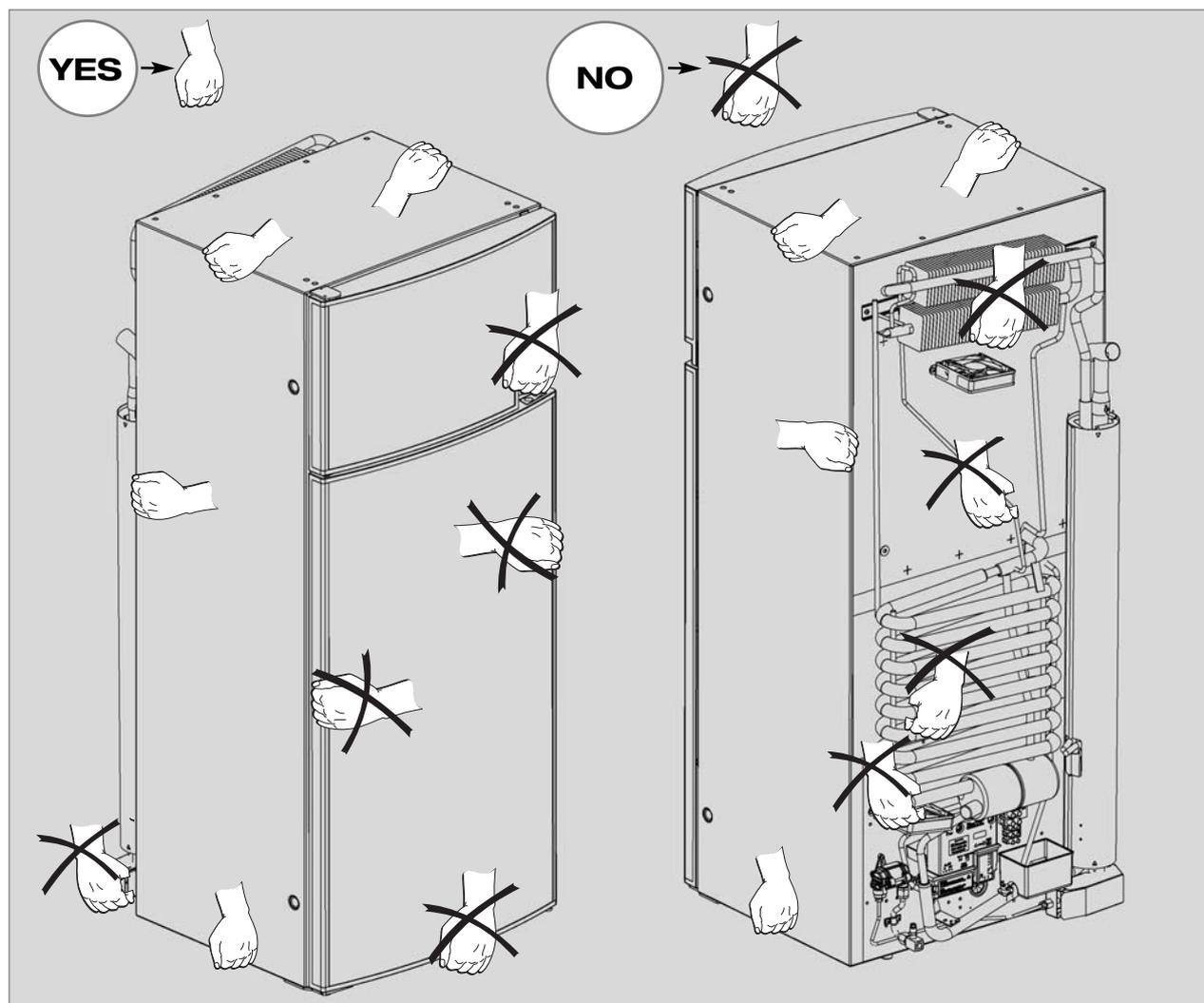


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1.0 General

1.1 Introduction

On installation of the appliance, the technical and administrative regulations of the country in which the vehicle will first be used must be adhered to. Otherwise the refrigerator must be installed as described in these instructions.

1.2 Guide to these installation instructions

Before you start installing the refrigerator, please read the installation instructions carefully.

These instructions provide you with the necessary guidance for the proper installation of your refrigerator. **Observe in particular the safety instructions.** Observation of the instructions and handling recommendations is important for dealing with the refrigerator safely and for protecting you from injury and the refrigerator from damage. You must understand what you have read before you carry out a task.

Keep these instructions in a safe place so they may be referred to at any time.

1.3 Copyright protection

The information, texts and illustrations in these instructions are copyright protected and are subject to industrial property rights. No part of these instructions may be reproduced, copied or utilised in any other way without written authorisation by Dometic.

1.4 Explanation of symbols used in this manual

Warning notices

Warning notices are identified by symbols. A supplementary text gives you an explanation of the degree of danger.

Observe these warning notices rigorously. You will thus protect yourself and other people from injury, and the appliance from damage.



DANGER!

DANGER indicates an imminent hazardous situation which, if not avoided, could result in death or serious injury.



WARNING!

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION!

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION!

CAUTION (used without the safety alert symbol) indicates a potentially hazardous situation which, if not avoided, may result in damage to the appliance.

Information



INFORMATION gives you supplementary and useful guidance when dealing with your refrigerator.

Environmental Tips



ENVIRONMENTAL TIPS gives you useful guidance for saving energy and disposal of the appliance.

1.5 Warranty

Warranty arrangements are in accordance with the normal conditions applicable for the country concerned. For warranty or other maintenance, please contact our customer services department. Any damage due to improper use is not covered by the warranty. The warranty does not cover any modifications to the appliance or the use of **non-original Dometic** parts. The warranty does not apply if the installation and operating instructions are not adhered to and no liability shall be entertained.



Deviations from these installation instructions without prior notification of Dometic result in Dometic GmbH's warranty obligations becoming void!

1.6 Limitation of liability

All information and guidance in these operating instructions were prepared after taking into consideration the applicable standards and regulations as well as the current state of the art. **Dometic** reserves the right to make changes at any time which are deemed to be in the interest of improving the product and safety.

Dometic will assume no liability for damage in the case of :

- non-observation of the operating instructions
- application not in accordance with the regulations or provisions
- use of non-original spare parts
- modifications and interferences to the appliance

1.7 Environmental notices



Refrigerators manufactured by Dometic are free of CFC/HCFC and HFC. Ammonia (a natural compound of hydrogen and nitrogen) is used in the cooling unit as a coolant. Non-ozone-hazardous cyclopentane is used as a propellant for manufacturing PU foam insulation.

Disposal

In order to ensure that the recyclable packaging materials are re-used, they should be sent to the customary local collection system.

2.0 Safety instructions

2.1 Application according to regulations

This appliance is designed for storage of food and storage of frozen food and making ice. The refrigerators outlined herein have been design certified for installation in a mobile home or recreational vehicle.

The refrigerator is to be used solely for storing foodstuffs.

CAUTION!

The refrigerator must not be exposed to rain.

2.2 User's responsibility

Anyone operating the refrigerator must be familiar with the safe handling and understand the advice in the operating instructions (part no. 289 0457-09).

2.3 Working upon and checking the refrigerator



WARNING!

Work on gas equipment, exhaust system and electrical facilities must be carried out by authorised personnel only. Substantial damage to property and/or injury to persons can arise through unprofessional procedures.



DANGER!



Never use an unshielded flame to check gas bearing parts and pipes for leakage!

There is a danger of fire or explosion.



WARNING!

Never open the absorber cooling unit! It is under high pressure.

There is a danger of injury!

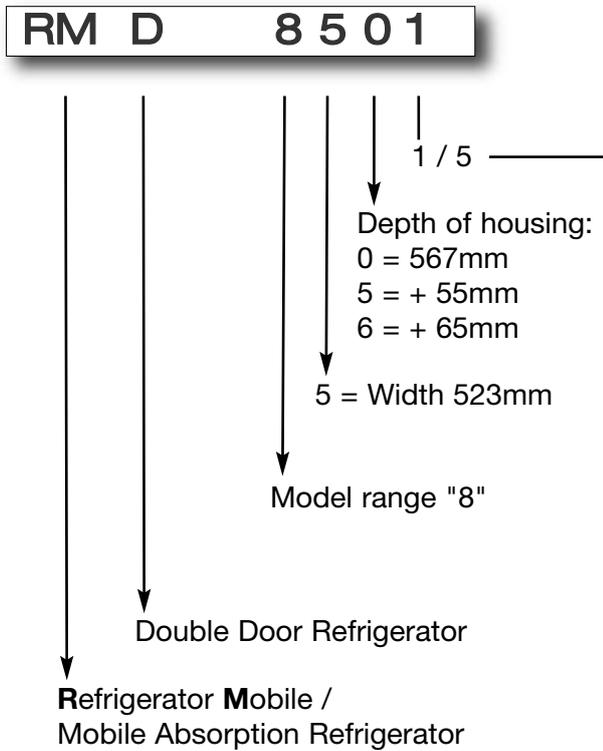
2.4 Operating the refrigerator with gas

It is imperative that the operating pressure of the pressure reducer on the gas system corresponds to the data specified on the rating plate of the refrigerator. Compare the operating pressure of the rating plate with the data specified on the pressure reducing valve of the liquid gas cylinder.

3.0 Description of model

3.1 Model identification

Example:

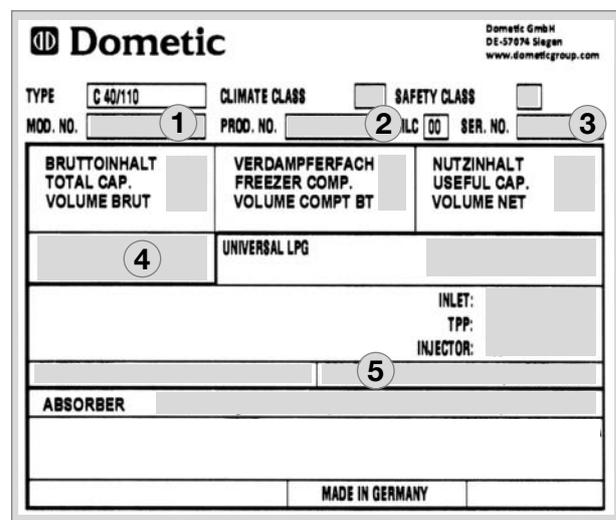


1
manual energy selection, automatic ignition
(MES)

5
automatic and manual energy selection,
automatic ignition **(AES)**

3.2 Refrigerator rating plate

The rating plate is to be found on the inside of the refrigerator. It contains all important details of the refrigerator. You can read off from this the model identification, the product number and the serial number. You will need these details whenever you contact the customer service centre or when ordering spare parts



Example

Fig. 1

- ① Model number
- ② Product number
- ③ Serial number
- ④ Electrical rating details
- ⑤ Gas pressure

3.3 Technical data

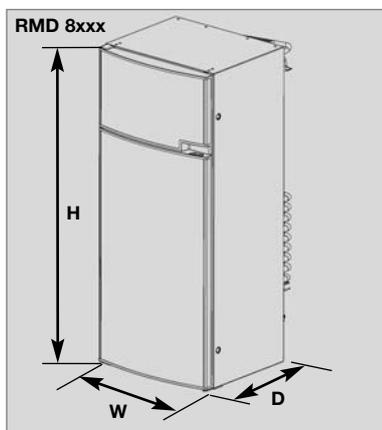


Fig. 2

Model	Dimensions H x W x D (mm) Depth incl. door	Gross capacity		Rating details mains/battery over 24hrs	Consumption * electricity/gas	Net weight	Ignition	
		with freezer compartment	freezer				Piezo	Automat
RMD 8501	1245x523x567	160 lit.	30 lit.	250 W / 170 W	ca. 3.9 KWh / 460 g	40 kg		•
RMD 8505	1245x523x567	160 lit.	30 lit.	250 W / 170 W	ca. 3.9 KWh / 460 g	40 kg		•
RMD 8551	1245x523x622	190 lit.	35 lit.	250 W / 170 W	ca. 3.9 KWh / 460 g	41.5 kg		•
RMD 8555	1245x523x622	190 lit.	35 lit.	250 W / 170 W	ca. 3.9 KWh / 460 g	41.5 kg		•

Subject to technical changes.

*Average consumption measured at an average ambient temperature of 25°C in pursuance of ISO Standard.

4.0 Installation instructions

4.1 Installation



WARNING!

The appliance may be installed by authorised personnel only!

The unit and the exhaust duct system must be in principle installed so that it is accessible for maintenance work, can be easily installed and dismantled and removed from the vehicle without great effort.

Installation and connection of the appliance must comply with the latest technical regulations, as follows:

- **The electrical installation must comply with national and local regulations.**
- **Electrical wiring regulations**
- **The gas installation must comply with national and local regulations.**
- **AS 5601.2 - Gas Installations**
NZ 5601 - Gas Appliance Safety
- **The appliance must be installed in such a way that it is shielded from excessive heat radiation.**

Excessive heat impairs performance and raises the energy consumption of the refrigerator!



Deviations from these installation instructions without prior notification of Dometic result in Dometic's warranty obligations becoming void!

4.1.1 Side installation

If the appliance is installed on the same side of the vehicle as the entrance door, it is desirable that the door does not cover the refrigerator's vents. (Fig. 3, Clearance door/ventilation grille at least 25 mm). Otherwise ventilation could be impaired which causes a loss in cooling performance. Awnings are often placed at the door side of a caravan. This complicates evacuation of combustion gases and heat through the ventilation grilles (loss in cooling performance)!

(Fig. 3) The air vent grilles are blocked. There must be a distance between the door and the air vents of at least 25 mm!

If the door/grille distance is between 25 mm and 45 mm, we recommend installing a **Dometic ventilation kit** to achieve an optimal cooling performance in high ambient temperatures.

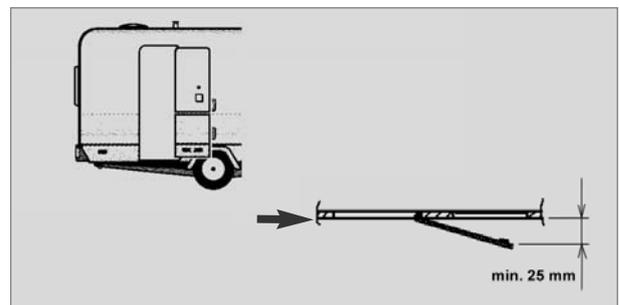


Fig. 3

(Fig. 4) The air vent grilles offer an unobstructed dissipation of heat and exhaust gas even when the door is opened.

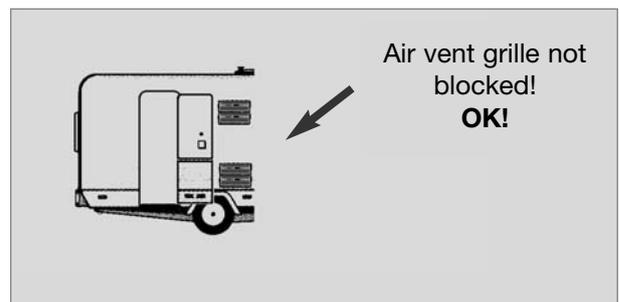


Fig. 4

4.1.2 Draught-proof installation

Refrigerators in motorhomes, caravans or other vehicles must be installed in a draught-proof manner. This means that the combustion air for the burner is not taken from the living space and that exhaust fumes are prevented from entering the living space.

Adequate sealing between the back of the refrigerator and the vehicle interior has to be provided.

Dometic strongly recommends carrying this out using a flexible seal (in order to simplify later removal and installation of the unit for maintenance purposes).

 **WARNING!**

By no means use durable sealing compounds, fitting foam or similar material to realise draught-proof installation of the refrigerator! Do NOT use any easily inflammable materials for sealing (in particular silicon sealing compound or similar). Risk of fire! The device manufacturer's product liability and warranty shall lapse if such materials are used.

Proposal 1

Fasten the sealing lips to a stop bar on the rear side (1), e.g. by gluing.

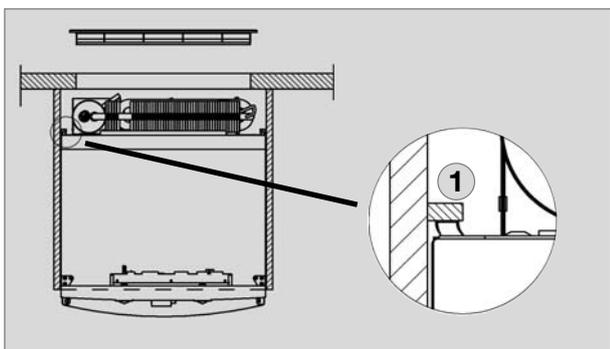


Fig. 5

The cavity in-between the outer vehicle wall and refrigerator is completely isolated from the vehicle interior. Intrusion of exhaust fumes into the living space is prevented.

Proposal 2

The lip seals (1) are installed at the bottom and on each side in the installation recess (Fig. 6-8). A heat deflector plate (2) is installed in the installation recess above the refrigerator. **Affix this plate to the caravan wall, do NOT attach to the refrigerator!**

Attach the deflector plate so that the heated air escapes through the top ventilation grill into the open air and no heat build-up can be produced.

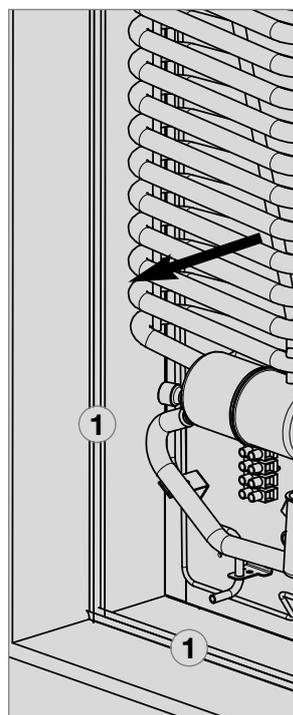


Fig. 7

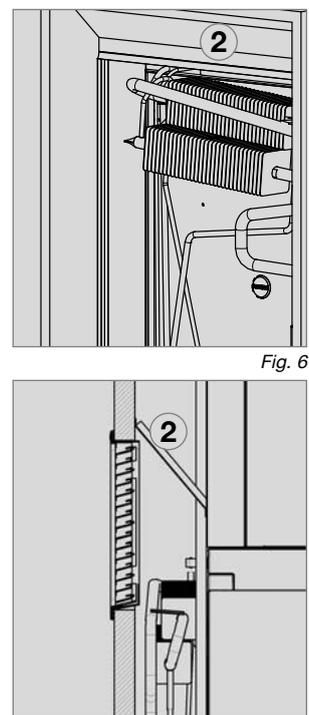


Fig. 6

Fig. 8

The refrigerator is later pushed into the installation recess from the front. Ensure that the seals abut the case evenly.

This installation option facilitates the removal and installation of the appliance for servicing.



Deviations require the consent of the manufacturer!

4.2 Ventilation

4.2.1 Ventilation and air extraction of the refrigerator

A correct installation of the refrigerator is essential for its correct operation, as due to physical reasons heat builds up at the back of the appliance which must be allowed to escape into the open air.



In the event of high ambient temperatures, full performance of the cooling unit can only be achieved by means of adequate ventilation and extraction.

Ventilation is provided for the unit by means of two apertures in the caravan wall. Fresh air enters at the bottom, extracts the heat and exits through the upper vent grille (chimney effect).

Dometic recommends the larger LS 300 (L500, NZ) side ventilation grilles be used for both the top and lower side ventilation of the refrigerator. Alternatively, the installation of the lower ventilation grille (LS 300 / L500) with the roof exhaust is also acceptable.

The ventilation grilles must have an open cross-section of at least 450 cm². This is achieved by using the Dometic LS300 / L500 absorber ventilation and air extraction system which has been tested and approved for this purpose.

The upper ventilation grille should be positioned as high as possible above the condenser (A, Fig. 11) . Install the lower ventilation grille at floor level of the vehicle (Fig. 9), allowing unburnt gas (heavier than air) to escape directly into the open air. The gas burner must be located above the edge (1, Fig. 9) .

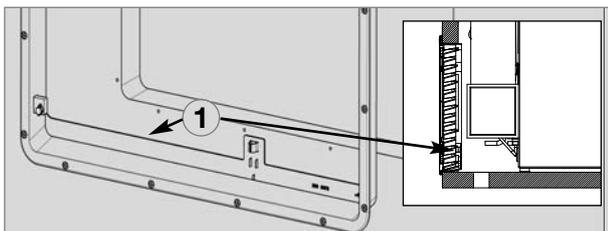


Fig. 9

Should this arrangement prove impossible, a ventilation aperture greater than 40 mm Ø must be introduced by the manufacturer of the vehicle into the recess floor in order to avoid the accumulation of unburnt gas on the floor.

4.2.2 Height of ventilation

Minimum height of ventilation H	
1.	✓✓✓
Roof exhaust vent	1250 mm
2.	✓✓
Upper vent grille LS300/L500	Height of fridge

Installation of roof exhaust vent and lower ventilation grille LS300 / L500.

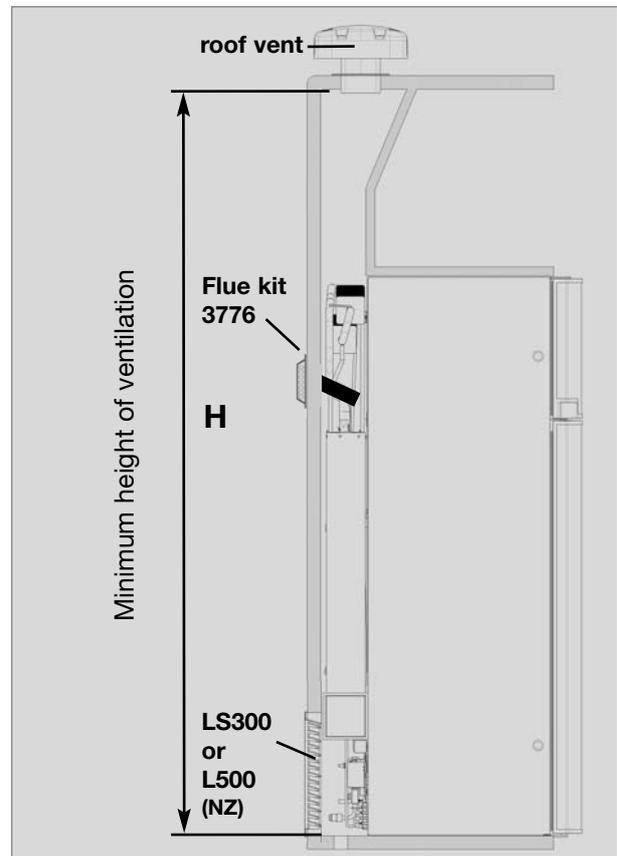


Fig. 10

Installation of lower and upper ventilation grilles LS300 (or L500 NZ).

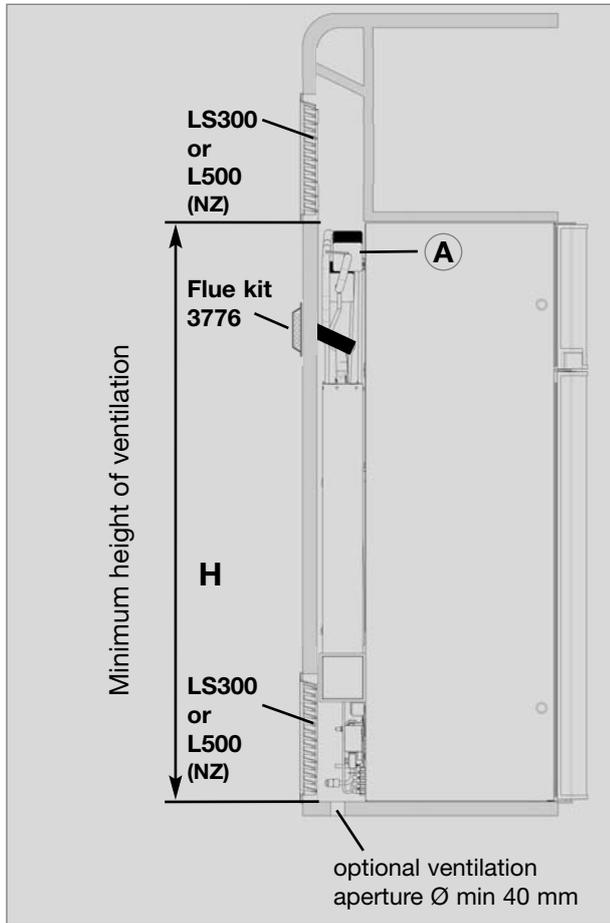


Fig. 11

The bottom of the upper ventilation grille must be equal to or above the height of the refrigerator.



Correct mounting of the lower ventilation grille facilitates access to the connections and functional parts during maintenance.

CAUTION!

An installation other than described will reduce the cooling capacity and jeopardise the manufacturer's warranty/product liability.

4.3 Installing the ventilation system

4.3.1 Installation LS300 or L500 (NZ)

To install the ventilation grilles cut two rectangles in the exterior wall of the vehicle (for position of the cuts, see Fig. 13).

1

Cut two rectangles in the exterior wall of the vehicle.

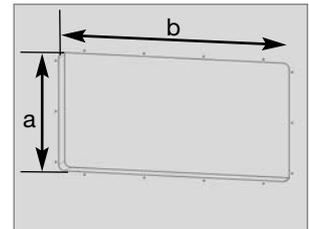


Fig. 12

2

Seal the mounting frame making it waterproof (does not apply for mounting frames with integral seal) and screw into position.

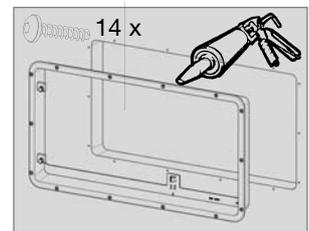


Fig. 13

3

Insert ventilation grille.

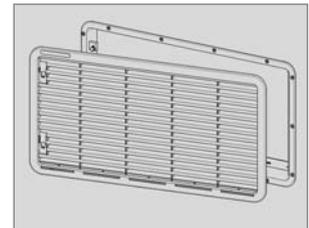


Fig. 14

4

Install locking slider.

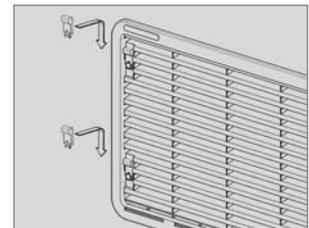


Fig. 15

5

Lock ventilation grille.

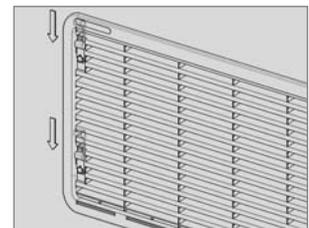


Fig. 16



New Zealand only: Please be aware that the **L500** vent grille is equipped with locking screws instead of sliders.

4.3.2 Installing roof exhaust vent

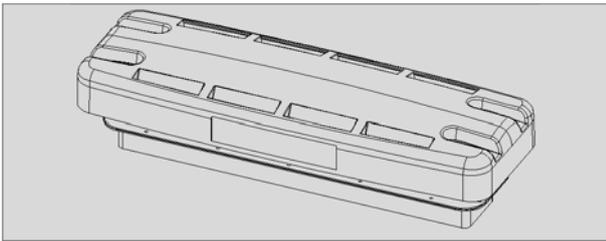


Fig. 17

1

Seal the installation bays and screw them to the vehicle roof.

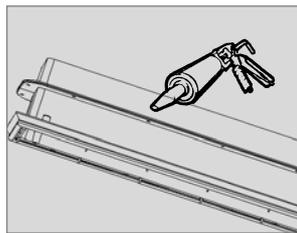


Fig. 18

2

Place the hood in position and screw it to the installation bays.

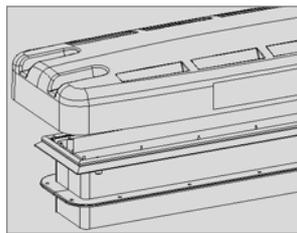


Fig. 19

Open cross-section of roof exhaust

minimum 640 cm²

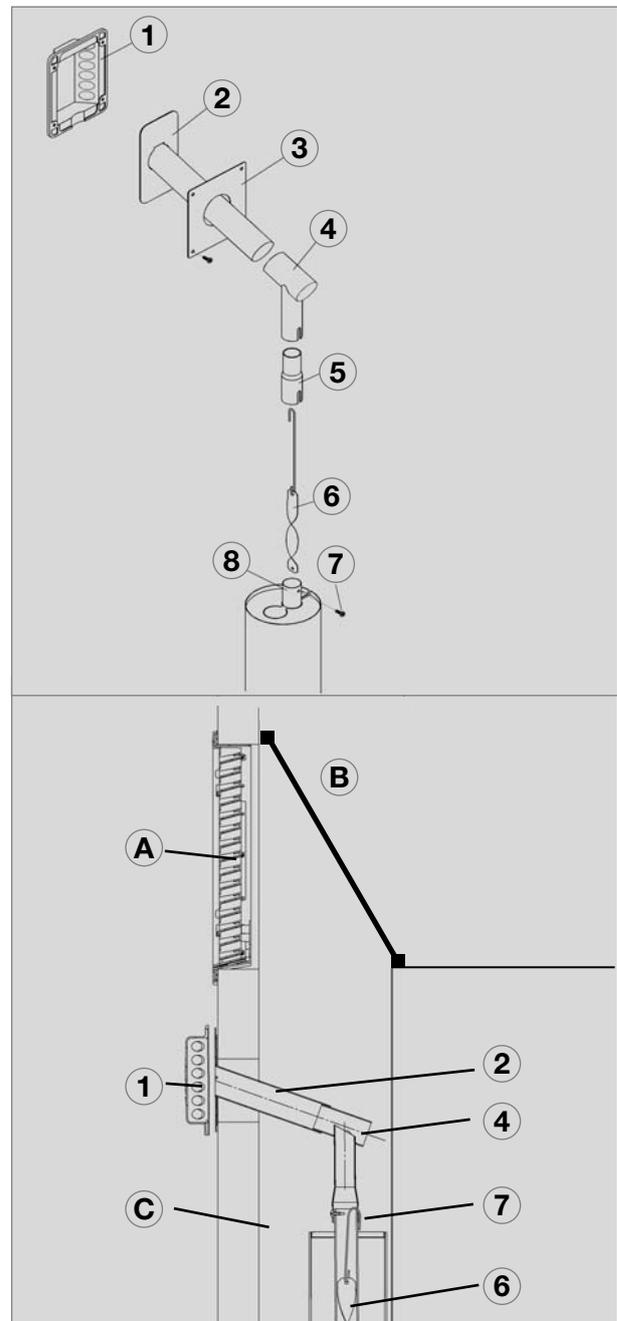
4.4 Exhaust duct system

(Type A 3776)

The exhaust gas duct system must be made in such a manner as to achieve a complete extraction of combustion products to the outside of the installation cavity.

1. Cut a suitable rectangle in the outer wall of the vehicle. The position of the cut must be appropriate to the particular model of refrigerator and installation conditions.
2. Connect T-piece (4) to adapter (5) or flue pipe (8) as required and affix with screw (7). Ensure that heat baffle (6) is lodged in the correct position.
3. Insert flue pipe (2) through the aperture.

4. Connect flue pipe (2) to T-piece (4). If necessary, shorten flue pipe (2) to the required length.
5. Pack the cut with non-flammable material (e.g. rock wool).
6. Screw securing plate (3) into position.
7. Screw on outer plate (1).



Schematic drawing

Fig. 20

- A** Upper ventilation grille
- B** Heat deflector plate
- C** Vehicle's outer wall

4.5 Installation recess

The refrigerator must be installed **draught-proof** in a recess. The floor of the recess must be level, allowing the appliance to be pushed easily into its correct position. The floor must be substantial enough to bear the weight of the appliance.

4.5.1 Installation in the recess

Push the appliance far enough into the recess until the front edge of the refrigerator casing is aligned with the front of the recess. Allow a **gap of 20 mm** between the back wall of the recess and the refrigeration unit.

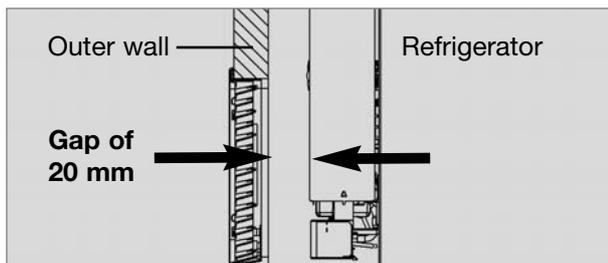


Fig. 21

Ensure that the refrigerator is installed level in the recess.



4.5.2 Recess dimensions

Model

RMD 8501, RMD 8505

Height H _{min}	Width W	Depth* D _{min}
1249 mm	527 mm	518 mm

Model

RMD 8551, RMD 8555

Height H _{min}	Width W	Depth* D _{min}
1249 mm	527 mm	572 mm

* exclusive depth of fridge door , incl. gap of 20mm

4.6 Securing the refrigerator

In the sidewalls of the refrigerator, there are four plastic sleeves (1-4) for securing the refrigerator. The sidewalls or strips attached for securing the refrigerator must be prepared to hold the screws firmly in place even when under increased load (while the vehicle is moving). Fastening screws and caps are supplied with the refrigerator.

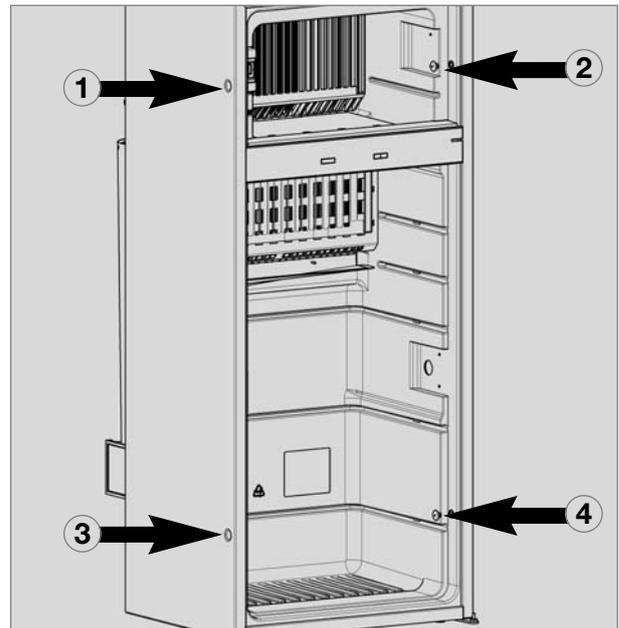


Fig. 22

CAUTION!

Always insert screws through the sleeves provided as otherwise components laid in foam, such as cables etc., could be damaged.

After the refrigerator is put in its final place, secure the screws into the wall of the recess. The screws must penetrate the casing of the refrigerator.

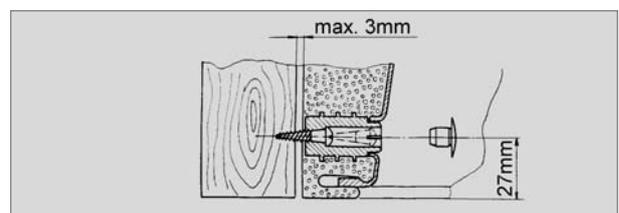


Fig. 23

4.7 Insert the decor panel

Decor panel with frame

- Remove the lateral ledge (1) from the door (ledge is attached, not screwed).
- Shift decor panel (2) away from the door and insert the new decor panel. Re-attach ledge (1).

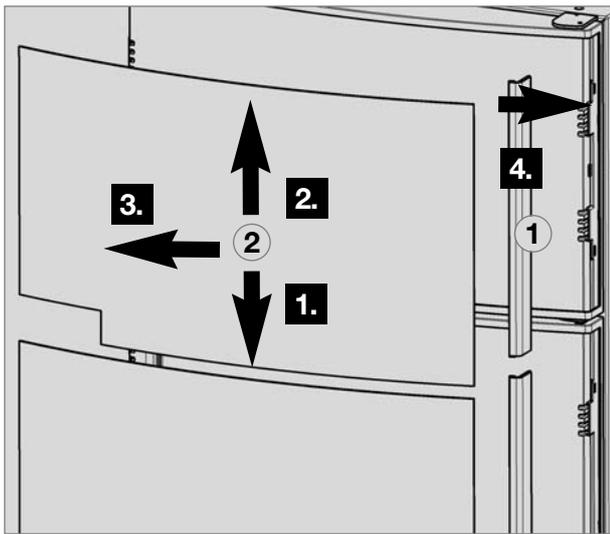


Fig. 24

CAUTION!

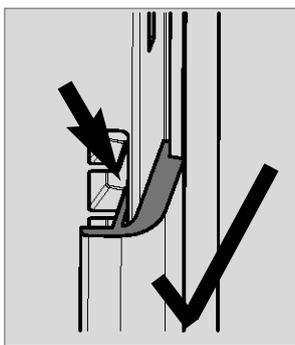


Fig. 25

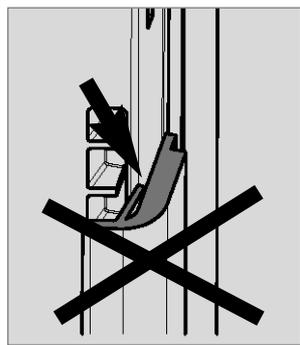


Fig. 26

Decor panel dimensions (frame) :

Upper door

Height	Width	Thickness
300 +/- 1 mm	507,5 +/- 1 mm	max. 1.7 mm

Lower door

Height	Width	Thickness
907,4 +/- 1 mm	507,5 +/- 1 mm	max. 1.7 mm

Frameless decor panel

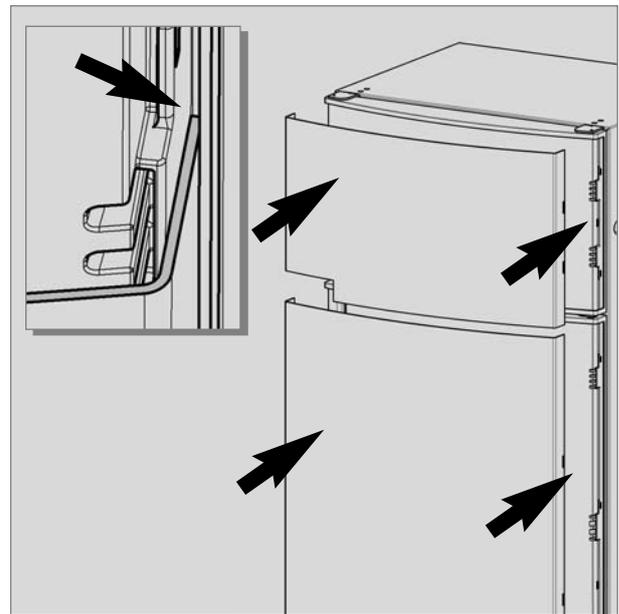


Fig. 27

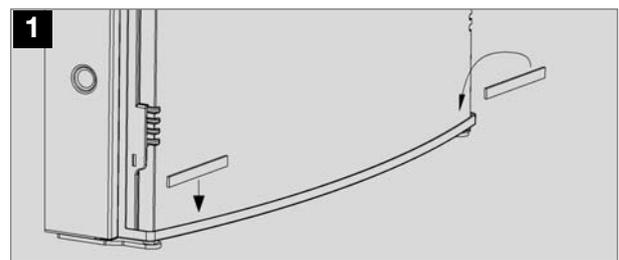


Fig. 28

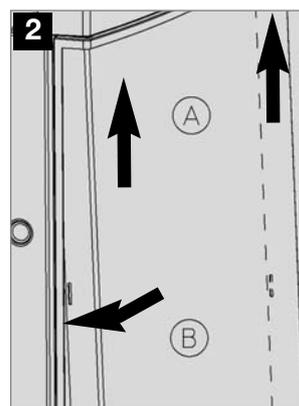


Fig. 29

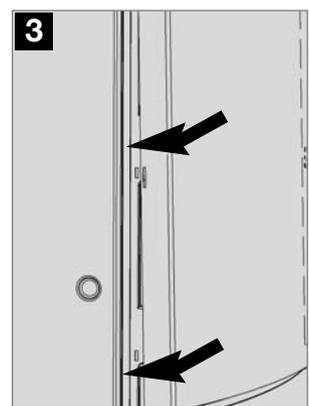


Fig. 30

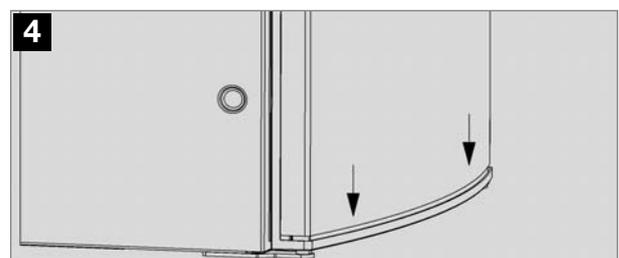


Fig. 31

4.8 Gas installation



WARNING!

The gas connection shall be carried out by specialised personnel* only.

* Specialised personnel are accredited experts who are able, by virtue of their training and knowledge, to vouch for the correct installation and implementation of the leakage test.

- Observe the regulations stated in section 4.1 .
- This refrigerator is provided for installation within Universal gas equipment and must be run exclusively on liquid gas (no natural gas, town gas).
- An AGA Approved LP Regulator must be fitted to the gas supply. The pressure regulator must concur with the operating pressure specified on the rating plate of the appliance. The operating pressure corresponds to the standard pressure of the country of specification.
- Only one connection pressure is permissible for any one vehicle! A plate showing the permanent, clearly legible notice must be displayed in full view at the point where the gas cylinder is installed.
- The gas connection to the appliance must be installed securely and free of stress using pipe connectors and must be securely connected to the vehicle .
- The gas connection to the appliance is 1/8" BSP Female (s. figure 31).
- The refrigerator must be equipped with a gas cock in the supply line to allow the supply to be disconnected. Such a cut-out device must be readily accessible to the user.

Gas connection

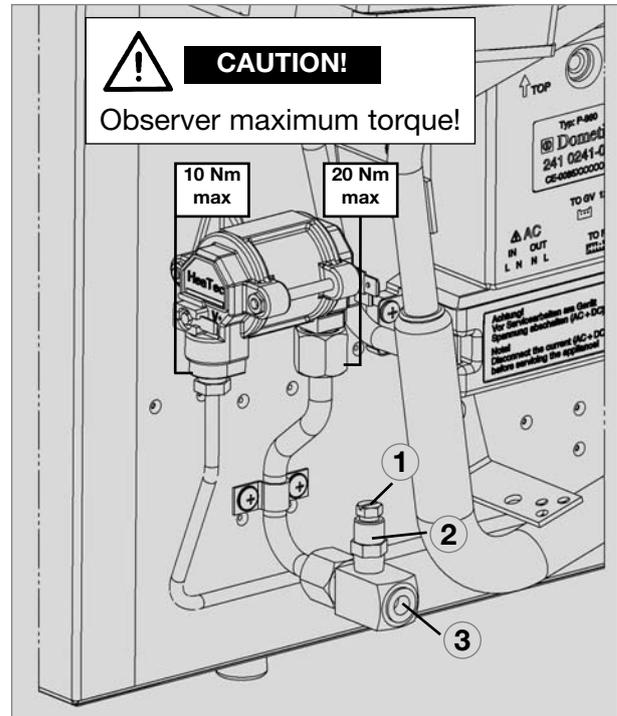


Fig. 32

- ① Testing point
- ② Adapter (**DO NOT LOOSEN!**)
- ③ Connection to gas supply

Gas pressure

Refer to data label.

Before Leaving - Check all connections for gas leaks with soap and water. **DO NOT** use an unshielded flame for detecting leaks. Ignite the burner to ensure correct operation of gas valve, burner and ignition. When satisfied with the appliance, please instruct the user on the correct method of operation. In case the appliance fails to operate correctly after all checks have been carried out, refer to the authorised service provider in your area.

4.9 Electrical installation



WARNING!

The electrical installation shall be carried out by qualified personnel* only.

** Specialised personnel are accredited experts who are able, by virtue of their training and knowledge, to vouch for the correct installation.*

- **The electrical installation must be in accordance with the national regulations of the respective countries.**
- **The connection cables must be routed in a way to prevent contact with hot components of the unit/burner or with sharp edges.**
- **Changes to the internal electrical installation or the connection of other electrical components (e.g. external fan) to the internal wiring of the appliance will render the e1/ CE admittance as well as any claims from warranty and product liability void!**

4.9.1 Mains connection

The power should be supplied by a properly grounded socket outlet. Where a socket outlet with mains supply is used, the outlet must be freely accessible.

Should the connection cable be damaged, have it replaced by Dometic Customer Services or by qualified personnel to avoid hazards.

4.9.2 Battery connection

Power supply to the electronics

The connection to the electronics must be permanently provided by a 12V DC power supply to be protected by a 2 A fuse.

Power supply to the 12V heating element

In order to ensure that the 12V power supply is shut off when stopping the engine (otherwise the battery would discharge within a few hours), connect the power supply to the 12V heating element in a way to have the 12V supply only live while the vehicle ignition is switched on.

Provide a 20 A fuse to protect the 12V heating element circuit.

Cable cross sections :

6 mm ²	< 6 m cable length
10 mm ²	> 6 m cable length

4.9.3 D+ and solar connection (only for AES models)

D+ signal connection

In **>Automatic Mode<** the **AES** electronic system automatically selects the most efficient energy supply. In automatic mode the electronic system uses the **D+ signal** (dynamo +) of the alternator to detect **12V DC**. 12V DC operation is selected only while the engine is running in order to prevent battery discharge.

S+ signal connection:

12V DC energy can be optionally achieved by mounting solar equipment to the vehicle. The solar power equipment must be provided with a solar charging controller with **AES output** (adequate charging controllers available in selected stores). The "S+ connection (Solar +) must be connected to the respective terminal of the solar charging controller (**AES output**). The electronic system uses the **S+ signal** of the solar charging controller to detect **solar 12V DC**.

Cable cross-sectional areas:

There are no particularly high current flows via the D+ and S+ connection; therefore no particularly large cross-section is required for these connections (approx. 1mm² is sufficient).

4.9.4 Cable connections



For MES and AES it is compulsory to provide a permanent 12V DC supply at the terminals C/D (permanent voltage supply for functional electronics).

CAUTION!

Under no circumstances can this permanent DC supply be 24 V DC.

The power supplies for electronics **(1)** and heating element are connected at the terminal block **(2)** as shown below.

Position of the control electronics and terminal block :

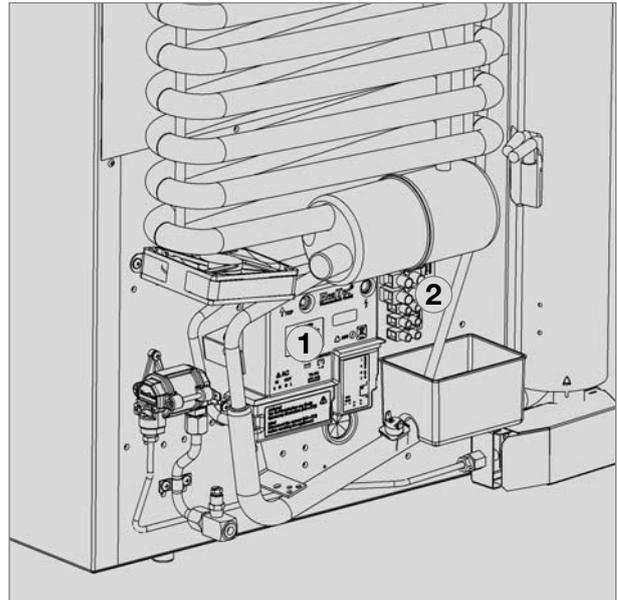
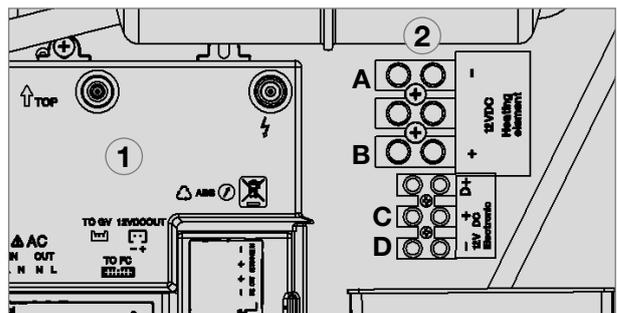


Fig. 33



12V connection

Fig. 34

- A = Ground heating element DC (white)
- B = Positive connection, heating element DC (red)
- C = Positive connection electronics (violet)
- D = Ground electronics (black)

Contacts at the electronics:

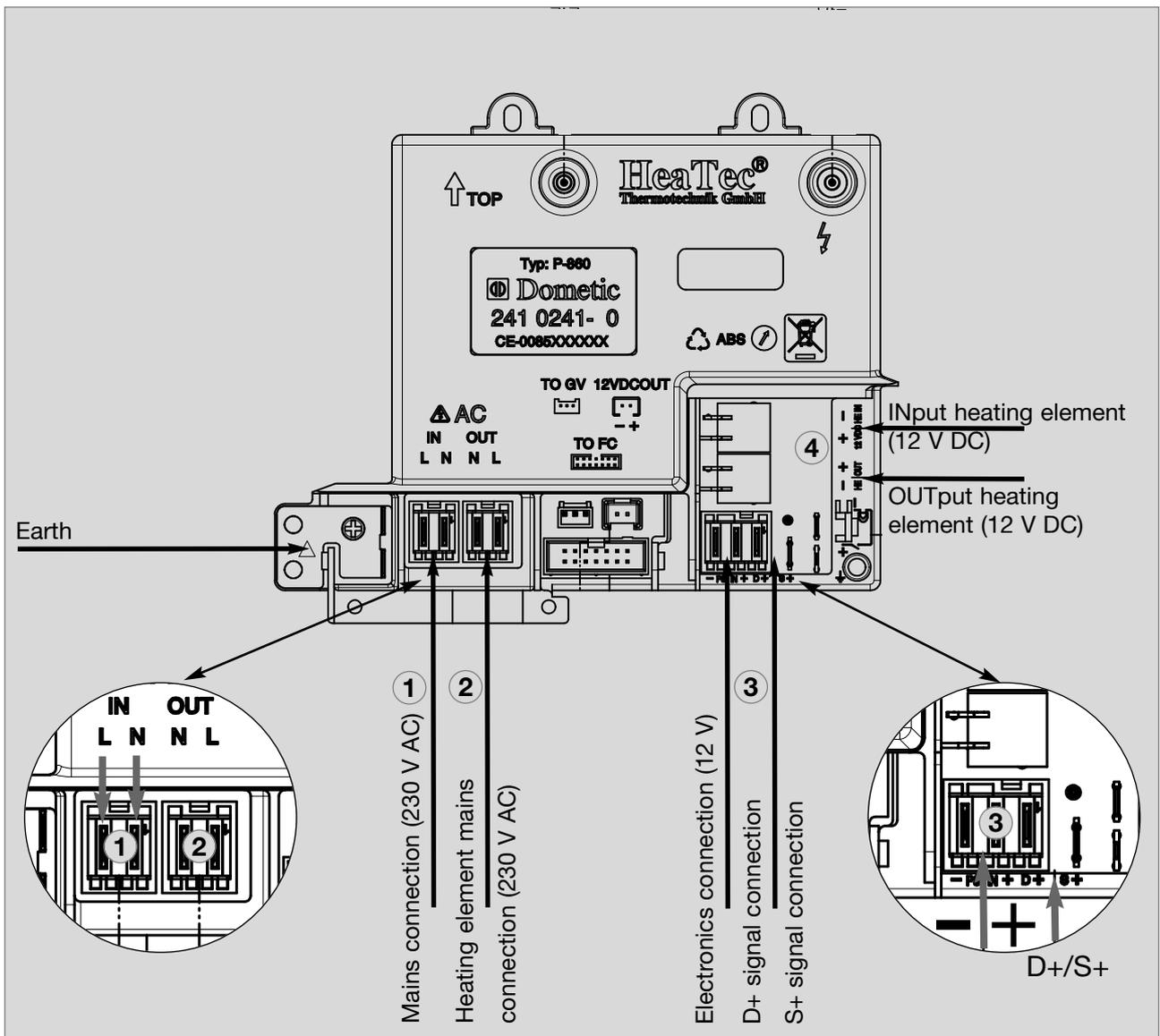


Fig. 35

4.9.5 Circuit diagrams

Circuit diagram RMD 85x1, RMD 85x5

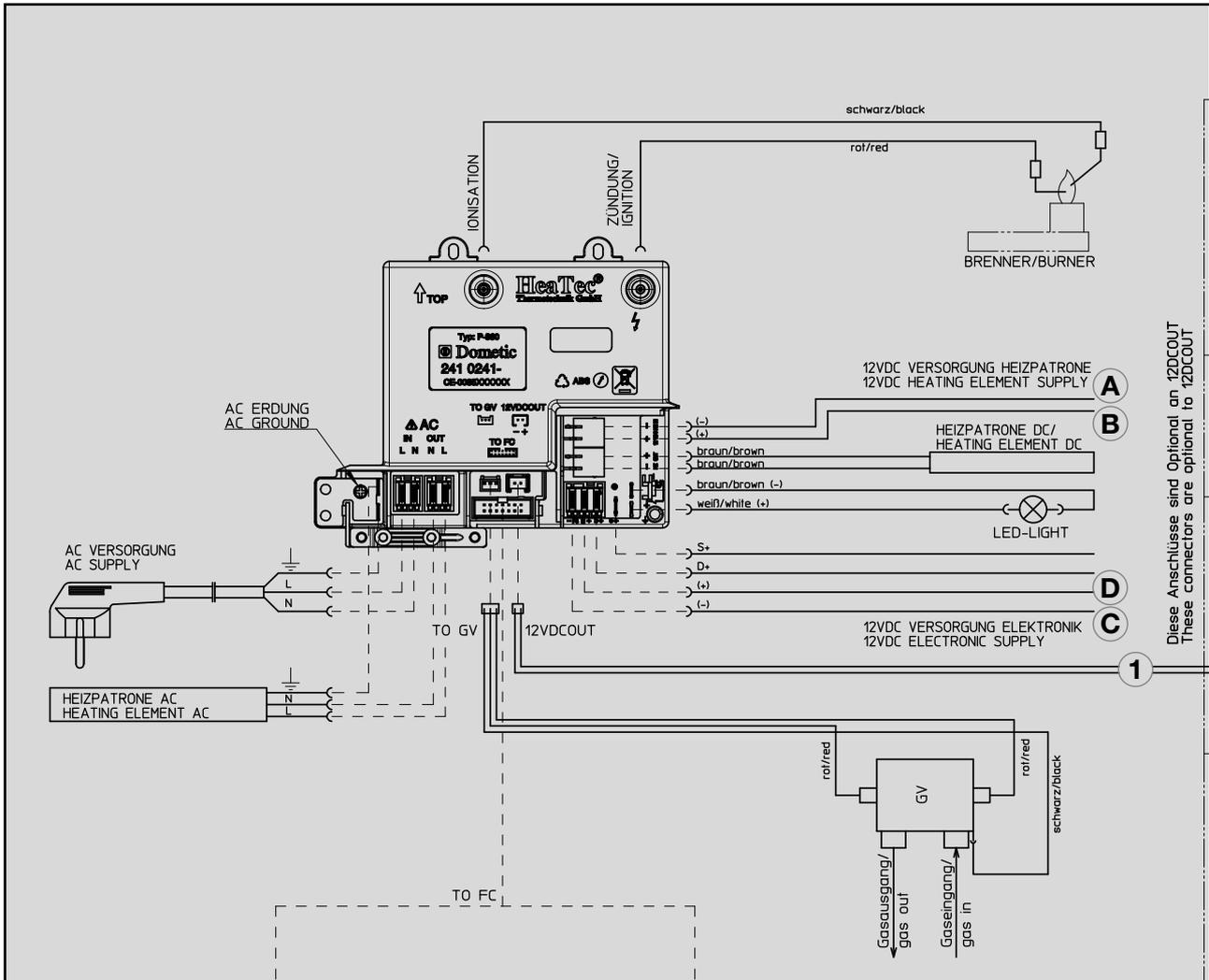


Fig. 35

- ① = 12V OUT / 12 V power supply for ventilator
- Ⓐ = Ground connection heating element 12VDC
- Ⓑ = Positive connection, heating element 12VDC
- Ⓒ = Ground connection electronics 12VDC
- Ⓓ = Positive connection electronics 12VDC



For MES and AES it is compulsory to provide a permanent 12V DC supply at the terminals C/D (permanent voltage supply for functional electronics).

CAUTION!

Under no circumstances can this permanent DC supply be 24 V.

