—
KRONO**TERM** [1976]

TOPLOTNE ČRPALKE

USAGE

—
USER MANUAL

User

—
ESSENTA

Heat pump

ESSENTA System
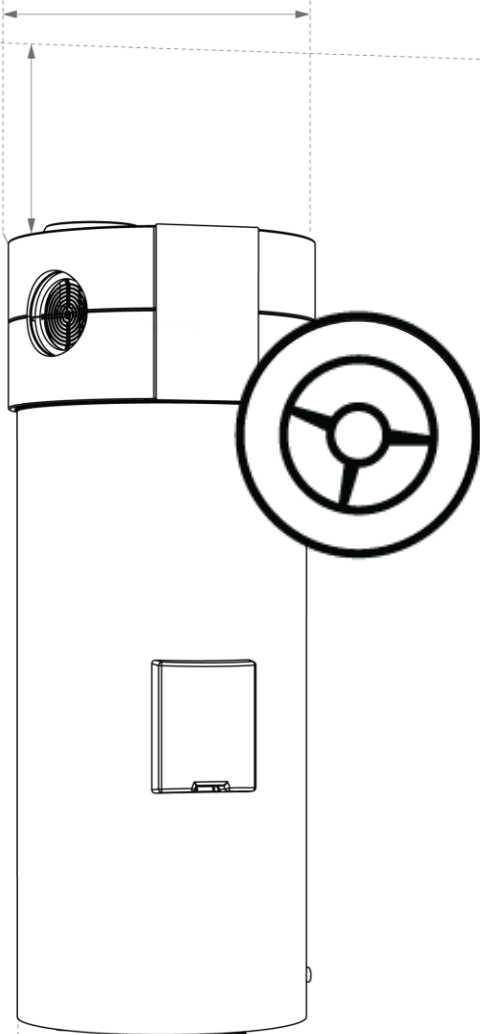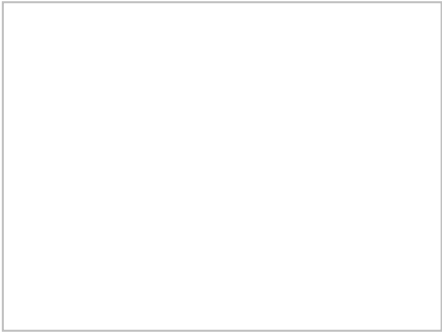
RED TOUCH KEY

	53,5 °C	Wake up the screen
1x 🏠		Home screen
1-5x 🏠 📈 ⊙⊙ 🔔 ⚙		Navigate through menu (cyclic selection)
5 sec 🔒		Lock/Unlock the screen
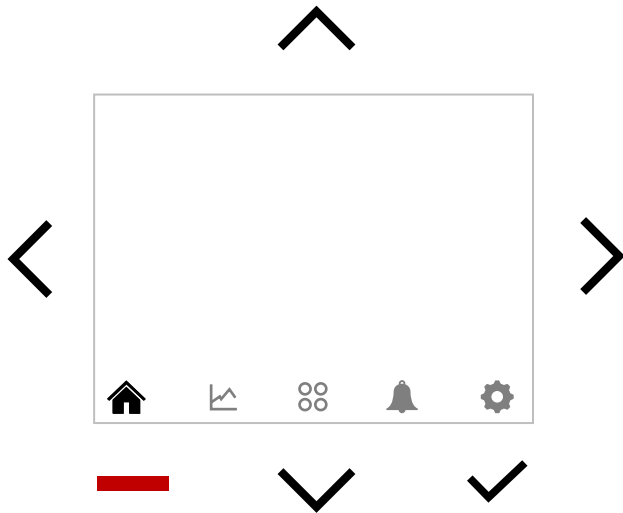
OTHER TOUCH KEYS

∧ ∨	🌡↓↑	Set and view the set temperature
	↓ ↑	Enter the submenu
‹ ›	→ ←	Right/Left
	→] [→	Enter the submenu
›	OK →	Select option, next
✓	⏱ 2s	Confirm setting, hold for 2 seconds

MAIN MENUS

🏠	Home screen, temperature, and schedule
📈	Operation overview
88	Quick settings
🔔	Notifications and errors
⚙	Settings

KRONOTERM INSTRUCTION SYSTEM

The user manual is a part of the KRONOTERM instruction system, which follows our projects' lifecycle from design phase to service support.

TABLE OF CONTENTS

1   IMPORTANT INFORMATION

This manual explains how to use the ESSENTA DHW heat pump.

Incorrect settings may cause the device to malfunction or not operate correctly. To minimize risks, important information is highlighted with symbols in the manual. Follow all general safety guidelines and warnings related to operation.

- If the product is ever given to a third party, these instructions must also be given to said third party.

1.1   SYMBOLS

This symbol indicates various risks for the user or the device:
DANGER: Risk that can lead to serious bodily injury.
WARNING: Risk that can lead to minor bodily injury.
CAUTION: Risk that can lead to device damage or malfunction.

The symbols indicate information:

NOTE: NOTE: Notification that provides important information about the appliance and the manufacturer's requirements.

HINT: For optimal use of the device or a better user experience.

1.2   GENERAL WARNINGS

ⓘ   NOTE
Ask the commissioning engineer or installer to explain in detail how the device works and how to operate it. **Keep these instructions in a dry place in the device's vicinity.**

2   HOME SCREEN

A ────────── DHW

Heating

53,5°C

B ────────── Heat Pump / Currently

🏠 📈 👥 🔔 ⚙️
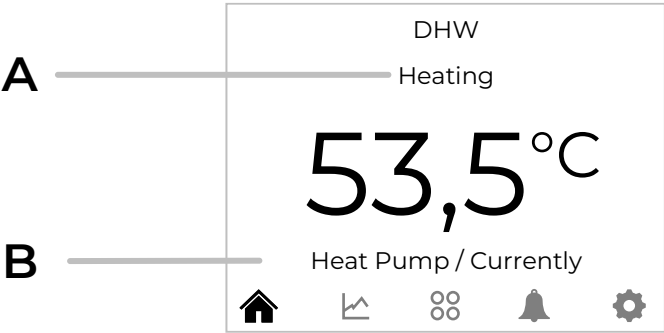
A	CURRENT STATUS	SECTION
Heating	Water heating in progress.	
Storing energy	SG Ready or digital signals for energy storage are active.	7.6.5
Standby	Target temperature reached. Water heating off.	
Holiday	Holiday mode is active.	4.6
Anti-Legionella	Anti-Legionella overheating cycle in progress.	4.3, 7.6.1.
Boost	The device is operating in Boost mode – rapid heating.	4.4
Ext. shutdown	An external or digital signal has turned off the heat pump.	7.6.5
OFF	Operation is turned off, only the interface is active.	4.1

B	HEAT SOURCE	SECTION
Currently	/ *Display of the current temperature*	
Heat pump (HP)	Heat pump	4.2
HP and EH	Heat pump and electric heater	4.2
Electric heater (EH)	Electric heater	4.2, 7.6.4
HP + EB	Heat pump and external boiler	7.6.5
External boiler (EB)	External boiler (oil, gas, pellet boiler…)	4.2, 7.6.5
Wood-fired boiler	Wood	0
Solar	Solar energy	0

3   TEMPERATURE SETTING

75,0		Desired DHW temperature:

Temperature - colour	Device operation
60,5 – 75,0 °C	Least economical, maximum comfort
50,5 – 60,0 °C	Neutral, balanced
20,0 – 50,0°C	Energy-saving and eco-friendly

ⓘ **NOTE**

If the temperature exceeds 65 °C, the device heats the water using the electric heater.

Manual temperature adjustment is not possible when the device operates on a schedule. For more information on setting the temperature with an active schedule, refer to section 5.6.

4 QUICK SETTINGS

Quick settings

OFF

Hold ✓ to turn ON
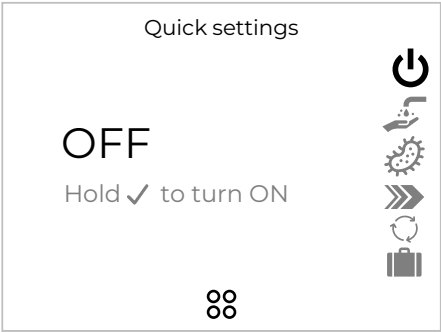
	ON/OFF	
	ON/OFF	ON/OFF – operation is turned off, only the interface is active.
	Operating mode	Switching between different operating modes: Auto, Heater, Boiler (see 4.2)
	Anti-Legionella	Enable or disable manual domestic water overheating (see 4.3)
	Boost	Turn on and off quick domestic water heating (see 4.4)
	Recirculation	Activate recirculation for 15 minutes regardless of schedule settings (see 4.5)
	Holiday	Set the period when water heating is inactive (see 4.6)
	Ducts	Enable switching between air sources (default/primary/secondary). (see 4.7)

4.1   POWER ON AND OFF

Turning the domestic water heating ON and OFF. When ON, the icon turns green.

Quick settings
OFF
Hold ✓ to turn ON
88

→ ON!

✓ 2 s

Quick settings
ON
Hold ✓ to turn OFF
88

→ OFF!

✓ 2 s
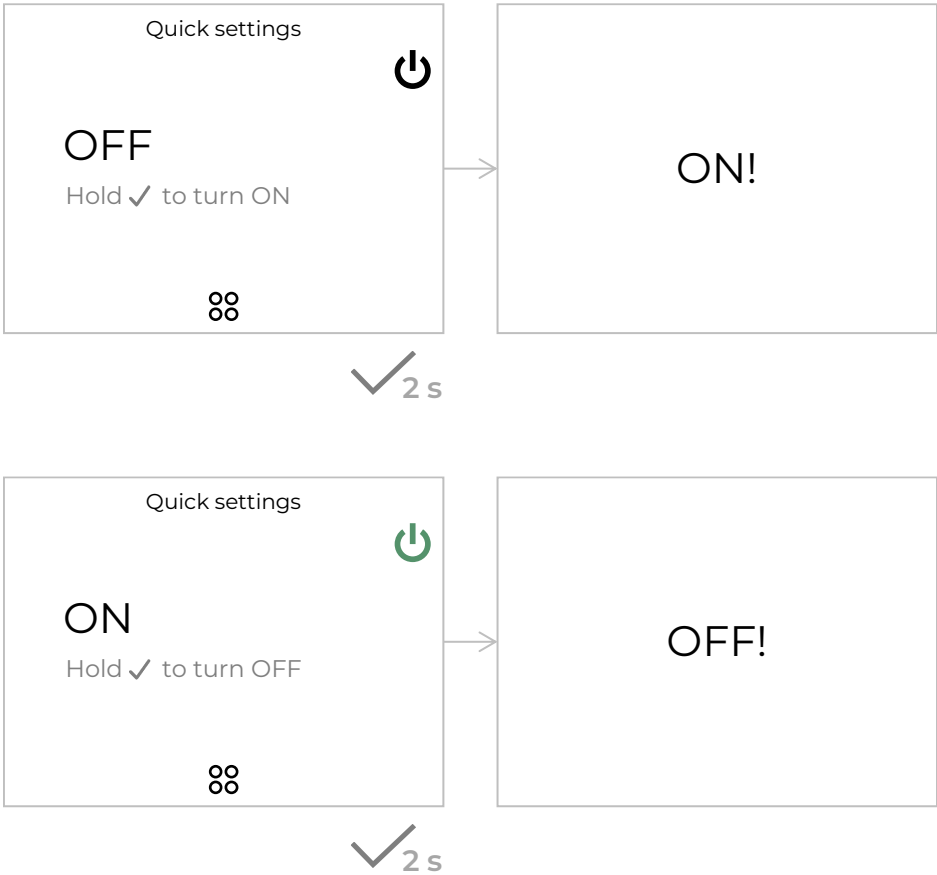
4.2 OPERATING MODE: AUTO, HEATER, BOILER

Energy source selection for domestic hot water heating. The device can operate using a heat pump, electric heater, or an external boiler such as an oil or biomass boiler.

Quick settings	< Mode
Mode Auto 88	**Auto** Currently selected / Select with ⌄⌃ 88

Auto	Automatic mode: The heat pump ensures that the water is always heated. When the outdoor temperature drops below the bivalent temperature, the available additional heater (electric, oil, gas, or pellet) automatically switches on. If solar or biomass heat is available, the device will use this energy first.
Heater	Domestic hot water heating using only the integrated electric heater. Other heater settings can be found in section 7.6.4.
Boiler	Domestic hot water heating using only an external boiler. (If the external source is solar or a wood-fired boiler, this function is not possible.) Other settings for the external boiler can be found in section 7.6.5.

💡 HINT

For the most efficient and economical operation of the device, the Auto setting is recommended.

4.3 ANTI-LEGIONELLA

This function heats water to a higher temperature to prevent the growth of harmful bacteria. Once activated, this quick function continues to operate until it is turned off.

Quick settings		
Mode	Anti-Legionella	ON!
Auto	Hold ✓ to turn ON	

2 s

Anti-Legionella	OFF!
In progress / Hold ✓ to turn OFF	

2 s
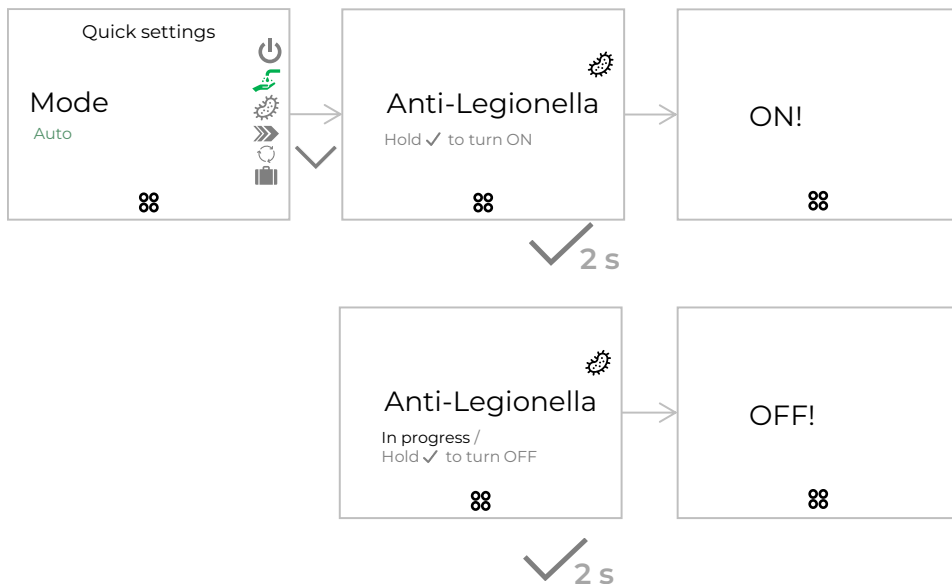
ⓘ NOTE

By default, the Anti-Legionella function is activated every 14 days and 1 day before the end of the Holiday mode. For customising the function parameters (period, time, temperature), see 7.6.1.

💡 HINT

Frequent overheating is not recommended, as energy consumption during overheating is 1/3 higher than during normal operation.

4.4 BOOST– QUICK HEATING

The Boost function is intended for one-time quick heating of water using the heat pump and selected additional sources simultaneously.

Quick settings		
Mode	Boost	ON!
Auto	Hold ✓ to turn ON	

2 s

Boost		OFF!
In progress /		
Hold ✓ to turn OFF		

2 s
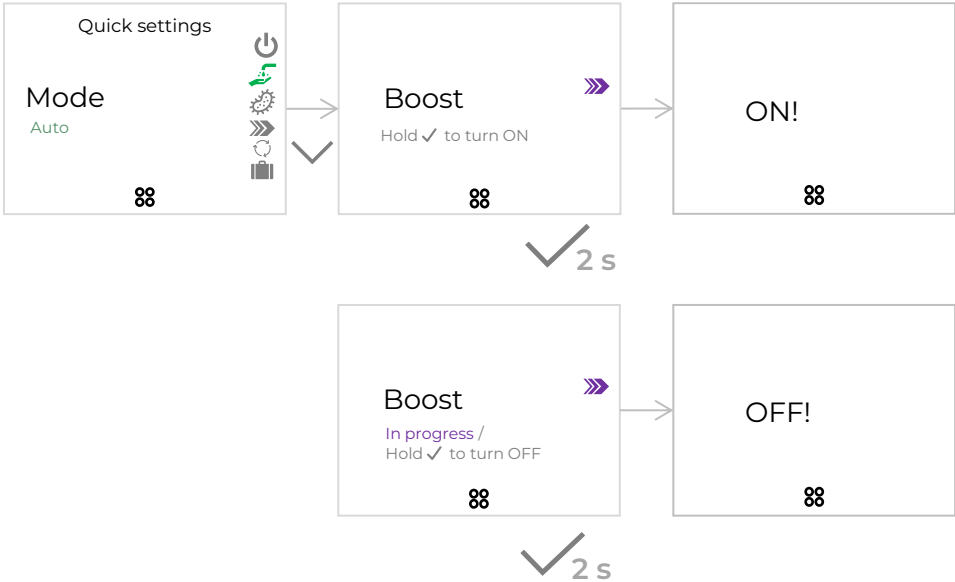
ℹ NOTE

The program heats the water as quickly as possible to the set target temperature. If a schedule is active, the water will reach the temperature set for the selected mode (COMFORT, NORMAL, ECO).

Boost switches off automatically when the set temperature is reached or can be turned off manually (see image above). After deactivation, the system returns to the previous operating mode.

4.5   RECIRCULATION

Recirculation allows hot water to continuously flow through the pipes, ensuring it is immediately available at the point of use. When quick setup is activated, recirculation runs for 10 minutes.

Quick settings	Recirculation	ON!
Mode	Hold ✓ to turn ON	
Auto		

2 s

Recirculation	OFF!
In progress	
10 min to end /	
Hold ✓ to turn OFF	

2 s
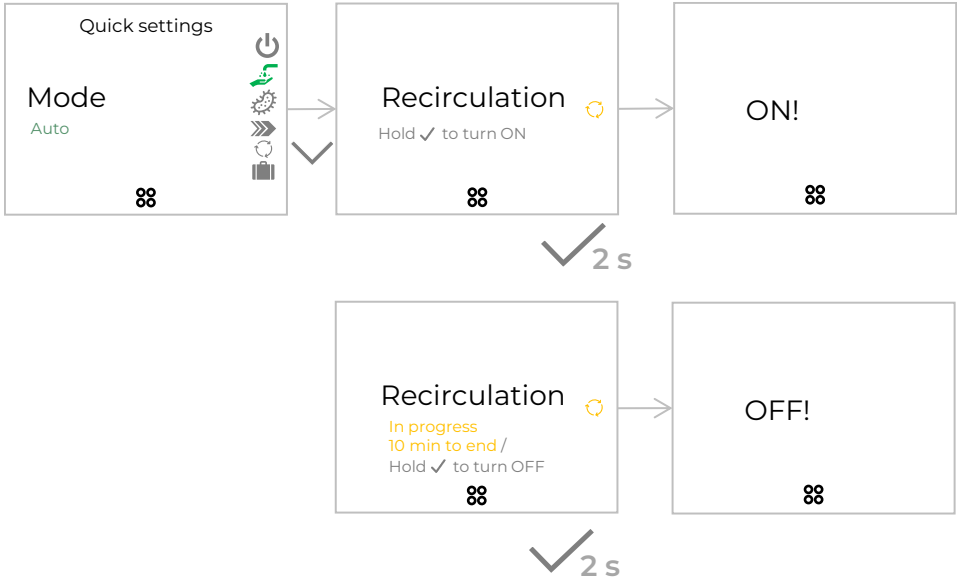
ⓘ **NOTE**

The function turns off either after 10 minutes or manually (see image above).

The recirculation function can operate according to a set schedule (see 7.6.1), or it can be activated manually at any time using the quick settings.

This setting is available only if the system's additional equipment supports domestic hot water recirculation and if the function was enabled during commissioning or later in the settings (see 0).

4.6 HOLIDAY

The Holiday mode allows you to turn off water heating for selected days. During this period, no programs are run, even if a schedule is set.

Quick settings

Mode
Auto

Holiday
Select with >

Holiday
10.8.25 – 12:00
Start
Set with >

Holiday
10.8.25 – 12:00
End
Set with >

Holiday
16.8.25 – 20:00
Start Holiday
Hold ✓ to start

2 s

End before the set date

Quick settings

Mode
Auto

Holiday
Select with >

Holiday
16.8.25 – 20:00
End Holiday
Hold ✓ to turn OFF

2 s
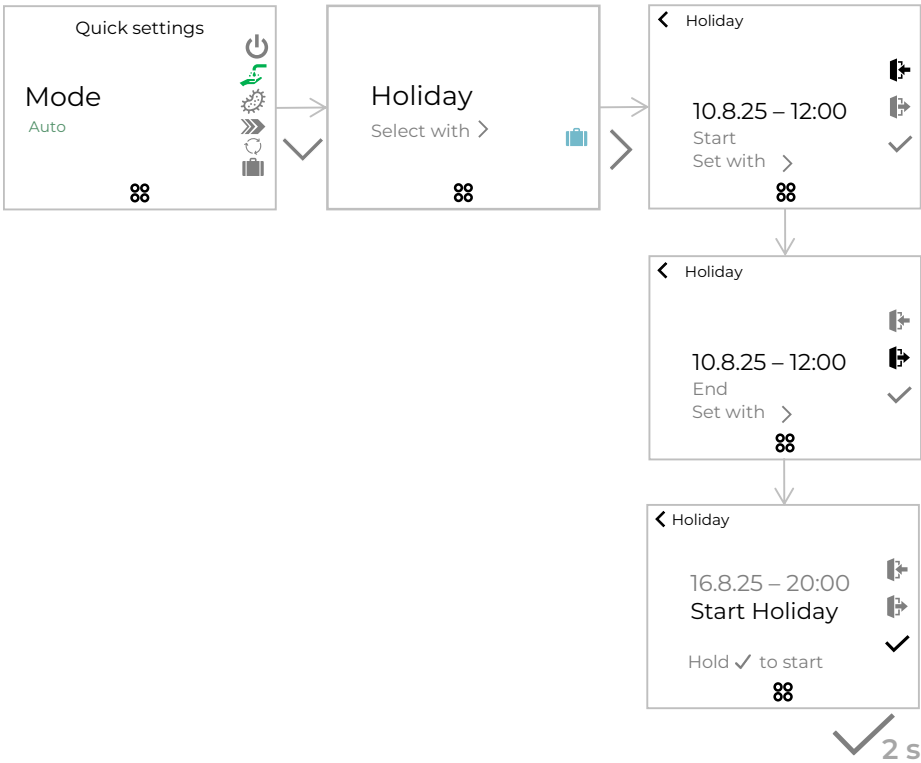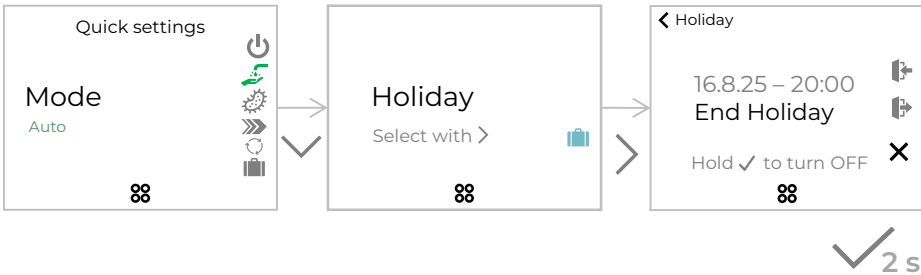
(i) NOTE

After the set period ends, the device automatically returns to the operating mode and settings used before the Holiday mode.

If the Holiday mode runs for at least one day, the Anti-Legionella overheating function will activate 24 hours before the end of the period.

In Holiday mode, the water heating is turned off. However, if the temperature falls below 8 °C, the water will be reheated to 10 °C.

HINT

The Anti-Legionella function ensures that the ESSENTA DHW tank is always filled with hot water at the end of the Holiday period.

4.7   DUCTS

The air duct mode selection allows operation with various air sources (e.g., indoor or outdoor).

Quick settings		Ducts		‹ Ducts	
Mode	⏻	**Ducts**		**Default Switch**	
Auto		Select with ›		Currently	
				Hold ✓ to confirm	
⊞		⊞		⊞	

Default Switch	**Default:** The main source for air intake and output is the primary duct. The secondary duct activates automatically when the set changeover temperature is reached.
Prim. only	**Primary duct only:** Air intake and exhaust occur only through the primary duct.
Sec. only	**Secondary duct only:** Air intake and exhaust occur only through the secondary duct.
Reverse changeover	**Reverse changeover:** The main source for air intake and output is the secondary duct. The primary duct activates automatically when the set changeover temperature is reached.

ⓘ   NOTE

For more information and duct settings, see 7.6.3.

This setting is available only in configurations with switchable air ducts and if the function was enabled at commissioning or later in the settings (see sec. 7.6.3).

5 SCHEDULE

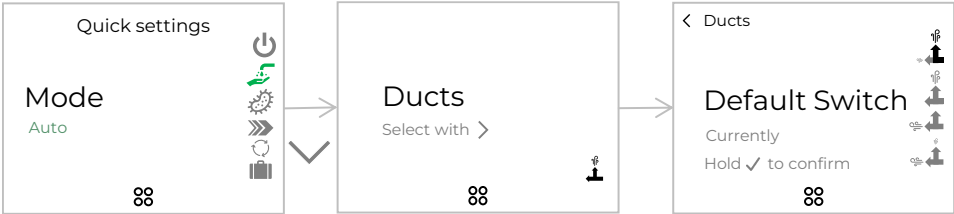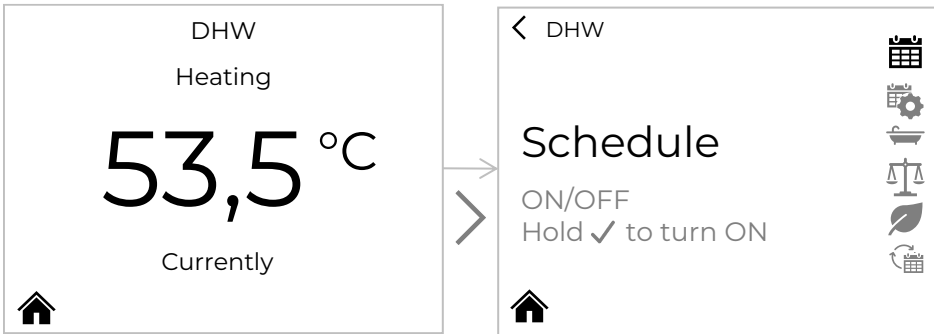| DHW		DHW
Heating		
53,5 °C	>	Schedule
Currently		ON/OFF
🏠		Hold ✓ to turn ON

	SCHEDULE SETTINGS
🗓️	Schedule activation ON/OFF (see 5.2)
🗓️⚙️	Schedule – setup and editing (see 5.1)
🛁	COMFORT - temperature setting (see 5.6)
⚖️	NORMAL - temperature setting (see 5.6)
🍃	ECO - temperature setting (see 5.6)
🔄🗓️	Recirculation schedule – setting (see 5.7)

5.1 STEPS TO SET THE SCHEDULE

1. Schedule activation (see 5.2)
2. Setting days in the schedule (see 5.3)
3. Editing scheduled days:
   - Copying a daily schedule (see 0) or
   - Deleting a schedule (see 5.5)
4. Setting the schedule temperature (see 5.6)
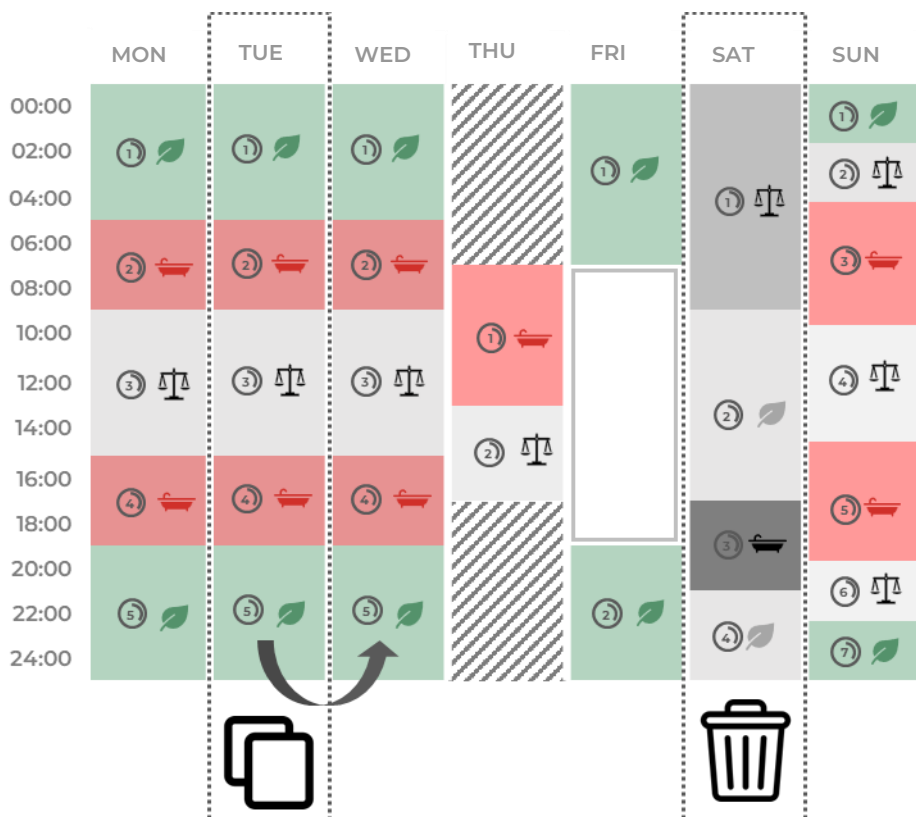
	Interval – maximum of 7 per day (see 5.3.1)		OFF – the device is not operating
	COMFORT temperature (see 5.6)		No interval set, NORMAL mode is active
	NORMAL temperature (see 5.6)		Copy and paste day (see 0)
	ECO temperature (see 5.6)		Delete one day's settings (see 5.5)

5.2   SCHEDULE ACTIVATION

To operate the device using a schedule, you must first activate the schedule (set to ON).
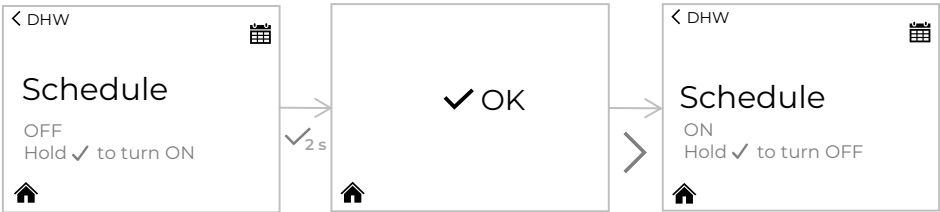
5.3   SCHEDULE SETTING

The schedule can be set for each day of the week.
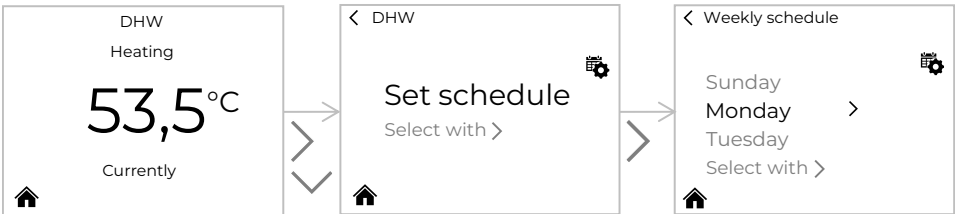
5.3.1   Time intervals

Each day in the schedule is divided into time intervals. For each time interval, specify:
1.   Start time
2.   End time
3.   Temperature mode: COMFORT, NORMAL, ECO, or OFF mode.
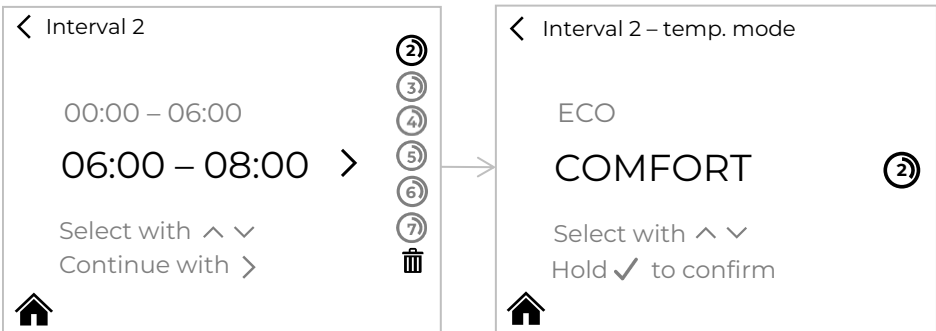
(i) NOTE

A maximum of 7 intervals is available per day.

The intervals are set in sequence – from 1 to 7 – skipping is not possible.

The intervals must follow one another in time and must not overlap.

The intervals are set for a single day, from 00:00 to 24:00.

If no interval is set for a specific time of day, the device operates in NORMAL mode during that period.

5.4   COPYING DAILY SCHEDULE

COPY→ MONDAY

DHW		Weekly schedule		Monday
Set schedule Select with >	→	Sunday **Monday** > Tuesday Select with >	→	**Copy** Hold ✓ to copy schedule

✓ 2 s

Copied!

PASTE→ TUESDAY

DHW		Weekly schedule		Tuesday
Set schedule Select with >	→	Monday **Tuesday** > Wednesday	→	**Paste** Hold ✓ to paste schedule

✓ 2 s
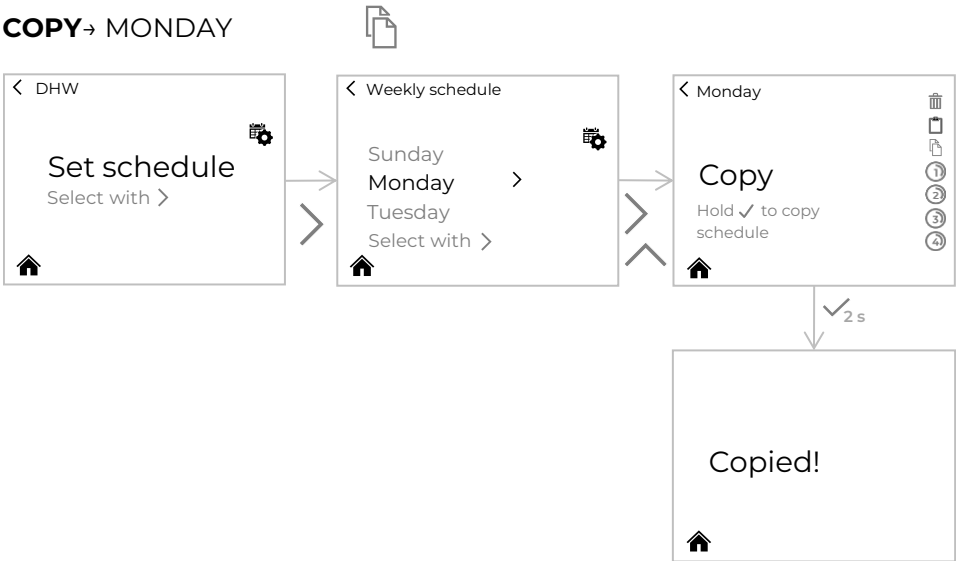
Pasted!

5.5   DELETE SCHEDULE
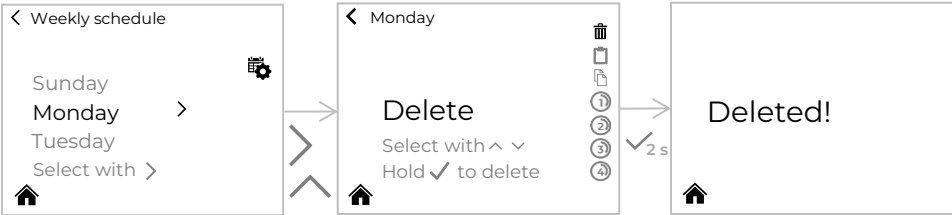
ℹ️	**NOTE**

The settings are deleted for the entire day, not for individual intervals.

5.6 CUSTOM SCHEDULE TEMPERATURE SETTING: COMFORT, NORMAL, ECO

When the device operates on a schedule, three different temperature levels can be defined for individual time intervals: COMFORT, NORMAL, and ECO.

			Default	Custom
🛁	**COMFORT**	When the maximum amount of hot water is needed.	60 °C.	up to 75 °C.
⚖️	**NORMAL**	When a medium amount of hot water is needed.	55 °C	25 - 65 °C
🍃	**ECO**	Most energy-efficient choice. When hot water demand is lowest.	45 °C	25 - 65 °C
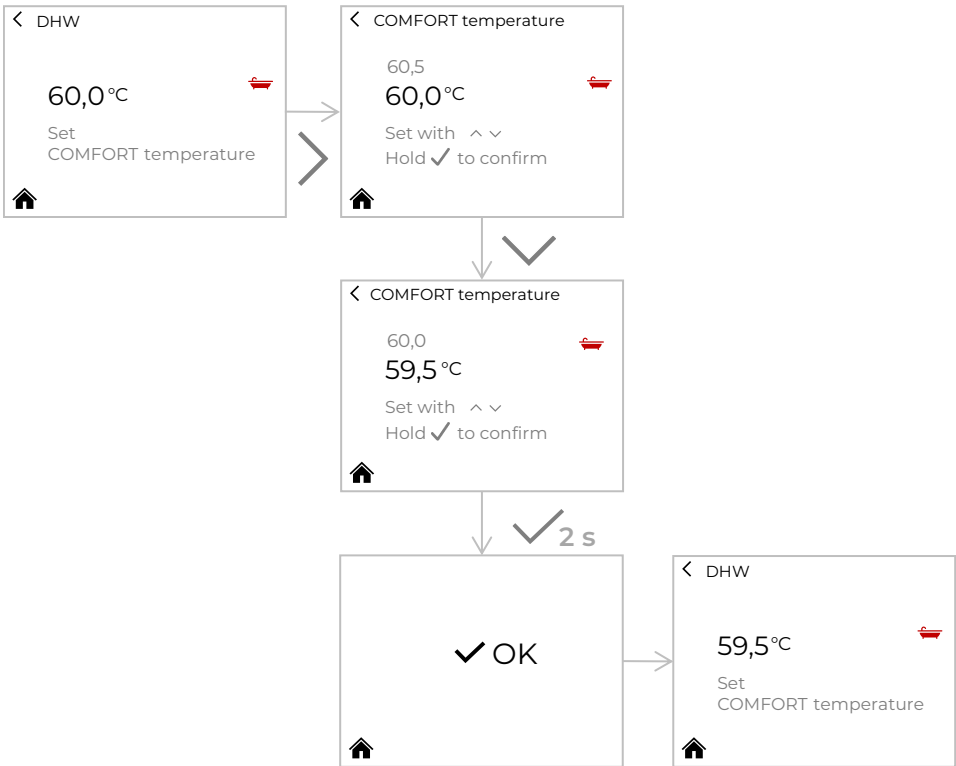
5.7 RECIRCULATION SCHEDULE

Recirculation can be turned on or off.
The schedule sets the time intervals when recirculation is turned on.

DHW	Recirculation schedule
Recirculation schedule Select with >	Sunday Monday > 📅🔄 Tuesday
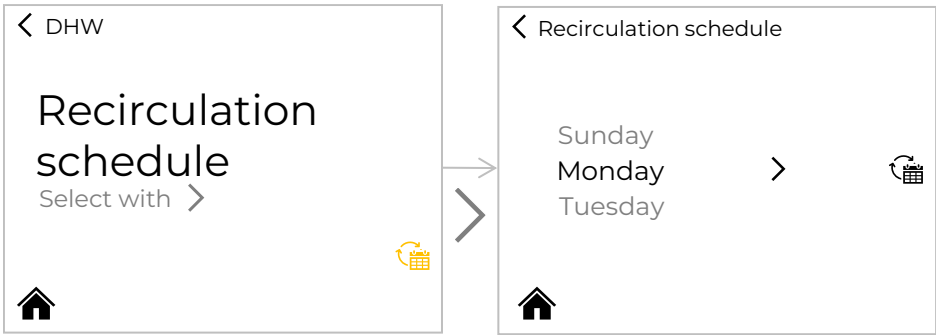
> **ℹ️ NOTE**
>
> The recirculation schedule is set, copied, and deleted in the same way as the domestic hot water heating schedule (see sec. 5.7).
>
> A maximum of 7 intervals is available per day. The intervals are set in sequence – from 1 to 7 – skipping is not possible.
>
> The intervals must follow one another in time and must not overlap.
>
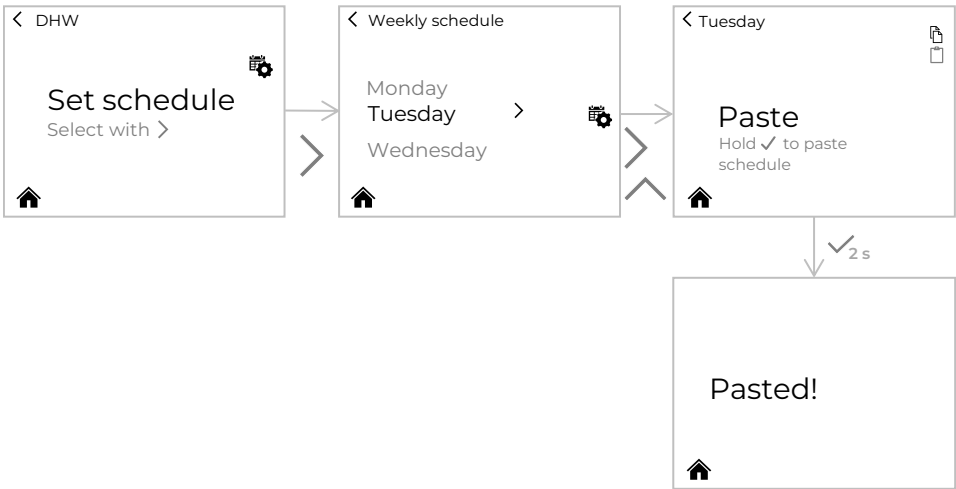> The intervals are set for a single day, from 00:00 to 24:00.
>
> If no time period is defined in the schedule (no interval), recirculation is OFF during that time.
>
> This setting is only available if the system's additional equipment supports hot water recirculation and if this function was enabled at commissioning or later in the settings (see 0).

6 OPERATION OVERVIEW

Currently ❯ Hist...		**...ent** ❮ History	
Inlet air	〰 27,8°C	Today	4,2 kWh
Water temp.	🚰 53,5°C	Yesterday	4,3 kWh
Current power	⚡ ~417 w	This week	18,4 kWh
Hot water	🚰 V40 ▮▮▮▮	Last week	30,2 kWh
⤳		This month	128,1 kWh
		⤳	
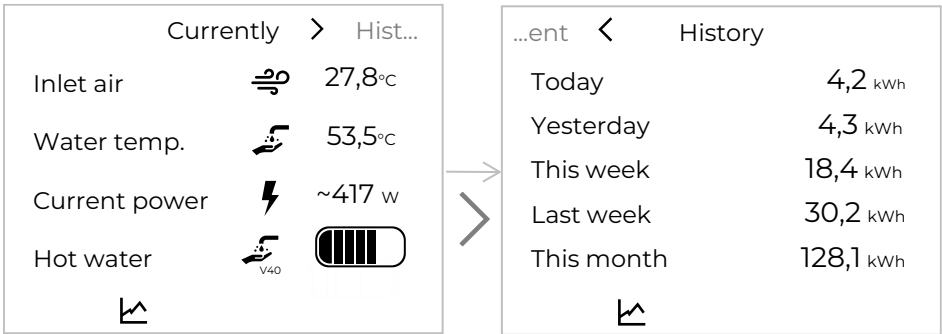
Inlet air 〰	Air temperature at device inlet
Water temp. 🚰	Current water temperature in DHW tank
Current capacity ⚡	Current electrical power consumption
Hot water 🚰 **V40**	Mixed hot water level
History	Estimated electricity consumption for today and past periods

ⓘ **NOTE**

The displayed electricity consumption is an estimate and may differ from actual consumption.

7 SETTINGS

7.1 INFO
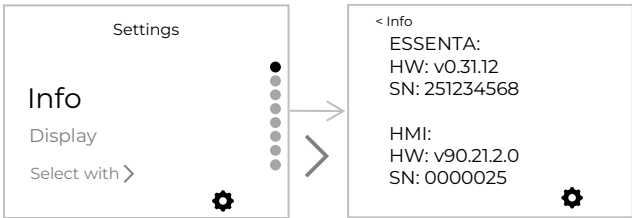
Device model	ESSENTA
Device serial number	SN: 251234568
Program information	HMI: HW: 1.00... SN: 250000154

7.2 INSTRUCTIONS
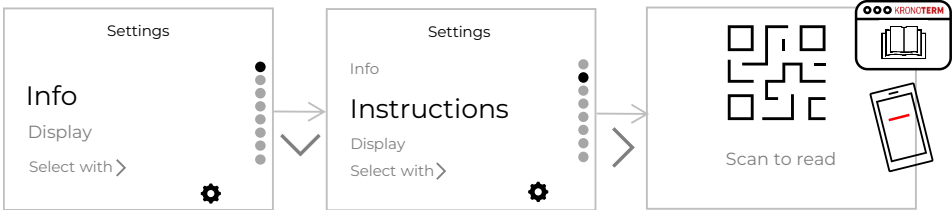
Scan the QR code on the screen to view manuals.

7.3 DISPLAY

7.3.1 Brightness
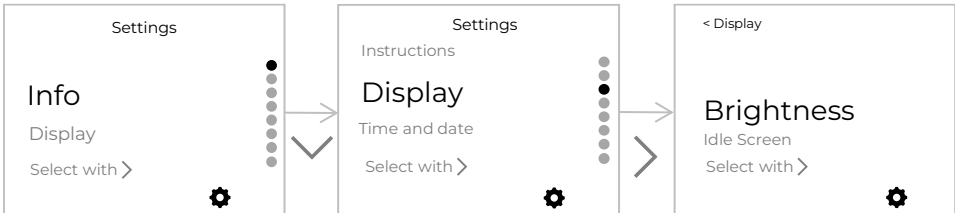
Screen brightness adjustment: 50 / 75 / 100 %.

7.3.2 Idle Screen
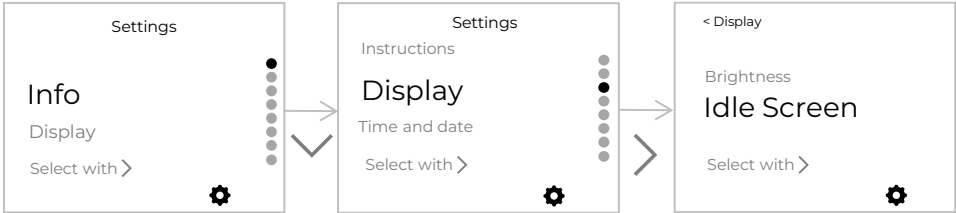
The display switches to sleep mode after 5 minutes of inactivity. In sleep mode, the screen displays one of three options: off (none), time, or temperature.
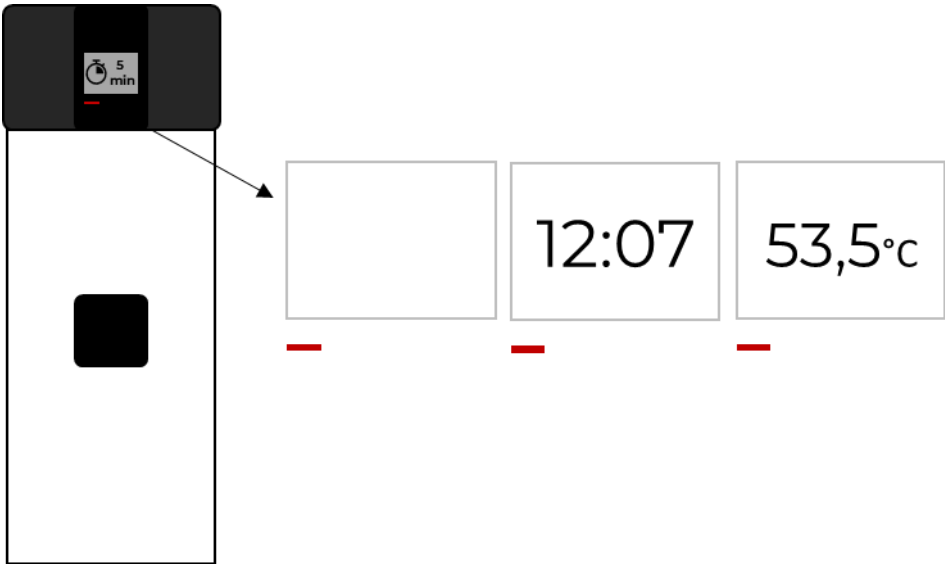
7.4 TIME AND DATE
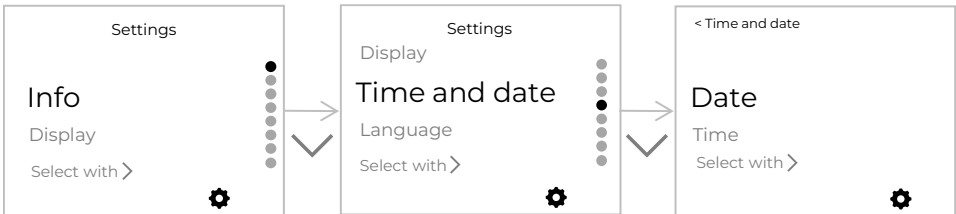
7.5 LANGUAGE
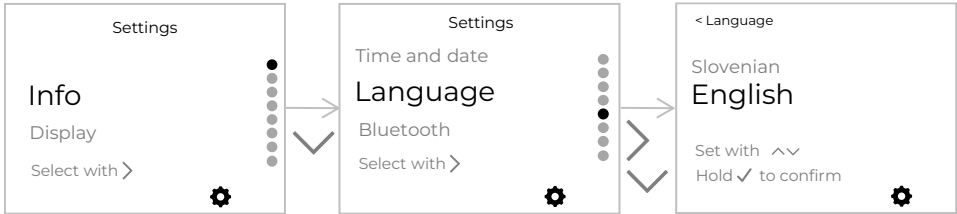
7.6 SYSTEM

7.6.1 Anti-Legionella
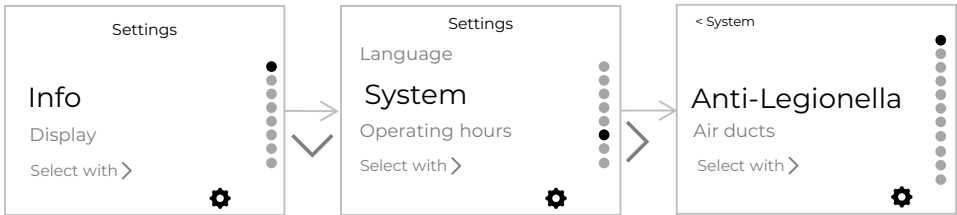
The Anti-Legionella function heats water to a higher temperature to prevent the growth of harmful bacteria. The following settings can be customized:

- Period: the time interval between activations of the Anti-Legionella function.
- Start: the start time for each period.
- Temperature: the domestic hot water temperature; the default temperature is 65 °C.

⚠ **WARNING**

The Anti-Legionella function requires setting an overheating period in accordance with national regulations for safe domestic hot water preparation.

The device performs thermal disinfection only in the DHW tank. To fully disinfect the system, ensure hot water flows through all the pipes in the water installation.

ⓘ **NOTE**

Immediate activation of the Anti-Legionella function is described in section 6.2. This type of activation does not interfere with the regular Anti-Legionella program schedule.

> ### 💡 HINT
>
> **We recommend starting the Anti-Legionella function around 00:00. At that time, electricity is usually cheaper, and there will be enough hot water available in the DHW tank in the morning.**

7.6.2 Cascade

Settings	Settings	< System
Info	Language	Anti-Legionella
Display	**System**	**Cascade**
Select with >	Operating hours	Air ducts
⚙	Select with >	Select with >
	⚙	⚙
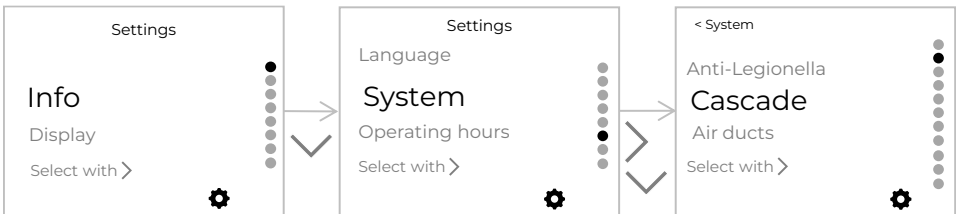
Enables operation when multiple ESSENTA devices are connected.

7.6.3 Air Ducts

Settings	Settings	< System
Info	Language	Cascade
Display	**System**	**Air ducts**
Select with >	Operating hours	Heater
⚙	Select with >	Select with >
	⚙	⚙
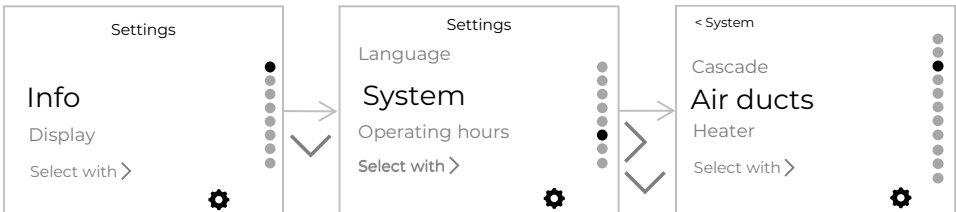
For configurations with air ducts, one of the following three options can be selected:

1. No ducts
2. Ducts
3. Switchable ducts, with the following settings:
   - Changeover temperature (0-30 °C)
   - Primary duct length
   - Secondary duct length

Switchable ducts: primary and secondary ducts

- If two air sources are available (room/outdoor/exhaust air), the **primary duct** is the air duct through which the main air intake and exhaust take place.
- The primary duct can also be defined by the room, so that air is supplied to the room being cooled.
- The **secondary duct** is the duct through which air from the secondary air source flows.
- When the set changeover temperature is reached, the intake and exhaust air will switch from the primary to the secondary duct.
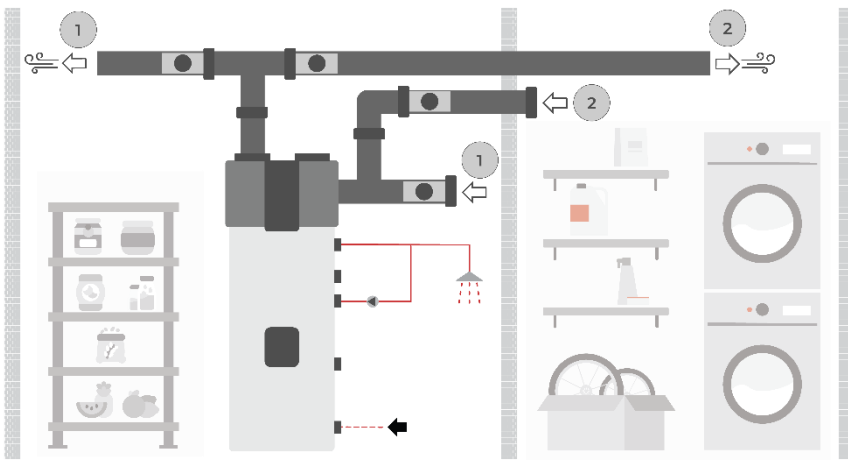
Figure 1: Example of selecting primary and secondary ducts

1	Primary duct
2	Secondary duct

> ## ⓘ NOTE
>
> **This setting is available only for device configurations that include switchable air ducts.**
>
> **Operation of the primary and secondary channels can be set in quick settings (see 4.7.).**

7.6.4 Electric heater

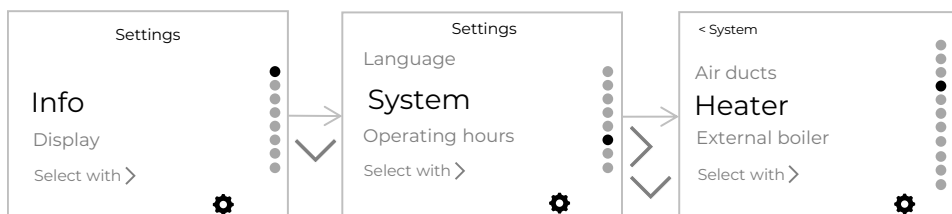Settings for the electric heater integrated into the ESSENTA device. Available options are AUTO and OFF:

- **Auto:** The built-in electric heater will automatically turn on when needed for optimal and efficient device operation (e.g., with cold inlet air or during defrosting).
- **OFF:** Turning off the built-in electric heater; the heater is disabled for all operating functions.

(i) **NOTE**

OFF: This setting works only if the device is in AUTO mode (set in quick settings, see 4.2)

Operation using the electric heater only can be set in the quick settings (see 4.2).

7.6.5 External boiler
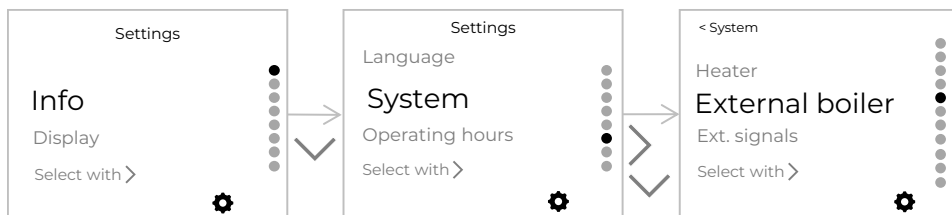
The following settings are available for an external boiler or heat source:

1. **Electric heater**
   An additional external electric heater can be activated when the temperature drops below the bivalent temperature (see 7.6.6) or manually as needed (see 4.2).
2. **Boiler**
   An oil, gas, or pellet boiler activates when the temperature drops below the bivalent temperature (see 7.6.6) or manually as needed (see 4.2).
3. **Wood-fired boiler**
   Heat from the wood-fired boiler is used when available (see 0). The device will first use this energy before activating the heat pump.
4. **Solar**
   Heat from the solar collectors is used when available (see 0). The device will first use this energy before activating the heat pump.

7.6.6 Bivalent temperature
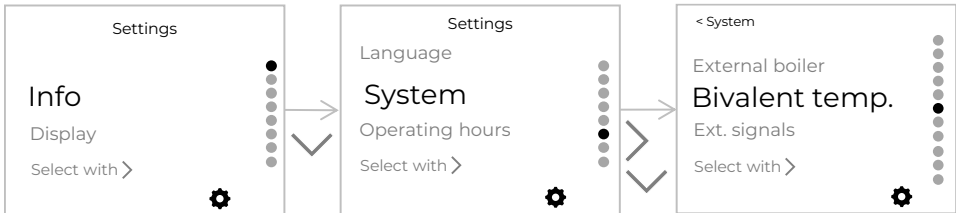
When the inlet air is colder (below 3 °C), the heat pump operates at reduced power. At this point, the selected additional heater (electric heater, oil, gas, or pellets boiler, etc.) can be activated for assistance. Setting the bivalent temperature determines at which temperature this additional heater turns on. When the inlet air temperature rises 3 °C above this value, the additional heater turns off automatically.

The default bivalent temperature is -5 °C.

7.6.7 Energy storage
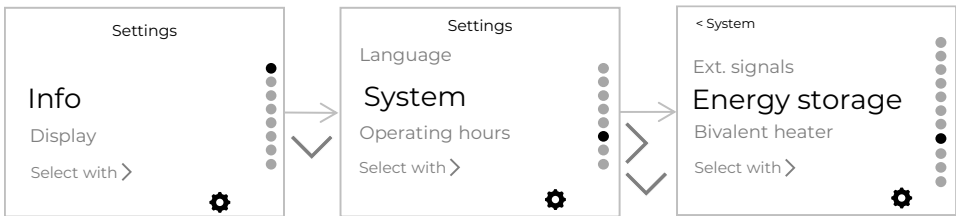
To utilize surplus electricity.

Set the temperature to which the water should be heated when surplus electricity (e.g., from a solar power system) is available. The device receives information about available energy via the signal configured in section 7.6.9.

The default temperature is 65 °C, and the maximum is 85 °C.

ⓘ **NOTE**

This option is enabled when the SG signal is active or if energy storage is selected for signal 1 or 2 in the settings (see 8.5.5).

7.6.8   Solar/Wood-fired boiler
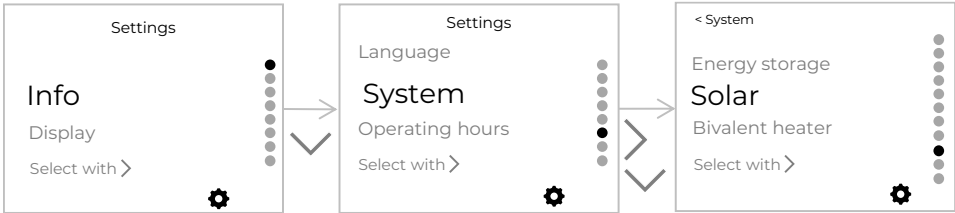
For utilizing surplus thermal energy.

The temperature up to which the water is heated is set for times when surplus thermal energy from external sources (e.g. a solar system or a wood-fired boiler) is available.

7.6.9   Ext. signals
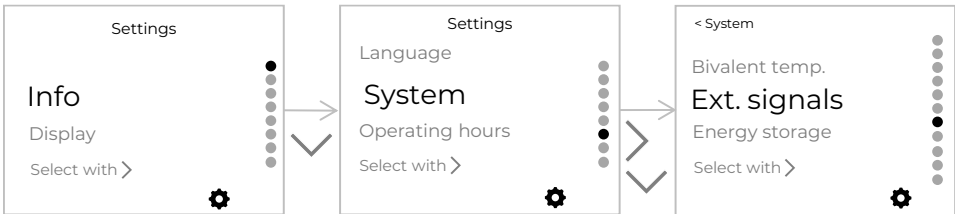
The device control can accept up to 2 customizable external signals. Possible settings are described in the table below.

Setting	Action on signal
None	/
Energy storage AUTO	Water heating for energy storage with automatic heat source selection up to the set temperature (see 7.6.7)
Energy storage HP+EH	Water heating for energy storage using the heat pump and electric heater up to the set temperature (see 7.6.7)
Energy storage HP+EH+EB	Water heating for energy storage using the heat pump, electric heater, and external boiler (source) up to the set temperature (see 7.6.7)
Ventilation	The device's fan turns on to allow room ventilation.
OFF	Turn off device

> **ⓘ NOTE**
>
> **If the SG signal is active, External signals 1 and 2 cannot be configured.**

7.6.10 Bivalent heater
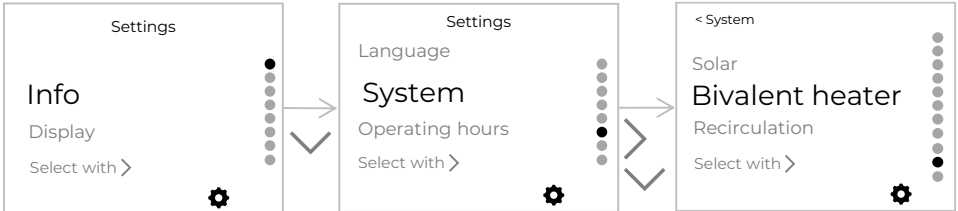
The bivalent or additional heater is used to support the operation of the heat pump. It also activates in the event of a heat pump malfunction.

The following can be set as the bivalent heater:
- None
- El. heater – built-in electric heater (see 7.6.4) –*default option*
- External boiler: oil, gas, pellet boiler, external additional el. heater... (see 7.6.5)
- Both heaters – electric heater and external boiler

ⓘ NOTE

The temperature setting for activating the bivalent heater is detailed in section 7.6.6.

Manual activation of the bivalent heater is possible via the Quick settings (see 4).

When the device operates with external or exhaust air, the operation of the bivalent heater and compressor depends on the air temperature:

- **When the air temperature is between –5 °C and –10 °C, the heat pump compressor operates together with the selected bivalent heater.***

- **If the air temperature is below –10 °C, only the selected bivalent heater operates.**

- **If the air temperature is 45 °C or higher, only the selected bivalent heater operates.**

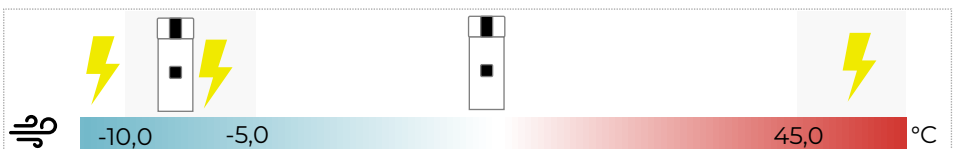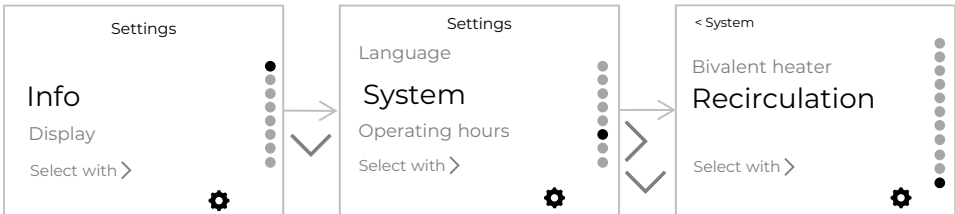***The –5 °C threshold can be adjusted by setting a different bivalent temperature (see 7.6.6).**

Figure 2: Heater operation depending on air temperature

7.6.11   Recirculation

Settings	Settings	< System
Info	Language	Bivalent heater
Display	**System**	**Recirculation**
Select with >	Operating hours	
	Select with >	Select with >

Recirculation allows hot water to continuously flow through the pipes, ensuring it is immediately available at the point of use.

Settings:

- Configuration: Yes/No – indicates whether domestic hot water recirculation is enabled.
- Manual – sets the duration for manual recirculation activation (see 4.5). The default value is 10 minutes.

ⓘ NOTE

This setting is only available if the system's additional equipment supports domestic hot water recirculation.

If recirculation is enabled, you can set the recirculation schedule (see 5.7) or activate it manually as needed (see 4.5).

7.7   OPERATING HOURS

Settings	Settings
Info	System
Display	**Operating hours**
Select with >	Advanced
	Select with >
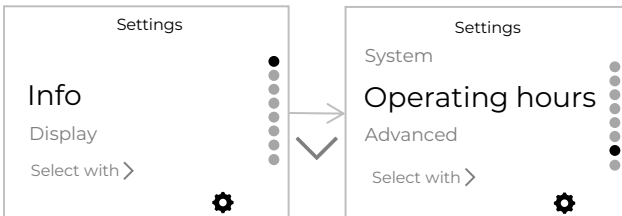
Display of operating hours for the heat pump, electric heater, external heater, primary and secondary ducts, recirculation, and number of defrost cycles.

7.8 ADVANCED

Advanced settings are intended for technical support personnel. Entering a PIN code is required to edit the settings. The following can be set:

- Inputs and outputs – I/O
- Modbus parameters
- Output test
- Error and warning history
- Factory reset

8   NOTIFICATIONS AND ERRORS

🔔🔵	Notification (see sec. 8.1)	
🔔🟡	Error (see sec. 8.2)	
🔔🔴	Critical error (see sec. 8.2)	

8.1   NOTIFICATIONS

Notifications provide important information and tips for the user.

NOTE

To read notifications, scan the QR code to access the notifications page at kronoterm.com.

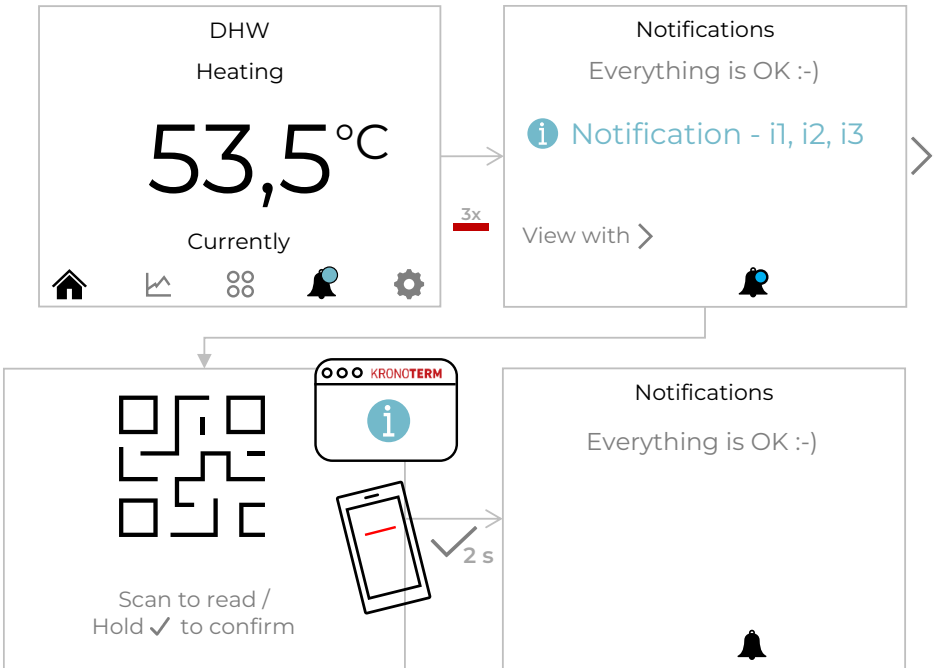**After holding the ✓ key for two seconds, the notification will be dismissed and the message will disappear from the screen.**
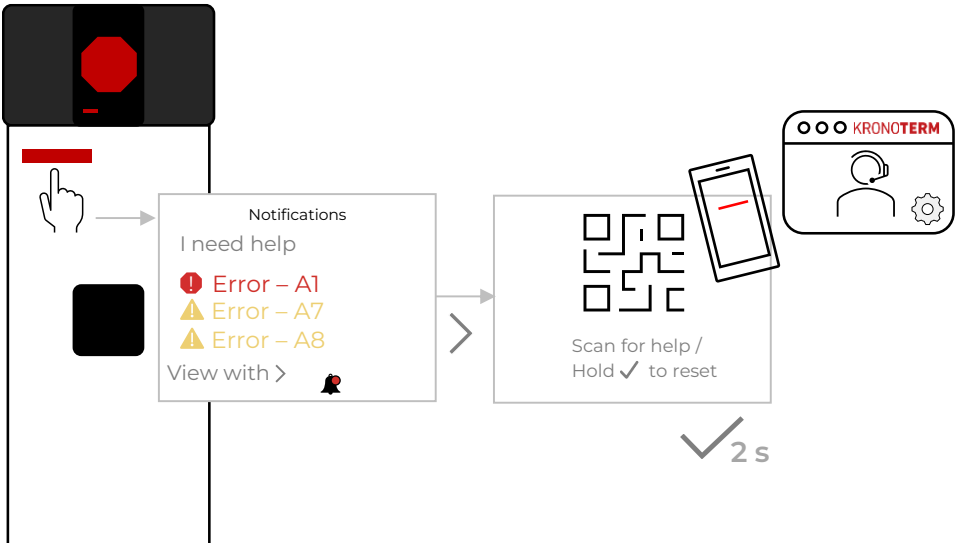
8.2   ERRORS

A fault indicated by a yellow colour or a triangle warns of a malfunction of the device or its individual components. Despite the error, **the device continues to operate.**

A critical error causes **the device to shut down.**

Notifications

I need help

🔴 Error – A1
⚠️ Error – A7
⚠️ Error – A8

View with 〉

Scan for help /
Hold ✓ to reset

2 s

> **(i) NOTE**
>
> For assistance with errors, scan the QR code to access the customer support website. The website provides information on the cause of the error and allows you to create a service request for assistance.
>
> The error indicator will disappear only when the error is no longer active. Resetting is only possible once the cause of the error has been resolved.
>
> While the error is active, the display will remain in standby mode (see 7.3.2) showing a yellow or red error symbol.

Operation overview

Current History

Quick settings

ON/OFF

Mode
- AUTO
- Electric heater
- Boiler

Anti-Legionella

Boost

Recirculation (10 min)

Holiday

Ducts
- Default changeover
- Primary only
- Seceondary only
- Reverse changeover

Schedule
- Schedule activation ON/OFF
- Schedule
- COMFORT
- NORMAL
- ECO
- Recirculation schedule

Notification and errors
- Notifications
- Errors
- Critical errors

Settings
- Info
- Instructions
- Display
- Time and date
- Language
- System
  - Anti-Legionella
  - Cascade
  - Ducts
  - Heater
  - External boiler
  - Bivalent temperature
  - Ext. signals
  - Energy storage
  - Bivalent heater
  - Recirculation
- Operating hours
- Advanced (PIN)