

DOMETIC **AIR CONDITIONERS** **FRESHJET**



FJ 1700, FJ 2000, FJ 2200, FJ 3200

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Original instructions

Please read these instructions carefully and follow all instructions, guidelines, and warnings included in this product manual in order to ensure that you install, use, and maintain the product properly at all times. These instructions **MUST** stay with this product.

By using the product, you hereby confirm that you have read all instructions, guidelines, and warnings carefully and that you understand and agree to abide by the terms and conditions as set forth herein. You agree to use this product only for the intended purpose and application and in accordance with the instructions, guidelines, and warnings as set forth in this product manual as well as in accordance with all applicable laws and regulations. A failure to read and follow the instructions and warnings set forth herein may result in an injury to yourself and others, damage to your product or damage to other property in the vicinity. This product manual, including the instructions, guidelines, and warnings, and related documentation, may be subject to changes and updates. For up-to-date product information, please visit documents.dometic.com.

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1 Explanation of symbols



WARNING!
Safety instruction: Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



CAUTION!
Safety instruction: Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



NOTICE!
Indicates a situation that, if not avoided, can result in property damage.

**NOTE**

Supplementary information for operating the product.

2 Safety and installation instructions

Please observe the prescribed safety instructions and stipulations from the vehicle manufacturer and service workshops.

2.1 Handling the device



WARNING! Failure to obey these warnings could result in death or serious injury.

Electrocution hazard

- Do not operate the device if it is visibly damaged.
- Always disconnect the power supply when working on the device.
- Operate the device only if you are certain that the housing and the cables are undamaged.

Health hazard

- This device can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the device in a safe way and understand the hazards involved.
- Children shall not play with the device.
- Installation, maintenance and repairs of the roof air conditioner may only be carried out by qualified personnel who are familiar with the risks involved when handling refrigerant and air conditioning systems as well as the relevant regulations. Inadequate repairs may cause serious hazards. For repair service, please contact the service centre in your country.

Fire hazard / Flammable materials

- Keep the ventilation openings free of obstructions.
- Do not damage the refrigerant circuit.
- Do not use the roof air conditioner near flammable fluids or in closed rooms.
- Make sure no combustible objects are stored or installed near the air outlet. A distance of at least 50 cm must be kept.

- Do **not** undo the upper cover of the roof air conditioner in the event of a fire. Use approved extinguishing agents instead. Do not use water to extinguish fires.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The device shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn the device.
- Be aware that refrigerants may not contain an odor.



CAUTION! Failure to obey these cautions could result in minor or moderate injury.

Health hazard

- Only use the device as intended.
- Do not make any alterations or conversions to the device.
- Do not reach into air outlets or insert any foreign objects in the roof air conditioner.
- If faults occur in the roof air conditioner's refrigerant circuit, the roof air conditioner must be checked by a specialist company and properly repaired. The refrigerant must never be released into the air.



NOTICE! Damage hazard

- Never drive through automatic car washes when the roof air conditioner is mounted.
- Please ask your vehicle manufacturer if a technical inspection is required after fitting an air conditioner and whether the height entered in your vehicle documents needs to be altered:
 - FreshJet1700, 2000, 2200: increased height 225 mm
 - FreshJet3200: increased height 248 mm

2.2 Installing the device



WARNING! Failure to obey these warnings could result in death or serious injury.

Electrocution hazard

- The electrical power supply may only be connected by a qualified electrician (e.g. VDE 0100, Part 721 in Germany).

- The device shall be installed, operated and stored in a room with a floor larger than 4 m².



CAUTION! Failure to obey these cautions could result in minor or moderate injury.

Health hazard

- Attach and lay the cables so that they cannot be tripped over or damaged.
- The roof air conditioner must be installed securely so that it cannot fall down.



NOTICE! Damage hazard

- The roof air conditioner is not suitable for use in agricultural or construction vehicles.
- Use cable ducts to lay cables through walls with sharp edges.
- Do not lay loose or bent cables next to electrically conductive materials (metal).
- Do not pull on the cables.

3 Target group for this instruction manual

The instructions in this manual are intended for qualified personnel at workshops who are familiar with the guidelines and safety precautions to be applied.

4 Scope of delivery

- With air diffuser box Chillout ADB
- With air diffuser box ADB

No. in fig. 1	Number	Description
1	1	Roof air conditioner
2	1	Air outlet unit
3	1	Fastening frame
4	1	Air filters (with air diffuser box Chillout ADB only)
5	1	Filter covers (with air diffuser box Chillout ADB only)
6	1	Seals

No. in fig. 1	Number	Description
7	3	Cable connectors
8	4	Long fastening screws
9	4	Short fastening screws
10	1	Remote control

5 Accessories

Available as accessories (not included in the scope of delivery):

Designation	Reference no.	FJ1700	FJ2000	FJ2200	FJ3200
DC Kit PP12	9100300003	–	–	–	–
DC Kit DSP-T 12	9600007286	•	•	•	•
DC Kit DSP-T 24	9600007287	•	•	•	•



NOTE

The DC extension kit (accessory) allows the Dometic FreshJet roof air conditioner to be used while in motion.

6 Intended use

The Dometic FreshJet roof air conditioner is designed for use in motorcaravans, caravans and other vehicles with habitation compartments only. It is **not** suitable for houses and appartments.

The roof air conditioner is **not** suitable for installation in construction machines, agricultural machines or similar equipment. It will not work properly if exposed to strong vibrations.

The function of the roof air conditioner is guaranteed for an operating temperature range (see leaflet technical data).



NOTE

You can find additional information on roof air conditioners in the operating manual, such as the technical description or the controls.

This product is only suitable for the intended purpose and application in accordance with these instructions.

This manual provides information that is necessary for proper installation and/or operation of the product. Poor installation and/or improper operating or maintenance will result in unsatisfactory performance and a possible failure.

The manufacturer accepts no liability for any injury or damage to the product resulting from:

- Incorrect assembly or connection, including excess voltage
- Incorrect maintenance or use of spare parts other than original spare parts provided by the manufacturer
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in this manual

Dometic reserves the right to change product appearance and product specifications.

7 Labels

Labels are attached to the Dometic FreshJet roof air conditioners. These labels provide the user and fitter with information on specifications of the device.

8 Installation



CAUTION! Health hazard

The roof air conditioner may only be installed by qualified personnel from a specialist company. The following information is intended for technicians who are familiar with the guidelines and safety precautions to be applied.

8.1 Note on installation

Read this installation manual completely before installing the roof air conditioner.

The following tips and instructions must be observed while installing the roof air conditioner:



WARNING! Electrocution hazard

Disconnect all power supplies when working on the roof air conditioner.

**CAUTION! Health hazard**

- Improper installation of the roof air conditioner can result in irreparable damage to the device and put the safety of the user at risk.
- The manufacturer assumes no liability for malfunctions and for the safety of the roof air conditioner, especially for injury and/or damage to property, if the roof air conditioner is not fitted in accordance with these installation instructions.
- Always wear the recommended protective clothing (e.g. protective goggles, gloves).

**NOTICE! Damage hazard**

- Observe the structural engineering of the vehicle and seal of all openings made when installing the roof air conditioner.
- Check whether the roof of the vehicle is able to support the weight of a person before climbing onto it. Ask the vehicle manufacturer about the permissible roof loads.

Note on transport

- Always have someone help you carry the roof air conditioner.
- Always lift the roof air conditioner to move it and never drag it over the roof (fig. **2 A**).
- Do not use the rear ventilation slots to lift it (fig. **2 B**).

Note on installation location

- Before installing the roof air conditioner, check whether any vehicle components could be damaged by the installation of the roof air conditioner (such as lamps, cupboards, doors).
- Before installation, find out (by consulting the manufacturer of the vehicle) whether the construction is designed for the static weight and the loads of the air conditioner when the vehicle is in motion. The manufacturer of the roof air conditioner assumes no liability whatsoever.
- The vehicle manufacturer may have already provided points where the opening for the installation of the roof air conditioner can be made without any risk of weakening the construction or cutting power cables.
- Select a flat and sufficiently level area at the centre of the vehicle roof between two longitudinal sections for installation.
- The roof inclination of the installation surface may not exceed 10°.
- The roof air conditioner must be installed above 2 meters.

- Make sure no combustible objects are stored or installed near the air outlet. A distance of at least 50 cm should be kept.
- Make sure that there are no objects within the vehicle which could obstruct the attachment of the air outlet unit or the cooled air from flowing through the swivelling air distribution nozzles.
- For safety reasons, note the location of existing wiring harnesses, wires and other components within the installation area, in particular those which are not visible, when installing the roof air conditioner (when drilling or screwing etc.).
- The device shall be installed, operated and stored in a room with a floor larger than 4 m².

Note on electrical system

- Only a qualified electrician should connect the roof air conditioner to the electrical power.
- Check that the voltage specification on the type plate is the same as that of the power supply.
- If the lighting should also be switched on without a 230 V voltage supply, make sure that there is a 12 V power supply line from the battery to the roof air conditioner.
- Do not lay the 230 V mains cable and the 12/24 V cable together in the same cable duct.
- Do not lay cables which are loose or bent next to electrically conductive material (metal).
- Install an all-pole switch with a contact opening width of at least 3 mm on the installation side.
- If the appliance is powered by the mains, ensure that the 230 V voltage supply has a residual current circuit breaker.
- Make sure that the grounding cable of the air conditioner is connected to the vehicle's grounding system.

There are two ways of installing the roof air conditioner:

- Making a new opening (chapter "Making a new opening" on page 11). In this case the opening must be reinforced by an appropriate frame.
- Using the existing roof hatch openings (ventilation hatch) in the vehicle (chapter "Installing in a roof hatch opening already provided" on page 11).

8.2 Making a new opening

See fig. 3

- Select an area at the centre on the roof between two longitudinal supports.
- Mark the position and size of the opening using the template included in the packaging (A and B).

See fig. 4

- Drill out the corners (A).
- Carefully cut out the opening on the roof using a keyhole saw or a similar tool (B). Make sure no electrical power cables are damaged.

See fig. 5

- Before installation, check whether the roof hole needs reinforcing.
- Remove the foam according to the width of your reinforcing rails (not in scope of delivery) (A).
- Fit the reinforcing rails (B).

8.3 Installing in a roof hatch opening already provided



NOTE

- Existing roof hatch openings in accordance with fig. 3 are suitable for installing the roof air conditioner.
- Dispose of all waste material, glue, silicone and seals separately. Observe the disposal guidelines.
- The manufacturer only assumes liability for parts included in the scope of delivery. The validity of the warranty expires if the device is installed together with third-party parts.

See fig. 6

- Remove all screws and fixtures of the existing roof hatch.
- Take out the roof hatch.

See fig. 7

- Remove the sealant around the opening using a scraper or similar tool.

See fig. 8**NOTICE! Damage hazard**

Observe the sealant manufacturer's instructions.

- Seal the screw holes and recesses with a flexible non-hardening butyl sealing compound (e.g. SikaLastomer-710).

8.4 Laying the connecting cables

**WARNING! Electrocuting hazard**

Make sure there is no voltage at electrically operated components before carrying out work on them!

The roof air conditioner must be connected to an electric circuit which is able to supply the required current (see Technical data in Operating Manual).

- Select the cross-section of the cable corresponding to the length:
 - Length < 7.5 m: 1.5 mm²
 - Length > 7.5 m: 2.5 mm²

See fig. 9

- Make an opening on one side in order to feed through the electrical power supply cable.
- Feed the 230 V~ cable through the opening into the vehicle interior.

If the lighting should be switched on without the use of a 230 V~ voltage supply:

- Connect the cable with the positive terminal and the negative terminal of the vehicle battery.
- Feed the 12 V=== cable through the opening into the vehicle interior.

8.5 Installing the roof air conditioner with Chillout ADB

**NOTICE! Damage hazard**

Observe the structural strength of the roof of the vehicle. The roof of the vehicle must be able to bear the weight of the roof air conditioner. The roof must not be indented or deformed by the weight of the unit, even over a longer period of time.

See fig. 10

- Lift the roof air conditioner onto the roof of the vehicle.
- Position the roof air conditioner over the installation opening.
Observe the direction of travel.

Attaching the roof air conditioner**See fig. 11**

- Position the roof air conditioner into the mounting opening using the conical noses.

See fig. 13

- Choose the suitable seal in accordance with the following table:

Roof thickness	Seal thickness
25 – 30 mm	15 mm
30 – 40 mm	30 mm
40 – 60 mm	45 mm

- Position the seal with the adhesive side on the ADB.
- Fasten the mounting frame (3) on the underside of the roof air conditioner with the 4 screws supplied.

See fig. 14**NOTICE! Damage hazard**

Tighten to the specified torque.

- Tighten the screws using a torque spanner and a fastening torque of 2.5 Nm.

Electrical connection

The complete circuit diagram can be found in fig. 17:

Item	Description
1	230 V~ mains
2	Compressor
3	Fan condenser
4	Fan condenser (FreshJet 3200 only)

Item	Description
5	Fan evaporator
6	Battery
7	Remote socket
8	Temperature sensor
9	Heating (FreshJet 1700, 2000, 2200 only)
10	Heat Pump (FreshJet 3200 only)
11	Soft Start (FreshJet 2000, 2200, 3200 only)

Keys for fig. **18**:

Item	Description
1	Remote light switch
2	Circuit board in the air outlet unit

See fig. **12**

230 V~ cable

- Connect the roof air conditioner with the 230 V~ voltage supply.
Connect the cables **(1)** to a cable connector **(2)**.

Remote light switch (not included in the scope of delivery)

You can connect the lighting to a remote light switch. This enables you to switch on the lighting remotely.

To do this, proceed as follows:

- Disconnect the 2-pin plug **(3)** from the socket on the circuit board of the air outlet unit.
- Connect the two cables of the remote light switch to the 2-pin plug **(3)**.
- Insert the 2-pin plug **(3)** into socket on the circuit board.

12 V== cable

You can connect the lighting to the battery. This enables you to switch on the lighting even if the 230 V~ voltage supply is not connected.

To do this, proceed as follows:

- Connect the positive cable and the negative cable to the battery.

Connecting the circuit board

See fig. 15

- Insert the 12-pin plug (1) in the socket (3) on the circuit board of the air outlet unit.
- Connect the 2-pin connector plug (2) to the wire from CI-Bus master panel (optional).

8.6 Installing the air outlet unit Chillout ADB

See fig. 16

- Attach the air outlet unit to the (1) fastening frame using the short fastening screws.

See fig. 15

- Install the air filter in the specified sequence.

See fig. 16

- Fit the filter covers.
- Enter the new vehicle height and weight in the vehicle documents.

8.7 Installing the roof air conditioner with ADB



NOTICE! Damage hazard

Observe the structural strength of the roof of the vehicle. The roof of the vehicle must be able to bear the weight of the roof air conditioner. The roof must not be indented or deformed by the weight of the unit, even over a longer period of time.

See fig. 10

- Lift the roof air conditioner onto the roof of the vehicle.
- Position the roof air conditioner over the installation opening.
Observe the direction of travel.

Attaching the roof air conditioner

See fig. 11

- Position the roof air conditioner into the mounting opening using the conical noses.

Electrical connection

The complete circuit diagram can be found in fig. 17:

Item	Description
1	230 V~ mains
2	Compressor
3	Fan condenser
4	Fan condenser (FreshJet 3200 only)
5	Fan evaporator
6	Battery
7	Remote socket
8	Temperature sensor
9	Heating (FreshJet 1700, 2000, 2200 only)
10	Heat Pump (FreshJet 3200 only)
11	Soft Start (FreshJet 2000, 2200, 3200 only)

Keys to fig. 18:

Item	Description
1	Remote light switch
2	Circuit board of the air outlet unit

See fig. 12

230 V~ cable

- Connect the roof air conditioner with the 230 V~ voltage supply.
Connect the cables (1) to a cable connector (2).

Remote light switch (not included in the scope of delivery)

You can connect the lighting to a remote light switch. This enables you to switch on the lighting remotely.

To do this, proceed as follows:

- Disconnect the 2-pin plug **(6)** from the socket on the circuit board of the air outlet unit.
- Connect the two cables of the remote light switch to the 2-pin plug **(5)**.
- Insert the 2-pin plug **(5)** into socket on the circuit board **(6)**.

12 V --- cable

You can connect the lighting to the battery. This enables you to switch on the lighting even if the 230 V \sim voltage supply is not connected.

To do this, proceed as follows:

- Connect the positive cable and the negative cable with the battery.

Connecting the circuit board

- Insert the 12-pin plug **(3)** in the socket **(7)** on the circuit board of the air outlet unit.
- Connect the 2-pin connector plug **(2)** to the wire from CI-Bus master panel (optional).

See fig. **13**

- Choose the suitable seal in accordance with the following table:

Roof thickness	Seal type
25 – 30 mm	15 mm
30 – 40 mm	30 mm
40 – 60 mm	45 mm

- Position the seal with the adhesive side on the ADB.
- Fasten the fastening frame **(3)** on the underside of the roof air conditioner with the 4 screws supplied.

See fig. 14



NOTICE! Damage hazard

Tighten to the specified torque.

- Tighten the screws using a torque spanner and a fastening torque of 2.5 Nm.

8.8 Installing the air outlet unit

See fig. 15

- Install the air filter in the specified sequence.

See fig. 16

- Attach the air outlet unit magnetically to the fastening frame.