DOMETIC

REFRIGERATION
REFRIGERATORS

RMD8501, RMD8505, RMD8551, RMD8555

Absorber refrigerator
Installation Manual
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WARNING!

DO NOT USE A FLAME TO CHECK FOR GAS

0.0 Unpacking and transport

Lifting / carrying the refrigerator

CAUTION!

Never use for lifting or carrying other parts of the refrigerator (i.e. cooling unit, gas pipe)!
The refrigerator will be damaged!

[Diagram showing correct and incorrect ways to lift and carry the refrigerator]
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** (used without the safety alert symbol) indicates a potentially hazardous situation which, if not avoided, may result in damage to the appliance.
General

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.

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
- effect of environmental influences, such as
  - temperature fluctuations
  - humidity

1.7 Environmental notices

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.
Safety instructions

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.

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 00317-29).

2.3 Working upon and checking the refrigerator

2.4 Operating the refrigerator with gas

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

---

**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.

**CAUTION!**

The refrigerator must not be exposed to rain.

**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.
3.0 Description of model

3.1 Model identification

Example:

RM D 8 5 0 1

Depth of housing:
0 = standard
5 = + 55mm
6 = + 65mm

5 = Width 523mm

Model range

Double Door Refrigerator

Refrigerator Mobile / Mobile Absorption Refrigerator

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.
Description of model

3.3 Technical data

![Fig. 2](image)

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions H x W x D (mm) Depth incl. door</th>
<th>Gross capacity freezer compartment</th>
<th>Rating details mains/battery</th>
<th>Consumption * electricity/gas over 24hrs</th>
<th>Net weight</th>
<th>Ignition Piezo</th>
<th>Ignition Automat</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMD 8501</td>
<td>1245x523x567</td>
<td>160 lit.</td>
<td>30 lit.</td>
<td>190 W / 170 W</td>
<td>40 kg</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>RMD 8505</td>
<td>1245x523x567</td>
<td>160 lit.</td>
<td>30 lit.</td>
<td>190 W / 170 W</td>
<td>40 kg</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>RMD 8551</td>
<td>1245x523x622</td>
<td>190 lit.</td>
<td>35 lit.</td>
<td>190 W / 170 W</td>
<td>41.5 kg</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>RMD 8555</td>
<td>1245x523x622</td>
<td>190 lit.</td>
<td>135 lit.</td>
<td>190 W / 170 W</td>
<td>41.5 kg</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>

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

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.

**Domestic** 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. 6]

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).

4.2.2 Height of ventilation

<table>
<thead>
<tr>
<th>Minimum height of ventilation H</th>
<th>☺☺☺☺☺☺☺☺☺☺☺☺</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Roof exhaust</td>
<td>1250 mm</td>
</tr>
<tr>
<td>2. Upper vent grille LS300/L500</td>
<td>Height of fridge</td>
</tr>
</tbody>
</table>

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.

Installation of roof exhaust R500 and lower ventilation grille LS300 / L500.
Installation

Installation of lower and upper ventilation grilles LS300.

Fig. 11

4.3 Installing the ventilation system

4.3.1 Installation LS300 or L500 (NZ)

To install the ventilation grilles cut two rectangles to suit vents in the outer 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

CAUTION!

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

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

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

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

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 adaptor (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).
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.

Ensure that the refrigerator is installed level in the recess.

4.5.2 Recess dimensions

Models
- RMD 8501
- RMD 8505
- RMD 8551
- RMD 8555

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1249 mm</td>
<td>527 mm</td>
<td>599 mm</td>
</tr>
</tbody>
</table>

4.6 Securing the refrigerator

In the sidewalls of the refrigerator, there are four plastic sleeves 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.

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.
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).

**Decor panel dimensions (frame):**

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>300 +/- 1 mm</td>
<td>507,5 +/- 1 mm</td>
<td>max. 1.7 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>907,4 +/- 1 mm</td>
<td>507,5 +/- 1 mm</td>
<td>max. 1.7 mm</td>
</tr>
</tbody>
</table>

**Frameless decor panel**

1. Remove the lateral ledge (1) from the door (ledge is attached, not screwed).
2. Shift decor panel (2) away from the door and insert the new decor panel. Re-attach ledge (1).
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 liquid gas equipment and must be run exclusively on liquid gas (propane, butane) (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 shut-off valve allowing to cut the supply line. Such a shut-off device must be readily accessible to the user.

Before Leaving - Check all connections for gas leaks with soap and water. DO NOT use a naked 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.

**Gas connection**

**CAUTION!**

Observer maximum torque!

1. Testing point
2. Connection to gas supply

**Gas pressure**

Refer to data label.

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.
4.9 Electrical installation

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
The machine’s 12V connection cable is connected (observing correct polarity) to plug-in-contacts (see Fig. xx).

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 mm², < 6 m cable length
- 10 mm², > 6 m cable length

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!
Installation

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 and heating element are connected directly at the plug-in contacts of the electronics.

**Position of the control electronics:**

![Diagram of control electronics](image.png)
Contacts at the electronics:

Plug-in contacts (manufacturer: Stocko®)

1. MF 9562-002-80E
2. MF 9562-002-8 OC
3. 3-pin with D+ contact: MF 9562-003-30 960-000-00 2-pin: MF 9562-002-8 ON + spade connector 6.3 x 0.8
4. MKH 5132-1-0-200
4.9.5 Circuit diagrams

Circuit diagram RMD 85x1, RMD 85x5

Fig. 34

1 = 12V OUT / 12 V power supply for optional 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.
Fan (optional) RMD 85x1, RMD 85x5

Fig. 35