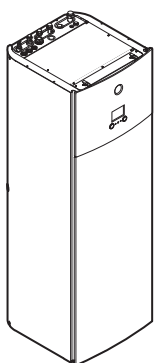




Operation manual



R32 Split Series - Domestic Hot Water Tank (180l/230l)



CKHWS180BJ▲V3▼
CKHWS230BJ▲V3▼
CKHWSU230BJ▲V3▼

▲ = 1, 2, 3, ..., 9, A, B, C, ..., Z
▼ = , , 1, 2, 3, ..., 9

Operation manual
R32 Split Series - Domestic Hot Water Tank (180l/230l)

English

Table of contents

1	About this document	2
2	User safety instructions	3
2.1	General	3
2.2	Instructions for safe operation	3
3	About the system	4
3.1	Components in a typical system layout	4
4	Quick guide	4
4.1	User permission level	4
4.2	Domestic hot water	5
5	Operation	5
5.1	User interface: Overview	5
5.2	Menu structure: Overview user settings	7
5.3	Possible screens: Overview	8
5.3.1	Home screen	8
5.3.2	Main menu screen	8
5.3.3	Setpoint screen	8
5.3.4	Detailed screen with values	9
5.4	Turning operation ON or OFF	9
5.4.1	Visual indication	9
5.4.2	To turn ON or OFF	9
5.5	Reading out information	10
5.6	Domestic hot water control	10
5.6.1	Reheat mode	10
5.6.2	Scheduled mode	10
5.6.3	Scheduled + reheat mode	10
5.6.4	Using DHW powerful operation	11
5.6.5	Disinfection	11
5.7	Schedule screen: Example	12
5.8	Weather-dependent curve	13
5.8.1	What is a weather-dependent curve?	13
5.8.2	Slope-offset curve	13
5.8.3	2-points curve	14
5.8.4	Using weather-dependent curves	14
5.9	Priority schedule	15
5.10	Operation mode	15
5.11	Setting up the energy metering	16
5.11.1	Produced heat	16
5.11.2	Consumed energy	16
6	Energy saving tips	16
7	Maintenance and service	16
7.1	Overview: Maintenance and service	16
8	Troubleshooting	17
8.1	To display the help text in case of a malfunction	17
8.2	To check the malfunction history	17
8.3	Symptom: The water at the tap is too cold	17
8.4	Symptom: Heat pump failure	17
8.5	To force off the compressor	17
9	Disposal	17
10	Glossary	17
11	Installer settings: Tables to be filled in by installer	18
11.1	Configuration wizard	18
11.2	Settings menu	18

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 installing
 - Format: Paper (in the box of the indoor unit)
- **Operation manual:**
 - Quick guide for basic usage
 - Format: Paper (in the box of the indoor unit)
- **User reference guide:**
 - Detailed step-by-step instructions and background information for basic and advanced usage
 - Format: Digital files on <https://www.daikin.eu>. Use the search function 🔍 to find your model.
- **Installation manual – Outdoor unit:**
 - Installation instructions
 - Format: Paper (in the box of the outdoor unit)
- **Installation manual – Indoor unit:**
 - Installation instructions
 - Format: Paper (in the box of the indoor unit)
- **Installer reference guide:**
 - Preparation of the installation, good practices, reference data, ...
 - Format: Digital files on <https://www.daikin.eu>. Use the search function 🔍 to find your model.

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

The original instructions are written in English. All other languages are translations of the original instructions.

ONECTA app

If set up by your installer, you can use the ONECTA app to control and monitor the status of your system. For more information, see:

<http://www.onlinecontroller.daikineurope.com/>

**NOTICE**

Upgrade the firmware of the Daikin Altherma user interface to the most recent version.

Breadcrumbs

Breadcrumbs (example: [5.6]) help you to locate where you are in the menu structure of the user interface.

1	To enable the breadcrumbs: In the home screen or main menu screen, press the help button. The breadcrumbs appear in the top left corner of the screen.	?
----------	---	----------

2	To disable the breadcrumbs: Press the help button again.	?
---	---	---

This document also mentions these breadcrumbs. **Example:**

1	Go to [5.6] : Tank > Heat up mode.	
---	---	--

This means:

1	Starting from the home screen, turn the left dial and go to Tank.	
2	Press the left dial to enter the submenu.	
3	Turn the left dial and go to Heat up mode.	
4	Press the left dial to enter the submenu.	

2 User safety instructions

Always observe the following safety instructions and regulations.

2.1 General



WARNING

If you are NOT sure how to operate the unit, contact your installer.



WARNING

This appliance 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 appliance in a safe way and understand the hazards involved.

Children **SHALL NOT** play with the appliance.

Cleaning and user maintenance **SHALL NOT** be made by children without supervision.



WARNING

To prevent electrical shocks or fire:

- Do NOT rinse the unit.

- Do NOT operate the unit with wet hands.
- Do NOT place any objects containing water on the unit.



CAUTION

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

- Units are marked with the following symbol:



This means that electrical and electronic products may NOT be mixed with unsorted household waste. Do NOT try to dismantle the system yourself: dismantling the system, treatment of the refrigerant, of oil and of other parts **MUST** be done by an authorised installer and **MUST** comply with applicable legislation.

Units **MUST** be treated at a specialised treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.

- Batteries are marked with the following symbol:



This means that the batteries may NOT be mixed with unsorted household waste. If a chemical symbol is printed beneath the symbol, this chemical symbol means that the battery contains a heavy metal above a certain concentration.

Possible chemical symbols are: Pb: lead (>0.004%).

Waste batteries **MUST** be treated at a specialised treatment facility for reuse. By ensuring waste batteries are disposed of correctly, you will help to prevent potential negative consequences for the environment and human health.

2.2 Instructions for safe operation



WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.



WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



WARNING

- Do NOT pierce or burn refrigerant cycle parts.

3 About the system

- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.

 WARNING

- The refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of 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 unit until a service person confirms that the part from which the refrigerant leaked has been repaired.

 WARNING

Air purging heating circuit for domestic hot water. Before you purge air, check if  or  is displayed on the home screen of the user interface.

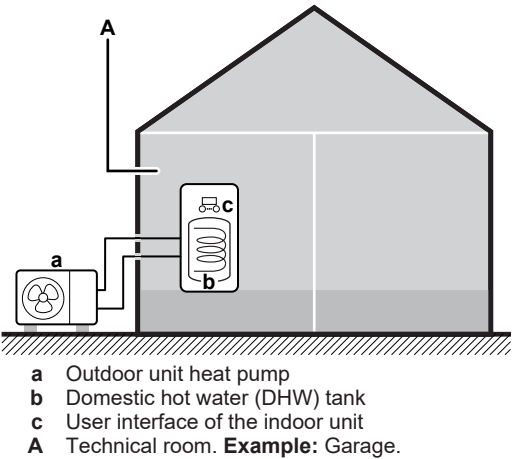
- If not, you can purge air immediately.
- If yes, make sure that the room where you want to purge air is sufficiently ventilated. **Reason:** In case of a breakdown, refrigerant might leak into the water circuit, and subsequently into the room when you purge air from the heating circuit of the domestic hot water.

3 About the system

Depending on the system layout, the system can:

- Produce domestic hot water

3.1 Components in a typical system layout



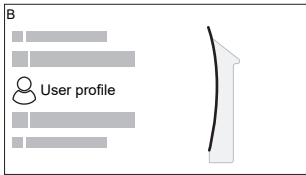
4 Quick guide

4.1 User permission level

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

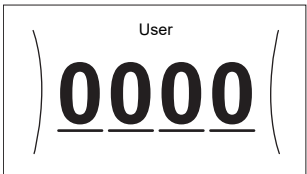
- User: Standard mode
- Advanced user: You can read and edit more information

To change the user permission level

1	Go to [B]: User profile.	
		
2	Enter the applicable pin code for the user permission level.	—
	▪ Browse through the list of digits and change the selected digit.	
	▪ Move the cursor from left to right.	
	▪ Confirm the pin code and proceed.	

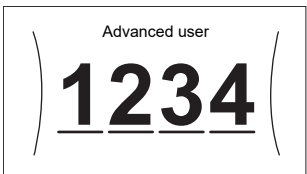
User pin code

The User pin code is **0000**.



Advanced user pin code

The Advanced user pin code is **1234**. Additional menu items for the user are now visible.



4.2 Domestic hot water

To turn tank heating operation ON or OFF



NOTICE

Disinfection mode. Even if you turn OFF tank heating operation ([C.3]: Operation > Tank), disinfection mode will remain active. However, if you turn it OFF while disinfection is running, an AH-00 error will occur.

1	Go to [C.3]: Operation > Tank.	
2	Set operation to On or Off.	

To change the tank temperature setpoint

In Reheat only mode, you can use the tank temperature setpoint screen to read out and adjust the domestic hot water temperature.

1	Go to [5]: Tank.	
2	Adjust the domestic hot water temperature.	
	a Actual domestic hot water temperature b Desired domestic hot water temperature	

In other modes, you can only view the setpoint screen but not modify it. Instead, you can modify the settings for the Comfort setpoint [5.2], Eco setpoint [5.3] and Reheat setpoint [5.4].



INFORMATION

In situations when very low or no DHW consumption is anticipated, a tank temperature setpoint of $\leq 45^{\circ}\text{C}$ can result in colder than expected DHW temperatures when using Reheat only mode. In such situations, it is recommended to switch to one of the following modes:

- Schedule only
- Schedule + reheat

More information

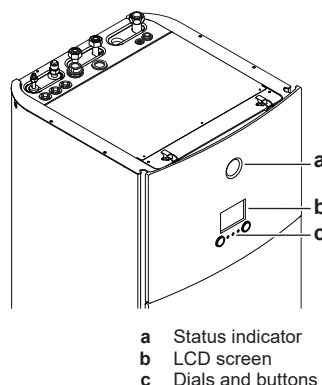
For more information, see also:

- "5.4 Turning operation ON or OFF" ► 9]
- "5.6 Domestic hot water control" ► 10]
- "5.7 Schedule screen: Example" ► 12]
- User reference guide

5 Operation

5.1 User interface: Overview

The user interface has the following components:



Status indicator

The LEDs of the status indicator light up or blink to show the operating mode of the unit.

LED	Mode	Description
Blinking blue	Standby	The unit is not in operation.
Continuous blue	Operation	The unit is in operation.
Blinking red	Malfunction	A malfunction occurred. See "8.1 To display the help text in case of a malfunction" ► 17] for more information.

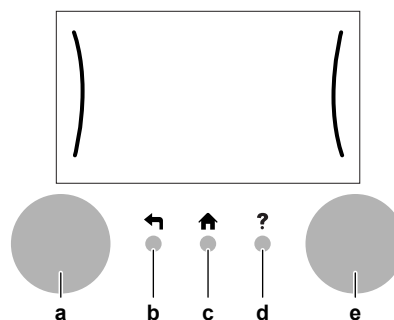
LCD screen

The LCD screen has a sleeping function. After 15 min of non-interaction with the user interface, the screen darkens. Pressing any button or rotating any dial awakens the display.

Dials and buttons

You use the dials and buttons:

- To navigate through the screens, menus and settings of the LCD screen
- To set values

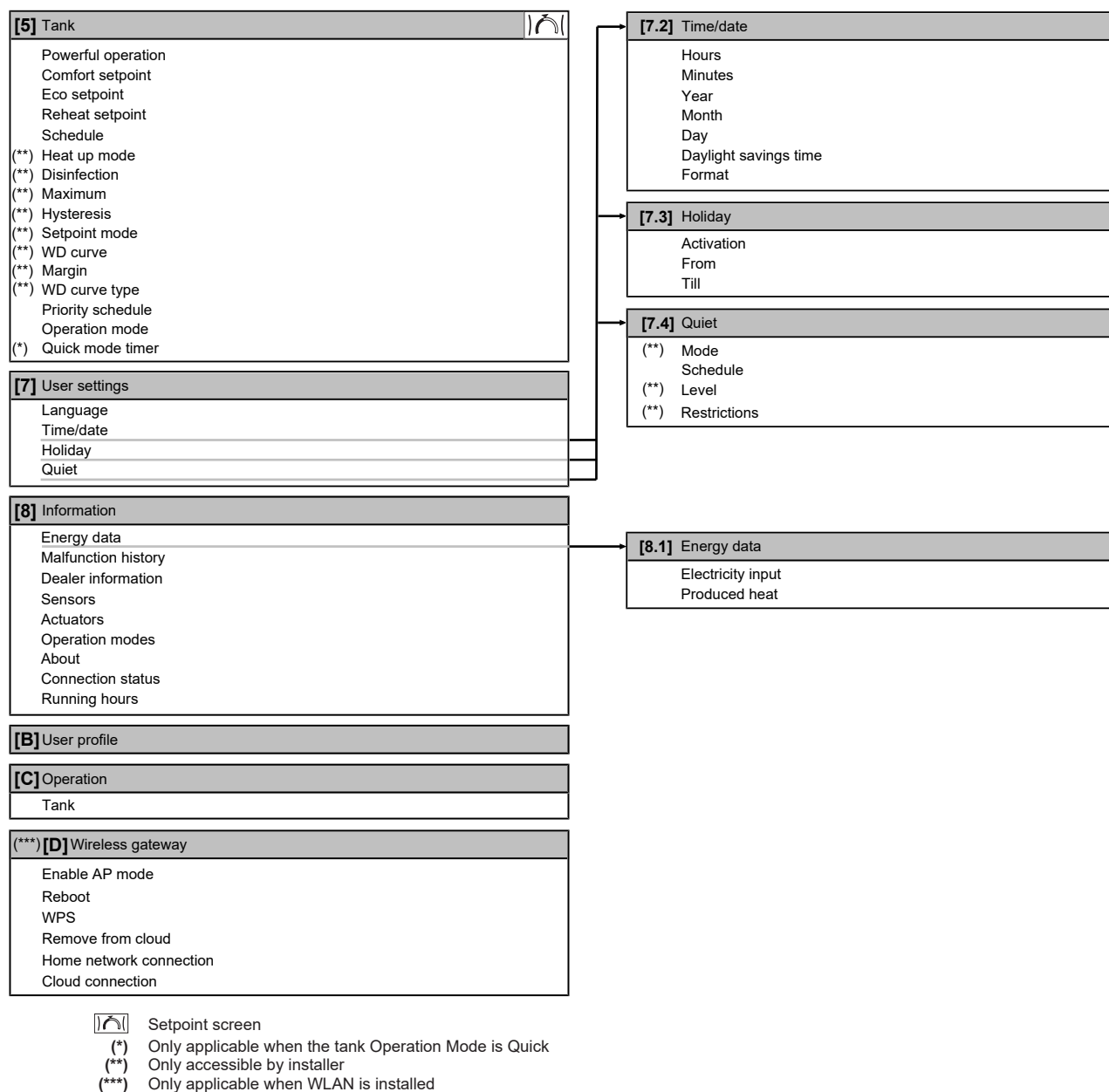


Item	Description
a Left dial	The LCD shows an arc on the left side of the display when you can use the left dial. ▪ : Turn, then press the left dial. Navigate through the menu structure. ▪ : Turn the left dial. Choose a menu item. ▪ : Press the left dial. Confirm your choice or go to a submenu.
b Back button	: Press to go back 1 step in the menu structure.
c Home button	: Press to go back to the home screen.

5 Operation

Item		Description
d	Help button	? : Press to show a help text related to the current page (if available).
e	Right dial	The LCD shows an arc on the right side of the display when you can use the right dial. ○····○: Turn, then press the right dial. Change a value or setting, shown at the right side of the screen. ○····○: Turn the right dial. Navigate through the possible values and settings. ○····○: Press the right dial. Confirm your choice and go to the next menu item.

5.2 Menu structure: Overview user settings



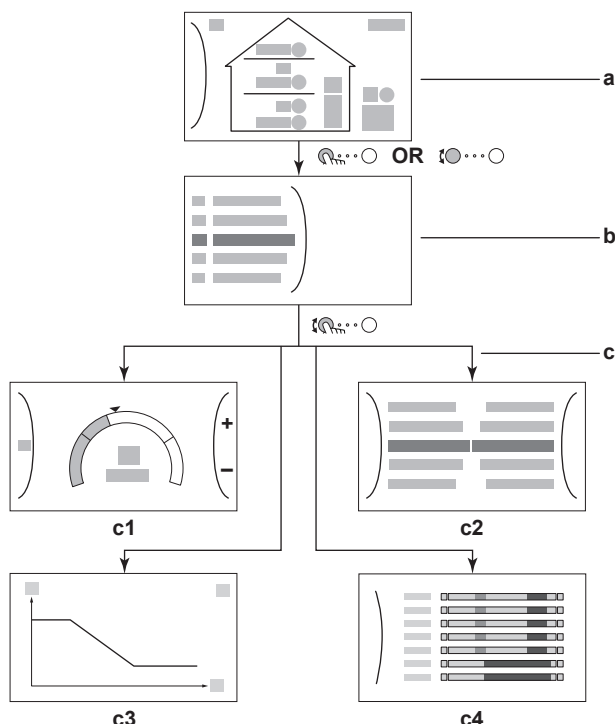
INFORMATION

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

5 Operation

5.3 Possible screens: Overview

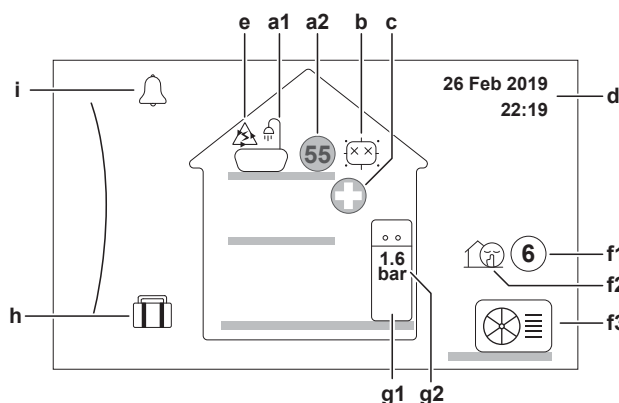
The most common screens are as follows:



- a Home screen
- b Main menu screen
- c Lower level screens:
 - c1: Setpoint screen
 - c2: Detailed screen with values
 - c3: Screen with weather-dependent curve
 - c4: Screen with schedule

5.3.1 Home screen

Press the button to go back to the home screen. You see an overview of the unit configuration and the room and setpoint temperatures. Only symbols applicable for your configuration are visible on the home screen.



Possible actions on this screen	
	Go through the list of the main menu.
	Go to the main menu screen.
?	Enable/disable breadcrumbs.

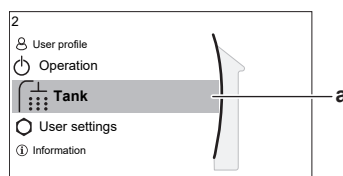
Item	Description
a Domestic hot water	
a1	Domestic hot water
a2	Measured tank temperature ^(a)

Item	Description
b Disinfection / Powerful	
	Disinfection mode active
	Powerful operation mode active
c Emergency	
	Heat pump failure and system operates in Emergency mode.
d Current date and time	
e Smart energy	
	Smart energy is currently being used for domestic hot water.
f Outdoor / quiet mode	
f1	Measured outdoor temperature ^(a)
f2	Quiet mode active
f3	Outdoor unit
g Indoor unit / domestic hot water tank	
g1	Domestic hot water tank
g2	Water pressure
h Holiday mode	
	Holiday mode active
i Malfunction	
	A malfunction occurred.
	See "8.1 To display the help text in case of a malfunction" [p 17] for more information.

^(a) If the corresponding operation is not active, the circle is greyed out.

5.3.2 Main menu screen

Starting from the home screen, press () or turn () the left dial to open the main menu screen. From the main menu, you can access the different setpoint screens and submenus.



a Selected submenu

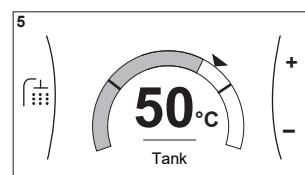
Possible actions on this screen	
	Go through the list.
	Enter the submenu.
?	Enable/disable breadcrumbs.

5.3.3 Setpoint screen

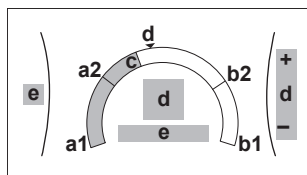
The setpoint screen is displayed for screens describing system components that need a setpoint value.

Example

[5] Tank temperature screen



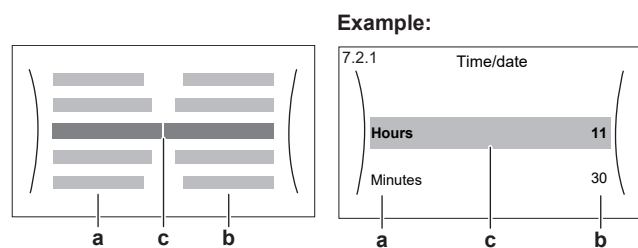
Explanation



Possible actions on this screen	
	Go through the list of the submenu.
	Go to the submenu.
	Adjust and automatically apply the desired temperature.

Item	Description	
Minimum temperature limit	a1	Fixed by the unit
	a2	Restricted by the installer
Maximum temperature limit	b1	Fixed by the unit
	b2	Restricted by the installer
Current temperature	c	Measured by the unit
Desired temperature	d	Turn the right dial to increase/decrease (for Reheat only mode).
Submenu	e	Turn or press the left dial to go to the submenu.

5.3.4 Detailed screen with values



- a Settings
b Values
c Selected setting and value

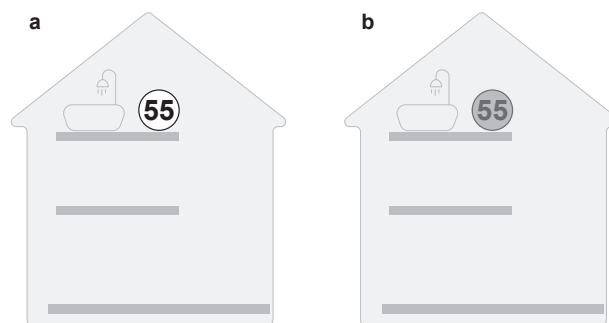
Possible actions on this screen	
	Go through the list of settings.
	Change the value.
	Go to the next setting.
	Confirm changes and proceed.

5.4 Turning operation ON or OFF

5.4.1 Visual indication

Certain functionalities of the unit can be enabled or disabled separately. If a functionality is disabled, the corresponding temperature icon in the home screen will be greyed out.

Tank heating operation



- a Tank operation ON
b Tank operation OFF

5.4.2 To turn ON or OFF

Tank heating operation



NOTICE

Disinfection mode. Even if you turn OFF tank heating operation ([C.3]: Operation > Tank), disinfection mode will remain active. However, if you turn it OFF while disinfection is running, an AH error occurs.

1	Go to [C.3]: Operation > Tank.	
	C.3 Operation Tank Off	
2	Set operation to On or Off.	

5 Operation

5.5 Reading out information

To read out information

1	Go to [8]: Information.	
---	-------------------------	--

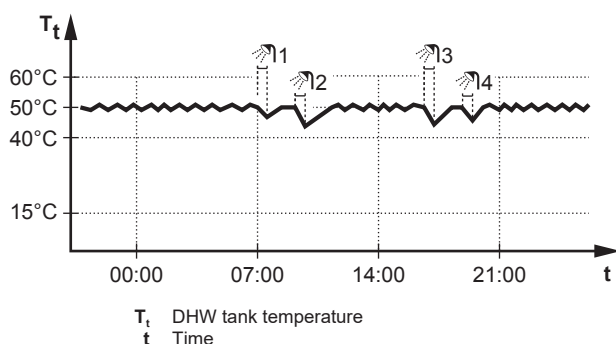
Possible read-out information

In menu...	You can read out...
[8.1] Energy data	Produced energy and consumed electricity
[8.2] Malfunction history	Malfunction history
[8.3] Dealer information	Contact/helpdesk number
[8.4] Sensors	Room temperature, outside temperature, leaving water temperature,...
[8.5] Actuators	Status/mode of each actuator Example: Unit pump ON/OFF
[8.6] Operation modes	Current operation mode Example: Defrost/oil return mode
[8.7] About	Version information about the system
[8.8] Connection status	Information about the connection status of the unit, the room thermostat and WLAN
[8.9] Running hours	Running hours of specific system components

5.6 Domestic hot water control

5.6.1 Reheat mode

In reheat mode, the DHW tank continuously heats up to the temperature shown on the home screen (example: 50°C) when the temperature drops below a certain value.



INFORMATION

When the Priority Schedule is set to DHW (refer to "5.9 Priority schedule" ▶ 15) and the DHW tank mode is reheat at the same time, the risk for comfort problem is significant. In case of frequent reheat operation, Air Conditioning heating/cooling function is regularly interrupted.



INFORMATION

The application of hysteresis (the amount of the temperature drop that will trigger the heat up) might vary depending on whether the target temperature is within operation range of the outdoor unit. Please consult with installer.



INFORMATION

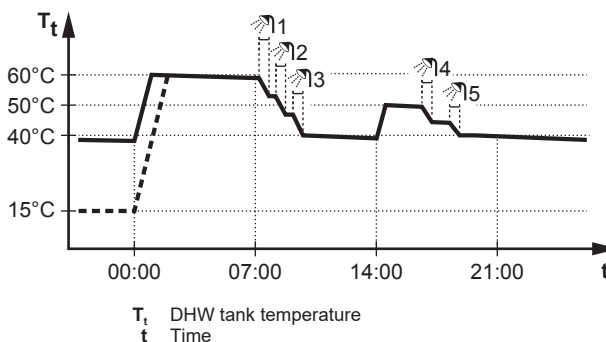
In situations when very low or no DHW consumption is anticipated, Reheat only mode can result in colder than expected DHW temperatures. In such situations, it is recommended to switch to one of the following modes:

- Schedule only
- Schedule + reheat

5.6.2 Scheduled mode

In scheduled mode, the DHW tank produces hot water corresponding to a schedule. The best time to allow the tank to produce hot water is at night, because the Air Conditioning heating demand is lower.

Example:

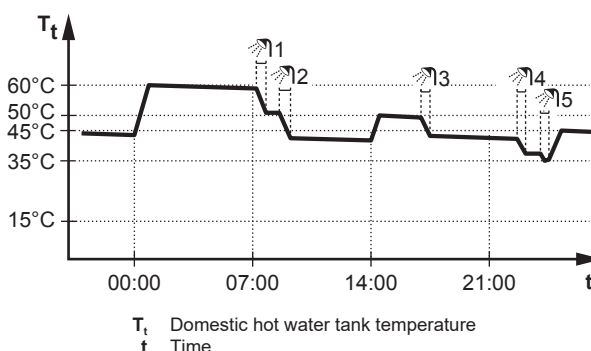


- Initially, the DHW tank temperature is the same as the temperature of the domestic water entering the DHW tank (example: 15°C).
- At 00:00 the DHW tank is programmed to heat up the water to a preset value (example: Comfort = 60°C).
- During the morning, you consume hot water and the DHW tank temperature decreases.
- At 14:00 the DHW tank is programmed to heat up the water to a preset value (example: Eco = 50°C). Hot water is available again.
- During the afternoon and evening, you consume hot water again and the DHW tank temperature decreases again.
- At 00:00 the next day, the cycle repeats.

5.6.3 Scheduled + reheat mode

In scheduled + reheat mode, the domestic hot water control is the same as in scheduled mode. However, when the DHW tank temperature drops below a preset value (=reheat tank temperature – hysteresis value; example: 35°C), the DHW tank heats up until it reaches the reheat set point (example: 45°C). This ensures that a minimum amount of hot water is available at all times.

Example:



**INFORMATION**

The application of hysteresis (the amount of the temperature drop that will trigger the heat up) might vary depending on whether the target temperature is within operation range of the outdoor unit. Please consult with installer.

5.6.4 Using DHW powerful operation

About powerful operation

Powerful operation allows the domestic hot water to be heated by the backup heater. Use this mode on days when there is more hot water usage than usual.

To check if powerful operation is active

If is displayed on the home screen, powerful operation is active.

Activate or deactivate Powerful operation as follows:

1	Go to [5.1]: Tank > Powerful operation	
2	Turn powerful operation Off or On.	

Usage example: You immediately need more hot water

You are in the following situation:

- You already consumed most of your domestic hot water.
- You cannot wait for the next scheduled action to heat up the domestic hot water tank.

Then you can activate powerful operation. The domestic hot water tank will start heating up the water to the Comfort temperature.

**INFORMATION**

When powerful operation is activated, the heat pump and the backup heater will operate with maximum power. If powerful operation is activated too frequently for domestic hot water production, frequent and long Air Conditioning heating/cooling interruptions can happen.

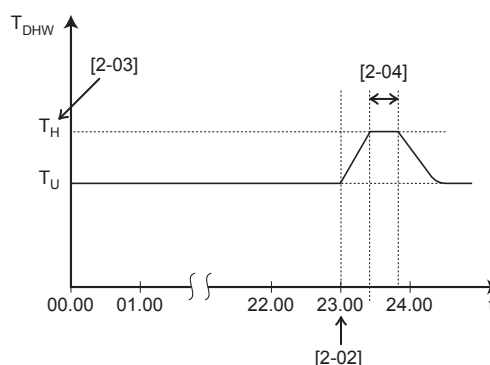
5.6.5 Disinfection

The disinfection function disinfects the domestic hot water tank by periodically heating the domestic hot water to a specific temperature.

**CAUTION**

The disinfection function settings MUST be configured by the installer according to the applicable legislation.

#	Code	Description
[5.7.1]	[2-01]	Activation: 0: No 1: Yes
[5.7.2]	[2-00]	Operation day: 0: Every day 1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday
[5.7.3]	[2-02]	Start time
[5.7.4]	[2-03]	Tank setpoint 60°C
[5.7.5]	[2-04]	Duration: 40~60 minutes



DHW Domestic hot water temperature
 T_U User setpoint temperature
 T_H High setpoint temperature [2-03]
 t Time

**WARNING**

Be aware that the domestic hot water temperature at the hot water tap will be equal to the value selected in field setting [2-03] after a disinfection operation.

When the high domestic hot water temperature can be a potential risk for human injuries, a mixing valve (field supply) shall be installed at the hot water outlet connection of the domestic hot water tank. This mixing valve shall secure that the hot water temperature at the hot water tap never rise above a set maximum value. This maximum allowable hot water temperature shall be selected according to the applicable legislation.

**CAUTION**

Make sure that the disinfection function start time [5.7.3] with defined duration [5.7.5] is NOT interrupted by possible domestic hot water demand.

**NOTICE**

Disinfection mode. Even if you turn OFF tank heating operation ([C.3]: Operation > Tank), disinfection mode will remain active. However, if you turn it OFF while disinfection is running, an AH error occurs.

**INFORMATION**

In case of error code AH and no interruption of the disinfection function occurred due to domestic hot water tapping, following actions are recommended:

- When the Reheat only or Schedule + reheat mode is selected, it is recommended to program the start-up of the disinfection function at least 4 hours later than the last expected large hot water tapping. This start-up can be set by installer settings (disinfection function).
- When the Schedule only mode is selected, it is recommended to program an Eco action 3 hours before the scheduled start-up of the disinfection function to preheat the tank.

**INFORMATION**

Disinfection function is restarted in case the domestic hot water temperature drops 5°C below the disinfection target temperature within the duration time.

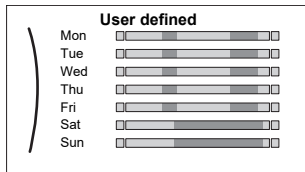
5 Operation

5.7 Schedule screen: Example

This example shows how to set a tank heat up schedule.

To program the schedule: overview

Example: You want to program the following schedule:



- 1 Go to the schedule.
- 2 (optional) Clear the content of the whole week schedule or the content of a selected day schedule.
- 3 Program the schedule for Monday.
- 4 Copy the schedule to the other weekdays.
- 5 Program the schedule for Saturday and copy it to Sunday.

To go to the schedule

1	Go to [5.5]: Tank > Schedule.	
---	-------------------------------	--

To clear the content of the week schedule

1	Select the name of the current schedule.		
2	Select Delete.		
3	Select OK to confirm.		

To clear the content of a day schedule

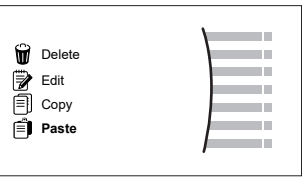
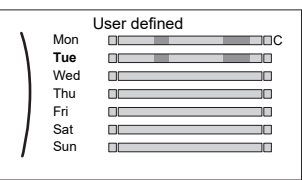
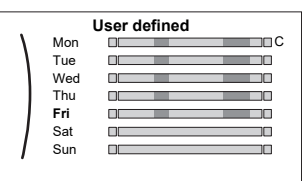
1	Select the day of which you want to clear the content. For example Friday		
2	Select Delete.		
3	Select OK to confirm.		

To program the schedule for Monday

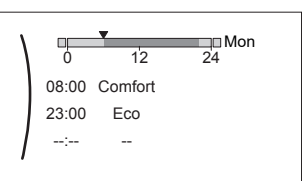
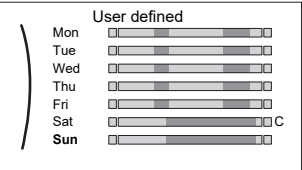
1	Select Monday.		
2	Select Edit.		
3	Use the left dial to select an entry and edit the entry with the right dial. You can program up to 4 actions each day.		
4	Confirm the changes.	Note: To clear an action, set its time as the time of the previous action.	

To copy the schedule to the other weekdays

1	Select Monday.		
2	Select Copy.		
3	Select Tuesday.		

4	Select Paste.	
	Result:	
5	Repeat this action for all other weekdays.	

To program the schedule for Saturday and copy it to Sunday

1	Select Saturday.	
2	Select Edit.	
3	Use the left dial to select an entry and edit the entry with the right dial.	
4	Confirm the changes.	
5	Select Saturday.	
6	Select Copy.	
7	Select Sunday.	
8	Select Paste.	
	Result:	

5.8 Weather-dependent curve

5.8.1 What is a weather-dependent curve?

Weather-dependent operation

The unit operates 'weather-dependent' if the desired leaving water or tank temperature is determined automatically by the outdoor temperature. It therefore is connected to a temperature sensor on the North wall of the building. If the outdoor temperature drops or rises, the unit compensates instantly. Thus, the unit does not have to wait for feedback by the thermostat to increase or decrease the temperature of the leaving water or tank. Because it reacts more quickly, it prevents high rises and drops of the indoor temperature and water temperature at tap points.

Advantage

Weather-dependent operation reduces energy consumption.

Weather-dependent curve

To be able to compensate for differences in temperature, the unit relies on its weather-dependent curve. This curve defines how much the temperature of the tank or leaving water must be at different outdoor temperatures. Because the slope of the curve depends on local circumstances such as climate and the insulation of the building, the curve can be adjusted by an installer or user.

Types of weather-dependent curve

There are 2 types of weather-dependent curves:

- 2-points curve
- Slope-offset curve

Which type of curve you use to make adjustments, depends on your personal preferences. See ["5.8.4 Using weather-dependent curves"](#) [p 14].

Availability

The weather-dependent curve is available for:

- Tank



INFORMATION

To operate weather-dependent, correctly configure the setpoint of the tank. See ["5.8.4 Using weather-dependent curves"](#) [p 14].

5.8.2 Slope-offset curve

Slope and offset

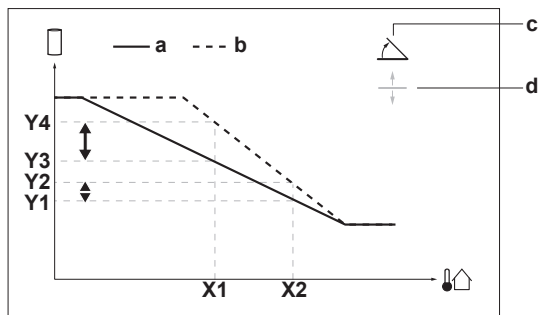
Define the weather-dependent curve by its slope and offset:

- Change the **slope** to differently increase or decrease the target temperature of the tank for different ambient temperatures. For example, if tank water temperature is in general fine but at low ambient temperatures too cold, raise the slope so that the tank temperature is heated increasingly more at decreasingly lower ambient temperatures.
- Change the **offset** to equally increase or decrease the target temperature of the tank for different ambient temperatures. For example, if the tank temperature is always a bit too cold at different ambient temperatures, shift the offset up to equally increase the tank target temperature for all ambient temperatures.

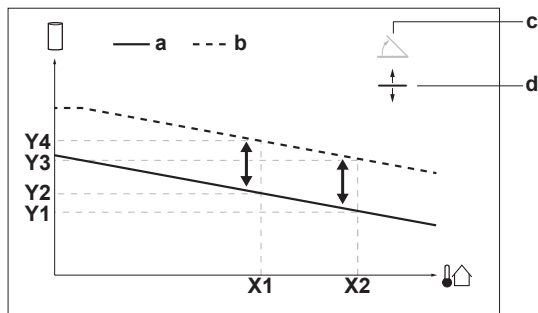
Examples

Weather-dependent curve when slope is selected:

5 Operation



Weather-dependent curve when offset is selected:



Item	Description
a	WD curve before changes.
b	WD curve after changes (as example): - When slope is changed, the new preferred temperature at X1 is unequally higher than the preferred temperature at X2. - When offset is changed, the new preferred temperature at X1 is equally higher as the preferred temperature at X2.
c	Slope
d	Offset
X1, X2	Examples of outdoor ambient temperature
Y1, Y2, Y3, Y4	Examples of desired tank temperature. The icon corresponds to the domestic hot water tank: : Domestic hot water tank

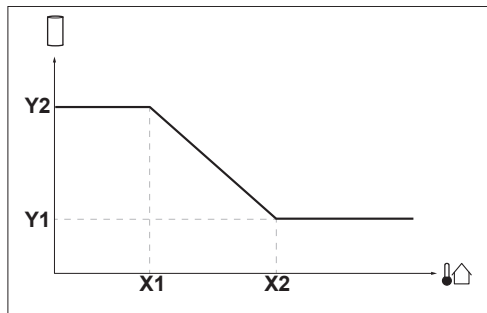
Possible actions on this screen	
	Select slope or offset.
	Increase or decrease the slope/offset.
	When slope is selected: set slope and go to offset. When offset is selected: set offset.
	Confirm changes and return to the submenu.

5.8.3 2-points curve

Define the weather-dependent curve with these two setpoints:

- Setpoint (X1, Y2)
- Setpoint (X2, Y1)

Example



Item	Description
X1, X2	Examples of outdoor ambient temperature
Y1, Y2	Examples of desired tank temperature. The icon corresponds to the domestic hot water tank: : Domestic hot water tank

Possible actions on this screen	
	Go through the temperatures.
	Change the temperature.
	Go to the next temperature.
	Confirm changes and proceed.

5.8.4 Using weather-dependent curves

Configure weather-dependent curves as following:

To define the setpoint mode

To use the weather-dependent curve, you need to define the correct setpoint mode.

Go to setpoint mode ...	Set the setpoint mode to ...
Tank	
[5.B] Tank > Setpoint mode	Restriction: Only available to installers. Weather dependent

To change the type of weather-dependent curve

To change the type of the weather-dependent curve for the tank, go to [5.E] Tank > WD curve type

Restriction: Only available for installers.

To change the weather-dependent curve

Zone	Go to ...
Tank	Restriction: Only available to installers. [5.C] Tank > WD curve



INFORMATION

Maximum and minimum setpoints

You cannot configure the curve with temperatures that are higher or lower than the set maximum and minimum setpoints for the tank. When the maximum or minimum setpoint is reached, the curve flattens out.

To fine-tune the weather-dependent curve: slope-offset curve

The following table describes how to fine-tune the weather-dependent curve of the tank:

The domestic hot water temperature is ...		Fine-tune with slope and offset:	
At regular outdoor temperatures ...	At cold outdoor temperatures ...	Slope	Offset
Hot	OK	↑	↓

The domestic hot water temperature is ...		Fine-tune with slope and offset:	
At regular outdoor temperatures ...	At cold outdoor temperatures ...	Slope	Offset
Hot	Cold	↑	↓
Hot	Hot	—	↓

See "5.8.2 Slope-offset curve" ▶ 13].

To fine-tune the weather-dependent curve: 2-points curve

The following table describes how to fine-tune the weather dependent curve of the tank:

The domestic hot water temperatures is ...		Fine-tune with setpoints:			
At regular outdoor temperatures ...	At cold outdoor temperatures ...	Y2 ^(a)	Y1 ^(a)	X1 ^(a)	X2 ^(a)
OK	Cold	↑	—	↑	—
OK	Hot	↓	—	↓	—
Cold	OK	—	↑	—	↑
Cold	Cold	↑	↑	↑	↑
Cold	Hot	↓	↑	↓	↑
Hot	OK	—	↓	—	↓
Hot	Cold	↑	↓	↑	↓
Hot	Hot	↓	↓	↓	↓

^(a) See "5.8.3 2-points curve" ▶ 14].

5.9 Priority schedule

Air Conditioning or domestic hot water priority

When multiple indoor units are connected to the outdoor unit, the user can set on the user interface for each month whether to put DHW or Air Conditioning (A/C) as priority. This will determinate how the outdoor unit will react in case multiple indoor units requested operation at the same time.

- If DHW is set as priority, the outdoor unit can decide to operate for DHW primarily, while in cooling season A/C operation is stopped or in heating season according to the heating load of the system, A/C operation is on hold or balanced. In this case, once DHW operation is finished or is no longer within operation range of the heat pump, the outdoor unit can switch to A/C (cooling or heating).
- If A/C is set as priority, the outdoor unit can decide to operate only A/C, in which case the backup heater can start for DHW production. Once A/C (cooling) operation is turned off or A/C (heating) operation is finished, heat pump outdoor unit can switch to DHW.

To select the Priority schedule

1	Go to [5.F]: Tank > Priority schedule.	
2	Select which month to set. Priority schedule January DHW February DHW March DHW	
3	Select the priority schedule of that month. Priority schedule January DHW February A/C March DHW	

Example of possible outcomes based on scheduled Priority schedule are as follows:

If ...			Then heat pump operation = ... ^(a)
Which is priority?	A/C request is ...	Can outdoor unit do both? ^(b)	
DHW	Cooling	—	DHW, while A/C is put on hold
	Heating	Yes	DHW and A/C together
		No	DHW, while A/C is put on hold
A/C	Cooling	—	A/C, while DHW is by backup heater
	Heating	Yes	DHW and A/C together
		No	A/C, while DHW is by backup heater

^(a) Applicable if DHW and A/C requests happen at the same time, when outdoor ambient temperature and tank target temperature are within operation range of outdoor unit.

^(b) Decided by outdoor unit.



INFORMATION

If the backup heater always takes over the DHW heat load due to setting Priority schedule to A/C, electricity consumption will be considerably higher. For the months where A/C heating/cooling is less important, it is recommended to set the Priority schedule to DHW.



INFORMATION

If DHW is set as priority and frequent DHW operation is expected, there is risk for comfort problem due to interruption of A/C operation. For the months where A/C heating/cooling is more important, it is recommended to set the Priority schedule to A/C.

5.10 Operation mode

Choosing Operation mode for DHW.

1	Go to [5.G] Tank > Operation mode	
---	-----------------------------------	--

Depending on whether early backup heater operation is desired, two DHW operation modes can be chosen as follows:

- Efficient: Backup heater only allowed when the outdoor unit is unable to perform DHW (e.g. water temperature is outside operation range of the outdoor unit, or the outdoor unit decides to only perform A/C operation – refer to "5.9 Priority schedule" ▶ 15)]
- Quick: Backup heater is allowed either after a certain amount of time has passed since the start of DHW operation (refer below) or when the outdoor unit is unable to perform DHW.

Quick mode timer

When Quick mode is chosen, the user can choose between 3 preset timers after which the backup heater can activate since the start of DHW operation:

- Turbo: 10 minutes
- Normal: 20 minutes
- Economic: 30 minutes

When Efficient mode is chosen, the Quick mode timer is not used.



INFORMATION

When tank disinfection is performed with Efficient mode, the backup heater can still start after 20 minutes to assist the heat pump.

6 Energy saving tips

5.11 Setting up the energy metering

- Via the user interface, you can read out the following energy data:
 - Produced heat
 - Consumed energy
- You can read out the energy data:
 - For domestic hot water production
- You can read out the energy data:
 - Per two hours (for the last 48 hours)
 - Per day (for the last 14 days)
 - Per month (for the last 24 months)
 - Total since installation



INFORMATION

The calculated produced heat and consumed energy are an estimation, the accuracy cannot be guaranteed.

5.11.1 Produced heat



INFORMATION

The sensors used to calculate the produced heat are calibrated automatically.

- The produced heat is calculated internally based on:
 - The leaving and entering water temperature
 - The flow rate
- Setup and configuration: No additional equipment needed.

5.11.2 Consumed energy

You can use the following methods to determine the consumed energy:

- Calculating

Calculating the consumed energy

- The consumed energy is calculated internally based on:
 - The actual power input of the outdoor unit
 - The set capacity of the backup heater
 - The voltage
- Setup and configuration: To get accurate energy data, measure the capacity (resistance measurement) and set the capacity via the user interface for the backup heater (step 1).

6 Energy saving tips

Tips about DHW tank temperature

- Set the Priority schedule to DHW to minimize the usage of the electric backup heater.
- Use a weekly schedule for your normal domestic hot water needs (ONLY in scheduled mode).
- Also, by setting the heat up action to only scheduled action, interruption to A/C operation will be limited to the specific moments where A/C heating/cooling demand is less important.
 - Program to heat up the DHW tank to a preset value (Comfort = higher DHW tank temperature) during the night, because then A/C heating/cooling demand is lower (example: between 22:00 and 04:00).
- If heating up the DHW tank once at night is NOT sufficient, program to additionally heat up the DHW tank to a preset value (Eco = lower DHW tank temperature) during the day or the time when occupants are not present (example: between 09:00 and 15:00).
- Make sure the desired DHW tank temperature is NOT too high.
Example: After installation, lower the DHW tank temperature daily by 1°C and check if you still have enough hot water.

7 Maintenance and service

7.1 Overview: Maintenance and service

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

1	Go to [8.3]: Information > Dealer information.	
---	--	--

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 via [8.4] Information > Sensors or home menu that the water pressure is above 1 bar.

Refrigerant

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

Refrigerant type: R32

Global warming potential (GWP) value: 675

Periodical inspections for refrigerant leaks may be required depending on the applicable legislation. Contact your installer for more information.



WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.



WARNING

- The refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of 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 unit until a service person confirms that the part from which the refrigerant leaked has been repaired.



WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



WARNING

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.



NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO₂ equivalent.

Formula to calculate the quantity in CO₂ equivalent tonnes: GWP value of the refrigerant × total refrigerant charge [in kg]/1000

Contact your installer for more information.

8 Troubleshooting

Contact

For the symptoms listed below, you can try to solve the problem yourself. For any other problem, contact your installer. You can find the contact/helpdesk number via the user interface.

1	Go to [8.3]: Information > Dealer information.	
---	--	--

8.1 To display the help text in case of a malfunction

In case of a malfunction, the following will appear on the home screen depending on the severity:

- : Error
- : Malfunction

You can get a short and a long description of the malfunction as follows:

1	Press the left dial to open the main menu and go to Malfunctioning. Result: A short description of the error and the error code is displayed on the screen.	
2	Press ? in the error screen. Result: A long description of the error is displayed on the screen.	?



WARNING

In case F3-00, there is possible risk of refrigerant leak. Contact your installer.

8.2 To check the malfunction history

Conditions: The user permission level is set to advanced end user.

1	Go to [8.2]: Information > Malfunction history.	
---	---	--

You see a list of the most recent malfunctions.

8.3 Symptom: The water at the tap is too cold

Possible cause	Corrective action
You ran out of domestic hot water because of unusually high consumption.	If you immediately need domestic hot water, activate the DHW tank Powerful operation. However, this consumes extra energy. See "5.6.4 Using DHW powerful operation" [p 11].
The desired DHW tank temperature is too low.	If the problems recurs daily, do one of the following: • Increase the DHW tank temperature preset value. See the user reference guide. • Adjust the DHW tank temperature schedule. Example: Program to additionally heat up the DHW tank to a preset value (Eco setpoint = lower tank temperature) during the day. See "5.7 Schedule screen: Example" [p 12].

8.4 Symptom: Heat pump failure

When the heat pump fails to operate, the backup heater can serve as an emergency heater. It then takes over the heat load either automatically or by manual interaction.

- When Emergency is set to Automatic and a heat pump failure occurs, the backup heater in the tank automatically takes over the domestic hot water production.
- When Emergency is set to Manual and a heat pump failure occurs, the domestic hot water heating stops.
- To manually recover it via the user interface, go to the Malfunctioning main menu screen and confirm whether the backup heater can take over the heat load or not.

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

Possible cause	Corrective action
Heat pump is damaged.	See "8.1 To display the help text in case of a malfunction" [p 17].



INFORMATION

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



INFORMATION

To change the backup heater emergency settings, go to [9.5.1]: Installer settings > Emergency.

8.5 To force off the compressor

It is possible to force off the compressor operation and activate the Emergency function without any malfunction if necessary.

To force off compressor operation go to [9.5.2]: Installer settings > Emergency > Compressor forced off > enabled.

9 Disposal



NOTICE

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

10 Glossary

A/C = Air Conditioning

A system for controlling temperature, humidity and ventilation in a defined space.

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 unit.

11 Installer settings: Tables to be filled in by installer

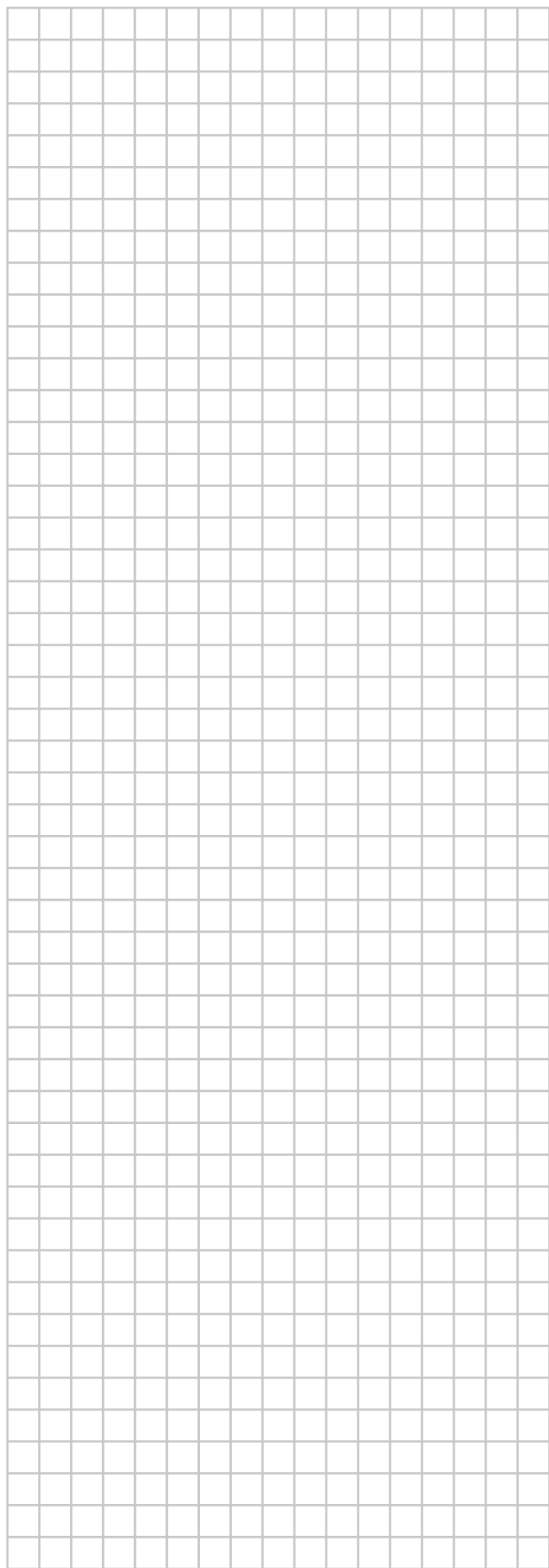
11 Installer settings: Tables to be filled in by installer

11.1 Configuration wizard

Setting	Fill in...
System	
Indoor unit type (read only)	
Backup heater type [9.3.1] (read only)	
Voltage [9.3.2]	
Configuration [9.3.3]	
Capacity step 1 [9.3.4]	
Quick mode timer [9.3.A]	
BUH allowance schedule [9.3.B]	
Operation [9.3.8]	
Emergency [9.5]	
Tank	
Heat up mode [5.6]	
Disinfection [5.7]	
Maximum [5.8]	
Hysteresis [5.9]	
Hysteresis [5.A]	
Comfort setpoint [5.2]	
Eco setpoint [5.3]	
Reheat setpoint [5.4]	
Setpoint mode [5.B]	
WD curve type [5.E]	
Operation modes [5.G]	

11.2 Settings menu

Setting	Fill in...
Information	
Dealer information [8.3]	



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