

Compact Cooler 4E / 5 / 5 Lite / 8

Aufdach-Klimaanlage

Roof-Top Air-Conditioning System

Climatisation sur toiture

Impianto climatizzatore da tetto

Climatizador de sobretecho

Bedienungsanweisung

Operating Instructions

Notice d'utilisation

Istruzioni per l'uso

Instrucciones de funcionamiento

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1 Maintenance and safety instructions

Please read these instructions carefully prior to commissioning and keep them for future reference.

Please read the following information and carry out maintenance work at regular intervals.

System Component	Maintenance Work	Frequency		
		monthly	every 6 months	annually
Refrigerant system				
Hoses	Inspect connections for firm seating, condition and damage		X	
Connections	Conduct a leak test using a leak detector			X
Refrigerant filling	Check refrigerant quantity at sight glass	X		
Condensed-water drain	Check that opening is clear and clean if necessary		X	
Electrical system	Check electrical connections and plug connectors for proper condition and firm seating		X	

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CAUTION

If the heating option is installed (Compact Cooler 8): Coolant level can only be checked when the Webasto heating / air-conditioning system Compact Cooler 8 is switched off. I.e. the 2/3-position switch must be in the neutral position.

1. The system must be installed in accordance with the installation instructions.

2. Installing the air-conditioning system increases the height of the vehicle. Please note the heights specified in the vehicle papers and ensure registration if necessary.

3. If faults develop in the refrigerant circuit, the system must be tested and repaired by an authorised service centre. Under no circumstances may refrigerant be vented into the open air (see § 8 CFC-Halon Prohibition Directive dated 06.05.1991).

4. Installation, maintenance, repair and all work on the refrigerant circuit may only be carried out by specialist personnel in an authorised service centre. This work may only be carried out with the engine at a standstill and the power supply switched off. The battery must be disconnected before starting any work on the electrical wiring.

5. Wear protective clothing and safety goggles when handling refrigerant.

6. Regardless of how long the system is in use, it is also possible to experience refrigerant loss despite the line connections being absolutely sealed. However, if relatively large quantities of refrigerant are lost over short periods of time, you may assume that there is a leak in the system.

7. Only the materials, special tools and accessories listed in the installation instructions may be used for maintenance work on the air-conditioning circuit.

8. As is the case with all parts of a vehicle, the air-conditioning system is continuously subjected to loading. To guarantee that the system operates correctly and to prevent any damage to the parts, the maintenance work must be carried out at regular intervals.

9. The proper treatment of the system and a record of all maintenance work are necessary for the acceptance of any warranty claims involving damage to parts that require regular maintenance.

10. Irrespective of the schedule in the installation instructions, all the device fasteners and the connections on the refrigerant lines must be checked for firm seating within the first four weeks of using the roof-top system for the first time.

11. Even if the air-conditioning unit is not in use, individual components may be subject to wear due to the normal ageing process or the stresses or strains generated by driving the vehicle. The appropriate checks listed in the maintenance and service chart in the installation instructions must therefore be carried out regardless of the system operating time.

12. The receiver-drier must be replaced at least every twelve months. When working on the refrigerant system, the receiver-drier must always be replaced (not necessary for Compact Cooler 5 Lite).

13. During extended shut-down periods, the air-conditioning system must be operated at least once a month for a period of approx. 15 minutes to prevent the shaft seals on the refrigerant compressor from becoming drying out or any moving parts from seizing due to oil resinification.
Requirement: Minimum outside temperature > 5 °C e.g. within a heated factory building.

14. Always ensure that the amount of oil in the air-conditioning unit complies with the details in the installation instructions.

15. The plate fins of the condenser, evaporator or heat exchanger should be cleaned with compressed air directed against the normal direction of air flow if contamination is slight. If the soiling is severe or the unit has greasy deposits, first clean it using soap suds or a suitable cleaning solution (must be compatible with copper or aluminium) and then use compressed air or a water jet.
Caution: Beware of damage due to an excessively strong jet of air or water.

16. When the vehicle is cleaned with a direct jet of water or in a car wash, the fresh air ventilation flap must be closed. Note the overall height of the vehicle including roof-top air-conditioning system

17. Failure to observe the installation instructions and the information it contains will lead to Webasto being released from any and all liability. The same applies to repairs performed improperly or using parts other than genuine spare parts.

18. The fresh air ventilation flap (option for Compact Cooler 8) should remain closed in winter.

19. When filling the heating circuit with coolant (water / glycol), care must be taken to bleed the circuit via the bleed valve of the system. Further replenishment of the heating circuit is only permitted with the engine running.

20. Only operate the air-conditioning system when the housing and lines are not damaged.

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2 General information

Only start the air-conditioning system when the vehicle engine is running as the vehicle battery will be discharged if the engine is at rest.

If the electrical connection of the air-conditioning system is such that the fans can be activated when the engine is switched off, they will **not** cool the cab. Operating the system with the engine switched off results in the air in the interior of the vehicle being circulated. Attention, battery discharging!

The air-conditioning system is only operable when it is filled with the quantity of refrigerant and refrigerating machine oil specified in the installation instructions.

Without temperature controller, the temperature of the air-conditioning system is controlled by the anti-ice thermostat installed in the system. This thermostat switches the compressor off once the evaporator reaches a temperature when ice is likely to form. The evaporator (radial) and condenser fans (axial) continue to run. On the Compact Cooler 5 Lite, only the

evaporator fan continues to run. When the temperature rises above the trigger point of the anti-ice thermostat, the compressor cuts in again.

If the temperature controller is installed (optional), any desired cabin temperature can be set between 10 and 30 °C. The compressor is switched off when the set temperature is reached. The evaporator (radial) and condenser fans (axial) continue to run. On the Compact Cooler 5 Lite, only the evaporator fan continues to run. The passenger compartment temperature increases again and switches on the compressor again when the switching temperature is reached.

To quickly cool and dehumidify the interior of the vehicle after it has been parked for a lengthy period of time in a high ambient temperature and sunny conditions, we recommend that you initially operate the fan at speed 3 in the recirculating air mode. After the interior temperature has reached a pleasant level the fan can be turned down to speed 2 or 1 depending on the ambient temperature. If the vehicle is greatly heated up by exposure to direct sunlight, it is

recommended that the doors and windows be opened for ventilation before switching on the air-conditioning system.

The **Compact Cooler 4E** electric air-conditioning system can be operated either when the engine is running or when the ignition is switched on. For operation with the ignition switched on, the system is equipped with a battery-discharge protection circuit. If the electrical system voltage falls below 20 V for longer than 10 seconds or if the electric motor suffers an overload (> 80 A/sec), the system will cut out automatically. It can be restarted by being switched on again.

Your service centre will be happy to answer questions regarding installation.

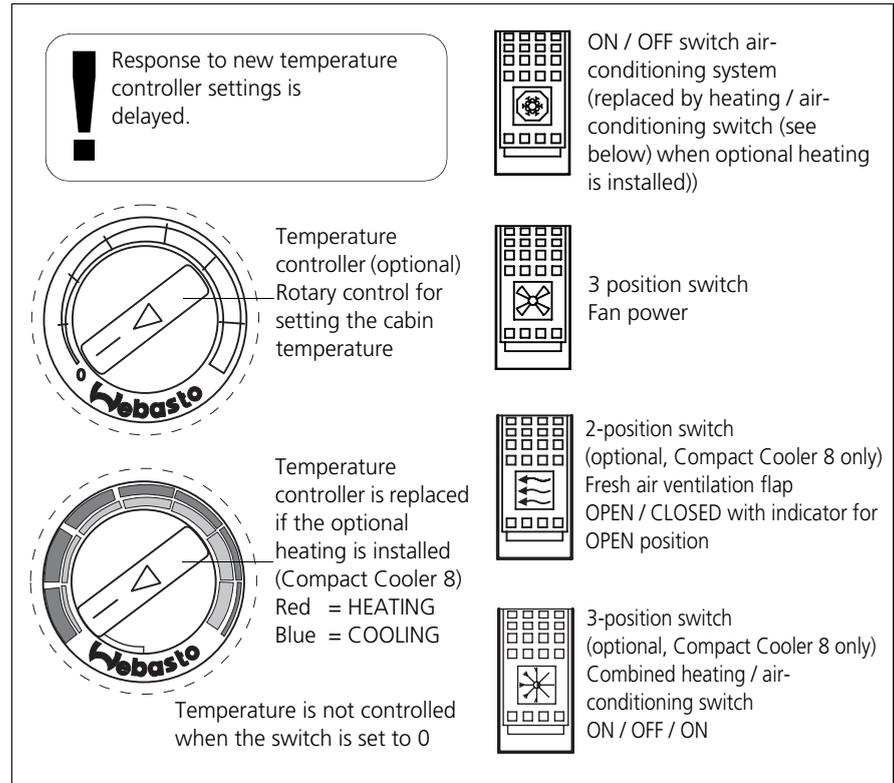
3 Operation

The system is operated via the ON / OFF switch in combination with the 3-position switch for the required fan power. Both switches have **no** indication of their switch position. The optional temperature controller permits selection of the required temperature.

As an option the integral fresh air valve can be actuated using the OPEN / CLOSE switch. When it is open the control light in the switch (Compact Cooler 8) will be lit.

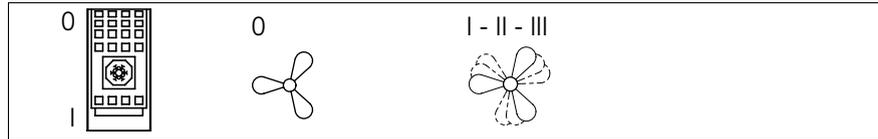
If the roof-top air-conditioning system Compact Cooler 8 has been installed with optional heating, the heating will be switched on via a combined heating / air-conditioning switch (top right) will then be replaced by the combined heating / air-conditioning switch (bottom right).

3.1 Operating and control elements

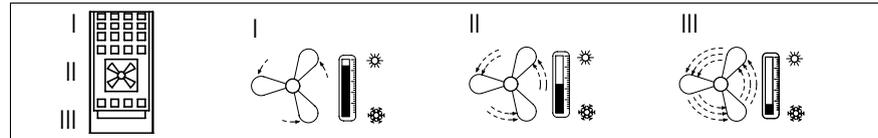


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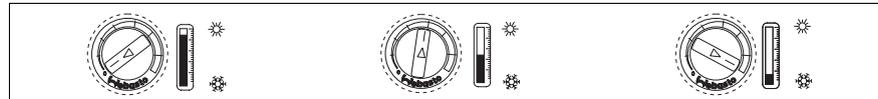
3.2 Switching on / Switching off



3.3 Fan power



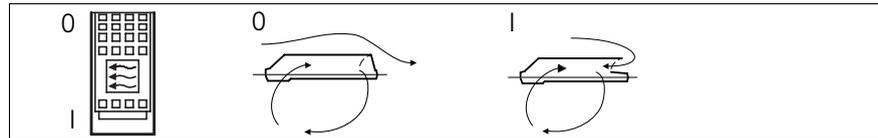
3.4 Temperature setting with temperature controller, without heating (option)



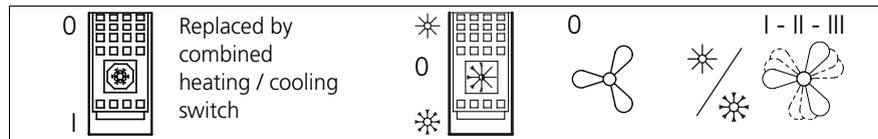
3.5 Temperature setting with temperature controller, with heating (option Compact Cooler 8)



3.6 Fresh air ventilation flap (option Compact Cooler 8)



3.7 Heating (option Compact Cooler 8)



4 Troubleshooting

If a fault occurs, check the fuse for operation and the plug connections for proper condition and firm seating.

4.1 Faults in the air-conditioning / heating system

Possible causes:

- Defective evaporator or condenser fan (only evaporator fan on Compact Cooler 5 Lite)
- Soiled or clogged air filter, condenser, evaporator or heater heat exchanger fins (Compact Cooler 5 Lite has no condenser)
- Loss of refrigerant or too little refrigerant in the system
- Loss of coolant or too little coolant in the system
- Air in coolant circuit (bleed circuit via bleed valve of Compact Cooler 8 system)

The air-conditioning system must be inspected by an authorised service centre if the system cuts out continuously.

4.2 Faults in the refrigerant circuit

If malfunctions occur in the refrigerant system, it must be checked by an authorised service centre and repaired properly. Under no circumstances may refrigerant be vented into the open air (see § 8 CFC-Halon Prohibition Directive dated 06.05.91).

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4.3 Faults in the heating circuit (option Compact Cooler 8)

Symptom	Possible cause	Remedy
No heat output	Pump not running	Start engine and check pump connections
	Coolant is still cold	Wait until engine has reached its operating temperature
	Water valve closed	Open valve; check electrical connections if a solenoid valve is used
	Water hoses kinked or crushed	Eliminate cause of fault, repair any leaks
	Water pump pressure too low	Coolant does not flow through heat exchanger. Install an additional or more powerful pump.
Reduced heat output	Air flow rate of the fan is too low	Select a higher fan power stage
	Too little water flows through the heat exchanger	Water line kinked or crushed. Reroute hoses. Water pump pressure too low (see above for corrective action). Open water valve in vehicle if applicable.
	Air in heat exchanger	Bleed via valve on heat exchanger of heating system
Coolant (water / glycol) leaking from the roof-top unit	Loose hose connection	Check that hose connections are secure and retighten hose clamps
	Water hose damaged	Install and connect a new hose
	Heat exchanger damaged	Install and connect an original replacement part (Caution: Note the safety instructions!)

4.4 Faults on the compressor drive unit (Compact Cooler 4E)

Symptom	Possible cause	Remedy
Compressor does not work	Voltage below 20 V	Switch on the vehicle's engine and charge the battery
	Overload has tripped	Switch the air-conditioning system off and then on again. If the error occurs repeatedly, contact the service centre.
	Electric motor fuse (75 A) has tripped	Check the electric motor fuse and replace it if necessary
The compressor does not work when the engine is switched off	The system is only wired to work when the engine is running	Switch on the engine
	Electric motor temperature over 96 °C	Switch off the system, allow it to cool and then switch it on again

5 Approvals

The Compact Cooler air-conditioning systems have been designed and produced in accordance with EC directives. There are type approvals in accordance with the EC directive 72/245/EEC.

Approval number:

e1*72/245*2009/19*1443 *

6 Disposal

Obtain information at the nearest recycling centre or the service centre on the applicable disposal regulations and dispose of your unit accordingly.

7 Warranty Claims

- a) The warranty does not cover parts that are subject to normal wear, or improper handling. The repair or replacement of the unit or parts thereof will not result in an extension of the warranty period. The legal regulations apply.
- b) Please contact the service centre in case of a warranty claim with
 - Part covered by the warranty
 - The warranty card
 - The warranty claim

Bei mehrsprachiger Ausführung ist Deutsch verbindlich.
In multilingual versions the German language is binding.
Dans le cas d'une version rédigée en plusieurs langues, l'anglais est alors la langue qui fait foi.
Nel caso di una versione plurilingue il tedesco è vincolante.
Este manual esta traducido en varios idiomas, le informamos que sólo la versión en inglés será vinculante.

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