Operation manual

Packaged air-cooled water chillers and packaged air to water heat pumps

EWAQ004BAVP
EWAQ005BAVP

EWYQ004BAVP
EWYQ005BAVP

EKCB07CAV3
EK2CB07CAV3

EKMBUHCA3V3
EKMBUHCA9W1

Operation manual
Packaged air-cooled water chillers and packaged air to water heat pumps

English

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1 About this document

Thank you for purchasing this product. Please:

- Read the documentation carefully before operating the user interface to ensure the best possible performance.
- Request the installer to inform you about the settings that he used to configure your system. Check if he has filled in the installer settings tables. If not, request him to do so.
- Keep the documentation for future reference.

Target audience

End users

Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
  - Safety instructions that you must read before operating your system
  - Format: Paper (in the box of the outdoor unit)
- **Operation manual:**
  - Quick guide for basic usage
  - Format: Paper (in the box of the outdoor unit)
- **User reference guide:**
  - Detailed step-by-step instructions and background information for basic and advanced usage
  - Format: Digital files on http://www.daikineurope.com/support-and-manuals/product-information/

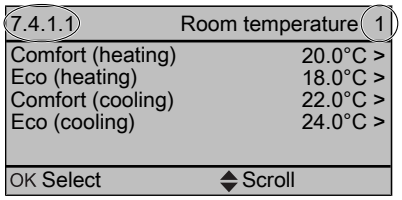
Latest revisions of the supplied documentation may be available on the regional Daikin website or via your installer.

The original documentation is written in English. All other languages are translations.

Available screens

Depending on your system layout and installer configuration, not all screens in this document may be available on your user interface.

Breadcrumbs



Breadcrumbs help you to locate where you are in the menu structure of the user interface. This document also mentions these breadcrumbs.

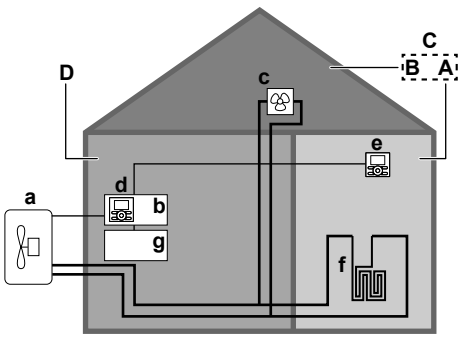
Example: Go to [7.4.1.1]: > User settings > Preset values > Room temperature > Comfort (heating)

2 About the system

Depending on the system layout, the system can:

- Cool down a space
- Heat up a space (if a heating/cooling heat pump model is installed)

2.1 Components in a typical system layout



A Living room.
B Bedroom.
C Main LWT zone with multiple rooms (A and B).
D Technical room. **Example:** Garage.
a Outdoor unit heat pump
b Control box EKCB07CAV3
c Fan coil units
d User interface connected to the control box
e User interface in the living room, used as room thermostat
f Underfloor heating
g Option box EK2CB07CAV3

3 Operation

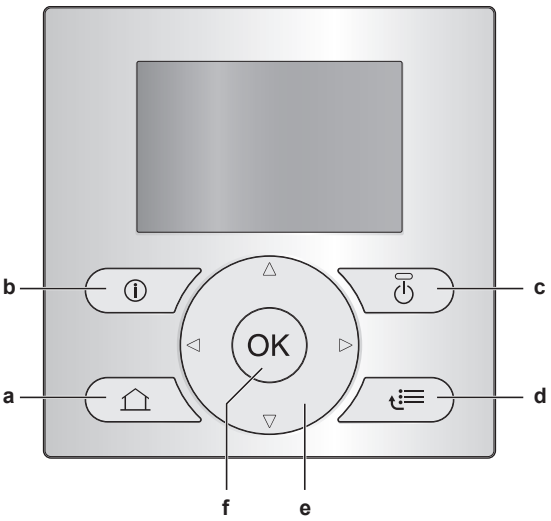
3.1 Overview: Operation

You can operate the system via the user interface. This part describes how to use the user interface:

Part	Description
At a glance	▪ Buttons ▪ Status icons
Space heating/cooling control	How to control space heating/cooling: ▪ Setting the space operation mode ▪ Controlling the temperature
Schedules	How to select and program schedules
Menu structure	Overview of menu structure
Installer settings table	Overview of installer settings

3.2 The user interface at a glance

3.2.1 Buttons



a HOME PAGES
- Switches between home pages (when you are on a home page).
- Goes to the default home page (when you are in the menu structure).

b MALFUNCTION INFORMATION
If a malfunction occurs, ⓘ is displayed on the home pages. Press ⓘ to display more information about the malfunction.

c ON/OFF
Turns ON or OFF one of the controls (room temperature, leaving water temperature).

d MENU STRUCTURE/BACK
- Opens the menu structure (when you are on a home page).
- Goes up a level (when you are navigating through the menu structure).
- Goes back 1 step (example: when you are programming a schedule in the menu structure).

e NAVIGATING/CHANGING SETTINGS
- Navigates the cursor on the display.
- Navigates through the menu structure.
- Changes settings.
- Selects a mode.

f OK
- Confirms a selection.
- Enters a submenu in the menu structure.
- Switches between displaying actual and desired values, or between displaying actual and offset values (if applicable) on the home pages.
- Goes to the next step (when you are programming a schedule in the menu structure).

INFORMATION

If you press HOME or MENU while changing settings, the changes will NOT be applied.

3.2.2 Status icons

Icon	Description
	Space operation mode = Heating.
	Space operation mode = Cooling.
	Unit is operating.
	Desired room temperature = preset value (Comfort; daytime).
	Desired room temperature = preset value (Eco; nighttime).
	On the room temperature home page: Desired room temperature = according to the selected schedule.
	Actual temperature.
	Desired temperature.
	At the next scheduled action, the desired temperature will increase.
	At the next scheduled action, the desired temperature will NOT change.
	At the next scheduled action, the desired temperature will decrease.
	The preset value (Comfort or Eco) or scheduled value is temporarily overruled.
	Quiet mode is active.
	Holiday mode is active or ready to be activated.
	Button lock mode and/or function lock mode is active.
	An external heat source is active. **Example:** Gas burner.
	A malfunction occurred. Press ⓘ to display more information about the malfunction.
	Weather-dependent mode is active.
	User permission level = Installer.
	Defrost/oil return mode is active.
	Hot start mode is active.
	Emergency operation is active.

3.3 Space heating/cooling control

3.3.1 Setting the space operation mode

About space operation modes

Depending on your heat pump model, you have to tell the system which space operation mode to use: heating or cooling.

If a… heat pump model is installed	Then…
Heating/cooling	The system can heat up and cool down a space. You have to tell the system which space operation mode to use.

If a… heat pump model is installed	Then…
Cooling only	The system can cool down a space, but NOT heat up a space. You do NOT have to tell the system which space operation mode to use.

To tell the system which space operation to use, you can do the following:

You can…	Location
Check which space operation mode is **currently used**.	Home pages: ▪ Room temperature ▪ Leaving water temperature (main)
Set the space operation **mode**.	Menu structure
Restrict when **automatic changeover** is possible.	

To set the space operation mode

1 Go to [4]: ☰ > Operation mode.

2 Select one of the following options and press OK:

If you select…	Then the space operation mode is…
Heating	Always heating mode.
Cooling	Always cooling mode.
Automatic	Automatically changed by the software based on the outdoor temperature (and depending on installer settings also the indoor temperature), and taking monthly restrictions into account. **Note:** Automatic changeover is only possible under certain conditions.

To restrict automatic changeover operation mode

Prerequisite: You switched the permission level to Advanced end user.

Prerequisite: You switched the space operation mode to automatic.

1 Go to [7.5]: ☰ > User settings > Allowed operation mode.

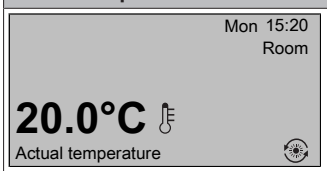
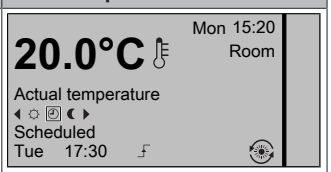
2 Select a month and press OK.

3 Select Heating only, Cooling only or Heating/Cooling, and press OK.

3.3.2 Room thermostat control - Using the room temperature home page

Typical room temperature home pages

Depending on the user profile, the user interface gives you either a basic or a detailed home page. To set the user profile, refer to Configuring user profile and home pages in the user reference guide.

User profile = Basic	User profile = Detailed
	

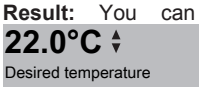
To read out the actual and desired room temperature

1 Go to the room temperature home page (Room).

Result: You can read out the actual temperature.

2 Press OK.

Result: You can read out the desired temperature.



To temporarily overrule the room temperature schedule

1 Go to the room temperature home page (Room).

2 Use ▲ or ▼ to adjust the temperature.

To change the mode from scheduled to preset value

Prerequisite: User profile = Detailed.

1 Go to the room temperature home page (Room).

2 Press ◀ or ▶ to select a preset value (☼ or ☾).

Result: The mode will return to Scheduled according to the overrule period.

To set the overrule period

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.2]: ☰ > User settings > Temperature lock.

2 Select a value and press OK:

- Permanent
- hours (2, 4, 6, 8)

3.3.3 Room thermostat control - Using the leaving water temperature home pages

INFORMATION

The leaving water is the water that is sent to the heat emitters. The desired leaving water temperature is set by your installer in accordance with the heat emitter type. **Example:** Underfloor heating is designed for lower leaving water temperature than radiators and/or fan coil units. You only have to adjust leaving water temperature settings in case of problems.

For more information about the leaving water temperature, see the user reference guide.

3.4 Advanced usage

3.4.1 About changing the user permission level

The amount of information you can read out in the menu structure depends on your user permission level:

- End user (= default)
- Adv. end user: You can read out more information.

To set the user permission level to Advanced end user

1 Go to the main menu or any of its submenus: ☰.

2 Press ⓘ for more than 4 seconds.

Result: The user permission level switches to Adv. end user. Additional information is displayed and "+" is added to the menu title. The user permission level will stay in Adv. end user until set otherwise.

To set the user permission level to End user

1 Press ⓘ for more than 4 seconds.

Result: The user permission level switches to End user. The user interface will return to the default home screen.

3.5 Schedules: Example

INFORMATION

The procedures to program other schedules are similar.

In this example:

- Room temperature schedule in cooling mode
- Monday = Tuesday = Wednesday = Thursday = Friday
- Saturday = Sunday

To program the schedule

1. Go to [7.3.1.1]: ☰ > User settings > Set schedules > Room temp. > Set cooling schedule.
2. Select Empty and press OK.
3. Program the schedule for Monday. See below for more details.
4. Copy from Monday to Tuesday, Wednesday, Thursday and Friday. See below for more details.
5. Program the schedule for Saturday.
6. Copy from Saturday to Sunday.
7. Save the schedule and give it a name. See below for more details.

To program the schedule for Monday

1. Use ▲ and ▼ to select Monday.
2. Press ► to enter the schedule for Monday.
3. Program the schedule for Monday:
   - Use ◄ and ► to select an entry.
   - Use ▲ and ▼ to change the value of an entry.

To copy from one day to another

1. Select the day from which you want to copy and press OK. **Example:** Monday.
2. Select Copy day and press OK.
3. Set the days you want to copy to Yes and press OK. **Example:** Tuesday = Yes, Wednesday = Yes, Thursday = Yes and Friday = Yes.

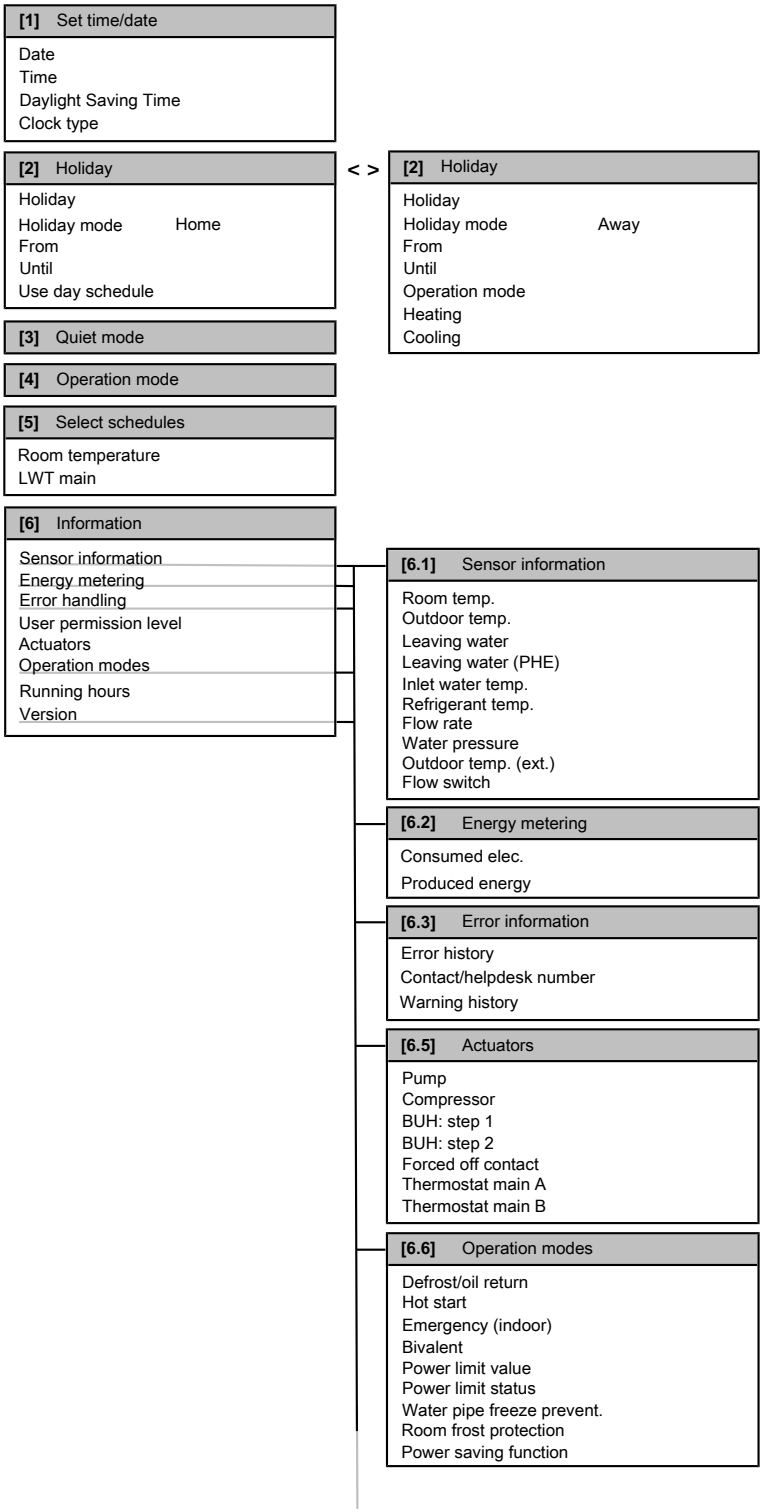
To save the schedule

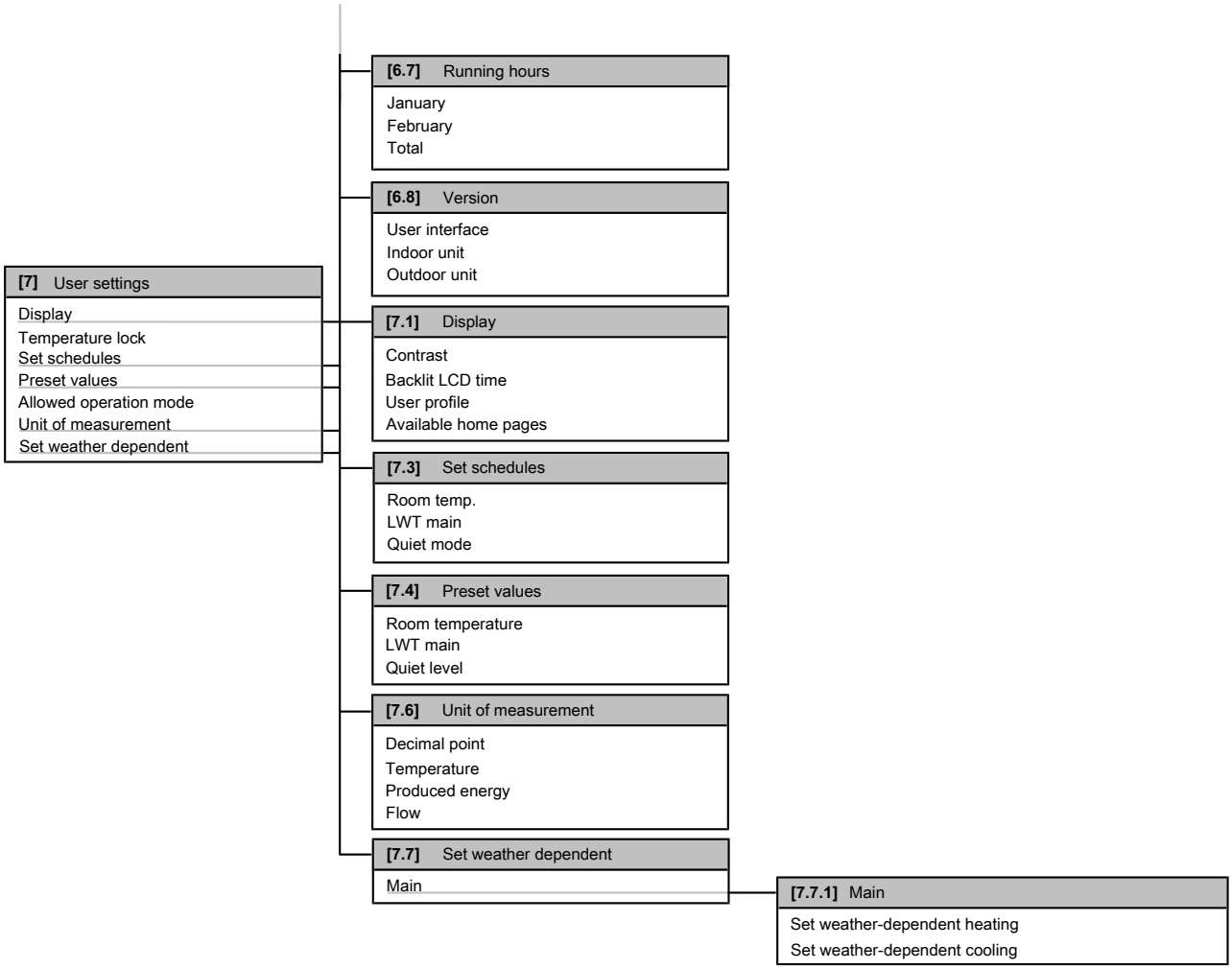
1. Press OK, select Save schedule and press OK.
2. Select User defined 1 and press OK.
3. Change the name and press OK. (Only applicable for room temperature schedules). **Example:** MyWeekSchedule

To select which schedule you currently want to use

1. Go to [5]: ☰ > Select schedules.
2. Select for which control you want to use a schedule. **Example:** [5.1] Room temperature.
3. Select for which operation mode you want to use a schedule. **Example:** [5.1.1] Heating.
4. Select a predefined or user-defined schedule and press OK.

3.6 Menu structure: Overview user settings





INFORMATION

Depending on the selected installer settings, settings will be visible/invisible.

INFORMATION

January and February in Running hours are just examples representing previous and current month respectively.

3.7 Installer settings: Tables to be filled in by installer

3.7.1 Quick wizard

Setting	Default	Fill in…
Space heating/cooling settings [A.2.1]		
Unit control method	2 (RT)	
User interface location	1 (Room)	
Pump operation mode	2 (Request)	
Glycol present	0 (No)	
Outdoor unit [A.2.2]		
External sensor (outdoor)	0 (No)	
Control box [A.2.2.E]		
Backup heater steps	0	
BUH type	1 (1P,(1/1+2))	
Preferential kWh rate	0 (No)	
Contact type main	1 (Thermo)	
Option box [A.2.2.F]		
Ext. backup heat src	0 (No)	
Alarm output	0 (NO)	
External kWh meter 1	0 (No)	
External kWh meter 2	0 (No)	
External sensor (indoor)	0 (No)	
PCC by digital inputs	0 (No)	
Capacities [A.2.3]		
BUH: step 1	Depends on model	
BUH: step 2	Depends on model	

3.7.2 Space heating/cooling control

Setting	Default	Fill in…
Leaving water temperature: Main zone [A.3.1.1]		
LWT setpoint mode	1 (WD)	
Leaving water temperature: Delta T source [A.3.1.3]		

Setting		Default	Fill in…
	Heating	5°C	
	Cooling	5°C	
Leaving water temperature: Modulation [A.3.1.1.5]			
	Modulated LWT	1 (Yes)	
Leaving water temperature: Emitter type [A.3.1.1.7]			
	Emitter type	0 (Quick)	

3.7.3 Contact/helpdesk number [6.3.2]

Setting	Default	Fill in…
Contact/helpdesk number	—	

4 Energy saving tips

Tips about room temperature

- Make sure the desired room temperature is NEVER too high (in heating mode) or too low (in cooling mode), but ALWAYS according to your actual needs. Each saved degree can save up to 6% of heating/cooling costs.
- Do NOT increase the desired room temperature to speed up space heating. The space will NOT heat up faster.
- When your system layout contains slow heat emitters (example: under floor heating), avoid large fluctuation of the desired room temperature and do NOT let the room temperature drop too low. It will take more time and energy to heat up the room again.
- Use a weekly schedule for your normal space heating or cooling needs. If necessary, you can easily deviate from the schedule:
  - For shorter periods: You can overrule the scheduled room temperature. **Example:** When you have a party, or when you are leaving for a couple of hours.
  - For longer periods: You can use the holiday mode. **Example:** When you stay at home during your holiday, or when you go away during your holiday.

5 Maintenance and service

5.1 Overview: Maintenance and service

The installer has to perform a yearly maintenance. You can find the contact/helpdesk number via the user interface.

As end user, you have to:

- Keep the area around the unit clean.
- Keep the user interface clean with a soft damp cloth. Do NOT use any detergents.
- Regularly check if the water pressure indicated on the manometer is above 1 bar.

Refrigerant

This product contains fluorinated greenhouse gases. Do NOT vent gases into the atmosphere.

Refrigerant type: R410A

Global warming potential (GWP) value: 2087.5

NOTICE

In Europe, the **greenhouse gas emissions** of the total refrigerant charge in the system (expressed as tonnes CO_2-equivalent) is used to determine the maintenance intervals. Follow the applicable legislation.

Formula to calculate the greenhouse gas emissions: GWP value of the refrigerant × Total refrigerant charge [in kg] / 1000

Please contact your installer for more information.

WARNING

The refrigerant in the system is safe and normally does not leak. If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.

Turn off any combustible heating devices, ventilate the room and contact the dealer where you purchased the unit.

Do not use the system until a service person confirms that the portion where the refrigerant leaks is repaired.

5.2 To find the contact/helpdesk number

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [6.3.2]: ☰ > Information > Error handling > Contact/helpdesk number.

6 Troubleshooting

6.1 Symptom: You are feeling too cold (hot) in your living room

Possible cause	Corrective action
The desired room temperature is too low (high).	Increase (decrease) the desired room temperature. If the problem recurs daily, do one of the following: ▪ Increase (decrease) the room temperature preset value. ▪ Adjust the room temperature schedule.
The desired room temperature cannot be reached.	Increase the desired leaving water temperature in accordance with the heat emitter type.

6.2 Symptom: Heat pump failure

When the heat pump fails to operate, the backup heater can serve as an emergency heater and either automatically or non-automatically take over the heat load.

- When auto emergency is **activated** and a heat pump failure occurs, the backup heater will automatically take over the heat load.
- When auto emergency is **not activated** and a heat pump failure occurs, the space heating operations will stop and need to be recovered manually. The user interface will then ask you to confirm whether the backup heater can take over the heat load or not.

When the heat pump fails, ⓘ will appear on the user interface.

Possible cause	Corrective action
Heat pump is damaged.	▪ Press ⓘ to view a description of the problem. ▪ Press ⓘ again. ▪ Select OK to allow the backup heater to take over the heat load. ▪ Call your local dealer to get the heat pump fixed.

INFORMATION

When the backup heater takes over the heat load, electricity consumption will be considerably higher.

7 Disposal

Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and of other parts must comply with applicable legislation. Units must be treated at a specialised treatment facility for reuse, recycling and recovery.

8 Glossary

DHW = Domestic hot water
Hot water used, in any type of building, for domestic purposes.

LWT = Leaving water temperature
Water temperature at the water outlet of the heat pump.

EAC

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