

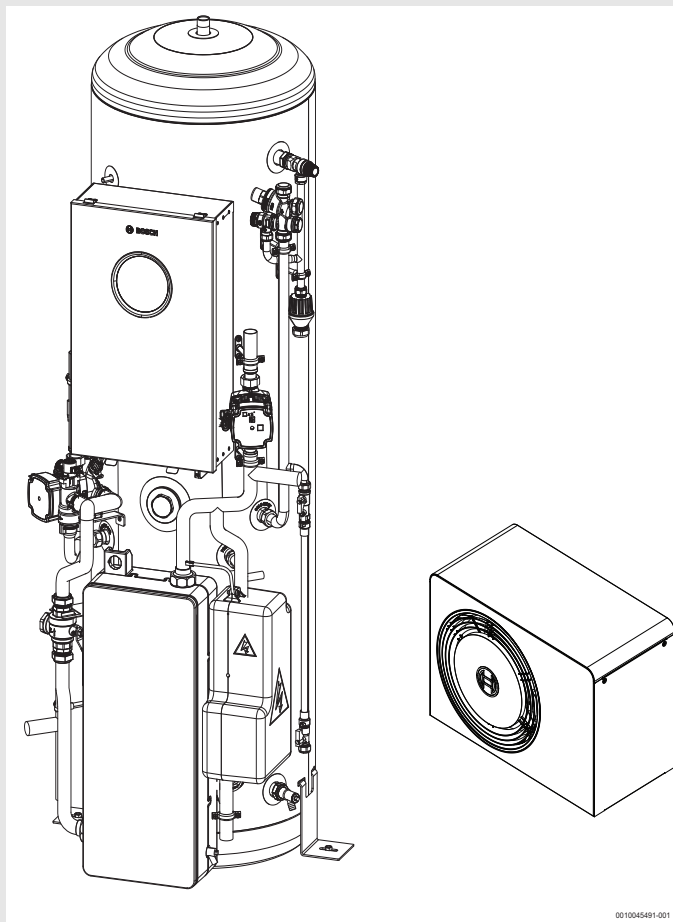


Operating Instructions

Air to water heat pump

Pre plumbed cylinder

CS5800iAW 180 MCP, CS5800iAW 210MP and CS5800iAW 250 MP



0010045491-001



Table of contents

1	Explanation of symbols and safety instructions	3
1.1	Explanation of symbols	3
1.2	General safety instructions	3
1.2.1	Application area	3
2	Product Information	4
2.1	Protection zone	4
2.1.1	Protection zone, ground-placed heat pump by wall	4
2.1.2	Protection zone, ground-placed heat pump free standing or on a flat roof	4
2.1.3	Protection zone, ground-placed heat pump in a corner	4
2.2	Data plate	4
2.3	Declaration of Conformity	4
2.4	Heat pump (outdoor unit)	5
2.4.1	Range for heat pump without booster heater	5
2.4.2	Generic overview of the refrigerant circuit	5
2.5	Indoor unit	6
2.6	Hints on energy saving	6
2.7	Control unit	6
2.7.1	Overview of control elements and symbols	6
3	Operation	8
3.1	Shutting-down	8
4	Main menu	8
4.1	Heating settings	8
4.2	DHW settings	9
4.3	Solar	10
4.4	Energy	10
4.5	Settings	11
5	Maintenance	12
5.1	Indoor unit	12
5.1.1	Check system pressure	12
5.1.2	Particle and magnetite filter	12
5.1.3	Safety valves	13
5.2	Heat pump (outdoor unit)	13
5.2.1	Housing (casing)	13
5.2.2	Evaporator	13
5.2.3	Snow and ice	13
5.3	Faults	13
6	Environmental protection and disposal	14
7	Your guarantee	14
8	Data Protection Notice	14
9	Open Source Software	15
9.1	List of used Open Source Components	15
9.2	Appendix - License Text	16
9.2.1	Apache License 2.0	16
9.2.2	BSD 3-Clause New or Revised License	17
9.2.3	License for STM32CubeMX (STMicroelectronics)	17
9.2.4	MIT License	17

10	Display of consumption values in relation to the funding guidelines for federal funding for efficient buildings - individual measures (BEG EM)	18
11	Technical terms	18
12	Overview Menu	19


1 Explanation of symbols and safety instructions


1.1 Explanation of symbols


Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following signal words are defined and can be used in this document:


 **DANGER**
DANGER indicates that severe or life-threatening personal injury will occur.

 **WARNING**
WARNING indicates that severe to life-threatening personal injury may occur.

 **CAUTION**
CAUTION indicates that minor to medium personal injury may occur.

NOTICE
NOTICE indicates that material damage may occur.

Important information


The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

1.2 General safety instructions

1.2.1 Application area

The heat pump may only be used in sealed heating systems according to EN 12828.

Other uses are not appropriate. Any damage that results from such use is excluded from liability.

The heat pump must undergo maintenance according to EN1717 4.6.

Safety of electrical devices for domestic use and similar purposes

The following requirements apply in accordance with EN 60335-1 in order to prevent hazards from occurring when using electrical appliances:

“This appliance can be used by children of 8 years and older, as well as by people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge, if they are supervised and have been given instruction in the safe use of the appliance and understand the resulting dangers. Children shall not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision.”

“If the power cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person, so that risks are avoided.”

Danger of fire or explosion of flammable gases

The product contains the flammable refrigerant R290. If a leak occurs, the refrigerant may form a combustible gas due to mixing with air. There is a risk of fire and explosion.

A protection zone is defined around the product; see the "Protection zone" chapter.

- ▶ Make sure that no sources of ignition are present near the protection zone, especially open fires, surfaces hotter than 370 °C, spray or other gases that could ignite.

Inspection and maintenance

If there is a lack of cleaning, inspection or maintenance, or if these are carried out incorrectly, this may result in material damage and/or personal injury, including possible risk to life.

- ▶ Have work carried out only by an approved contractor.
- ▶ Do not take off the heat pump cover.
- ▶ Do not modify the heat pump or other parts of the heating system.

Room air

The air in the installation room must be free of combustible or chemically aggressive substances.

- ▶ Do not use or store combustible or explosive materials (paper, propellants, thinners, paints, etc.) within the vicinity of the appliance.
- ▶ Do not use or store corrosive substances (solvents, adhesives, chlorinated cleaning agents, etc.) within the vicinity of the appliance.

Damage caused by frost

The system can freeze if it is switched off:

- ▶ Observe the notices regarding frost protection.
- ▶ Due to the additional functions, e.g. DHW heating or pump anti-seizure protection, the system should always be left on.
- ▶ Have faults rectified immediately.

Risk of scalding at the DHW draw-off points

- ▶ If DHW temperatures above 60 °C are set or if thermal disinfection is activated, a mixer must be installed. If in doubt, ask your installer.

Please read these instructions carefully

- ▶ These instructions are applicable to the Worcester product model/s stated on the front cover only.
- ▶ These instructions apply in the UK/IE only and must be followed except for any statutory obligation.

2 Product Information

Heat pump AW OR together with the Pre plumbed cylinder indoor unit is part of a series of heating systems that use outdoor air to provide energy for water transferred heat and domestic hot water.

The heating system is controlled by a central controller which is located in the indoor unit. The user interface manages and supervises the system with different settings for heat, cold, hot water and other operations. The monitoring function will e.g. turn off the outdoor unit in case of disturbances to avoid damage to vital components.

2.1 Protection zone

The product contains the refrigerant R290 that has a density greater than air. If a leak occurs, the refrigerant could accumulate near the ground. The refrigerant must therefore be prevented from collecting in drains, gaps, other sinks, hollows or depressions in the building.

No building openings such as light shafts, hatches, valves, open down pipes, cellar entrances, windows, doors, roof vents and roof drainage systems, pump shafts, inlets in sewers, waste water shafts, etc. are permitted within the defined protection zone around the product. The protection zone must not overlap general areas or adjacent plots.

No sources of ignition such as contactors, lamps or electrical switches are permitted within the protection zone. The defined protection zones are also applicable for installations on pitched roofs, with the addition that no openings to the building and no sources of ignition are allowed below the product.

No structural changes are allowed in the protection zone that violates the rules mentioned above for the protection zone.

2.1.1 Protection zone, ground-placed heat pump by wall

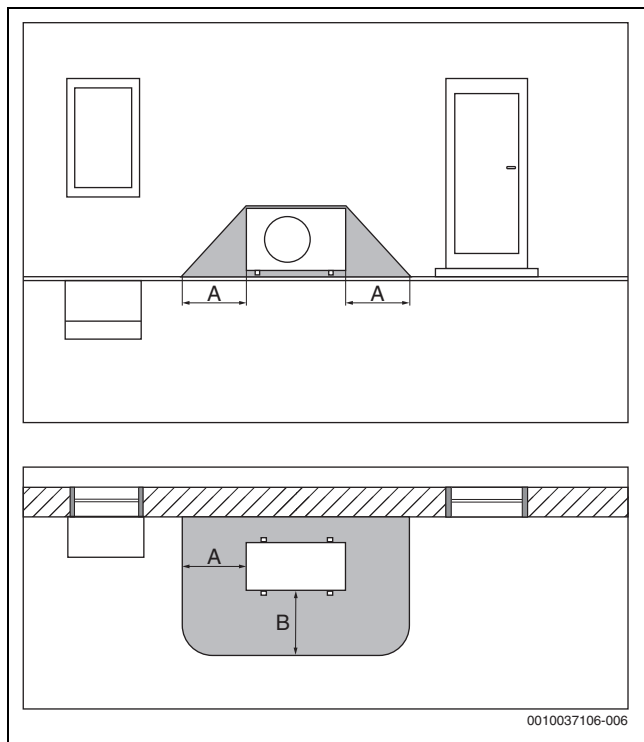


Fig. 1 Protection zone ground-placed

- [A] 1000 mm
- [B] 1000 mm

2.1.2 Protection zone, ground-placed heat pump free standing or on a flat roof

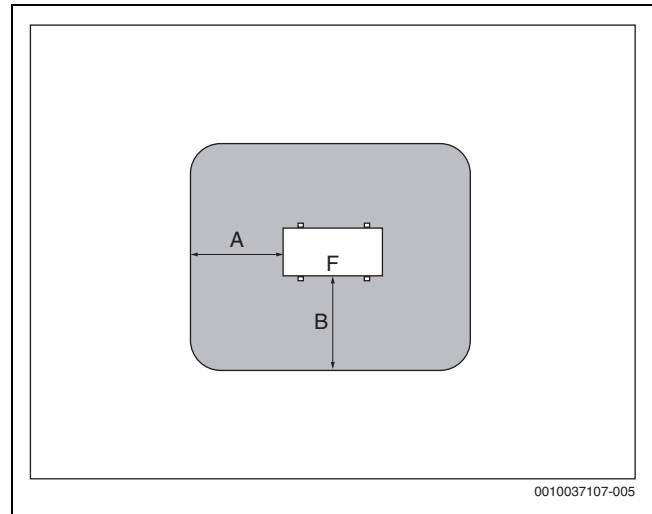


Fig. 2 Protection zone ground-placed on plot or roof

- [A] 1000 mm
- [B] 1000 mm
- [F] Front

2.1.3 Protection zone, ground-placed heat pump in a corner

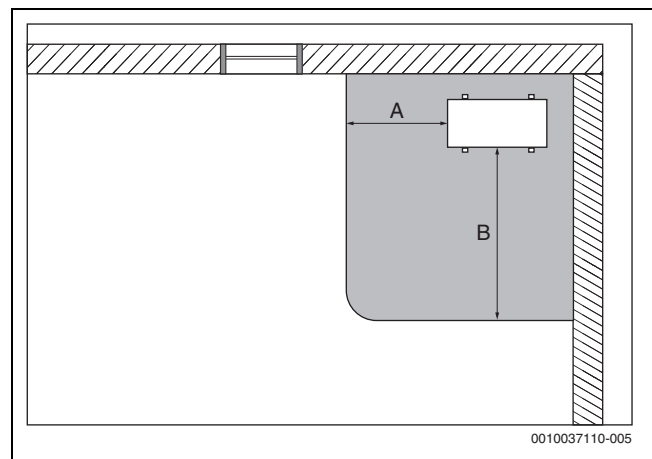


Fig. 3 Protection zone ground-placed in a corner

- [A] 1000 mm
- [B] 2000 mm

2.2 Data plate

- The data plate is located on the RH side of the control box. For the exact location (→ the installation instructions of the appliance).

The data plate contains information on output, item number, serial number and date of manufacture.

2.3 Declaration of Conformity

The design and operating characteristics of this product comply with the British, European and supplementary national requirements.

UK CA **CE** The UKCA and CE markings declare that the product complies with all the applicable British and European legislation, which is stipulated by attaching these markings.

You can request the complete text of the Declaration of Conformity from the UK address indicated in this document.

2.4 Heat pump (outdoor unit)

The heat pump is inverter operated, which means that it will automatically change the compressor speed to deliver the exact amount of energy required at the moment. The fan is also RPM controlled and will change its speed as needed. This provides the lowest possible energy consumption.

The speed changes have an effect on the sound emissions, as higher speed results in higher sound emission.

Defrosting

Ice might form on the evaporator during lower outside temperatures. In case there is enough ice to inhibit the air flow through the evaporator, an automatic defrosting will start. As soon as the ice is gone, the heat pump returns to its normal operation.

If the outside temperature is above +5 °C the defrosting will be performed alongside continued heat production, however if the temperature is lower, the defrosting is done by ways of a 4-way valve turning the heat medium direction in the circuit so that the hot gas from the compressor melts away the ice. The duration of the defrost cycle depends on the actual outdoor temperature and the amount of frost on the evaporator.

2.4.1 Range for heat pump without booster heater



In heating mode the heat pump switches off at approx. -23 °C or +45 °C outdoor temperature. The indoor unit or an external heat source then takes over the heating and domestic hot water production. The heat pump restarts if the outdoor temperature exceeds roughly -17 °C or falls below +42 °C.

2.4.2 Generic overview of the refrigerant circuit

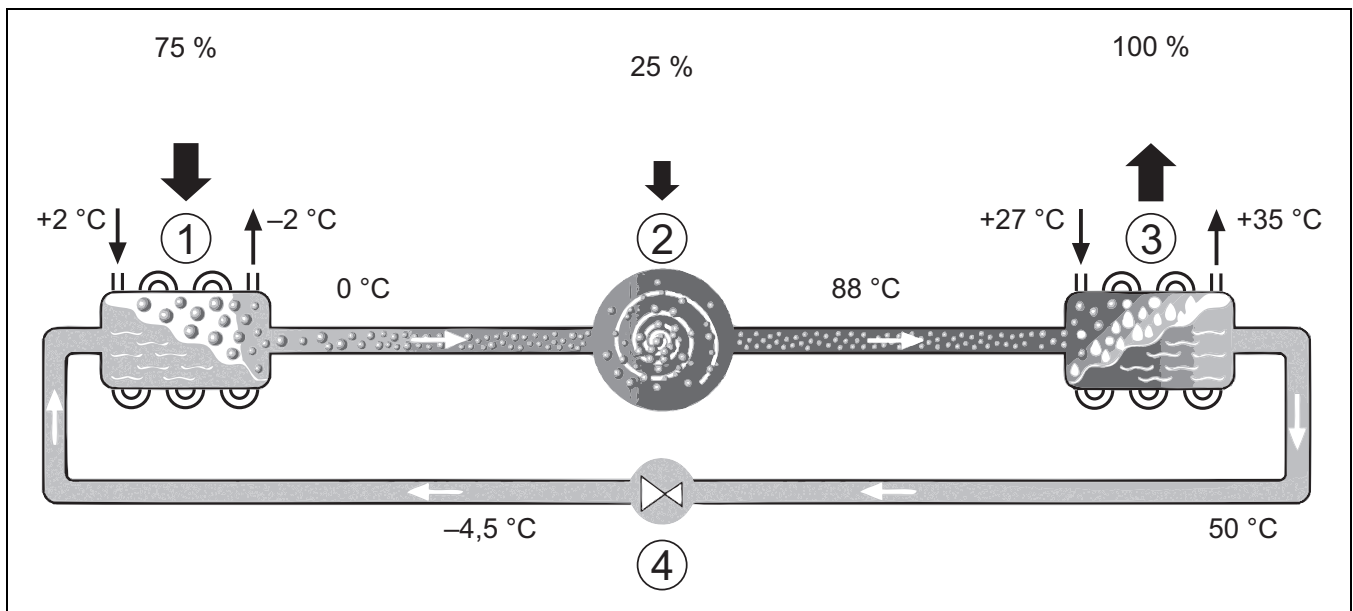


Fig. 5 Functional principle of the refrigerant circuit in the heat pump

- [1] Evaporator
- [2] Compressor
- [3] Condenser
- [4] Expansion valve

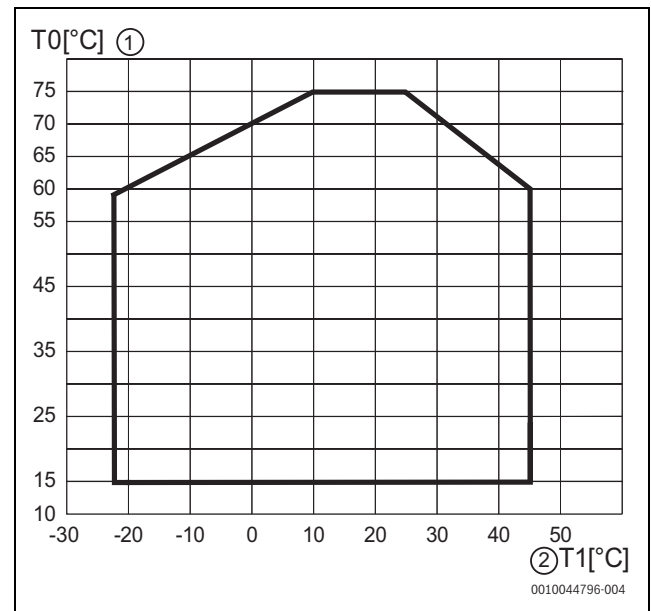


Fig. 4 Heat pump in heating mode without booster heater

- [1] Flow temperature (T0)
- [2] Outdoor temperature (T1)

2.5 Indoor unit

The task of the indoor unit is to distribute the heat from the heat pump to the heating system and the hot water cylinder. The circulation pump in the indoor unit module is RPM controlled, and will automatically decrease in speed when demand is low. This decreases energy consumption. When the heating demand is higher during cold outdoor temperatures, an additional heat source - a booster - may be required. This booster heater is integrated, it is controlled by the user interface in the indoor unit. Please note that when the heat pump is running, the booster heater will only provide the heating output that the heat pump

cannot produce itself. When the heat pump is able to provide all the heating needed, the booster is automatically turned off.

Pre plumbed cylinder

Heat pump AW OR connected to indoor unit Pre plumbed cylinder provides a complete installation for both heating and domestic hot water (DHW), since the indoor unit contains a domestic hot water cylinder. Switching between heating and DHW is managed by an internal 3-way valve. The integrated booster in the indoor unit will turn on if needed.

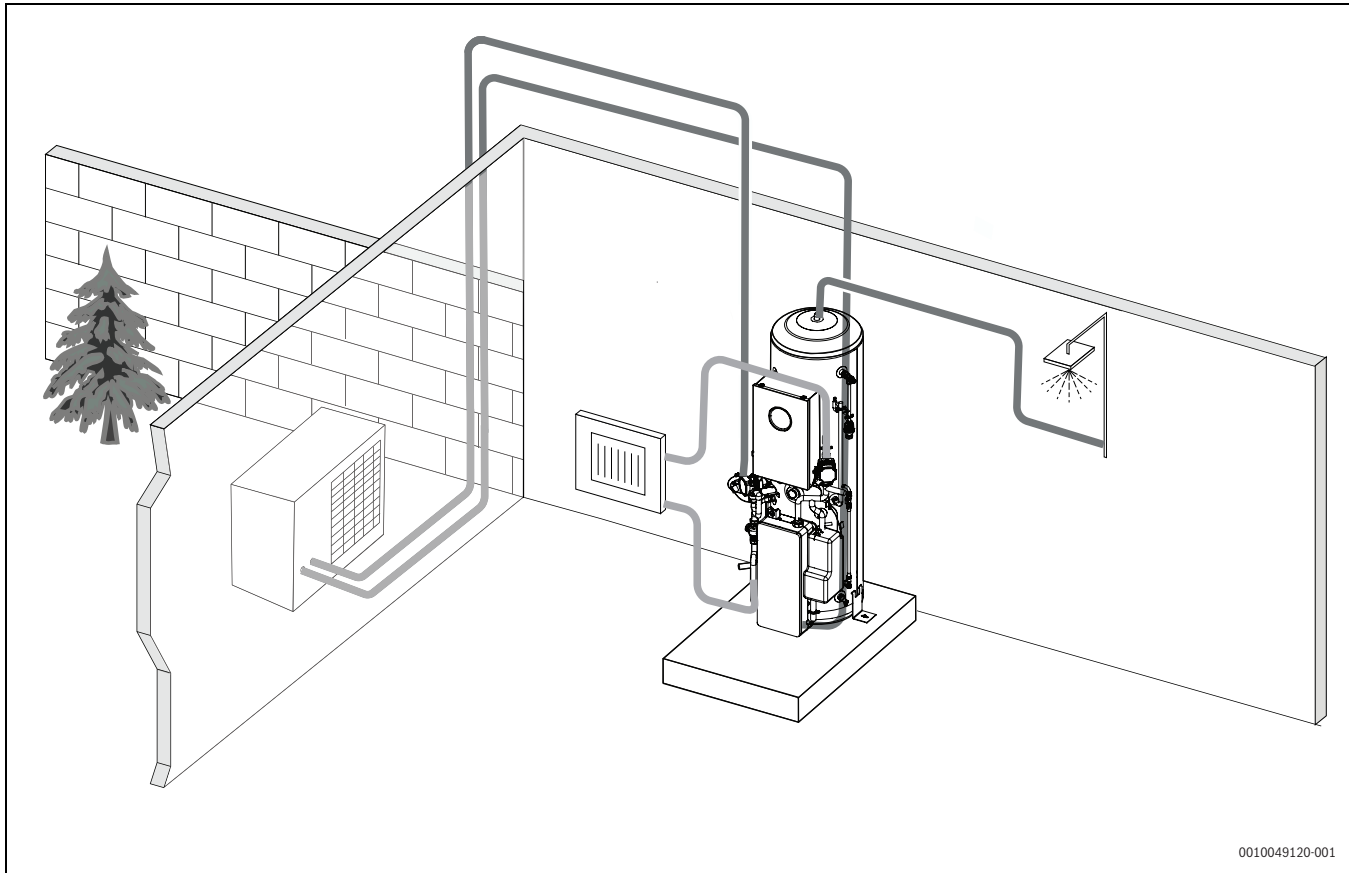


Fig. 6 Heat pump AW OR, indoor unit Pre plumber cylinder CS5800iAW 180 MCP with integrated domestic hot water cylinder and immersion heater

2.6 Hints on energy saving

- Use the normal heating mode, thus the heating system will use the least energy. Set the desired room temperature according to your personal comfort needs.
- Open the thermostatic vents fully in all rooms. Increase the temperature setting on the control only when the desired room temperature has not been reached for some time. Close the thermostatic valve in a specific room, only if that room is warmer than the others.
- If there is a room controller installed, this can be used to set the optimal room temperature. Avoid influence of external heating (i.e. sunlight or wood stove). Otherwise unwanted fluctuations in the room temperature may occur.
- Avoid placing big objects e.g. a sofa in front of the radiators (minimum 50 cm distance). This will block the circulation of the heated air in the room.

Vent the room correctly

Open the windows fully for a short period instead of leaving them ajar. Leaving the windows ajar will let the heated air out of the room constantly without increasing the air quality. Close the thermostatic valves or lower the heating setting on the room controller while the room is vented.

2.7 Control unit



If a room controller is installed, the thermostatic valves in the reference room (the room in which the remote control is installed) must be fully open!

Depending on the software version of the user interface, the texts shown in the display may differ from the texts in these instructions.

The adjustment ranges, default settings and functional scope may differ from the information in these instructions, depending on the system installed at the site.

- If special system components and modules are installed, corresponding settings are available and necessary.

2.7.1 Overview of control elements and symbols

This control panel has a touch screen. Use your finger to scroll between menus and click on specific items to select them.



In each installation only menus of the installed modules or components are shown. The menu items shown may vary between different countries and markets.

i
 In the manual the displays are shown from left to right. The display shown as the start screen in the heat pump depends on which settings have been selected and which accessories are installed.

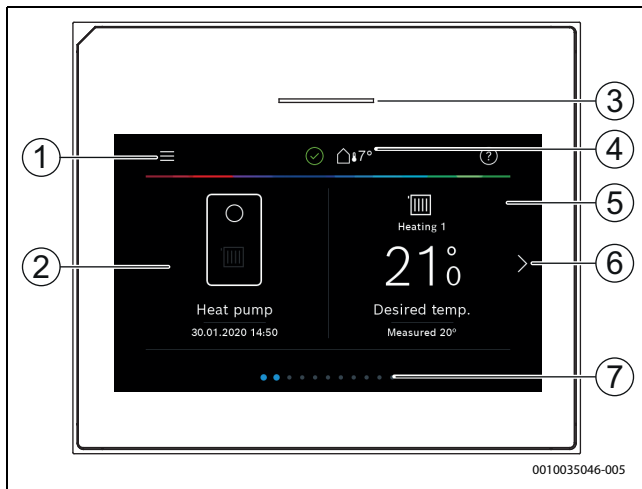


Fig. 7 Control Panel

- [1] **Menu key:** Displays the menus where general settings for the system can be selected.
- [2] **System overview:** Provides a graphical overview of the current status of the heat pump. The submenu **More...** shows a complete status list for the entire system.
- [3] **Status lamp:** Normally green. Changes color to red or yellow if there is an error in the system.
- [4] **Status:** Shows the status of the system. A green tick shows that no alarms are active in the heat pump system. A warning triangle shows that one more alarms are active. Click on the warning triangle for more information.
- Outside temperature:** Shows current outside temperature.
- [5] **Heating circuit 1:** Shows measured temperature and direct access to menu to change temperature, heating circuit 1.
- [6] **Scrolling arrow:** Click this to move between menus, or swipe left or right with your finger on the display.
- [7] **Scroll bar:** Shows which set of menus is currently visible.



Fig. 8

- [1] **Hot water:** Direct access to change DHW mode.
- [2] **Ventilation:** Direct access to menu to change ventilation settings.



Fig. 9 Control Panel

- [1] **Present:** Direct access to settings for presence/absence. By changing to absence, the room temperature is lowered and the domestic hot water is set to ECO+.
- [2] **Solar:** Direct access to status of solar thermal system.
- [3] **Holiday:** Direct access to settings for holiday mode.
- [4] **Energy:** Displays sub menus for Energy monitoring.

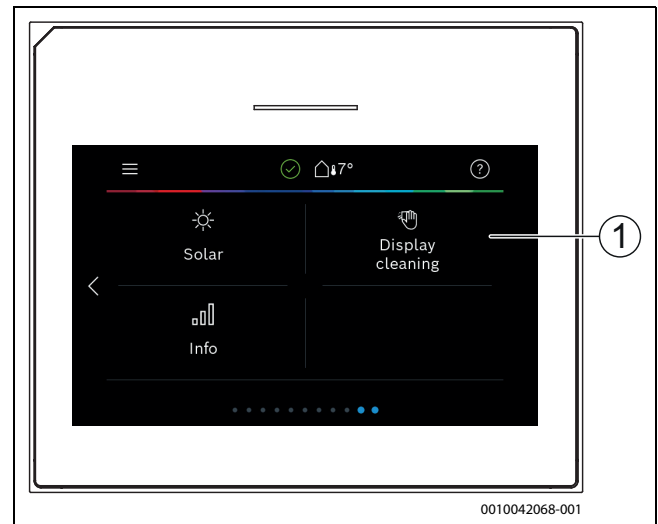


Fig. 10 Control Panel

- [1] **Cleaning:** By clicking on this, the display locks for 15 seconds so that it can be cleaned without making any involuntary settings.

i
 If the display is off, the lighting only lights up if it is touched once. The description of the settings assumes that the display is lit. If no menus are activated, the display will turn off automatically (after about 2 minutes with the default setting).

i
 Certain functions are only shown in the display when the function is activated or accessory is installed.

The system overview shows the status of the heat pump and temperatures in the system and surroundings.

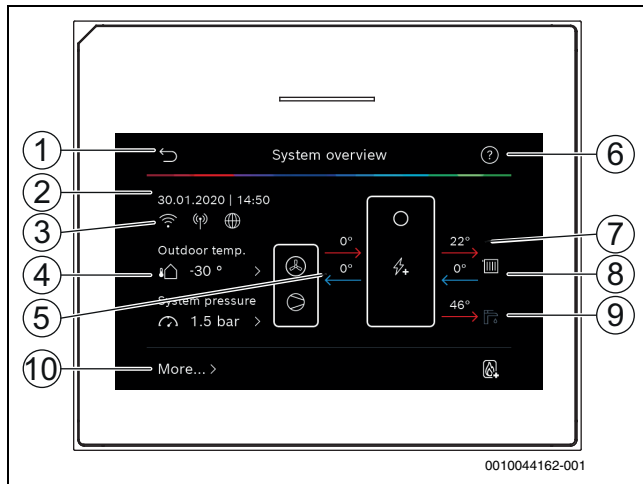


Fig. 11 System overview

- [1] Key to return to the main menu
- [2] Display of date and time
- [3] Status display of Wi-Fi active, radio transmission active (for wireless sensor) and internet connection active
- [4] Display of outdoor air temperature
- [5] Display of temperatures to and from the outdoor unit
- [6] Help menu
- [7] Display of flow temperature
- [8] Display of return temperature
- [9] Display of DHW temperature
- [10] **More...**, for additional settings

More...

Menu item	Description
Settings	<ul style="list-style-type: none"> ▶ Alternating operation. Select On to activate DHW alternating operation. Select Off to deactivate DHW alternating operation. ▶ Time prog., add. heater. <ul style="list-style-type: none"> - Select On to activate time program. Select Off to deactivate time program. - Edit. Setting a time program for the booster heater. - Reset. To reset, press Yes. To return without resetting, press No. - Time prog. min. outdoor temp.. Select the temperature limit to automatically disable the booster heater program.
	<ul style="list-style-type: none"> ▶ Restore installer settings. To return to saved installer settings, select Yes; to exit without making any changes, select No.
Heat pump status	<ul style="list-style-type: none"> ▶ Shows the heat pump's operating status.
Statistics	<ul style="list-style-type: none"> ▶ Shows the statistics for the heat pump operation.

Table 2 More settings

3 Operation

WARNING

Material damage from frost!

The heating or auxiliary heater may be irreparably damaged by frost.

- ▶ Do not start the heat pump if there is a possibility of the heating or auxiliary heater being frozen.

An overview of the structure of the main menu and the position of the individual menu items can be found at the end of this document.

The info menu is useful to get instant information of the status of the heat pump.

Each of the following descriptions takes the standard display as its starting point.

3.1 Shutting-down

The unit is normally switched on. The system is only switched off for maintenance purposes, for example.

i

Standby means that the system is completely switched off and no safety functions, such as frost protection, are active.

- ▶ To temporarily switch off the system:
 - Select the option > **Menu** in the start menu
 - Select **Expert view** > **On** for more menu options.
 - Select **Standby mode** in the list
 - Press **Yes**
- ▶ To switch on the system:
 - Press on the display.
 - Select Yes.
- ▶ To switch off the system permanently: interrupt the power supply to the whole system and any additional accessories.

i

After a prolonged power failure or extended period of idleness, the date and time must be reset. All other settings are retained permanently.

4 Main menu

Depending on the heating appliance and how the user interface is used, not all menu items will be available for selection.

4.1 Heating settings

Menu > **Heating circuit 1**

Menu item	Description
Set operating mode for Heating circuit 1	<ul style="list-style-type: none"> ▶ Select Off to switch off the heating circuit. Select Auto for automatic control of the heating circuit according to the time program. Select Manual to set continuous operation of the heating circuit. ▶ Set the desired room temperature in this menu by scrolling left or right on the scale. Save the new setting with Confirm, -or- go back without making any changes with Cancel.

Click on More... for additional settings.

Menu item	Description
Season switch HC1	In the summer, the heating mode can be switched off for the selected heating circuit. The DHW mode is not affected by this setting. <ul style="list-style-type: none"> ▶ Select Auto for automatic switchover between summer and winter mode. ▶ Select Heating for continuous heating mode.
Heating off from	Set the temperature at which the heat pump must change from summer to winter mode by scrolling up or down the scale. Save the new setting with Confirm, -or- go back without making any changes with Cancel.
Display time program HC1	Select Yes to activate -or- No to deactivate.
Desired room temp.	[5...21...30] °C. Set the desired room temperature.
Time program	If a time program has been activated, this menu is shown. <ul style="list-style-type: none"> ▶ Edit. Set schedule for time control. ▶ Reset. Select Yes to reset -or- No to return without resetting. ▶ Temperature settings. Heating. Set desired normal temperature. Setback. Set how much the temperature should be reduced by in night reduction mode.
Rename heating circuit	Enter a new name for the heating circuit using the keyboard shown in the display. Save the new setting with Confirm, -or- go back without making any changes with the cross (X) in the top right corner.

Table 3 Heat settings for heating circuit 1

If there are other heating circuits installed, repeat the settings above for each heating circuit.

 **CAUTION**

Risk of damage to the system!

- ▶ Do not switch over to summer mode if there is a risk of frost.

4.2 DHW settings

 **WARNING**

Danger to health from legionella!

Legionella can form in domestic hot water at DHW temperatures that are too low.

- ▶ Activate thermal disinfection.
- ▶ Observe the statutory regulations on drinking water.

 **WARNING**

Risk of scalding!

If automatic thermal disinfection has been activated to avoid legionella, the DHW is heated once to 65 °C (e.g. every Tuesday night at 02:00).

- ▶ Only carry out thermal disinfection outside normal hours of use.
- ▶ Make sure that a thermal mixer is installed. If in doubt, ask your installer.

Menu > **Hot water**

Menu item	Description
Set operating mode for Hot water	<ul style="list-style-type: none"> ▶ Select Off to switch off DHW production. Select Auto for automatic time control of the DHW production. Select Manual to set continuous operation of DHW production. ▶ Set the desired operating mode for DHW production in this menu by scrolling left or right on the scale. Eco+ provides the best operating economy, Comfort provides the best DHW comfort. Save the new setting with Confirm, -or- go back without making any changes with Cancel.
Extra hot water	[1...2...48] hours. Set the desired time for how long extra DHW mode should be on. Confirm extra DHW with Start extra hot water. It is possible to cancel extra DHW production while it is activated by pressing Stop extra hot water.
Click on More... for additional settings.	
Time program	<ul style="list-style-type: none"> ▶ Select Edit to schedule DHW production. ▶ Reset. Select Yes to reset -or- No to return without resetting.
Thermal disinfection	<ul style="list-style-type: none"> ▶ Start. Start thermal disinfection immediately. ▶ Stop. Stop thermal disinfection immediately. ▶ Auto. Select On to start automatic time control of thermal disinfection. Select Off to switch off automatic disinfection. ▶ Daily/weekday. Set which day thermal disinfection should be activated, or select Daily. ▶ Time of Day. Set what time of day thermal disinfection should be activated.
Hot water circulation pump	<ul style="list-style-type: none"> ▶ Operation mode. Select Off to switch off DHW circulation. Select On for permanent operation of DHW circulation. Select Hot water set temperature to control DHW circulation based on the set DHW temperature. Select Auto for operation according to time program. ▶ Start frequency. Select Permanent for permanent operation of DHW circulation. Select Interval to set an interval during which DHW circulation is activated. An interval is a pump run of 3 minutes. Value [1...6] refers to the number of starts per hour. Value [7] means that the pump runs continuously. ▶ Time program. Select Edit to schedule DHW production. Reset. Select Yes to reset -or- No to return without resetting.
Activate time program	Select Yes to activate -or- No to deactivate.
Red. HW temp on alarm	Select Yes to activate, then the hot water temperature will be set to 35 °C for further fault detection in the event of a compressor alarm. -or- No to deactivate.
Measured temperature	Shows current DHW temperature.

Table 4 DHW settings

Menu > **Holiday**

Menu item	Description
Holiday	<ul style="list-style-type: none"> ▶ From. Set the start date/time for absence: the holiday program starts at the set date/time. Select Confirm to confirm or Cancel to return without making changes. ▶ To:. Set the end date/time for absence: the holiday program ends at the set date/time. Select Confirm to confirm or Cancel to return without making changes.
Click on Advanced settings for additional settings.	
Apply settings to	Select which functions (heating circuits, DHW production and ventilation) that will be controlled by the holiday setting.
Heating	Select how DHW production will be controlled by the holiday setting. <ul style="list-style-type: none"> ▶ Off. To switch off heat production for the set time. ▶ On. To change to set temperature for the set time.
Desired room temp.	[10...17...30] °C. Set the desired room temperature for the period that the holiday function is activated. Select Confirm to confirm -or- Cancel to return without making changes.
Hot water	Select which DHW setting should be active during the holiday setting. <ul style="list-style-type: none"> ▶ Off. To switch off DHW production for the set time. ▶ Eco+. To change DHW production to Eco+ for the set time. ▶ Eco. To change DHW production to Eco for the set time. ▶ Comfort. To change DHW production to Comfort for the set time.
Ventilation	Select how ventilation will be controlled by the holiday setting. <ul style="list-style-type: none"> ▶ Off. To switch off ventilation for the set time. ▶ Level. [1...4]. To set the ventilation level for the set time. ▶ Demand. To set the demand-controlled ventilation for the set time.

Table 5 Holiday settings

**CAUTION****Risk of system damage!**

- ▶ Before a prolonged period of absence, only change the settings under Holiday.
- ▶ After a long absence, check the operating pressure of the heating system.

4.3 Solar

Information about the solar thermal system is shown in the information menu. No changes can be made in this menu.

Menu item	Description
Solar	▶ Shows the solar thermal system configuration.
Click on Advanced settings for additional settings.	

Menu item	Description
Solar sensor overview	▶ Shows the system sensors
Solar yield overview	▶ Shows statistics on energy produced

Table 6 Information menu that shows the status and energy production of the solar thermal system

4.4 Energy

The energy statistics of the system are indicated in this menu. Only the information on functions and accessory components actually installed in the heat pump and in the system are displayed.

Menu item	Description
Energy	Dis Menu item statistics. Overview of the total energy generated, specified by energy source, e.g. proportion of ambient energy, proportion of the heat pump (electricity energy for compressor operation) and proportion of auxiliary heater. <ul style="list-style-type: none"> • Select Total to display the energy statistics of the system since being commissioned. • To display the statistics for a specific year, select the respective year. Display the statistics since commissioning.
Select More... to display more energy statistics.	
Energy consump.	Display of the statistics for energy consumption. Select Total or a specific year. <ul style="list-style-type: none"> • Total • Heating • Cooling • Hot water • Ventilation
Produced Energy Total	Display of the statistics for energy generation. Select Total or a specific year. <ul style="list-style-type: none"> • Total • Heating • Cooling • Hot water • Ventilation
Efficiency	Display of the statistics for effectiveness. Select Total or a specific year. <ul style="list-style-type: none"> • Total • Heating • Cooling • Hot water • Ventilation
Reset	Resetting the yearly energy statistics. Select Yes to reset. The values since commissioning are not deleted. -or- Select No to go back without resetting.

Table 7 "Energy statistics" menu

4.5 Settings

Menu > Press menu button in the Start menu at the top on the left to call up the "General settings" menu.

Menu item	Description
Language	Set the language of the menu texts shown in the display.
Time of Day	Set the current time. This setting is used as the basis for the holiday program, thermal disinfection and weekday, for example.
Date format	Set the required date format and time. This setting is used as the basis for the holiday program, thermal disinfection and weekday, for example.
Date	Set the current date. This setting is used as the basis for the holiday program, thermal disinfection and weekday, for example.
Auto. time switchover	Activate or deactivate the automatic changeover between summer and winter time. If [Yes] is set, the time setting automatically changes (from 02:00 to 03:00 on the last Sunday in March and from 03:00 to 02:00 on the last Sunday in October).
Time correction factor	Option for correcting the time if the time deviates in the control panel.
Suppress warning sound	As soon as an alarm occurs, a warning signal sounds. The signal output can be deactivated for any length of time. <ul style="list-style-type: none"> • [Operation mode] <ul style="list-style-type: none"> - [On]: The buzzer is always active. - [Off]: The buzzer is never active. - [Auto]: The buzzer is normally active, but switched off during the set interval. • [Start Time]: Set the start time for switching off the summer. • [End time]: Set the end time for switching off the summer.
Brightness	Change the display brightness (to make it easier to read).
Display off after	Set the time delay (following the last activity) until the display is shut down.
Installer contact data	In this menu the installer contact data are displayed (if entered).
Internet	In this menu the data for the internet connection are displayed. The QR code can be scanned with the phone app to make the connection with the internet gateway. <ul style="list-style-type: none"> • Internet connection • WLAN network • IP address • Server connection • Internet module software version • MAC address • Login data • Establish connection <ul style="list-style-type: none"> - Pairing status - Activ. Hotsp. - Activate WPS • Terminate connection • Reset Internet password

Menu item	Description
Standby mode	The heat pump is normally switched on. The system is only switched off in order to carry out maintenance or similar tasks. <ul style="list-style-type: none"> ▶ To temporarily switch off the display and the system: <ul style="list-style-type: none"> - Select [Yes] ▶ To switch on the display and the system: <ul style="list-style-type: none"> - Press on the display. - Select [Yes].
Activate keylock	Select [On] to activate the child-lock.

Table 8 General Settings



Standby means that the system is completely switched off and no safety functions, such as frost protection, are active.

5 Maintenance


DANGER

Risk of electric shock.

Personal injuries may occur.

- ▶ Disconnect the power supply before carrying out maintenance work.



Using the wrong cleaning product may damage the units!

- ▶ Do not use acid or chlorine based products or products that contain abrasives.

5.1 Indoor unit

Carry out the following inspection and maintenance activities a couple of times per year:

- ▶ System pressure
- ▶ particle filter
- ▶ Magnetite filter (optional accessory)
- ▶ Safety valves

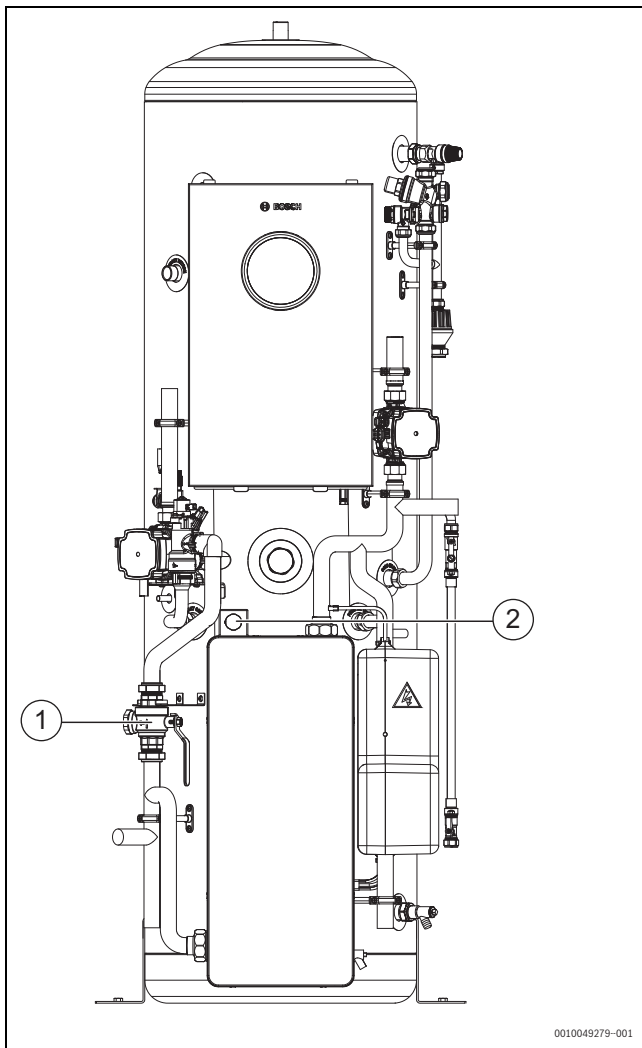


Fig. 12 Pre plumbed cylinder CS5800iAW 180 MCP

- [1] particle filter
- [2] pressure gauge

5.1.1 Check system pressure

- ▶ Check the pressure on the pressure gauge. The pressure is also shown in the system overview on the display (→ Chapter 2.7).
- ▶ If the pressure is lower than 0.6 bar, slowly increase the pressure in the heating system by adding water through the filling valve to a maximum of 2 bar.
- ▶ Contact your installer or Worcester Bosch technical help line, if you require assistance with increasing the pressure.

5.1.2 Particle and magnetite filter


WARNING

Strong magnet!

Can be harmful to pacemaker wearers.

- ▶ Do not clean the filter or check the magnetite indicator if you have a pacemaker.

The particle filter prevents particles and contamination from entering the heat pump. Over time, the filter can become blocked and must be cleaned.



To clean the filter, the system does not need to be emptied. The filter and shut-off valve are integrated.

As the filter is installed vertically, the PCO pump needs to be running when the lever is closed. Ensure the compressor or additional heater are not running when the lever is closed to avoid damaging components. This can be done by entering the function test and running the PCO pump. Then follow the steps below. Do not enter the function test if the compressor is running!

Cleaning the strainer

- ▶ Close the valve (1).
- ▶ Unscrew the cap (manually) (2).
- ▶ Take out the strainer and clean it by running water over it or by pressure cleaning.
- ▶ Reinstall the strainer. For proper assembly, make sure that the guide bumps fit into the recesses in the valve.

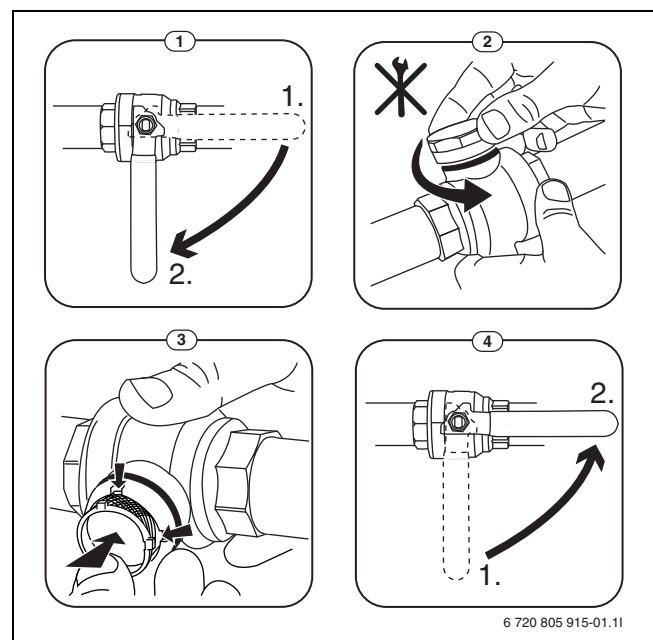


Fig. 13 Cleaning the strainer

- ▶ Screw the cap back on (tighten handtight).
- ▶ Open the valve (4).

Check and clean the particle filter annually.

Check and clean the magnetite filter (if fitted)

Check and clean the magnetite filter 1-2 times a year, but directly after installation and commissioning the filter should be checked and cleaned more frequently. See the instruction that is supplied with the filter for correct procedure.

5.1.3 Safety valves



Water is expelled from the safety valve during heat-up. Never close the safety valves.

- ▶ Check the safety valves function.
- ▶ The safety valves should only let water out if the maximum pressure is exceeded. Contact the installer if water is coming from the safety valves below the maximum allowed pressure.

5.2 Heat pump (outdoor unit)

The following inspection and maintenance steps are carried out several times per year in order that the heat pump's maximum output will be maintained:

- ▶ Housing (casing)
- ▶ Cleaning of the evaporator
- ▶ Snow and ice

5.2.1 Housing (casing)

Dust and other dirt particles concentrate in the heat pump's outdoor unit over time.

- ▶ Remove dirt and leaves from the heat pump with a brush.
- ▶ If required, clean the outside with a damp cloth.
- ▶ Spot repair cracks and damage on the casing with anti-corrosive paint.
- ▶ Standard car wax can be applied to protect the paint.

5.2.2 Evaporator

Any layers of dust or dirt, for example, deposited on the surface of the evaporator must be removed.



CAUTION

The aluminium fins are thin and sensitive.

They can be damaged easily due to careless handling.

- ▶ Never use hard objects.
- ▶ Never rub the fins directly with a cloth.
- ▶ Wear protective cut resistance gloves.
- ▶ Never use water pressure that is too high.



Damage to system due to use of unsuitable cleaning agents!

- ▶ Do not use acidic or alkaline cleaning agents or cleaning agents containing chlorine or abrasive products.
- ▶ Do not use strong alkaline cleaning agents, e.g. sodium hydroxide.

Cleaning of the evaporator:

- ▶ Spray a cleaning agent on the evaporator fins on the back of the heat pump.
- ▶ Rinse off coatings and detergent with water.



In some regions, the cleaning agent must not be flushed into gravel beds. If the condensate tube discharges into a gravel bed:

- ▶ Remove the flexible condensate tube from the drain pipe prior to cleaning.
- ▶ Collect the cleaning agent liquid in a suitable container.
- ▶ Reconnect the condensate tube after cleaning.

5.2.3 Snow and ice

In certain geographical regions or during periods of heavy snow, snow can get stuck on the back and the top of the heat pump. Make sure to clear the snow to prevent icing-up.

- ▶ Carefully brush the snow off the fins.
- ▶ Clear the snow off the top.
- ▶ Hot water can be used to rinse off the ice.

Moisture can form under the heat pump due to condensate not falling into the condensation catch pan. This is normal and no special action is required.

5.3 Faults

Faults can be of different kind and severity, indicated by the colour of the fault icon and the text associated with it. If present, the four digit number in brackets (xxxx) after the text is the fault code.




Symbol	Explanation
	Green symbol: A green tick shows that no alarms are active in the heat pump system.
	Red symbol: Locking or blocking fault. Some part of the system is defective which prevents the system from running properly. A service action is required.
	Yellow symbol: Fault or Maintenance fault. Some part of the system is not functioning properly and may need attention. The system will continue to run.

Table 9 Symbols in the display

If a fault persists:

- ▶ Confirm the fault by tapping the popup on the display.
- ▶ As long as the fault icon is displayed, there are still active faults. Tap the icon to show the fault list.
- ▶ Call an authorised contractor or customer service and give them the fault information displayed.

6 Environmental protection and disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.

The quality of our products, their economy and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed.

We use the best possible technology and materials for protecting the environment taking account of economic considerations.

Packaging

Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling. All of our packaging materials are environmentally compatible and can be recycled.

Used appliances

Used appliances contain valuable materials that can be recycled. The various assemblies can be easily dismantled. Synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

Old electrical and electronic appliances



This symbol means that the product must not be disposed of with other waste, and instead must be taken to the waste collection points for treatment, collection, recycling and disposal.

The symbol is valid in countries where waste electrical and electronic equipment regulations apply, e.g. "(UK) Waste Electrical and Electronic Equipment Regulations 2013 (as amended)". These regulations define the framework for the return and recycling of old electronic appliances that apply in each country.

As electronic devices may contain hazardous substances, it needs to be recycled responsibly in order to minimize any potential harm to the environment and human health. Furthermore, recycling of electronic scrap helps preserve natural resources.

For additional information on the environmentally compatible disposal of old electrical and electronic appliances, please contact the relevant local authorities, your household waste disposal service or the retailer where you purchased the product.

You can find more information here:
www.weee.bosch-thermotechnology.com/

Batteries

Batteries must not be disposed together with your household waste. Used batteries must be disposed of in local collection systems.

Disposal of refrigerant

The heat pump contains the refrigerant R290.



Only qualified installers or service personnel should dispose of the refrigerant.

- ▶ Follow general safety instructions.

7 Your guarantee

Guarantee registration

Your appliance/product carries a guarantee against faulty material or manufacture subject to Terms and Conditions.

To read the full Terms & Conditions please visit us on-line at
www.worcester-bosch.co.uk/guarantee.

Your statutory rights are not affected by the manufacturer's guarantee

This appliance has a guarantee against faulty materials or workmanship from the date of installation subject to the following terms and conditions:

- During the period of this guarantee any components of the appliance that are proven to be faulty or defective in manufacture will be exchanged or repaired free of charge by Bosch Thermotechnology Ltd.
- The householder may be asked to prove the date of installation, that the appliance was correctly commissioned and, where appropriate, serviced to the satisfaction of Bosch Thermotechnology Ltd. These should be documented in the commissioning and service records in the Installation and Maintenance Instructions.
- The appliance has been used only for the normal domestic purposes for which it was designed.

This guarantee does not affect your statutory rights.

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9 Open Source Software

The following text is in English for legal reasons.

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QR Code generator library	Unspecified	MIT License	Copyright © Project Nayuki
STM32 cube HAL library	5.2.0	BSD 3-Clause "New" or "Revised" License	COPYRIGHT 2010 STMicroelectronics COPYRIGHT 2011 STMicroelectronics
STM32 cube HAL library (STM32-USBD)	5.2.0	License for STM32CubeMX (STMicroelectronics)	Copyright © 2017 STMicroelectronics International N.V.
CMSIS Core	5.4.0_cm4	Apache License 2.0 BSD 3-Clause "New" or "Revised" License	Copyright © 2009-2017, ARM Limited, All Rights Reserved Copyright © 2009-2018, ARM Limited, All Rights Reserved Copyright © 2017-2018, ARM Limited, All Rights Reserved Copyright © 2017-2018, ARM Limited, IAR Systems
CMSIS Device F4	2.6.8	Apache License 2.0 BSD 3-Clause "New" or "Revised" License	COPYRIGHT © 2021 STMicroelectronics COPYRIGHT © 2016 STMicroelectronics COPYRIGHT © 2017 STMicroelectronics COPYRIGHT © 2020 STMicroelectronics COPYRIGHT © 2018 STMicroelectronics COPYRIGHT © 2019 STMicroelectronics
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STM32 cubeF4 (HAL)	v1.26.1	BSD 3-Clause "New" or "Revised" License	COPYRIGHT 2018 STMicroelectronics COPYRIGHT 2016-2017 STMicroelectronics

Table 10 OSS Components

9.2 Appendix - License Text

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10 Display of consumption values in relation to the funding guidelines for federal funding for efficient buildings - individual measures (BEG EM)

The displayed energy consumption, heat quantities and device efficiency (hereinafter "consumption values") are calculated from device-specific data and measured values. The consumption values displayed are only an estimate (interpolation).

In real operation, many different factors influence energy consumption. The specific consumption values are among others influenced by:

- Installation / execution of the heating system,
- user behaviour,
- seasonal environmental conditions,
- components used.

The consumption values displayed relate exclusively to the heating appliance. Consumption values of other components of the entire heating system (complete heating system with all its associated components), such as i.e. external heating circulation pumps or valves are not taken into account. The deviations between the displayed and the actual consumption values can therefore be considerable in real operation.

The representation of the consumption values enables the operator to make a relative comparison of the energy consumption over time. In addition, excess or reduced consumption can also be determined. A use for binding billing purposes is not possible.

11 Technical terms

Heat pump (outdoor unit)

The central heat source. Installed in the open air. Alternative designation: outdoor unit. Contains the cooling circuit. Heated or cooled water is channeled from the outdoor unit to the heat pump module (indoor unit).

Indoor unit

Installed in the building and distributes the heat from the outdoor unit to the heating system or the DHW cylinder. Contains the control unit and the pump in the heat transfer medium line for the outdoor unit.

Heating installation

Designation for the entire installation, comprising the heat pump, heat pump module, DHW cylinder, heating system and accessories.

Heating system

Comprises the heat source, container, radiators, underfloor heating system or fan convectors or a combination of these elements if the heating system is made up of several heating circuits.

Heat. circ.

The part of the heating system that distributes the heat throughout the various rooms. Consists of pipework, pump and radiators, heating hoses of the underfloor heating system or fan convectors. Only one of the specified alternatives is possible within a circuit. However, if for example the heating system is equipped with two circuits, radiators can be installed in one and an underfloor heating system installed in the other. Heating circuits can be configured with and without mixers.

Heating water/domestic hot water

If domestic hot water is connected to the system, a distinction is made between heating water and domestic hot water. The heating water is channeled to the radiators and the underfloor heating system. Shower and water taps are supplied with domestic hot water.

If a DHW cylinder is present in the system, the control unit switches between heating and DHW mode so that maximum comfort is achieved.

The DHW or heating mode can be prioritised by selecting an option on the control unit.

Heating circuit without mixer

In a heating circuit without mixer the temperature in the circuit is controlled purely by the energy from the heat source.

Heating circuit with mixer

In a heating circuit with mixer, the mixer mixes return water from the circuit with water from the heat pump. This allows heating circuits with mixer to be operated at a lower temperature than the other heating system, e.g. so that underfloor heating systems that operate at lower temperatures can be separated from radiators that require higher temperatures.

Mixer

The mixer is a valve that steadily mixes colder return water with hot water from the heat source in order to achieve a specific temperature. The mixer can be situated in a heating circuit or in the heat pump module for the external auxiliary heater.

3-way valve

The 3-way valve distributes thermal energy to the heating circuits or the DHW cylinder. It has two defined settings so that heating and DHW heating cannot occur at the same time. This is also the most effective operating mode, as the DHW is always heated to a specific temperature, while the heating water temperature is continuously adjusted to the outdoor air temperature in each case.

External auxiliary heater (extra)

The external auxiliary heater is a separate heat source which is connected via pipework to the indoor unit. The heat produced in the auxiliary heater is controlled via a mixer. It is therefore also referred to as an auxiliary heater with mixer. The control unit controls the activation and deactivation of the auxiliary heater according to the existing heat energy demand. Heat sources are electric, oil-fired or floor standing gas boilers.

Heat transfer medium circuit

The part of the heating system that transports the heat from the outdoor unit to the indoor unit.

Cooling circuit

The main part of the outdoor unit that obtains energy from the outdoor air and transfers this as heat to the heat transfer medium circuit. Consists of evaporator, compressor, condenser and expansion valve. The refrigerant circulates in the cooling circuit.

Evaporator

Heat exchanger between air and refrigerant. The energy from the air that is drawn in through the evaporator causes the refrigerant to boil and turn to gas as a result.

Compressor

Moves the refrigerant through the cooling circuit from the evaporator to the condenser. Increases the pressure of the gaseous refrigerant. The temperature also increases as the pressure increases.

Condenser

Heat exchanger between refrigerant in the cooling circuit and water in the heat transfer medium circuit. During the heat transfer, the temperature of the refrigerant falls as it changes into the liquid aggregation state.

Expansion valve

Reduces the pressure of the refrigerant after it is discharged from the condenser. The refrigerant is then channeled back to the evaporator where the process starts again.

Inverter

Located in the outdoor unit and enables the speed of the compressor to be controlled based on the heat energy demand in each case.



Setback phase

A period during the time-controlled operation involving the **setback** operating mode.

Time-controlled operation

The heating system is heated in accordance with the time program and switching between the operating modes occurs automatically.

Operating phase

The heating operating phases are: **heating** and **setback**. They are depicted by the symbols  and .

The operating phases for DHW heating are: **Comfort**, **Eco** and **Eco+**. A temperature can be set for each operating phase (except for **Off**).

Frost protection

Depending on the type of frost protection selected, the outdoor unit is switched on if the outside temperature or room temperature falls below a certain critical threshold. Frost protection prevents the heating system from freezing up.

Desired room temperature

The room temperature to be achieved by the heating system. It can be set individually.

Default settings

Values saved permanently on the control unit, which are available at all times and can be reset as necessary.

Heating phase

A period during the time-controlled operation involving the **heating** operating mode.

Parental lock

Settings in the standard display and in the menu can only be changed if the parental lock (key block) is switched off.

Mixer/mixing valve

Assembly that automatically ensures that DHW can be drawn from the draw-off points at a temperature no higher than the temperature set on the mixing valve.

Normal Operation

In normal mode, automatic mode (the heating system time program) is not active and the home is steadily heated at the temperature set for normal mode.

Reference room

The room in your home where the remote control is installed is the reference room. The room temperature in this room acts as the control variable for the assigned heating circuit (which can include several rooms or the entire house if only one circuit is present).

Switching time

A particular time when the heating temperature, for example, is increased or reduced. A switching time is a component of a time program.

Temperature during an operating phase

A temperature that is assigned to an operating phase. The temperature is adjustable. Refer to the explanations about the operating mode.

Flow temperature

The temperature that the heating water in the heating circuit retains from the heat source through to the radiators or the underfloor heating system in the room.

Hot water cylinder

A DHW cylinder stores large volumes of heated potable water. Sufficient hot water is available at the draw-off points (e.g. water taps) as a result.

Time program for heating

This time program ensures automatic switchover between the operating phases at defined switching times.

12 Overview Menu

This chapter contains an overview of all menu options. Only the menus of the installed modules and components in each system installation are shown.

Main screen

- Menu
 - Language
 - Time of Day
 - Date format
 - Date
 - Auto. time switchover
 - Time correction factor
 - Suppress warning sound
 - Brightness
 - Display off after
 - Installer contact data
 - Internet
 - Standby mode
 - Key block is activated.
 - Deactivate demo mode

System

- Settings
 - Alternating operation
 - Time prog., add. heater
 - PV system
 - Smart grid
- Heat pump status
- Statistics

Heating circuit 1

- Season switch HC1
 - Auto
 - Heating
 - Cooling
- Heating off from
- Cooling on from
- Display time program HC1
- Heat. mode HC1
 - Off
 - Manual
 - Auto
- Desired room temp. heating
- Time program
- Heating curve HC1
- Cooling mode HC1
- Desired room temp. cooling
- Heating
 - Heating off from
 - Display time program HC1
 - Heat. mode HC1

- Desired room temp. heating
- Cooling
 - Cooling mode HC1
 - Desired room temp. cooling
 - Cooling on from
- Rename heating circuit

Hot water

- Operation mode
 - Off
 - Manual - Eco+
 - Manual - Eco
 - Manual - Comfort
 - Auto
- Time program
- Thermal disinfection
 - Start now
 - Stop now
 - Auto
 - Daily/weekday
 - Time of Day
- Hot water circulation pump
 - Operation mode
 - Off
 - On
 - Hot water set temperature
 - Auto
 - Start frequency
 - Time program
 - Activate time program
 - Red. HW temp on alarm
 - Measured temperature
- Overview of sensor values

Ventilation

- Settings
 - Time program
 - Requested air humidity level
 - Requested air quality level
 - Activate manual bypass
 - Op. mode aux. heater
 - Set temp. auxiliary. htr
 - Filter timer
 - Confirm filter change
- Info
 - Ventilation temperature overview
 - Outdoor air temperature
 - Supply air temperature
 - Extract air temperature
 - Exhaust air temperature
 - Supply air temp. aux. heater
 - Ambient air humidity
 - Ambient air quality
 - Exhaust air humidity
 - Exhaust air quality
 - Humidity remote control XXX
 - Bypass damper
 - Time to filter exchange
 - Energy consump.

Solar

- Solar sensor overview
- Solar yield overview

Holiday

- From
- To
- Advanced settings
 - Apply settings to
 - Heating circuit 1
 - Hot water
 - Ventilation
 - Heating
 - Off
 - On - set temperature
 - Desired room temp.
 - Hot water
 - Off
 - Eco
 - Eco+
 - Comfort
 - Thermal disinfection
 - Ventilation
 - Off
 - Level 1
 - Level 2
 - Level 3
 - Level 4
 - Demand
 - Rename holiday period

Display cleaning mode







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