# Operating instructions

**for the system user**

Heat pump control unit with 7-inch colour touchscreen for the following heat pumps:

- Vitocal 150-A, Vitocal 150-A Modular, Vitocal 150-A Compact, Vitocal 150-A Hybrid
- Vitocal 250-A, Vitocal 250-A Modular, Vitocal 250-A Compact, Vitocal 250-A Hybrid

## VITOCAL 150-A
## VITOCAL 250-A

**Please keep safe.**

## For your safety

⚠ Please follow these safety instructions closely to prevent accidents and material losses.

### Safety instructions explained

⚠ **Danger**
This symbol warns against the risk of injury.

! **Please note**
This symbol warns against the risk of material losses and environmental pollution.

***Note***
*Details identified by the word "Note" contain additional information.*

The outdoor unit contains easily flammable refrigerant from safety group A3 according to ISO 817 and ANSI/ ASHRAE Standard 34.

### Target group

These operating instructions are intended for system users.
This appliance can also be operated by children aged 8 and older, as well as by individuals with reduced physical, sensory or mental faculties or those lacking in experience and knowledge, provided such individuals are supervised or have been instructed in the safe use of this appliance as well as in any risks arising from it.

! **Please note**
Supervise children in the proximity of the appliance.
- Never permit children to play with the appliance.
- Unsupervised children are not permitted to carry out cleaning or user maintenance.

### Safety instructions for working on the system

The outdoor unit contains the flammable refrigerant R290 (propane). If there is a leak, the escaping refrigerant may form a flammable or explosive atmosphere in the ambient air. A safety zone is defined in the immediate vicinity of the outdoor unit, in which special rules apply.
Illustration of the safety zone: See chapter "Safety zone".

#### Standing and working in the safety zone

⚠ **Danger**
Risk of explosion: Escaping refrigerant may form a flammable or explosive atmosphere in the ambient air.
Prevent fire and explosion in the safety zone by taking the following measures:

## For your safety (cont.)

- Keep ignition sources away, e.g. naked flames, hot surfaces, electrical devices not free of ignition sources, mobile devices with integrated batteries (e.g. mobile phones, fitness watches, etc.).
- Do not use flammable materials, e.g. sprays or other flammable gases.
- Do not remove, block or bypass any safety equipment.
- Do not make any changes to the outdoor unit:
  - Do not modify, strain or damage the inlet/outlet pipes and electrical connections/cables.
  - Do not change the surroundings.
  - Do not remove any components or seals.

### Connection of the system

- The appliances may be connected and commissioned only by authorised contractors.
- Observe the specified electrical connection requirements.
- Modifications to the existing installation may only be carried out by authorised specialists.

⚠ **Danger**
Incorrectly executed work on the system can lead to life threatening accidents.
Work on electrical equipment may only be carried out by a qualified electrician.

### Working on the system

- Perform all adjustments and work on the system only as specified in these operating instructions.
  Other work on the system may only be carried out by authorised contractors, e.g. maintenance, service and repairs.
- Do not open the appliances.
- Do not remove any casings.
- Do not modify or remove any attached parts or installed accessories.
- Do not open or tighten any pipe connections.
- Work on the refrigerant circuit of the outdoor unit may only be carried out by authorised contractors. These contractors must be trained in accordance with EN 378 Part 4 or IEC 60335-2-40, Section HH. The certificate of competence from an industry-accredited body is required.

⚠ **Danger**
Hot surfaces can cause burns.
- Do not open the appliance.
- Do not touch the hot surfaces of uninsulated pipes and fittings.

### Auxiliary components, spare and wearing parts

! **Please note**
Components that were not tested with the system may cause system damage, or may affect its functions. Have all installation or replacement work carried out exclusively by qualified contractors.

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## For your safety (cont.)

### Safety instructions for operating the system

Protect the system against third party influence, damage and environmental influences.

**Danger**
The sharp edges of the heat exchanger (evaporator) fins can cause cut injuries.
Do not touch the fins on the back of the outdoor unit.

**Danger**
The hot or cold fins of the heat exchanger (evaporator) can cause burns or frostbite.
Do not touch the fins on the back of the outdoor unit.

### What to do if refrigerant escapes from the outdoor unit

A low pressure fault may indicate escaping refrigerant.

**Danger**
Escaping refrigerant can lead to fire and explosions that result in very serious injuries or death. There is a risk of asphyxiation if it is breathed in.
If there is a suspicion of escaping refrigerant, note the following:

- Ensure very good ventilation especially in the floor area of the outdoor unit.
- Do not smoke! Prevent naked flames and sparks. Do not switch lights or electrical appliances on or off.
- Evacuate anyone who is in the danger zone.
- Initiate first-aid measures.
- Notify an authorised contractor.
- From a safe position, switch off the power supply to all system components.

**Danger**
Direct contact with liquid and gaseous refrigerant can cause serious damage to health, e.g. frostbite and/or burns. There is a risk of asphyxiation if it is breathed in.
- Prevent direct contact with liquid and gaseous refrigerant.
- Initiate first-aid measures.

**Danger**
Breathing in refrigerant may cause suffocation.
Do not inhale refrigerant.

### If there is a fire

**Danger**
Fire presents a risk of burns and explosion.
- From a safe position, switch off the power supply to all system components.
- Inform the fire brigade.
- Initiate first-aid measures.
- Only attempt to extinguish the fire if there is no risk of injury. Use a tested fire extinguisher rated for class ABC fires.

## For your safety (cont.)

### What to do if the outdoor unit ices up

**Please note**
A build-up of ice in the condensate pan and in the fan area of the outdoor unit can cause damage to the equipment.
- If ice forms, notify a contractor.
- Do not use mechanical items/aids for the removal of ice.
- If ice regularly builds up on the outdoor unit (e.g. in areas where frost and heavy fog occur frequently), have a contractor install a fan ring heater (accessories) that is suitable for refrigerant R290 and/or an electric ribbon heater in the condensate pan (accessories or factory-fitted).

### Conditions for positioning the indoor unit

**Danger**
Easily flammable liquids and materials (e.g. naphtha/petrol, solvents, cleaning agents, paints or paper) can cause deflagration and fire.
Do not store or use such materials in the installation room or in the immediate vicinity of the indoor unit.

**Please note**
Incorrect ambient conditions can result in system damage and can put safe operation at risk.
Maintain the permissible ambient temperatures as detailed in these operating instructions.

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## Safety zone

Your outdoor unit contains easily flammable refrigerant from safety group A3 according to ISO 817 and ANSI/ASHRAE Standard 34.
Therefore a safety zone is defined in the immediate vicinity of the outdoor unit, in which special requirements apply.

***Note***
*The requirements for the safety zone must be complied with completely.*

**The following conditions must not be present or occur within the safety zone:**
- Openings:
  - Building openings, e.g. windows, doors, light wells, flat roof windows
  - Outdoor air and exhaust air apertures from ventilation and air conditioning systems
  - Pump shafts, inlets to waste water systems, downpipes and waste water shafts, etc.
  - Other slopes, troughs, depressions, shafts
- Property boundaries, neighbouring properties, footpaths and driveways
- Electrical house supply connections
- Electrical systems, sockets, lamps, light switches
- Snowfall from roofs

**Requirements if other heat pumps are installed in the vicinity:**
- Only outdoor units of the same type and with the same refrigerant from safety group A3, as set out in ISO 817 and ANSI/ASHRAE Standard 34, may be installed within the safety zone. The total safety zone results from the overlap of all safety zones.
- The following heat pumps must be sited outside the safety zone:
  - Heat pumps of a different type
  - Heat pumps with different refrigerant
  - Heat pumps from another manufacturer

**It is essential to prevent the presence of any ignition sources in the safety zone, for example:**
- Naked flames or burner gauze assemblies
- Tools that generate sparks
- Electrical devices not free of ignition sources, mobile devices with integrated batteries
- Objects with temperatures above 360 °C

***Note***
*The particular safety zone is dependent on the surroundings of the outdoor unit.*
- *The safety zones shown in the following are for the floorstanding installation of an outdoor unit with 2 fans.*
  - *These safety zones also apply to outdoor units with 1 fan.*
  - *These safety zones also apply to wall and roof installation.*
- *In the case of wall installation, the requirements listed above also apply to the area **below** the outdoor unit, down to the ground.*
- *If openings in the safety zone cannot be avoided, the following measures are required:*
  - *It must only be possible to open the openings with a tool. Leave the closed openings closed.*
    *Or*
  - *A permanent, gas-tight barrier, e.g. a wall or partition, must be in place between the outdoor unit and any openings. Leave this barrier in place.*
    *See the note on the floor area of the safety zone.*

***Floor area of safety zone***
*If necessary, it is possible to deviate from the dimensions of 1000 mm to the side and 1800 mm to the front. For this, observe the following:*
- *There **must** be a safety zone to the front and side.*
- *The floor area of the safety zone **must** be observed.*

**Freestanding positioning of the outdoor unit**

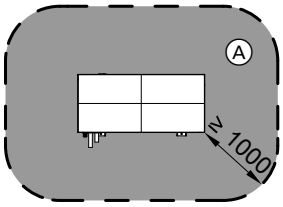


*Fig. 1*

Ⓐ Safety zone

## Safety zone (cont.)

### Siting the outdoor unit in front of an external wall

### Floorstanding outdoor unit

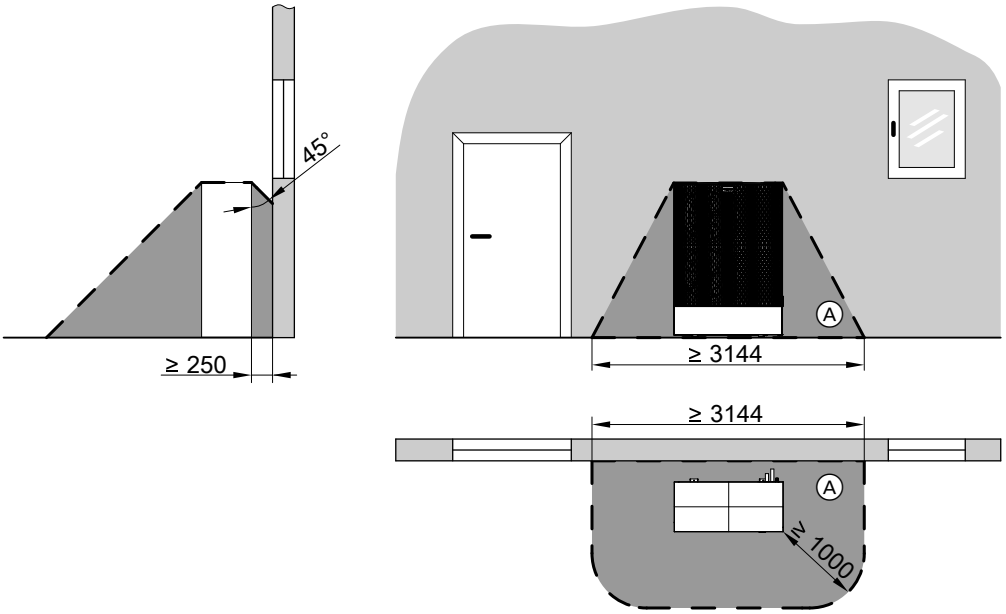


*Fig. 2*

Ⓐ Safety zone

## Safety zone (cont.)

### Wall mounted outdoor unit

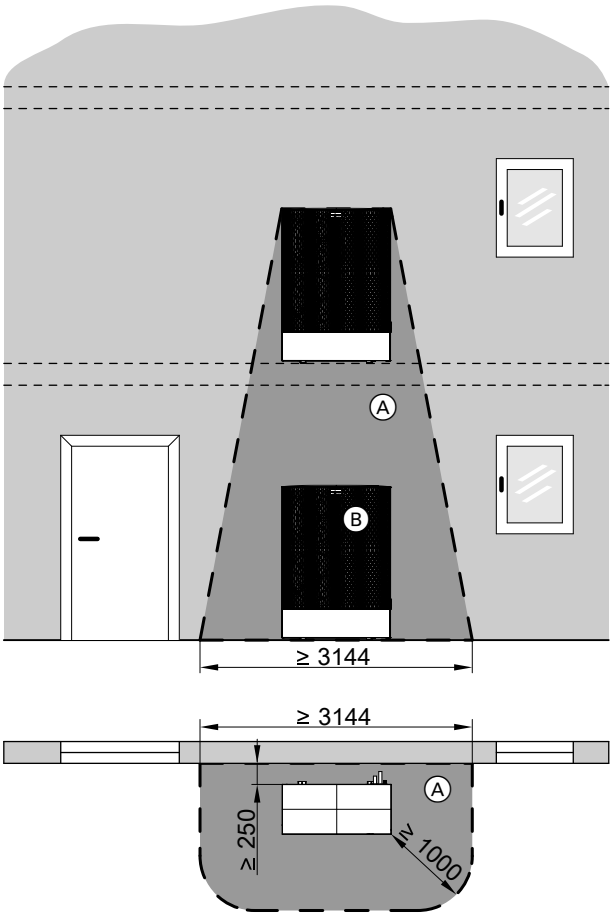


*Fig. 3*

Ⓐ Safety zone
Ⓑ Other heat pump in the immediate vicinity

### Corner positioning of the outdoor unit, right

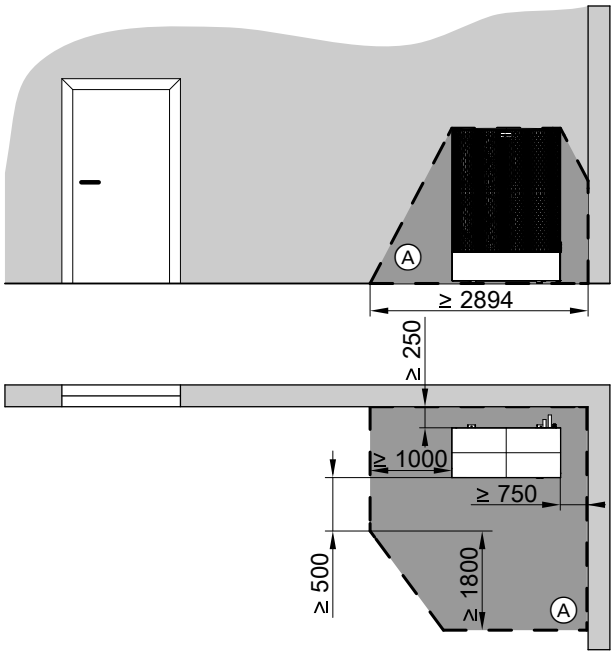


*Fig. 4*

Ⓐ Safety zone

### Corner positioning of the outdoor unit, left

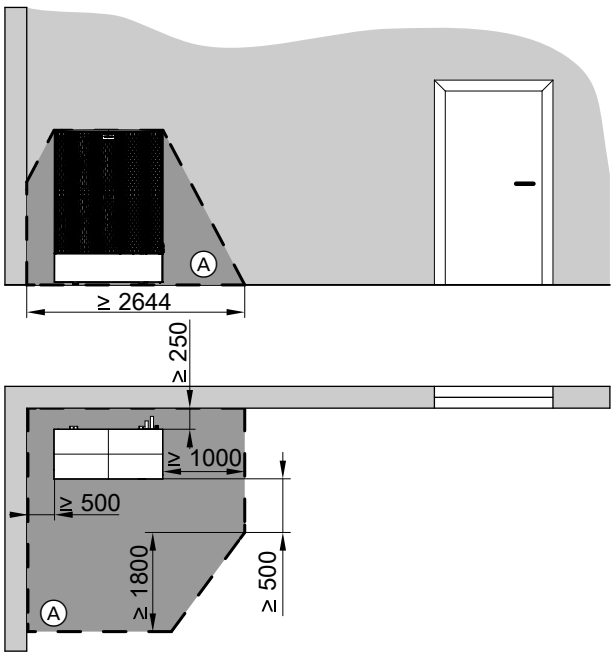


*Fig. 5*

Ⓐ Safety zone

## Safety zone for a heat pump cascade with a maximum of 5 outdoor units

The requirements of the safety zone also apply to heat pump cascades.

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## Safety zone (cont.)

The safety zone for the installation of 2 outdoor units is shown below. If 3 to 5 outdoor units are installed, the safety zone is larger. The distance shown between the two outdoor units must then be maintained in relation to the adjacent outdoor unit.

**Freestanding positioning of the outdoor units**

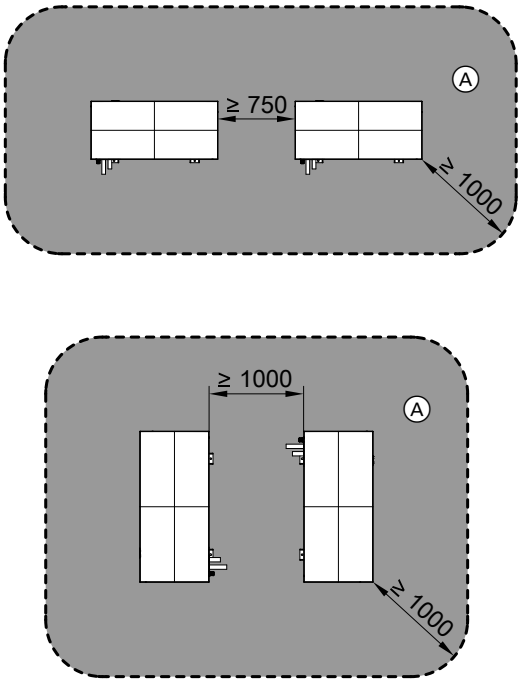


*Fig. 6*

Ⓐ Safety zone

**Positioning the outdoor units against external walls: Examples of parallel arrangement**

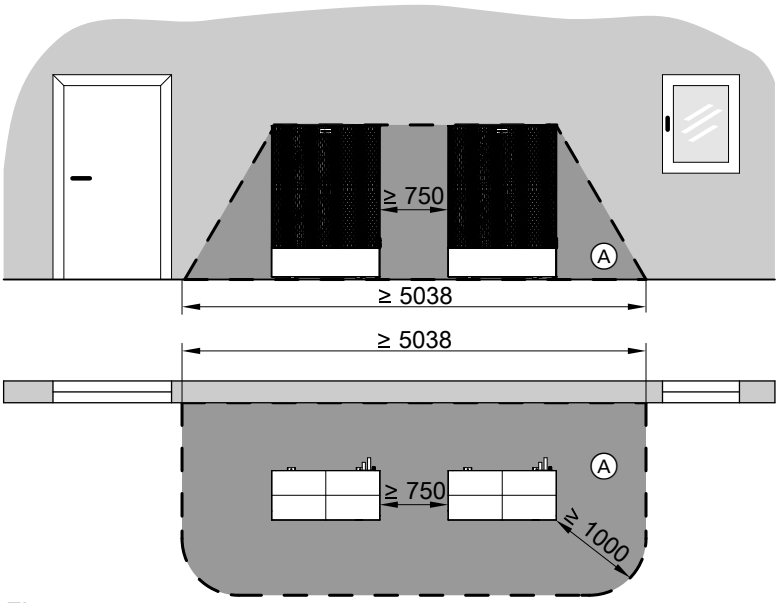


*Fig. 7*

Ⓐ Safety zone

## **Safety zone** (cont.)

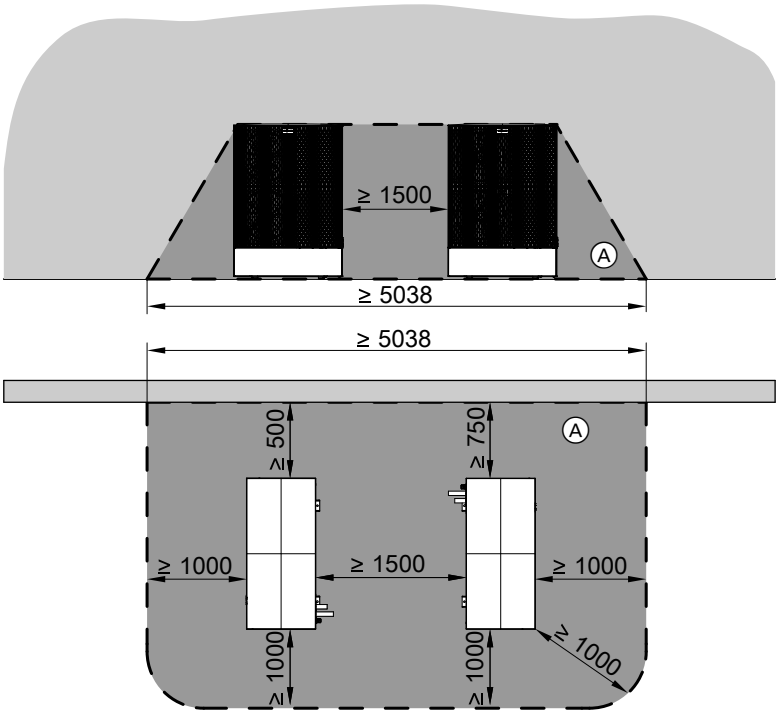


*Fig. 8*

Ⓐ Safety zone

**Positioning the outdoor units against external walls: Examples of opposite arrangement**

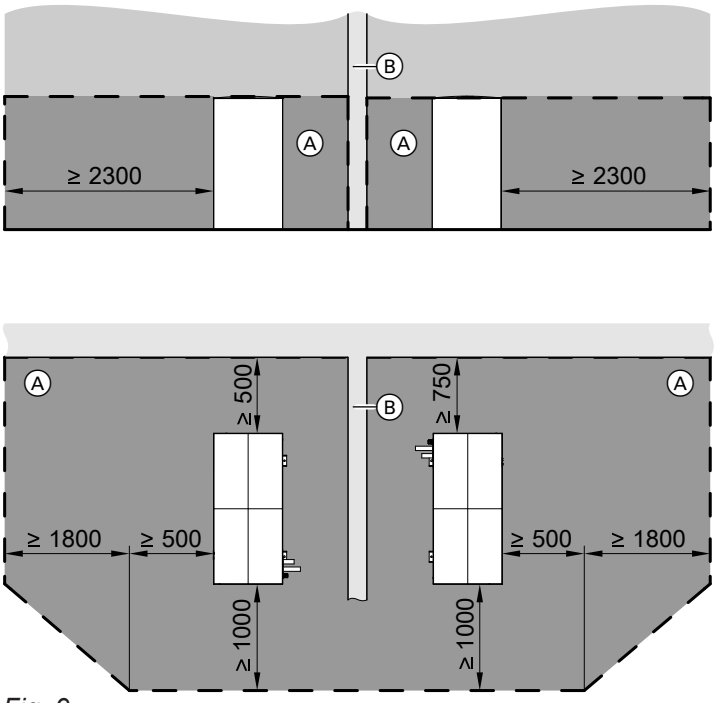


*Fig. 9*

Ⓐ Safety zone
Ⓑ Partition wall

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## Safety zone (cont.)

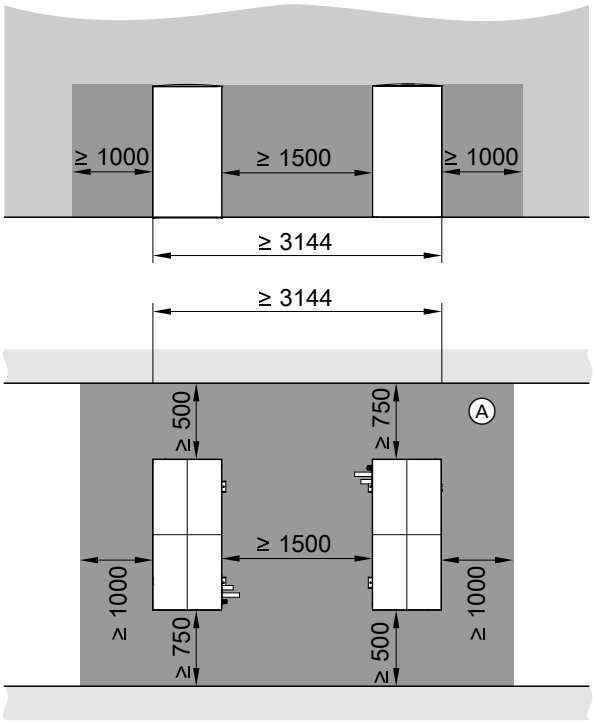


*Fig. 10*

Ⓐ Safety zone

**Positioning the outdoor units against external walls: Examples of corner arrangement**

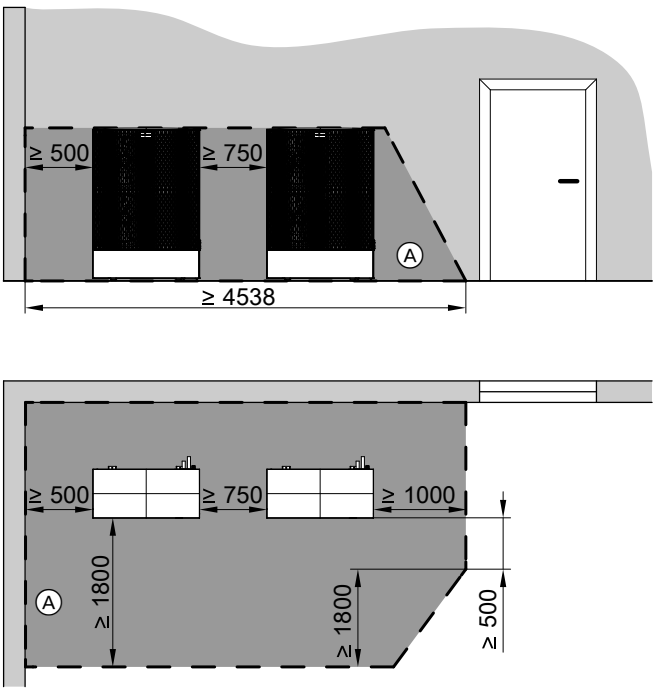


*Fig. 11*

Ⓐ Safety zone

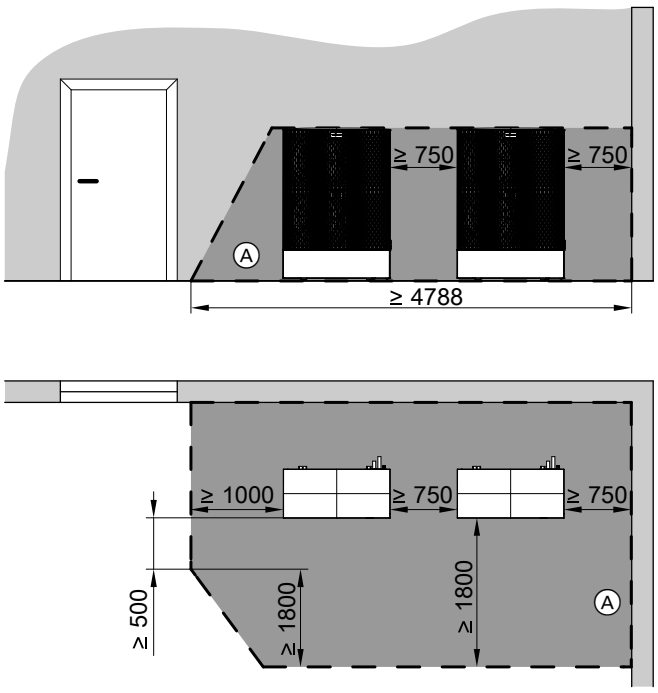


*Fig. 12*

Ⓐ Safety zone

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## Liability

No liability is accepted for loss of profit, unattained savings, or other direct or indirect consequential losses resulting from use of the WiFi interface integrated into the system or the corresponding internet services. No liability is accepted for losses resulting from inappropriate use.
Liability is limited to typical damage arising if a fundamental contractual obligation is violated through slight negligence, the fulfilment of which is essential for proper execution of the contract.
The limitation of liability shall not apply if the damage was caused deliberately or through gross negligence, or if mandatory liability applies due to product liability legislation.

The General Terms and Conditions of the manufacturer apply.
The relevant data protection regulations and terms of use apply to the use of apps from the manufacturer.
The manufacturer accepts no liability for push notifications and email services, which are provided by network operators. The terms and conditions of the respective network operators therefore apply.

## Symbols

### Symbols in these instructions

| Symbol | Meaning |
|---|---|
| | Reference to other document containing further information |
| | Step in a diagram:<br>The numbers correspond to the order in which the steps are carried out. |
| | Warning of personal injury |
| | Warning of material losses and environmental pollution |
| | Live electrical area |
| | Pay particular attention. |
| | ▪ Component must audibly click into place.<br>or<br>▪ Acoustic signal |
| | ▪ Fit new component.<br>or<br>▪ In conjunction with a tool: Clean the surface. |
| | Dispose of component correctly. |
| | Dispose of component at a suitable collection point. Do **not** dispose of component in domestic waste. |

### Symbols on the heat pump

| Symbol | Meaning |
|---|---|
| | Warning of flammable materials (ISO 7010 - W021) |
| | Observe the operating manual (ISO 7000 - 0790) |
| | Observe the instructions for use/operating instructions (ISO 7000 - 1641) |
| | Service indicator:<br>Refer to the operating manual (ISO 7000 - 1659) |
| | Warning of hot surface (ISO 7010 - W017) |

## Terminology

To provide you with a better understanding of the functions of your control unit, some terminology is explained. This information can be found in chapter "Terminology" in the Appendix.

## Intended use

The appliance is only intended to be installed and operated in sealed unvented heating systems that comply with EN 12828, with due attention paid to the associated installation, service and operating instructions.

Depending on the version, the appliance can only be used for the following purposes:
- Central heating
- Central cooling
- DHW heating

The range of functions can be extended with additional components and accessories.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial usage for a purpose other than central heating/cooling or DHW heating shall be deemed inappropriate.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and will result in an exclusion of liability. Incorrect usage also occurs if the components in the heating system are modified from their intended function.

***Note***
*The appliance is intended exclusively for domestic or semi-domestic use, i.e. even users who have not had any instruction are able to operate the appliance safely.*

## Product information

### Appliance versions

Your efficient air/water heat pump consists of an indoor unit IDU (**I**n**D**oor **U**nit) installed inside the building and an outdoor unit ODU (**O**ut**D**oor **U**nit) installed outside the building.
The main features of your system depend on the appliance version of your indoor unit IDU (V051 to V056): See the table below.

***Note***
*The appliance version of your indoor unit IDU can be found on the type plate of the indoor unit.*
*Position of the type plate: See chapter "Type plates".*

#### DHW cylinder

In the Vitocal 150-A Compact and
Vitocal 250-A Compact, the DHW cylinder is integrated directly into the indoor unit. This means that your system only requires a small footprint.

#### Buffer cylinder

Your heating/cooling circuits are supplied either indirectly via a separate buffer cylinder or directly via the indoor unit.
Up to 4 heating/cooling circuits can be supplied simultaneously via a separate buffer cylinder. In addition, the use of a separate buffer cylinder has the advantage that large amounts of energy can be stored temporarily. This enables economical operation of your heat pump with few but long operating phases.

Whether it is possible to operate your heat pump with a separate buffer cylinder depends on the appliance version of your indoor unit IDU.
- Indoor units V051 **to** V054 allow operation with a separate buffer cylinder.
- Indoor units V055 **and** V056 supply up to 2 heating/cooling circuits directly, without a buffer cylinder.

#### Additional heat sources

All heat pumps can be operated together with additional heat sources. These additional heat sources are switched on as required to support the heat pump.
- With the exception of the V054 indoor unit for the Vitocal 150-A Hybrid and Vitocal 250-A Hybrid, all indoor units have an integral instantaneous heating water heater.
- Heat pumps with indoor units V051, V052 and V054 can be operated together with an existing fossil fuel boiler (external heat generator) (hybrid operation).
  With the Vitocal 150-A Hybrid and
  Vitocal 250-A Hybrid, the heating water flow from the external heat generator is fed directly into the V054 indoor unit. This enables optimum interaction and efficient operation of both heat sources in every operating situation.
- Vitocal 150-A Modular and Vitocal 250-A Modular can be operated in combination with additional heat pumps (heat pump cascade).

## Product information (cont.)

### Appliance overview

| Vitocal | 150-A Modular<br>250-A Modular | 150-A<br>250-A | | 150-A Compact<br>250-A Compact | | 150-A Hybrid<br>250-A Hybrid |
|---|---|---|---|---|---|---|
| **Appliance version IDU** | **V051** | **V052** | **V055** | **V053** | **V056** | **V054** |
| **Number of possible heating/cooling circuits** | | | | | | |
| ▪ Direct supply from the heat pump | 1 | 1 | 1 or 2 | 1 | 1 or 2 | 1 |
| ▪ Supply via separate buffer cylinder | 1 to 4 | 1 to 4 | — | 1 to 4 | — | 1 to 4 |
| **DHW cylinder** | Separate | | | Factory-fitted | | Separate |
| **Additional heat sources** | | | | | | |
| ▪ Instantaneous heating water heater | Factory-fitted | | | Factory-fitted | | — |
| ▪ External heat generator, e.g. gas boiler | Feed downstream of buffer cylinder | | — | — | — | Feed into indoor unit |
| ▪ Additional heat pumps (heat pump cascade) | 1 to 4 | — | — | — | — | — |

## Design and function

### Design

The indoor unit, including the heat pump control unit, is located inside the building and transfers the heat to the heating system.
The outdoor unit is installed outside the building or mounted on an outside building wall. In the outdoor unit, heat is obtained from the ambient air.
The indoor and outdoor units are connected to each other hydraulically and electrically.

### Heat generation

The fan in the outdoor unit draws ambient air in through a heat exchanger (evaporator). In the evaporator, the thermal energy from this ambient air is transferred to the refrigerant circuit.
In the refrigerant circuit, the temperatures required for room heating and DHW heating are generated.
The heat generated is transported to your heating system via the indoor unit.

### Room cooling

To provide room cooling, the refrigerant circuit of the heat pump operates in reverse mode. Heat is extracted from your rooms and transferred to the ambient air via the evaporator.

### Energy supply

The refrigerant circuit is driven electrically via a compressor. Compared with the thermal energy extracted from the air, this compressor requires only a small amount of electrical power. This power is often provided at a favourable tariff by your power supply utility. Depending on the tariff conditions and the mains connection, your power supply utility may temporarily interrupt the power supply to the heat pump (power-OFF) or reduce the output of the heat pump, e.g. in the event of high grid utilisation. During the power-OFF time, another heat source takes over the heat supply to the building.

### Additional heat sources

Depending on the appliance version, your heat pump can control one or more additional heat sources and switch them on as required.
The conditions under which the individual heat sources are switched on will depend on the operating conditions of your system. Efficient operation of the heat pump always takes priority here. If the heat pump is not ready for operation, the heat source that is currently the most energy efficient will always be switched on.

### Frost protection

Depending on the operating situation, several heat sources may be switched on at the same time to protect your heat pump and heating system against frost.

## Product information (cont.)

**!** **Please note**
In the case of heat pumps for hybrid operation, frost protection of the system is not guaranteed if the heat pump malfunctions without an external heat generator.
- Do not operate your heat pump for hybrid operation without the external heat generator.
- Ensure that the external heat generator is ready for operation at all times.

**Hybrid mode**

In addition to the heat pump, an external heat generator is integrated into your system. The two heat generators use different primary energies to generate heat. The air/water heat pump uses the ambient air and the external heat generator uses solid fuels or fossil fuels, e.g. wood or gas.
You can combine the external heat generator optimally with the heat pump to suit either ecological or economic priorities. The two heat sources operate individually or together, depending on the operating situation.

**Emergency mode**

If there is a fault in the refrigerant circuit, you can switch on emergency mode.
In emergency mode, room heating and DHW heating are provided by another heat source.
Room cooling is switched off.

**Heat pump cascade**

A heat pump cascade consists of a maximum of 5 linked heat pumps that are switched on individually or together, depending on the demand for heat or cooling. One of the heat pumps takes the role of lead heat pump and controls the entire heat pump cascade.

## Heat pump control unit

The heat pump control unit is integrated into the indoor unit and controls all functions of your system.
The heat pump control unit is operated via a 7-inch colour touchscreen. Alternatively, you can operate your system via the ViCare app.

Communication modules for the following functions are integrated into the heat pump control unit:
- Connection to a WiFi router, e.g. for remote control via the internet with the ViCare app
- Direct WiFi connection to a mobile device ("access point")
- Data transmission via mobile phone network
- Connection of wireless accessories, e.g. remote control

***Note***
*If your contractor has installed the LAN connection extension in the indoor unit of your heat pump, the data connection to your internet router can also be established via a LAN cable.*

**Viessmann One Base**

Your heat pump control unit uses Viessmann One Base. Products with Viessmann One Base can be networked with each other in a **system network** and operated in an energy-optimised manner. This increases the efficiency of your system.

Viessmann Energy Management is also integrated into Viessmann One Base.
Viessmann Energy Management allows balancing operation of components in the home which generate, consume or store electricity. In conjunction with a photovoltaic system, you can optimise your self-consumption with Viessmann Energy Management.
Components with Viessmann One Base can be operated together via the ViCare app.

Examples of a system network:
- In conjunction with a photovoltaic system:
  Heat pump and inverter with battery storage unit, e.g. Vitocharge VX3
- In conjunction with one or more external heat generators in hybrid mode:
  Heat pump and wall mounted gas condensing boiler, e.g. one or more Vitodens 200-W, type B2HH
- Heat pump cascade as a special system network:
  Heat pump and one or more additional heat pumps

## Product information (cont.)

### QR code for direct WiFi connection ("access point")

A QR code has been affixed to the programming unit at the factory, with which you can connect your mobile device to the heat pump directly via WiFi: See chapter "Setting up an internet connection via WiFi".

### Type plates

**Indoor unit**

- The type plate is located on the top of the appliance.
- **QR code marked "i"**:
  This QR code contains the credentials for the registration and product information portal.
  The position of the QR code is either next to or on the type plate, depending on the appliance.
  ***Note***
  *Using the QR code marked "i", the 16-digit serial number, for example, can be read out.*

**Outdoor unit**

The type plate is located at the back of the appliance.

### Heating system

Depending on the design of your system, the heat pump can heat or cool your rooms and heat your DHW.
Your heating contractor will have installed the system components required for your building according to which of these functions you will be using.
Depending on your heat pump type, up to two heating/cooling circuits may be directly connected to the indoor unit for room heating and/or room cooling.
If your system has a separate buffer cylinder, your heating/cooling circuits will be connected to this cylinder and will be heated and cooled through it. In such a system configuration, up to 4 heating/cooling circuits may be connected.
The heat pump supplies direct heat/cooling only to the buffer cylinder. Due to the large volume of the buffer cylinder, your heat pump will run less frequently, but the runtimes will be longer. This offers greater efficiency and protects your heat pump.

***Note***
*In systems with a separate buffer cylinder, it is **not** possible to heat one heating/cooling circuit for room heating while simultaneously cooling another heating/cooling circuit for room cooling.*

The hot water taps in your house may be supplied via a DHW cylinder. With the Vitocal 252-A, a DHW cylinder is integrated into the indoor unit.
With the Vitocal 250-A and Vitocal 250-AH, your contractor may have installed a separate DHW cylinder or a heating water buffer cylinder with integral DHW heating. A heating water buffer cylinder with integral DHW heating allows room heating and DHW heating, but not room cooling.

### Permissible ambient temperatures in the installation room

! **Please note**
The appliance may develop faults if it is operated outside the specified temperature ranges. Ensure that the specified temperature range is maintained in the installation room.

To prevent malfunctions, ensure the ambient temperature is between 0 °C and +35 °C.

### Outside temperature limits

Air/water heat pumps utilise outdoor air as the heat source. Operation is only efficient within specified outdoor temperature limits:

- **Room heating**
  –20 to +40 °C
- **Room cooling**
  +15 to +45 °C

## Product information (cont.)

If the temperature rises above the upper limit or falls below the lower limit, the outdoor unit is shut down. You will see a message about this on the heat pump control unit and the apps.
To cover the heat demand for room heating and DHW heating even outside the specified temperature range, the heat pump control unit switches on a further heat source automatically.

Once the outside temperature is back within the temperature limits, the heat pump is automatically ready for operation again.

### Safety zone

Your outdoor unit contains easily flammable refrigerant in safety group A3 according to ISO 817 and ANSI/ASHRAE Standard 34.

A safety zone is defined in the immediate vicinity of the outdoor unit. Within this safety zone, special requirements apply: See page 10.

## Low power radio

Low power radio is a wireless connection for data transfer, e.g. via a remote control unit.

Your contractor can connect your heat generator to accessories via low power radio.

## Licence information

This product contains third party software including software of "third party components". You are authorised to use this third party software subject to compliance with the relevant licensing terms.

To check licensing information, see page 55.

## Commissioning

Your heating contractor must carry out the commissioning and matching of the control unit to local and structural conditions and must also provide training in how to operate the system.

***Note***
*These operating instructions also describe functions that are only available on some heating system configurations or only with accessories. These functions are not specifically identified.*
*For questions relating to the scope of and accessories for your heat pump and your heating system, contact your contractor.*

## Your system is preset at the factory

Your heat pump is preset at the factory and is therefore ready for operation:

**Room heating/room cooling**
- From **06:00 to 22:00**, your home will be heated to 20 °C **"Room set temperature"** (standard room temperature).
- If a separate buffer cylinder is installed, this buffer cylinder will be heated.

**DHW heating**
- DHW is heated to **"Set DHW temperature"** 50 °C every day from **05:30 to 22:00**.
- A DHW circulation pump, if fitted, is similarly switched on every day from **05:30 to 22:00**.
- If required, the instantaneous heating water heater built into the indoor unit can be switched to DHW heating.

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## Your system is preset at the factory (cont.)

**Frost protection**

- Frost protection is ensured for your heat pump, DHW cylinder and any separate buffer cylinder that may be installed.
  ***Note***
  *At outside temperatures below –20 °C and in the case of a fault in the heat pump, only the instantaneous heating water heater built into the indoor unit is switched on to provide frost protection for the system.*

**Wintertime/summertime changeover**

- This changeover is automatic.

**Date and time**

- The date and time were set by your contractor.

You can change the settings at any time to suit your individual requirements.

***Power failure***
*All settings are retained if there is a power failure.*

## Energy saving tips

**Saving energy when using room heating**

- Do not overheat your home. Every degree of room temperature reduction saves up to 6 % on your heating bills.
  Do not set your standard room temperature (**"Room set temperature"**) to above 20 °C: See page 36.
- Heat your home to the reduced room temperature at night or during regular absences (not applicable to underfloor heating). For this, adjust the settings in the time program for room heating (**"Time program"**): See page 37.
- Adjust the heating curves so that your home is heated with your individual preferred temperature all year round: See page 38.
- To switch off functions that are not required (e.g. room heating in summer), set the operating program to **"Standby mode"** for the relevant heating circuits: See page 36.
- If you are going away, set the **"Holiday program"**: See page 40.
  During the period that you are away, the room temperature will be reduced and DHW heating switched off.

**Saving energy on DHW heating**

- At night or during regular absences, heat the DHW to a lower temperature. To do so, adjust the time program for DHW heating: See page 42.
- Switch on DHW circulation only for those times in which you regularly use hot water. For this, adjust the time program for the DHW circulation pump: See page 42.

**Utilising excess power (Smart Grid)**

Utilise surplus power from the power supply utility for your system.
To use this function, please contact your heating contractor.

## Tips for greater comfort

**More comfort in your home**

- Set your individual preferred temperature: See page 27.
- Adjust the time program for your heating/cooling circuits so that your individual preferred temperature is automatically reached when you are present: See page 37.
- Adjust the heating curve so that your home is heated with your individual preferred temperature all year round: See page 38.
- If you need a longer heating/cooling phase in the short term, select the **"Extend time phase once"** function: See page 38.
  Example:
  Late in the evening, the reduced room temperature is set by the time program. Your guests stay longer.
- If you are spending more time than usual in your home, select the **"Holidays at home"** function: See page 39.
  Example:
  You are on holiday at home all day or your children have school holidays.

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## Tips for greater comfort (cont.)

**Sufficient DHW heating for your needs**

- Adjust the time program for DHW heating so that there is always sufficient hot water in accordance with your habitual routines: See page 42.
  Example:
  You need more DHW in the morning than in the daytime.
- Adjust the time program for the DHW circulation pump so that DHW is available immediately from the taps during periods when hot water is drawn more frequently: See page 42.
- If you need your DHW temperature to be higher for a short while, select "One-off DHW heating outside the time program": See page 43.

## Quieter operation

Reduce the noise level of your air source heat pump, at night for instance.

To do so, adjust the time program for quieter operation: See page 46.

## Operating principles

All your system settings can be made via the programming unit, remote control units or other room temperature control devices and the ViCare app.

**Touchscreen operation**

The programming unit is equipped with a 7 inch colour touchscreen. To input settings and check information, tap the on-screen buttons.

***Special features in a system network with an external heat generator***

- *In a system network, you make the settings for room heating/cooling, DHW heating and further functions only at the programming unit of the heat pump.*
- *Not all menus are available at the programming unit of the external heat generator.*
- *Checks and other settings such as language or display brightness can be made at all programming units.*

***Special features of a heat pump cascade***

- *With a heat pump cascade, you make the settings for room heating/cooling, DHW heating and further functions only at the programming unit of the master heat pump.*
- *On the programming unit of the slave heat pump, not all menus are available.*
- *Checks and other settings such as language, or the display brightness, can be made on all programming units.*

**Operation via remote control units or room temperature control devices**

Separate operating instructions

**Operation via ViCare app**

The ViCare app allows you to operate your system via a mobile device, e.g. smartphone.
Available functions depend on the system equipment e.g. with/without ViCare components for individual room control.
Check the following system requirements for operation with the ViCare app:

- WiFi connection from router for control with internet access
- Smartphone or tablet with operating system:
  - iOS
  - Android

For further information on using the ViCare app: See **www.vicare.info**.

### Status display with Lightguide

Dependent upon the heat generator, during operation at the lower or upper edge of the programming unit, a Lightguide is displayed.

Meaning of the display:

- Lightguide is illuminated constantly:
  The display is active.
- Lightguide flashes quickly:
  There is a fault in the system.
- Lightguide pulsates slowly:
  The display is in standby mode.
  ***Note***
  *You can turn off this function if you wish: See chapter "Switching the Lightguide on and off".*

## Screen displays

### Standby display

If the controls have not been operated for some time, the display initially switches to the **standby display**.

After a few minutes, the illumination is switched off.

### Default displays

The default displays provide access to the most important settings and checks.

## Screen displays (cont.)

Use ◀ ▶ to choose between the following default displays:
- Room climate
- DHW
- Energy cockpit
- Favourites
- System overview

For further information on the default displays: See page 33 onwards.

### Home screen

After switching on the control unit, the home screen is shown.
In the delivered condition, the **"Indoor environment"** default display is shown as the home screen. You can specify a different default display for the home screen: See page 50.

Call up the home screen as follows:
- Standby display active:
  Tap anywhere on the screen.
- From the **"Main menu"**:
  Tap ⌂.

***Note***
*You can prevent operation of the home screen: See page 48.*
*If you do so, you will not be able to make adjustments on either the home screen or the main menu.*
***"Panel locked"** is displayed.*

## Buttons and symbols

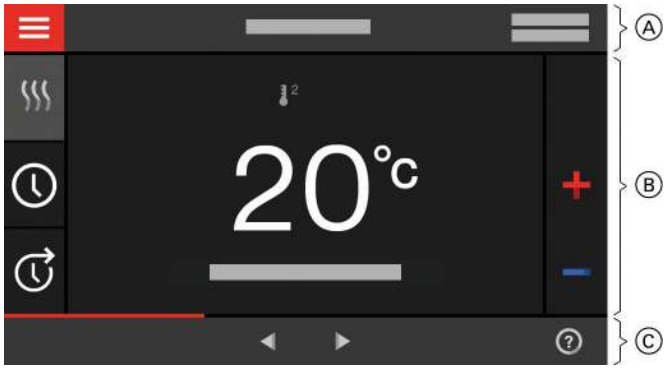


*Fig. 13*

Ⓐ Menu bar
Ⓑ Function area
Ⓒ Navigation area

### Buttons and symbols in menu bar Ⓐ

☰ Calls up the **"Main menu"**.
**"Heating circuit ..."** or **"Heating/cooling circuit ..."**
You can select the heating circuit or heating/cooling circuit.

***Note***
*This selection is available only if your system has more than one heating circuit or heating/cooling circuit.*

**System data:**
- Date
- Time

**Interfaces:**
- No data transfer
- No WiFi connection
- Establishing a connection
- Communication error
- WiFi connection is enabled: Very low reception quality
- WiFi connection is enabled: Low reception quality
- WiFi connection is enabled: Medium reception quality
- WiFi connection is enabled: High reception quality

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## Buttons and symbols (cont.)

### Buttons and symbols in function area Ⓑ

For buttons on the default displays: See page 33 onwards.

***Note***
*These symbols are not always displayed, but appear subject to the system version and the operating status.*

**Symbols**
- Frost protection is active.
- Setting/changing a time program
- Extend time phase once
- Room heating with reduced room temperature
- Room heating with normal room temperature
- Room heating with comfort room temperature
- Room cooling with reduced room temperature
- Room cooling with standard room temperature
- Room cooling with comfort room temperature
- Holiday program is switched on.
- Holidays at home is switched on.
- Room cooling is active.
- Room heating is active.

Operating program for room heating, room cooling, DHW heating: See page 28.
- Standby mode for each of the heating/cooling circuits
- Heating
- Cooling
- DHW heating

**Reports**: See page 58.
- **"Status"**
- **"Warnings"**
- **"Information"**
- **"Faults"**

### Buttons and symbols in navigation area Ⓒ

- Takes you back to the home screen.
- Takes you one step back in the menu.
  Or
  Terminates an adjustment in progress.
- WiFi is switched off: See page 52.
  ***Note***
  *When WiFi is on, the symbol is displayed in menu bar Ⓐ. The symbol in navigation area Ⓒ disappears.*
- Confirms a change.
- Makes changes in the menu.
- Calls up the help text.
- Calls up messages.
- Calls up the required period for the energy balance.
  For further information: See page 34.
- Scrolls through the menu.
  Or
  Switches to other display areas, e.g. to the **"System overview"**.

***Note***
*If **"DEMO"** is displayed in the navigation area, room heating/cooling, DHW heating and frost protection are all **switched off**.*

## Overview of the "Main menu"

In the **"Main menu"**, you can check and adjust **all** of the settings for the control unit's range of functions.

Call up the **"Main menu"** as follows:
- If the screensaver is active:
  Tap anywhere on the screen and then tap .
- From the home screen:
  Tap .
- From anywhere in the menu:
  Tap and then .

### Menus available in the "Main menu"

- **"Switch on/off"**
  Switch the heat pump off and on: See page 60.
- **"Buffer mode"**
  Switch the buffer cylinder to **"Heating mode"** or **"Cooling mode"**: See page 37.
- **"Indoor environment"**
  For more room heating/room cooling settings, e.g. set temperature values
  For further information: See page 36.

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## Overview of the "Main menu" (cont.)

**"DHW"**
For DHW heating settings, e.g. **"DHW temperature set value"**
For further information: See page 42.

**"Settings"**
For example the display setting
For further information: See page 48.

**"Information"**
For checking operating data
For further information: See page 55.

**"Holiday program"**
Energy saving function **"Holiday program"**
For further information: See page 40.

**"Holidays at home"**
**"Holidays at home"** function
For further information: See page 39.

**"Message lists"**
Calls up all pending messages
For further information on messages: See page 57 onwards.

**"Service"**
For contractors **only**

**"Advanced"**
For the processing of further settings from the function range of the heat pump control unit, e.g. emergency mode
For further information: See page 46.

**"Test mode"**
For the flue gas inspector **only**
Only in conjunction with an external heat generator
Further information: See page 59.

You can find the menu overview on page 70.

## Operating program

### Operating programs for room heating, room cooling and DHW heating

The operating programs for room heating, room cooling and DHW heating can be set separately.

| Symbol | Operating program | Function |
|---|---|---|
| **Room heating/room cooling** | | |
| | **"Heating"** | The rooms of the selected heating/cooling circuit are heated in accordance with the specified room temperature or flow temperature and the time program: See chapter "Room heating/room cooling".<br><br>***Note***<br>*For systems with a separate buffer cylinder, **"Buffer mode"** must be set to **"Heating mode"**: See chapter "Setting room heating/ room cooling with a buffer cylinder". The setting affects all heating/ cooling circuits.* |
| | **"Cooling"** | The rooms of the selected heating/cooling circuit are cooled in accordance with the specified room temperature or flow temperature and the time program: See chapter "Room heating/room cooling".<br><br>***Note***<br>▪ *For systems with a separate buffer cylinder, **"Buffer mode"** must be set to **"Cooling mode"**: See chapter "Setting room heating/ room cooling with a buffer cylinder". The setting affects all heating/cooling circuits.*<br>▪ *Room cooling is not possible for systems with a heating water buffer cylinder with integral DHW heating.* |
| | **"Heating/cooling"** | The rooms of the heating/cooling circuit are heated/cooled as specified for the room temperature and time program: See chapter "Room heating/room cooling". |
| | **"Standby mode"** | ▪ No room heating/room cooling<br>▪ Frost protection for the heat pump is enabled. |

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## Operating program (cont.)

| Symbol | Operating program | Function |
|---|---|---|
| **DHW heating** | | |
| | **"DHW" "ON"** | DHW is heated in accordance with the specified DHW temperature and time program: See chapter "DHW heating". |
| | **"DHW" "OFF"** | ▪ No DHW heating<br>▪ Frost protection for the DHW cylinder is enabled. |

**Selecting operating programs centrally**

You can select the operating programs for the individual heating/cooling circuits and for DHW heating separately from one another.

**Tap the following buttons:**

1. ☰
2. ⏻ **"Switch on/off"**
3. ▪ If you wish to select the operating program for a heating/cooling circuit:
   Tap ↹ for **"Heating"**, **"Cooling"**, **"Heating/cooling"** or **"Standby mode"**.
   ▪ If you wish to select the operating program for DHW heating:
   Tap ↹ for **"ON"** or **"OFF"**.
   ▪ If you wish to switch the entire system on or off:
   Tap ↹ for **"ON"** or **"OFF"**.
   See chapter "Switching on and off".

**Selecting operating programs using the default display**

- For heating/cooling circuit operating programs: See page 36.
- For DHW heating operating programs: See page 42.

## Special operating programs and functions

- **"Screed drying"**
  This function is enabled by your contractor. Your screed is dried in line with a set time program (temperature/time profile) suitable for the relevant building materials. Your settings for room heating have no effect on the duration of screed drying (max. 32 days). DHW heating is switched off. The **"Screed drying"** function can be changed or switched off by your contractor.
- **"Holidays at home"**: See page 39.
- **"Holiday program"**: See page 40.
- **"Low-noise mode"**: See page 46.
- **"Emergency mode"**: See page 46.
- External room temperature demand
  Only available if your contractor has connected and enabled a room thermostat for your heating/cooling circuit:
  You use this room thermostat to switch the room heating or room cooling on and off.
  When the room heating/room cooling is switched off, the heating circuit pump is switched off. In this case, your heating/cooling circuit has **no** frost protection.
- External operating program changeover between heating/cooling: See page 37.
  Only for systems with separate buffer cylinder.
  Your contractor has installed an external switch that you can use to switch between heating and cooling mode.
- **"External hook-up"**
  The operating program set at the control unit was changed over by an external device, e.g. an EM-EA1 extension (DIO electronics module). The operating program cannot be changed via the programming unit while the external hook-up is active.

***Note***
*Some of the special operating programs and functions are displayed alternately with the room temperature or the flow temperature of the heat pump.*
*In the main menu, you can call up the set operating program under **"Information"**: See page 55.*

## Procedure for setting a time program

The following explains how to input the settings for a time program. The specifics of the individual time programs can be found in the relevant chapters.

You can set up a time program for the following functions:
- Room heating/room cooling: See page 36.
- DHW heating: See page 42.
- DHW circulation pump: See page 42.
- Quieter operation: See page 46.

### Time programs and time phases

In the time programs you determine what your heat pump does at what time. For this, divide the day into sections. These are called **time phases**. Inside and outside these time phases, the system behaves in various different ways – see the following table.

**You can set up a time program for the following functions:**

| Function | Within the time phase | Outside the time phase |
|---|---|---|
| Room heating | Your rooms are heated with standard room temperature or comfort room temperature. | Your rooms are heated with reduced room temperature. |
| Room cooling | Your rooms are cooled with standard room temperature or comfort room temperature. | Your rooms are cooled to the reduced room temperature. |
| DHW heating | DHW heating is switched on.<br>The water in the DHW cylinder is heated to the set DHW temperature. | DHW heating is switched off. |
| DHW circulation pump | The DHW circulation pump is enabled for operation. | The DHW circulation pump is switched off. |
| Quieter operation | The speed of the fan and the compressor is limited. | The maximum speed of the fan and the compressor is enabled. |

- The time programs can be set **individually** to be the same, or different, for every day of the week.
- In the main menu, you can check the time programs under ⓘ **"Information"**: See page 55 onwards.

### Setting time phases

The procedure is explained using the example of room heating for heating/cooling circuit 1.
You can set up to 4 time phases in each **"Time program"**.
For each time phase, you define the start point **"Start"** and the end point **"End"**.

**Example:**
**"Time program"** for the weekday **"Monday"** for heating/cooling circuit 1
- Time phase 1:
  06:45 to 12:00 with standard room temperature
- Time phase 2:
  15:00 to 20:00 with comfort room temperature

In between these time phases the system heats to a reduced temperature.

**Tap the following buttons:**

1. **"Heating/cooling circuit 1"** ⌄ in the menu bar
2. 🕓
3. **"Mo"**
4. ✎
5. ⌃ ⌄ for the **"Start"** and **"End"** of time phase 1.
   The bar in the time diagram is adjusted.
6. ⌂2 **"Normal"** to select standard room temperature.
7. ＋ to add time phase 2.

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## Procedure for setting a time program (cont.)

8. ∧∨ for the **"Start"** and **"End"** of time phase 2. The bars in the time chart are adjusted: See the following figure.
9. ⌂3 **"Comfort"** to select comfort room temperature.
10. ✓ to confirm
11. ⌂ to quit the **"Time program"**.

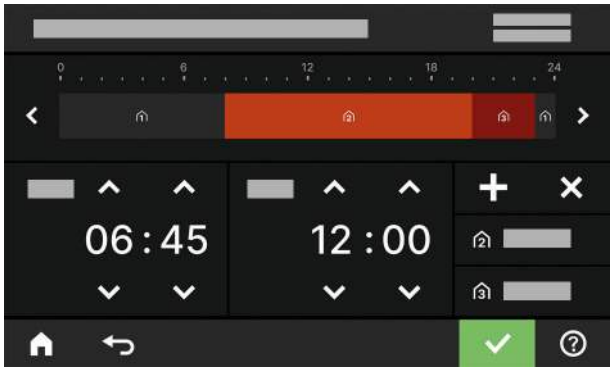


*Fig. 14*

### Copying the time program to other days of the week

The procedure is explained using the example of room heating for heating/cooling circuit 1.

**Example:**
You want to copy the **"Monday" "Time program"** over to **"Thursday"** and **"Friday"**.

**Tap the following buttons:**

1. **"Heating/cooling circuit 1"** ∨ in the menu bar
2. ◷
3. **"Mo"**
4. ⧉
5. **"Th"**, **"Fr"**
6. ✓ to confirm
7. ⌂ to quit the time program.

### Changing time phases

The procedure is explained using the example of room heating for heating/cooling circuit 1.

**Example:**
For **"Monday"** you want to change the start point **"Start"** for time phase 2 to 19:00.

**Tap the following buttons:**

1. **"Heating/cooling circuit 1"** ∨ in the menu bar
2. ◷
3. **"Mo"**
4. ✎
5. › for time phase 2
6. ∨ for the start point of time phase 2. The bar in the time diagram is adjusted.
7. ▪ ⌂2 **"Standard"** for standard room temperature
   or
   ▪ ⌂3 **"Comfort"** for comfort room temperature
8. ✓ to confirm
9. ⌂ to quit the time program.

### Deleting time phases

The procedure is explained using the example of room heating for heating/cooling circuit 1.

**Example:**
For **Monday** you want to delete time phase 2.

**Tap the following buttons:**

1. **"Heating/cooling circuit 1"** ∨ in the menu bar
2. ◷
3. **"Mo"** to select the required day
4. ✎
5. › for time phase 2
6. ✕ to delete the time phase.

## Procedure for setting a time program (cont.)

**7.** ✔ to confirm

**8.** ⌂ to quit the time program.

## Default display "Indoor environment"

In the **"Indoor environment"** default display you can carry out the room heating and room cooling settings and checks you use most frequently:

+ Raises the room temperature value.
− Lowers the room temperature value.
Sets the **"Heating"** operating program for a heating/cooling circuit.
Sets the **"Cooling"** operating program for a heating/cooling circuit.
Sets the **"Heating/cooling"** operating program for a heating/cooling circuit.
Switches the **"Extend time phase once"** function on or off.
Calls up the **"Time program"** for room heating/room cooling.

The displayed temperature is the set room temperature for the current time phase, e.g. 20 °C.

## "DHW" default display

In the **"DHW"** default display you can carry out the DHW settings and checks you use most frequently:

+ Raises the DHW temperature value.
− Lowers the DHW temperature value.
Sets the **"DHW"** to **"ON"**.
Sets the **"DHW"** to **"OFF"**.
Calls up the **"Time program"** for DHW heating.
Switches one-off DHW heating on or off.

## "Energy cockpit" default display

The **"Energy cockpit"** provides you with clear information on the energy state of your heat pump.
The various components present in the system are shown as graphics. Some information on the components is also provided in the default display. For more information, tap on the currently displayed component. What buttons and symbols are available depends on the system version.

If you call up the energy cockpit for the first time, a notification appears.

- Confirm the notification with ✔. The energy cockpit is displayed. The notification is not shown again when the energy cockpit is subsequently called up.
- With **"Cancel"** the notification is closed. The energy cockpit is displayed. The notification will be shown again next time the energy cockpit is called up.

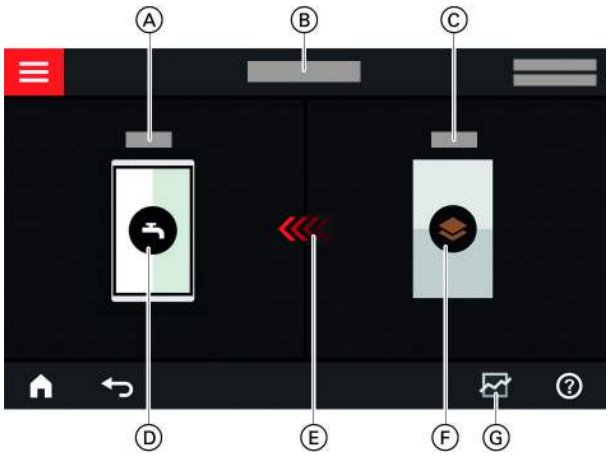


*Fig. 15*

Ⓐ DHW temperature
Ⓑ Energy cockpit
Ⓒ Heat pump flow temperature
Ⓓ DHW cylinder
Ⓔ Heating of the DHW cylinder by the heat pump is enabled.
Ⓕ Heat pump
Check the heat pump operating data.
For additional information: See chapter "Checking the heat pump operating data".
Ⓖ Energy balance
Check the power consumption of the compressor and electrical booster heater.
For additional information: See chapter "Calling up the energy balance".

***System network***

- *In a system network you can check the energy situation on each heat generator separately.*
- *Where functions are carried out solely by the heat pump, the associated information, e.g. DHW temperature, can only be viewed in the energy cockpit of the heat pump.*

***Heat pump cascade***

- *In a heat pump cascade you can check the energy situation on each heat pump separately.*
- *Where functions are carried out solely by the lead heat pump, the associated information, e.g. DHW temperature, can only be viewed in the energy cockpit of the lead heat pump.*

## "Energy cockpit" default display (cont.)

### Checking the heat pump operating data

In the energy cockpit default display you can find the operating data for the heat pump.

**Tap the following buttons:**

1. ◀ ▶ for the **"Energy cockpit"** default display
2.
3. ∧ ∨ for the required check

**You can call up the following operating data:**
- SPF of the system: SPF = **S**easonal **P**erformance **F**actor
  - Thermal energy generated
  - Energy consumption
- SPF for room heating
  - Thermal energy generated
  - Energy consumption
- SEER for room cooling: SEER = **S**easonal **E**nergy **E**fficiency **R**atio
  - Thermal energy generated
  - Energy consumption
- SPF for DHW heating
  - Thermal energy generated
  - Energy consumption
- Power consumption of refrigerant circuit
  - Power consumption this month
  - Power consumption last month
  - Power consumption this year
  - Power consumption last year
- Power consumption of electric booster heater (instantaneous heating water heater)
  - Power consumption this month
  - Power consumption last month
  - Power consumption this year
  - Power consumption last year

***Note***
*The consumption figures displayed are not based on metering instruments but instead are computed values. The calculation takes into account the system components present and user behaviour, e.g. operating time and utilisation level.*
*Depending on system-specific parameters (e.g. installation altitude), differences may arise between the displayed (computed) and actual consumption values. Due to seasonal climate conditions and other factors, further discrepancies are possible. The value display serves to visualise any consumption increases or decreases in relation to specific comparative periods. The use of the displayed consumption values as a basis for invoicing is not permitted.*

### Calling up the energy balance

In the energy balance, you can display the power consumption of your heat pump or the built-in instantaneous heating water heater for a required period.

**Tap the following buttons:**

1. ◀ ▶ for the **"Energy cockpit"** default display
2. 
3. Selection:
   - Power consumption of refrigerant circuit
   - Power consumption of electric booster heater (instantaneous heating water heater)
4. Required period :
   - Current month
   - Last month
   - Current year
   - Last year

## "Favourites" default display

In the **"Favourites"** default display you can call up your own preferred menus.
You can add a maximum of 12 menus to Favourites. You can change the selection at any time.

**Labelling menus as favourites**

**Tap the following buttons:**

1. ◀ ▶ for the **"Favourites"** default display
2. 
   The list of menus available for selection is shown.



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## "Favourites" default display (cont.)

3. ☐ for all preferred menus
   The selection is indicated by ☑.
4. ✔ to confirm

## "System overview" default display

Subject to your system equipment and the settings that have been made, you can check the following current system data on the **"System overview"** default display:

- System pressure
- Heat pump flow temperature
- Outside temperature
- Heating/cooling circuit flow temperature
- DHW temperature
- Status of the internet connection
- Service, heating contractor contact details
- Open source licences

**Tap the following buttons:**

1. ◀ ▶ for the **"System overview"** default display
2. **Checking other information:**
   › for further system data
   Or
   ⓘ to call up the **"Information"** menu.

***Note***
*Detailed options for checking the individual system data can be found in chapter "Menu overview".*

## Selecting a heating/cooling circuit

The heating/cooling of all rooms can be distributed amongst several heating/cooling circuits, e.g. a heating/cooling circuit for your apartment, and a heating/cooling circuit for your office.
In the menu bar, the following designations are used at the factory: **"Heating/cooling circuit 1"**, **"Heating/cooling circuit 2"**, etc. You can alter these designations: See chapter "Naming heating/cooling circuits".

- If your system has several heating/cooling circuits, in **"Room climate"** in the default display, first select the heating/cooling circuit for all room heating/room cooling settings that you want to change.
- If there is only one heating/cooling circuit, this selection option is not available.

Select the explanation of the procedure using the example of heating/cooling circuit 2.

**Tap the following buttons:**

1. ◀▶ for the **"Room climate"** default display
2. **"Heating/cooling circuit 1"** ✓ in the menu bar
3. Select **"heating/cooling circuit 2"**.

## Setting the room temperature for a heating/cooling circuit

The standard room temperature is the temperature at which you feel comfortable. Your home is always heated or cooled to this temperature if a time phase with the temperature level **"Standard"** is active in the time program.
Set the time program for room heating/room cooling: See page 37.

**Factory settings:**

**Room heating**
- Standard room temperature: 20 °C
- Reduced room temperature: 18 °C
- Comfort room temperature: 22 °C

**Room cooling**
- Standard room temperature: 25 °C
- Reduced room temperature: 27 °C
- Comfort room temperature: 23 °C

***Note***
- *Temperatures for room cooling cannot be set lower than temperatures for room heating.*
- *Temperatures for room heating cannot be set higher than temperatures for room cooling.*

### Setting temperature levels for room heating/room cooling

**Tap the following buttons:**

1. ◀▶ for the default display **"Indoor environment"**
2. ✓ for the required heating/cooling circuit
3. + − for the required value of the relevant temperature level:
   - **"Reduced"**
   - **"Standard"**
   - **"Comfort"**
4. ✓ to confirm

## Switching room heating/room cooling on or off (operating program)

For information on the operating programs: See page 28.

**Tap the following buttons:**

1. ◀▶ for the default display **"Room climate"**
2. ✓ for the required heating/cooling circuit
3. Select the required operating program:
   - Switches the room heating on.
   - Switches the room cooling on.
   - Switches on room heating/room cooling.
   - Switches standby mode on. Room heating and room cooling are switched off.
4. ✓ to confirm

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## Time program room heating/room cooling

In the time programs for room heating and room cooling you set the time phrases during which your home is heated or cooled and to what temperature.

### Setting the time program

Factory setting: **One** time phase from 06:00 to 22:00 h for every day of the week with the **"Standard"** temperature level.
Adjust the time program for room heating or room cooling.
The procedure is explained using the example of room heating for heating/cooling circuit

**Tap the following buttons:**

1. ◀ ▶ for the default display **"Indoor environment"**
2. ∨ for the required heating/cooling circuit
3. 🕓
4. Required day of the week
5. ✎
6. Depending on the required change:
   - ∧ ∨ for changing the beginning and end of the selected time phase
   - \+ for a new time phase
   - × to delete a time phase
   - ◀ ▶ to select the time phase if more than one time phase is set.

***Note***
*When adjusting the setting, bear in mind that your system requires some time to heat the rooms to the required temperature.*

To continue: See page 30.

## Selecting room heating/room cooling with buffer cylinder

**Only for systems with separate buffer cylinder**

Your heating/cooling circuits can be either heated **or** cooled via the separate heating/cooling water buffer cylinder.
To heat your rooms, you must set the heating/cooling water buffer cylinder to room heating; to cool your rooms, you must set it to room cooling.

***Note***
- *As the buffer cylinder supplies all heating/cooling circuits, this setting affects all heating/cooling circuits. It is therefore not possible to heat via one heating/cooling circuit and cool via another heating/cooling circuit at the same time.*
- *DHW heating takes place as required, regardless of this setting.*
- *Cooling is not possible for systems with a heating water buffer cylinder with integral DHW heating.*

***External switch for operating program changeover between heating/cooling***
*If your contractor has connected an external switch, you can use this switch to toggle between heating and cooling mode.*

**Selecting room heating for separate heating water/ coolant buffer cylinder**

1. ☰
2. **"Buffer mode"**
3. **"Heating mode"**

**Selecting room cooling for separate heating water/ coolant buffer cylinder**

1. ☰
2. **"Buffer mode"**
3. **"Cooling mode"**

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## Setting the heating curve

So that your rooms are heated optimally at all outside temperatures, you can adjust the Heating curve **"Slope"** and **"Level"**. This enables you to influence the flow temperature of the heat pump.
Factory settings depend on your system

**Example:**
Heating curve with a Slope of "1.4" and a Level of "0"

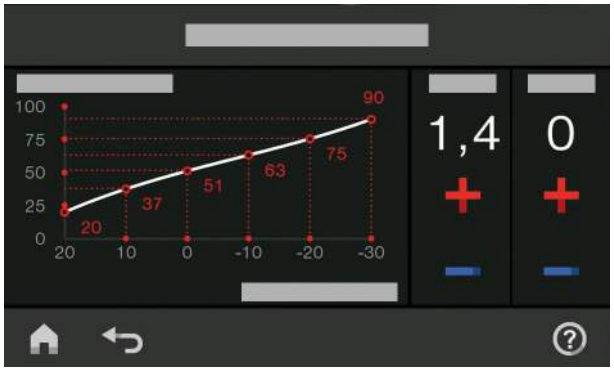


*Fig. 16*

The procedure is explained using the example of heating/cooling circuit 1.

**Tap the following buttons:**

1. ☰
2. **"Room climate"**
3. Required heating/cooling circuit, e.g. **"Heating/cooling circuit 1"**
4. **"Heating curve"**
5. + − for the required value for **"Slope"** and **"Level"** respectively
   The diagram indicated shows the change in the **"Heating curve"** clearly.
6. ✓ to confirm

**Tips for setting the "Heating curve"**

| Room temperature behaviour | Remedy |
|---|---|
| The home is too cold during the winter. | Set the **"Slope"** to the next level up. |
| The home is too warm during the winter. | Set the **"Slope"** to the next level down. |
| The home is too cold during the spring/autumn and winter. | Set the **"Level"** to a higher value. |
| The home is too warm during the spring/autumn and winter. | Set the **"Level"** to a lower level. |
| The home is too cold during the spring/autumn but warm enough during the winter. | Set the **"Slope"** to the next level down and **"Level"** to a higher value. |
| The home is too warm during the spring/autumn but warm enough during the winter. | Set the **"Slope"** to the next level up and **"Level"** to a lower value. |

## Temporarily adjusting the room temperature

If you wish to adjust the room temperature temporarily, select the **"Extend time phase once"** function. This function is **independent** of the time program for room heating/room cooling.

- The rooms will be heated/cooled with the temperature of the last active time phase for standard room temperature or comfort room temperature.
- If your contractor has not made alternative adjustments, DHW is heated to the selected DHW temperature **first**, before room heating/room cooling commences.
- The DHW circulation pump is switched on (if installed).

## Temporarily adjusting the room temperature (cont.)

### Switching on "Extend time phase once"

**Tap the following buttons:**

1. ⌄ for the required heating/cooling circuit
2. ↺
   The temperature of the last active time phase for standard room temperature or comfort room temperature will be set.

### Switching off "Extend time phase once"

The function ends automatically when switching to the next time phase for standard room temperature or comfort room temperature.

**To terminate "Extend time phase once" early, tap the following on-screen buttons:**

1. ⌄ for the required heating/cooling circuit
2. ↺

## Adjusting the room temperature for longer periods at home

If you are continuously at home for one or more days but do not want to change the time program, select the function **"Holidays at home"** 🛋, e.g. on public holidays or when the children are on school holidays.

The function **"Holidays at home"** 🛋 has the following effect:
- The room temperature during the periods between the set time phases is raised to the set value of the first time phase of the day: From reduced room temperature to standard room temperature or comfort room temperature
- If no time phase is active before 00:00, your rooms are heated/cooled to the reduced room temperature until the next time phase is enabled.
- DHW heating is active.
- The **"Holidays at home"** function starts and ends according to the set times for the start date and end date.

***Note***
- *As long as the **"Holidays at home"** function is switched on, the default display shows **"Holidays at home"** and the set start date and end date.*
- *If **"Detached house"** was selected by your contractor during commissioning, the function is adopted for all heating/cooling circuits.*

**Example:**
For Monday and Tuesday, 2 time phases are set respectively.

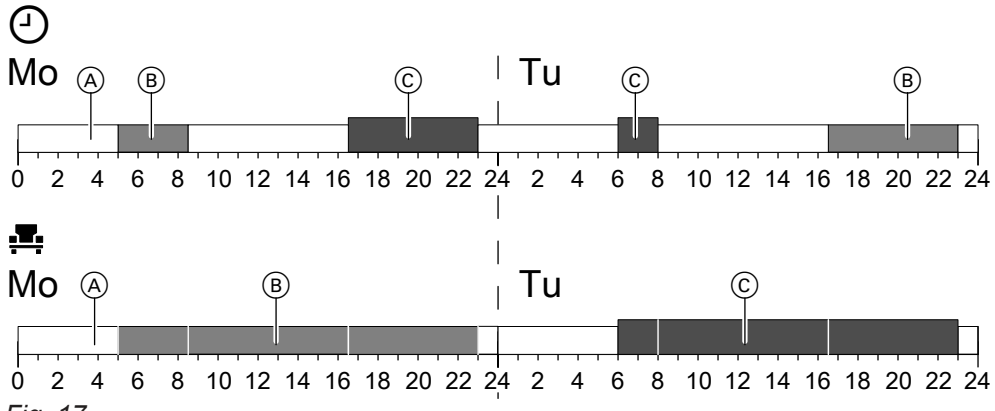


*Fig. 17*

- 🕘 Temperature level according to the set time program
- 🛋 Temperature level if **"Holidays at home"** is switched on.
- Ⓐ Reduced room temperature
- Ⓑ Standard room temperature
- Ⓒ Comfort room temperature

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## Adjusting the room temperature for longer… (cont.)

### Switching on "Holidays at home"

**Tap the following buttons:**

1. ☰
2. **"Holidays at home"**
3. If necessary, ∨ for the required heating/cooling circuit
4. ∧∨ for **"Start"** and **"End"**
5. ✓ to confirm

### Switching off "Holidays at home"

**Tap the following buttons:**

1. ☰
2. **"Holidays at home"**
3. If necessary, ∨ for the required heating/cooling circuit
4. 🗑

## Saving energy during long periods of absence

To save energy during long periods of absence, set the **"Holiday program"**.

The holiday program has the following effects:
- **Room heating**:
  - For heating/cooling circuits in the **"Heating"** operating program:
    The rooms are heated to the set reduced room temperature.
  - For heating/cooling circuits in the **"Standby mode"** operating program:
    No room heating: Frost protection for the heat pump and DHW cylinder is active.
- **Room cooling**:
  - For heating/cooling circuits in the **"Cooling"** operating program:
    The rooms are cooled to the set reduced room temperature.
  - For heating/cooling circuits in the **"Standby mode"** operating program
    No room cooling
- **DHW heating**:
  No DHW heating: Frost protection for the DHW cylinder is active.
- The holiday program starts at 00:00 on the first day of your holiday and ends at 23:59 on the final day.

***Note***
- *As long as the **"Holiday program"** function is switched on, the selected first and last day of the holiday are shown in the **"Heating/cooling circuit"** and **"Holiday program"** default display.*
- *If **"Detached house"** was selected by your contractor during commissioning, the holiday program is switched on for all heating/cooling circuits.*
- *If **"Apartment building"** was selected by your contractor during commissioning, DHW heating will only be switched off if all heating/cooling circuits are set to the **"Holiday program"**.*

### Switching on the "Holiday program"

**Tap the following buttons:**

1. ☰
2. **"Holiday program"**
3. If necessary, ∨ for the required heating/cooling circuit
4. ∧∨ for **"First holiday"** and **"Last holiday"**
5. ✓ to confirm

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## Saving energy during long periods of absence (cont.)

### Switching off the "Holiday program"

**Tap the following buttons:**

1. ☰
2. **"Holiday program"**
3. If necessary, ⌄ for the required heating/cooling circuit
4. 🗑

## DHW temperature

**DHW heating**

Your DHW is always heated to the required temperature according to a set time program.
Set the time program for DHW heating: See chapter "Time program for DHW heating".

Factory setting: 50 °C

***Note***
*For reasons of hygiene, the DHW temperature should not be set below 50 °C.*

**Tap the following buttons:**

1. ◀▶ for the **"DHW"** default display
2. + − for the required value
3. ✓ to confirm

## Switching DHW heating on/off (operating program)

If you switch off DHW heating, no DHW can be heated, even using the "One-off DHW heating" function outside the time program.

**Tap the following buttons:**

1. ◀▶ for the **"DHW"** default display
2. Highlighted button ⏻
3. ▪ **"ON"** if you want to **start** DHW heating.
   ▪ ○ **"OFF"** if you want to **stop** DHW heating.

For information on the operating program: See page 28.

## Time program for DHW heating

### Setting a time program

In the time program for DHW heating, you set the time phases in which your DHW is heated and to what temperatures.
Factory setting: **One** time phase from 05:30 to 22:00 for every day of the week.
You can change the time program **individually** in accordance with your requirements.

**Tap the following buttons:**

1. ◀▶ for the **"DHW"** default display
2. 
3. Required day of the week
4. 
5. Depending on the required change:
   ∧∨ for changing the beginning and end of the selected time phase
   + for a new time phase
   × to delete a time phase.
   ◀▶ to select the time phase if more than one time phase is set.

***Note***
- *The DHW is not heated between the time phases. Frost protection for the DHW cylinder is enabled.*
- *When setting time programs, bear in mind that your system requires some time to heat the DHW cylinder to the required temperature.*

For how to set a time program: See page 37.

### Setting the time program for the DHW circulation pump

In the time program for the DHW circulation pump, you set the time phases in which the circulation pump runs constantly or at intervals.
Factory setting: **One** time phase from 05:30 to 22:00 for every day of the week.

You can change the time program **individually** in accordance with your requirements.

**Tap the following buttons:**

1. ☰
2. **"DHW"**

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## Time program for DHW heating (cont.)

3. 
4. Select a day of the week.
5. 
6. Depending on the required change:
   - to change the time phase
   - for a new time phase
   - to delete a time phase.
   - to select the time phase if more than one time phase is set.

For how to set a time program: See page 30.

## "One-off DHW heating" outside the time program

If you require hot water outside the set time phases, switch on "One-off DHW heating" .
The DHW cylinder is heated once to the set DHW temperature.

This function has a higher priority than other functions for DHW heating, such as the time program.

### Switching on "One-off DHW heating"

**Tap the following buttons:**

1. for the **"DHW"** default display or possibly **"Favourites"**
2. 
3. to confirm

### Switching off "One-off DHW heating"

One-off DHW heating ends as soon as the set DHW temperature has been reached.

**Tap the following on-screen buttons to terminate "One-off DHW heating" early:**

1. for the **"DHW"** default display or possibly **"Favourites"**
2. 

## Increased DHW hygiene

Once a week or daily, you can heat the water in the DHW cylinder to a higher DHW temperature for one hour. This hygiene function is carried out regularly at the specified time.
Your heating contractor will set the duration and DHW temperature for the hygiene function.

**Danger**
High DHW temperatures can cause scalding, e.g. if the DHW temperature is above 60 °C. Mix with cold water at the draw-off points.

### Switching on increased DHW hygiene

**Tap the following buttons:**

1. 
2. **"DHW"**
3. **"Hygiene function"**
4. for the starting time **"Start"**
5. Select the required day of the week or daily. The selection is highlighted.
6. to confirm

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## Increased DHW hygiene (cont.)

### Switching off increased DHW hygiene

**Tap the following buttons:**

1. ☰
2. **"DHW"**
3. **"Hygiene function"**
4. Deselect the day of the week or daily.
5. ✓ to confirm

## Switching DHW scald protection on/off

With the scald protection, you limit the DHW temperature in the DHW cylinder to a maximum of 60 °C.

**Tap the following buttons:**

1. ☰
2. **"DHW"**
3. **"Scald protection"**
4. **"ON"** or **"OFF"**
5. ✓ to confirm

⚠ **Danger**
With scald protection switched off, a set DHW temperature higher than 60 °C can be selected. Consequently there is an increased risk of scalding!
If possible, do not switch scald protection off.

⚠ **Danger**
Scald protection does not affect the hygiene function. Even with scald protection switched on, the DHW cylinder will regularly be heated to the higher temperature of the hygiene function. Since this temperature may be above 60 °C, there is an increased risk of scalding!
Mix with cold water at the draw-off points.

## Mode of DHW heating

You can set whether DHW is heated to the set DHW temperature as quickly as possible or with as little energy consumption as possible.

***Note***
*This setting is not possible with all heat pumps.*

1. ☰
2. **"DHW"**
3. **"Mode of DHW heating"**
4. ∧ / ∨ for the required mode:
   **"Eco"** Energy saving DHW heating
   **"Comfort"** Fast DHW heating

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## Setting a control strategy

Your contractor has connected an external heat generator as an additional heat source to your heat pump and has configured hybrid operation.
Depending on the settings made by your contractor and on the outside temperature, either the heat pump and the external heat generator are switched on simultaneously, or just one of the two is switched on.
You can either set the optimal outside temperature limit for hybrid operation directly or allow the heat pump control unit to calculate the value automatically on the basis of the control strategy you have selected.

***Note***
- *You can adjust the control strategy for your system **only via the ViCare app**.*
- *Detailed information on the control strategies can be found in chapter "Terminology" in the appendix.*

**Control strategy with constant temperature limits (factory setting)**

Constant temperature limits for the outside temperature are set in the heat pump control unit.

**Ecological control strategy**

The heat pump control unit sets an outside temperature limit that will minimise $CO_2$ emissions.
Factors known as primary energy factors for electricity and fossil fuels form the basis for the calculation.

***Note***
*You can enter the primary energy factors **only via the ViCare app**.*

**Economical control strategy**

The heat pump control unit sets an outside temperature limit that will minimise your system's running costs.
For this purpose, you must enter your energy prices for electricity and fossil fuels, which will be used as the basis of calculation.

***Note***
*You can enter the energy prices **only via the ViCare app**.*

## Quieter operation

### Switching low-noise mode on/off

In quieter operation, the speeds of the fan and, if appropriate, the compressor are reduced. This reduces the sound level from operating the outdoor unit.

**Tap the following buttons:**

1. ☰
2. ⇄ **"Extended menu"**
3. 🔇× **"Low-noise mode"**
4. 🔇× **"Switch on/off"**
5. ▪ | **"ON"** if you want to **start** low-noise mode.
   ▪ ○ **"OFF"** if you want to **stop** low-noise mode.

### Setting the time program for quieter operation

In the time program for quieter operation, set the time phases in which the speed of the fan and, if required, of the compressor are limited.
To do so, select an operating status for each time phase: See chapter "Operating status for quieter operation".
Factory setting: **No** time phase from 00:00 to 24:00 h for every day of the week. The fan speed is not limited.

**Tap the following buttons:**

1. ☰
2. ⇄ **"Extended menu"**
3. 🔇× **"Low-noise mode"**
4. 🕓 **"Time program"**
5. Set the required time phases and operating status.
   ▪ ∧ ∨ to change the time phase
   ▪ + for a new time phase
   ▪ ✕ to delete a time phase.
   ▪ ◀ ▶ to select the time phase if more than one time phase is set.

***Note***
- *The fan speed is not limited between the set time phases.*
- *If 🔇× is not displayed, your contractor has locked the setting for low-noise mode. Your contractor can remove this lock. You can check a time program set by the contractor for low-noise mode under **"Information"**.*

For how to set a time program: See page 30.

### Operating status for quieter operation

You can choose between 2 operating statuses:

- **"Slight"**
  The max. fan speed and, if required, that of the compressor are reduced by a small amount.
- **"Significant"**
  The max. fan speed and, if required, that of the compressor are reduced by a large amount.

## Switching emergency mode on/off

If there is a fault in the outdoor unit you can switch on emergency mode.
Room heating and DHW heating are performed by the instantaneous heating water heater (if installed) built into the indoor unit. If an external heat generator is connected, this will take over the room heating.

**Please note**
In the case of heat pumps for hybrid operation, the heat supply in emergency mode is not guaranteed without an external heat generator.
- Operate your heat pump for hybrid operation only in conjunction with an external heat generator.
- Ensure that the external heat generator is ready for operation at all times.

In emergency mode, room cooling is switched off.

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## Switching emergency mode on/off (cont.)

**Tap the following buttons:**

1. ☰
2. ⚙ **"Extended menu"**
3. **"Emergency mode"**
4. ▪ **"ON"** if you want to **start** emergency mode.
   ▪ ○ **"OFF"** if you want to **stop** emergency mode.

***System network***
*In a system network, you can **only** switch on emergency mode at the heat pump.*

***Heat pump cascade***
*With a heat pump cascade, you must switch on emergency mode at **each** heat pump separately.*

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## Disabling operation

You can lock the controls in 2 steps:
Stage 1 ■ All functions on the default displays are operable. Message lists are displayed.
■ All other functions are disabled.
Stage 2 All functions are disabled.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. 🔒 **"Disable operation"**
4. 🔒 **"Lock everything"**
   Or
   🔒 **"Only home screen operable"**
5. Enter the password.

   ***Note***
   - *The factory-set password is "useraccess".*
   - *You can change this password: See chapter "Changing the password for the "Lock panel" function".*
6. ✓ to confirm

### Unlocking the controls

**Tap the following on-screen buttons:**

1. Any on-screen button
   **"Panel locked"** is displayed.
2. ✓
   **"Do you want to unlock the operation?"** is displayed.
3. ✓
   An entry field and keyboard appear.
4. Enter the password set in the factory, or the password you have specified.
5. ✓ to confirm

### Changing the password for the "Lock panel" function

**Tap the following on-screen buttons:**

1. ☰
2. ⚙ **"Settings"**
3. 🔒 **"Change password"**
4. Enter the current password.
5. ✓ to confirm
6. Enter the new password (1 to 20 characters).

   ***Note***
   *You will not be required to confirm the new password.*
7. ✓ to confirm
   Information is displayed.
8. ✓ to confirm the note

## Setting the display brightness

You can adjust the display brightness for operation and for standby separately.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Display setting"**
4. **"Brightness, operation"**
   Or
   **"Brightness, standby"**
5. ∧ ∨ for the required value
6. ✓ to confirm

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## Switching the Lightguide on and off

There is an illuminated strip (Lightguide) along the upper or lower edge of the programming unit, depending on the design of the heat generator.
With various displays, the Lightguide explains the functions of the control unit.

Meaning of the display:
- Lightguide is illuminated constantly:
  The display is active.
- Lightguide flashes quickly:
  There is a fault in the system.
- Lightguide pulsates slowly:
  The display is in standby mode.
  You can switch this function off if you prefer.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. ⎓ **"Lightguide standby mode"**
4. **"ON"**
   Or
   ○ **"OFF"**
5. ✓ to confirm

## Naming heating/cooling circuits

You can name all heating/cooling circuits individually, e.g. "Ground floor".
These names are used in the default displays and in the main menu.

***Note***
*The abbreviations **1**, **2**, etc. will be retained in the default display.*

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Rename heating/cooling circuit"**
4. Select the required heating/cooling circuit, e.g. **"Heating/cooling circuit 1"**
5. Type in the required name, e.g. "Ground floor" (1 to 20 characters).
6. ✓ to confirm

The name assigned to the relevant heating/cooling circuit is shown in the default display and in the main menu.

## Setting the "Time" and "Date"

The **"Time"** and **"Date"** are set at the factory. If your system has been shut down for a prolonged period, you may need to reset the **"Time"** and **"Date"**.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Date and time"**
4. **"Date"**
   Or
   **"Time"**
5. ∧ ∨ for the required value
6. ✓ to confirm

## Automatic "Summer/wintertime" changeover

The automatic changeover from Summer/wintertime is factory-set.
In this menu you can switch the changeover from Summer/wintertime on and off.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Units"**
4. **"Time changeover"**
5. Select **"ON"** or **"OFF"**
6. ✓ to confirm

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## Setting the "Language"

Your contractor will have set the display language during commissioning. You can change the language.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. Abc **"Language"**
4. Required language
5. ✓ to confirm

## Setting "Units"

You can adjust all available units, e.g. for the temperature, date, pressure, etc.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Units"**
4. Select e.g. °C for the temperature.
5. ✓ to confirm

## Entering the contractor's contact details

You can enter your contractor's contact details. These can then be called up in the ⓘ **"Information"** menu.

**Tap the following on-screen buttons:**

1. ☰
2. ⓘ **"Information"**
3. **"Contractor contact details"**
4. Relevant entry field
5. Enter your contractor's contact details into the individual boxes.
6. ✓ to confirm

## Setting the home screen

You can choose from the following default displays as your home screen:
- **"Room climate"**
- **"DHW"**
- **"Energy cockpit"**
- **"Favourites"**
- **"System overview"**

**Tap the following on-screen buttons:**

1. ☰
2. ⚙ **"Settings"**
3. **"Selecting the default display"**
4. Required display
5. ✓ to confirm

***Note***
*Tap on ⌂ to call up the selected home screen.*

## Setting up an internet connection via WiFi

If you wish, you can operate your system via your mobile device using the ViCare app. To do so, you will need to carry out a **one-off** process to connect your heat pump to the internet and set up a connection to the server.

If you want to establish the connection via your home **WiFi**, carry out the following steps:

## Setting up an internet connection via WiFi (cont.)

1. Affix the label with the QR code and the necessary access data for the access point in the space provided: See Fig. 18.

   ***Note***
   *You will find the label on the heat pump programming unit.*

*Fig. 18*

2. Activate the access point at the heat pump programming unit: See chapter "Activating/deactivating access point".

3. Start the ViCare app on your mobile device. Follow the instructions step by step.

   First connect your mobile device directly to the heat pump access point:
   - Scan the QR code on the label you have affixed above.
     **or**
   - Enter the access point name (SSID) and the "WPA2" password.
     You will find both details on the label you have attached above.

   Once the connection to the access point is established, you will have direct access to your system via the ViCare app.

4. Turn on WiFi on the heat pump: See chapter "Switching WiFi on/off".

5. To connect the heat pump to the internet and to the server via the home WiFi, carry out the subsequent steps in the ViCare app.
   - You will need the necessary credentials for your home WiFi, e.g. your network key.
   - Your WiFi router must be connected to the internet.

   ***Note***
   *Alternatively, the WiFi connection can be made via the heat pump programming unit: See chapter "WiFi connection".*

6. Once your heat pump is connected to the internet, deactivate the access point on the heat pump programming unit: See chapter "Activating/deactivating the access point".

## Activating/deactivating access point

Activate the access point to connect your heat pump directly to a mobile device such as your smartphone.

You require the access point for the following functions and checks:
- To connect your system to the server via your home WiFi, e.g. if a new WiFi router has been installed.
- Change the password for operation via the app.
- To check the licence information of third party components: See chapter "Calling up licence information for third party components".

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. 🌐 **"Internet"**
4. 📶 **"Access point"**
5. **"ON"** if you want to **activate** the access point.
   Or
   ○ **"OFF"** if you want to **deactivate** the access point.
6. ✔ to confirm

## Setting up an internet connection via WiFi (cont.)

### Switching WiFi on/off

To operate your system via the app, you require a connection to the server. For this purpose, the WiFi on the heat pump control unit must be turned on.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. 🌐 **"Internet"**
4. 📶 **"Wifi"**
5. **"WLAN"**
6. | **"ON"** if you want to **switch on** the WiFi.
   Or
   ○ **"OFF"** if you want to **switch off** the WiFi.
7. ✓ to confirm

### Connecting to WiFi

If you wish, you can operate your system via your mobile device using the ViCare app. To do so you will need to carry out a **one-off** process to set up an internet connection between your system and the server. You can set up this WiFi connection directly via the ViCare app or via the heat pump programming unit. The connection is established via your home WiFi. Your WiFi router must be connected to the internet for this.
You will need the necessary credentials for your home WiFi, e.g. your network key.

**Tap the following buttons:**

1. First, turn on WiFi on the heat pump: See chapter "Switching WiFi on/off".
2. ☰
3. ⚙ **"Settings"**
4. 🌐 **"Internet"**
5. 📶 **"WLAN"**
6. **"Network selection"**
   - Available WiFi networks are displayed.
     ***Note***
     *If a connection already exists, **"Connected"** is shown for the relevant network.*
   - If you want to use an invisible WiFi network: Tap on 📶 and enter the name of the WiFi (SSID).
7. Select WiFi.

   ***Note***
   *Use ⟲ to refresh the list of available WiFi networks.*
8. ✓ to confirm
9. If your selected WiFi is not protected 📶:
   ✓ to confirm the connection message
   Or
   If your selected WiFi is protected 📶🔒:
   Enter the password of the protected WiFi (maximum 63 characters).
   ✓ to confirm
10. ✓ to confirm the information regarding internet use
    The default display shows 📶.

    ***Note***
    - *If the connection was not established, an error message is shown.*
    - *An internet connection exists if the selected WiFi is connected to the internet. Check your WiFi settings if required.*

### Static IP addressing

Prerequisite: Your WiFi is configured so that the subscriber addresses in the network (IP addresses) are not automatically assigned.

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. 🌐 **"Internet"**
4. 📶 **"WLAN"**
5. **"Network selection"**

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## Setting up an internet connection via WiFi (cont.)

6. Available WiFi networks are displayed.

   ***Note***
   *Use ⟲ to refresh the list of available WiFi networks.*

7. Select the network.

8. ✎

9. **"STATIC"** for static IP addressing

10. ✓ to confirm

11. Enter network data:
    - IP address
    - Subnet mask
    - Standard gateway
    - Primary DNS server
    - Secondary DNS server

12. ✓ to confirm

***Note***
*An internet connection only exists if the selected WiFi is connected to the internet. Check your WiFi settings if required.*

## Establishing an internet connection via LAN

If you wish, you can operate your system via your mobile device using the ViCare app. To do so, you will need to connect your heat pump to the internet and set up a connection to the server.

If you do not want to use your home WiFi for the internet connection or the reception strength does not allow a WiFi connection, you can also connect your heat pump to your internet router via a LAN cable.

Requirements for establishing an internet connection via LAN:
1. Your contractor has installed the LAN socket extension in the indoor unit of your heat pump.
2. Your contractor has connected the LAN socket extension to your internet router via a LAN cable.

### Switching the LAN connection on/off

To operate your system via the app, you require an internet connection to the server. For this purpose, the LAN connection on the heat pump control unit must be turned on.

**Tap the following buttons:**

1. ☰

2. ⚙ **"Settings"**

3. 🌐 **"Internet"**

4. **"LAN"**

5. **"ON"**, if you want to **switch on** the LAN connection.
   or
   ○ **"OFF"**, if you want to **switch off** the LAN connection.

6. ✓ to confirm

## Switching off the display screen for cleaning

If you want to clean the display screen, you can deactivate it for 30 seconds. This prevents unintentional operation.
Clean the display with a microfibre cloth.

**Tap the following on-screen buttons:**

1. ☰

2. ⚙ **"Settings"**

3. **"Clean screen"**
   The display is deactivated. A countdown begins.

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## Restoring factory settings

You can reset all entries and values to their factory settings.

***Note***
*If the heating or cooling circuits have been named, the assigned name is maintained: See chapter "Setting names for heating/cooling circuits".*

| System setting | Settings and values that are reset |
|---|---|
| **"System"** | Time program for quieter operation |
| **"DHW"** | ▪ DHW temperature<br>▪ Time program for DHW heating<br>▪ Time program for DHW circulation pump |
| **"Heating/cooling circuit 1"**<br>**"Heating/cooling circuit 2"**<br>**"Heating/cooling circuit 3"**<br>**"Heating/cooling circuit 4"** | ▪ Reduced room temperature<br>▪ Standard room temperature<br>▪ Comfort room temperature<br>▪ Time program for room heating<br>▪ Heating curve slope and level<br>▪ Comfort and energy saving functions (**"Extend time phase once"**, **"Holidays at home"**, **"Holiday program"**) are switched off. |

**Tap the following buttons:**

1. ☰
2. ⚙ **"Settings"**
3. ⚙ **"Factory settings"**
4. ✓ to confirm

## Calling up help messages

You can call up help messages relating to the displays and functions.

**Tap the following on-screen buttons:**

1. ⓘ to call up the help messages.
2. ↩ to return to the previous screen.

## Checking information

Depending on the system equipment level and the settings made, you can check current system data, e.g. temperatures.

The system data is divided into the following groups:
- ⓘ General
- Heat pump
- DHW
- Heating/cooling circuit 1
- Heating/cooling circuit 2
  etc.
- Heating circuit 1
  Heating circuit 2
  etc.
- Cooling circuit 1
  Cooling circuit 2
  etc.
- Contractor contact details
- Internet
- Open source licence
  Calls up the licence for the programming unit.

***Note***
*If the heating/cooling circuits have been named, the assigned name is displayed: See chapter "Setting names for heating/cooling circuits".*
*Detailed options for checking the individual groups can be found in chapter "Menu overview".*

**Tap the following buttons:**

1. ☰
2. ⓘ **"Information"**
3. Required group

## Checking licence information

### Checking licence information for the programming unit

You can call up the licence for the programming unit via the main menu.

**Tap the following buttons:**

1. ☰
2. ⓘ **"Information"**
3. Open source licence

### Checking licence information for the integral TCU communication module

To check the licence information for the third party software used, you require a WiFi-enabled mobile device, e.g. a smartphone or a PC.

**Carry out the following steps:**

1. Check the IP address of the communication module:
   - Via the heat pump programming unit: See chapter "Checking the IP address via the heat pump programming unit".
     Or
   - Via the configuration page of your router: For this purpose, connect your mobile device to the same WiFi network as the heat pump.
2. In your device's internet browser, enter the IP address you have obtained for the communication module.
   The required licence information is displayed.

**Checking the IP address via the heat pump programming unit**

**Tap the following buttons:**

1. Establish the WiFi connection: See chapter "Establishing a WiFi connection".
2. ☰

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## Checking licence information (cont.)

3. ⓘ **"Information"**
4. Internet
5. **"WLAN"**

### Calling up licence information for third party components

1. Activate the access point on the heat pump: See chapter "Activating/deactivating access point".
2. Call up the WiFi settings on your mobile device, e.g. mobile phone.
   The access point of the heat pump is displayed in the list of available WiFi networks.

   ***Note***
   *You can find the name of the access point (SSID) on the label in the chapter "Setting up an internet connection via WiFi".*
3. Connect your mobile device to the access point for the heat pump.
   A password prompt will be displayed.
4. Enter the "WPA2 password" for the access point (SSID): See label in the chapter "Setting up an internet connection via WiFi".
5. With your connected mobile device, enter the IP address **10.83.83.1** in the internet browser
6. Follow the link **"Third party Components Licences"**.

### Third Party Software

**1 Overview**

This product contains third party software, including open source software. You are entitled to use this third party software in compliance with the respective license conditions as provided in this document.
A list of used third party software components and of license texts can be accessed by connecting your boiler, like it is mentioned in the manual.

**2 Acknowledgements**

Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/). This product includes cryptographic software written by Eric Young (eay@cryptsoft.com) and software written by Tim Hudson (tjh@cryptsoft.com).

**3 Disclaimer**

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## Checking licence information (cont.)

**5 Contact Information**

Viessmann Climate Solutions GmbH & Co. KG
35108 Allendorf
Germany
Fax +49 64 52 70-27 80
Phone +49 64 52 70-0
open-source-software-support@viessmann-climatesolutions.com
www.viessmann.de

## Screed drying

For screed drying, e.g. in a new build, your contractor can activate the **"Screed drying"** function. The screed will be dried in line with a set time program suitable for the building material (temperature:time profile).

- Room heating for all heating/cooling circuits takes place according to a set time program. Your settings for room heating/room cooling have no effect for the duration of screed drying.
- DHW heating is switched off.

**Calling up screed drying for all heating/cooling circuits**

**Tap the following buttons:**

1. ☰

2. ⓘ **"Information"**

3. **"Heating/cooling circuit 1"** to **"Heating/cooling circuit 4"**

4. **"Operating program"**

Screed drying lasts up to 32 days. The value displayed for **"Screed drying days"** is the number of days remaining.

## Checking fault messages

If your system has developed faults, **"Fault"** and ⚠ are displayed. The Lightguide flashes even when switched off: See chapter "Switching the Lightguide on and off".

**Tap the following buttons:**

✔
⚠ flashes in the navigation area.

***Note***

- *If you have connected a message facility to alert you to fault messages (e.g. a buzzer), this is deactivated when the fault message is acknowledged.*
- *If troubleshooting cannot be carried out until a later date, the fault message will be displayed again the following day at 7:00. The message facility is switched on again.*

### Calling up a fault message

**Tap the following buttons:**

1. ⚠ in the navigation area

2. ⚠ **"Faults"**
   The fault messages appear in a list.

3. Tapping on **?** calls up information on the system characteristics.
   Tips on measures you can take yourself **before** notifying your contractor are displayed.

4. Make a note of the fault number and the cause of the fault. For example: **F.160 "Communication error CAN bus"**.
   This enables the contractor to be better prepared and may save you unnecessary travelling costs.

5. Please notify your contractor.

6. ✔ to acknowledge the fault.

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## Checking fault messages (cont.)

**Danger**
If faults are not rectified, they can have life threatening consequences.
Do not acknowledge fault messages several times in quick succession. Please notify your contractor if a fault occurs. Your contractor will be able to analyse the cause and rectify the fault.

## Checking message lists

**Tap the following buttons:**

1. ☰
2. **"Message lists"**
3. If there are any corresponding messages:
   - **"Status"**
   - **"Warnings"**
   - **"Information"**
   - **"Faults"**

## Emissions test mode

Your contractor has connected an external heat generator as an additional heat source to your heat pump.

Emissions test mode for testing flue gas from your external heat generator must only be activated by your flue gas inspector during the annual inspection.
Have the emissions test on the external heat generator carried out during the heating season if possible.

- Emissions test mode must be turned on separately, first on the heat pump programming unit **and then** on the external heat generator.
- As soon as emissions test mode is turned on for the heat pump, the heat pump shuts down. The hydraulic components of the indoor unit are connected up so that the entire thermal energy from the external heat source is transferred to the heating/cooling circuits or to the separate buffer cylinder if installed.
  Ensure, therefore, that there is adequate heat transfer in the heating/cooling circuits, e.g. by opening thermostatic valves.

***Note***
*The flue gas inspector can activate emissions test mode on the heat pump programming unit even if the control panel is locked.*

### Switching on emissions test mode

**Tap the following buttons:**

1. **On the heat pump programming unit**:
   ☰
2. **"Test mode"**
3. ✓
4. **On the external heat generator**:
   Switch on emissions test mode on the external heat generator.
   Follow the operating information for the external heat generator.

### Stopping emissions test mode

1. **On the external heat generator**:
   Switch off the emissions test mode.
2. **On the heat pump programming unit**:
   Tap ✕.

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## Switching heating/cooling on/off

### Switching heating/cooling off (with frost protection enabled)

You can switch off either individual heating/cooling circuits and/or DHW heating, or the entire system.

**Tap the following buttons:**

1. ☰
2. ⏻ **"Switch on/off"**
3. ▪ If you wish to switch off the heating/cooling circuits individually:
   Tap ⇄ for **"Standby mode"**.
   ▪ If you wish to switch off DHW heating:
   Tap ⇄ for **"OFF"**.
   ▪ If you wish to switch the entire system off:
   Tap ⇄ for **"OFF"**.

***Note***
- *All circulation pumps connected to the control unit are briefly started every 24 hours to prevent them from seizing up.*
- *The diverter valves are switched over at regular intervals.*

### Switching heating/cooling on

You can switch on the heating/cooling circuits and DHW heating separately.

**Tap the following buttons:**

1. ☰
2. ⏻ **"Switch on/off"**
3. ▪ If you wish to switch on the heating/cooling circuits individually:
   Tap ⇄ for **"Heating"**, **"Cooling"** or **"Heating/cooling"**.
   ▪ If you wish to switch on DHW heating:
   Tap ⇄ for **"ON"**.

## Switching off the heat pump (shutdown)

You wish to shut down the system without frost protection monitoring.
Turn off the ON/OFF switch: See chapter "Position of the ON/OFF switch".
- No room heating
- No room cooling
- No DHW heating
- Frost protection for the heat pump and the DHW cylinder is **not** enabled.

! **Please note**
If outside temperatures below 3 °C are expected, take appropriate measures to protect the heat pump and the heating system from frost. Contact your heating contractor.

***Note***
- *As they are not being supplied with power, the circulation pumps and diverter valves may seize up.*
- *If your system has been shut down for a prolonged period, you must reset the **"Time"** and **"Date"**: See page 49.*

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## Starting the heat pump

Turn on the ON/OFF switch: See chapter "Position of the ON/OFF switch".
- After a short while, the home screen is shown on the display.
- The Lightguide is illuminated constantly.

Your heat pump and remote control units (if available) are ready for operation.

***Note***
*For technical reasons, there is a delay of several minutes when starting up the heat pump at low temperatures after long downtimes.*

## Position of the ON/OFF switch

### Wall mounted indoor unit

**Indoor unit V051, V052 and V054**

The ON/OFF switch Ⓐ is located on the top of the indoor unit.

**Indoor unit V055**

The ON/OFF switch Ⓐ is located on the underside of the indoor unit.

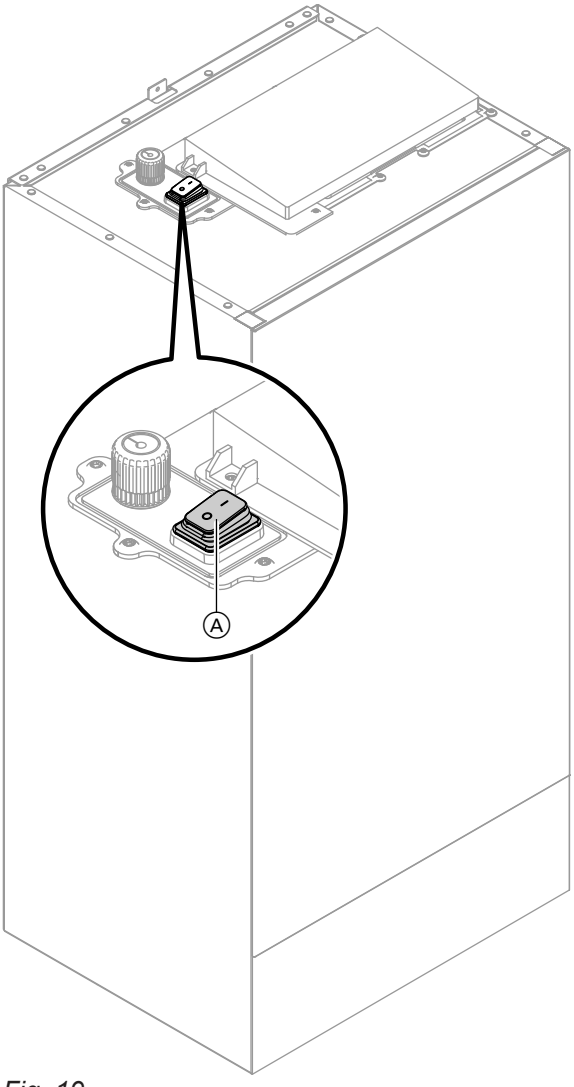


*Fig. 19*

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## Position of the ON/OFF switch (cont.)

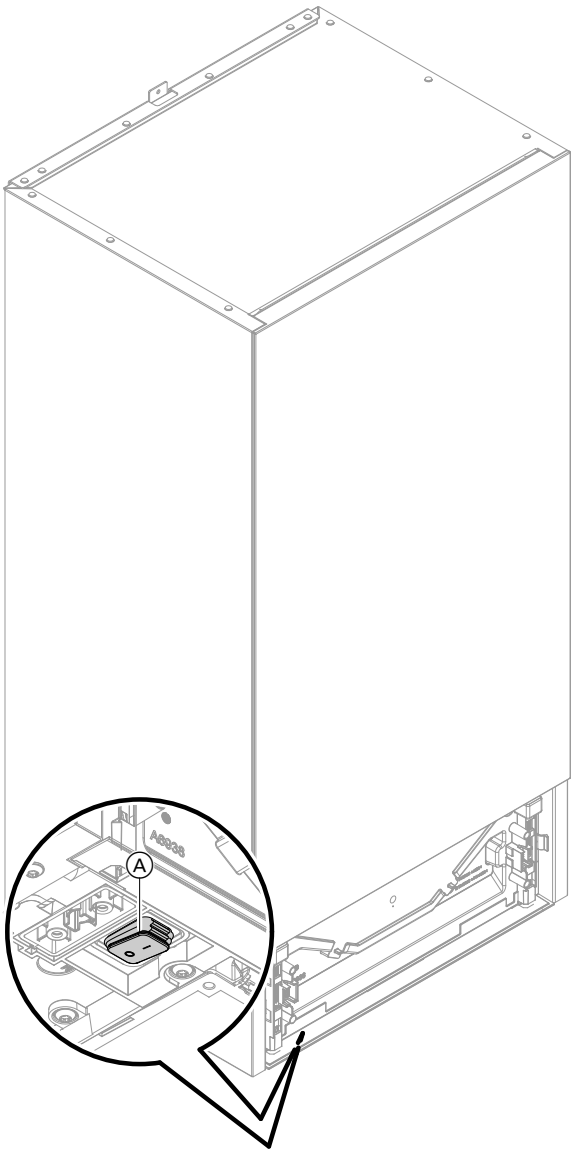


*Fig. 20*

### Floorstanding indoor unit with integral DHW cylinder

Depending on the installation situation of the indoor unit, your contractor has installed the ON/OFF switch at location Ⓐ (delivered condition) or Ⓑ.

## Position of the ON/OFF switch (cont.)

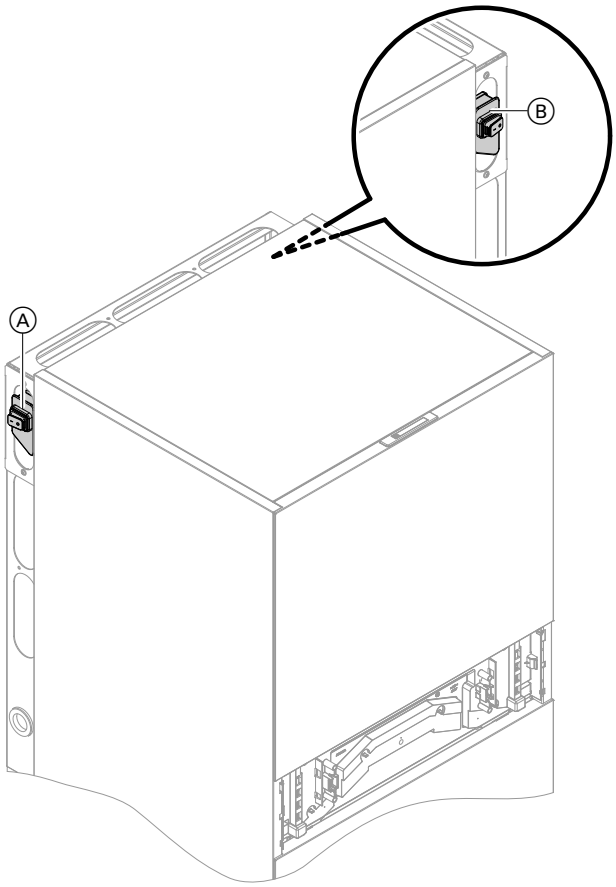


*Fig. 21*

## Rooms are too cold

| Cause | Remedy |
|---|---|
| The heat pump is switched off. | ▪ Reset the MCB in the power distribution board (main domestic MCB).<br>▪ Switch ON the mains isolator (if installed, outside the boiler room).<br>▪ Turn on the ON/OFF switch: See page 61. |
| Settings have been changed or are incorrect. | Switch on room heating.<br><br>Check the settings and correct if required:<br>▪ Operating programs: See page 28.<br>▪ Room temperature: See page 36.<br>▪ Time: See page 49.<br>▪ Time program for room heating: See page 37.<br>▪ Heating curve: See page 38.<br>▪ The holiday program is switched on: See page 40. |
| The DHW cylinder is being heated. | ▪ Wait until the DHW cylinder has been heated up.<br>▪ Reduce the DHW draw-off rate or temporarily reduce the set DHW temperature if necessary. |
| The heating water buffer cylinder is heated up. | ▪ Wait until the heating water buffer cylinder has been heated up. |
| Lack of fuel for the external heat generator. | ▪ When using LPG and other fuels such as oil or solid fuels:<br>Check the fuel reserves and re-order if required.<br>▪ With natural gas:<br>Open the gas shut-off valve. If necessary, check with your gas supply utility. |
| **"Status"**, **"Warning"**, **"Information"** or **"Faults"** is shown on the display. | ▪ Check what type of fault it is.<br>▪ Make a note of the fault message and acknowledge the fault: See page 57.<br>▪ Please notify your heating contractor. |
| **"Screed drying"** is switched on. | No action required<br>After expiry of the screed drying time, the selected operating program is switched on. |
| Separate buffer cylinder is in **"Cooling mode"**. | ▪ Set **"Buffer mode"** to **"Heating mode"**: See page 37.<br>▪ In conjunction with an external switch for heating/cooling: Set the switch to heating mode. |

## Rooms are too hot

| Cause | Remedy |
|---|---|
| Settings have been changed or are incorrect. | Check the settings and correct if required:<br>▪ Operating programs: See page 28.<br>▪ Room temperature: See page 36.<br>▪ Time: See page 49.<br>▪ Time program for room heating/room cooling: See page 37.<br>▪ Heating curve: See page 38.<br>▪ The **"Holidays at home"** function is switched on: See page 39. |
| **"Status"**, **"Warning"**, **"Information"** or **"Faults"** is shown on the display. | ▪ Check what type of fault it is.<br>▪ Make a note of the fault message and acknowledge the fault: See page 57.<br>▪ Please notify your heating contractor. |

## Rooms are too hot (cont.)

| Cause | Remedy |
|---|---|
| **"Screed drying"** is switched on. | No action required<br>After expiry of the screed drying time, the selected operating program is switched on. |
| Separate buffer cylinder is in **"Heating mode"**. | ▪ Set **"Buffer mode"** to **"Cooling mode"**: See page 37.<br>▪ In conjunction with an external switch for heating/cooling: Set the switch to cooling mode. |

## There is no hot water

| Cause | Remedy |
|---|---|
| The heat pump is switched off. | ▪ Reset the fuse in the power distribution board (domestic fuse).<br>▪ Switch on the mains isolator (outside the boiler room, if installed).<br>▪ Turn on the ON/OFF switch: See page 61. |
| Settings have been changed or are incorrect. | Enable DHW heating.<br><br>Check the settings and correct if required:<br>▪ Operating program for DHW heating: See page 28.<br>▪ DHW temperature: See page 42.<br>▪ Time: See page 49.<br>▪ Time program for DHW heating: See page 42.<br>▪ The holiday program is switched on for all heating/cooling circuits: See page 40. |
| Lack of fuel for the external heat generator. | ▪ When using LPG and other fuels such as oil or solid fuels:<br>Check the fuel reserves and re-order if necessary.<br>▪ With natural gas:<br>Open the gas shut-off valve. If necessary, check with the gas supply utility. |
| **"Status"**, **"Warning"**, **"Information"** or **"Faults"** is shown on the display. | ▪ Check what type of fault it is.<br>▪ Make a note of the fault message and acknowledge the fault: See page 57.<br>▪ Please notify your heating contractor. |
| **"Screed drying"** is switched on. | No action required<br>After expiry of the screed drying time, the selected operating program is switched on. |

## The DHW is too hot

| Cause | Remedy |
|---|---|
| Incorrect settings | Check and correct the set DHW temperature if required: See page 42. |
| The hygiene function is switched on. | Wait until the hygiene function has been completed. |

## The DHW is too hot (cont.)

| Cause | Remedy |
|---|---|
| DHW temperature for DHW heating is set too high at your solar system. | Have your contractor change the setting of your solar system. |
| In the following cases, for example, the DHW cylinder is heated to a higher temperature than the set temperature value:<br>▪ Surplus power is available from the photovoltaic system and is being used for DHW heating: See "Self-consumption" in the terminology section on page 74.<br>▪ In connection with Smart Grid, surplus power is available and is being used by your heat pump for DHW heating: See "Smart Grid" in the terminology section on page 81. | Have your contractor change the setting if necessary. |

## "Warning" is displayed

| Cause | Remedy |
|---|---|
| Warning due to a specific event or operating state of the heat pump or heating system | Proceed as described on page 58. |

## "Fault" is displayed

| Cause | Remedy |
|---|---|
| Heat pump or heating system fault | Proceed as described on page 57. |

## "External hook-up" is displayed

| Cause | Remedy |
|---|---|
| The operating program set on the programming unit has been changed over by an external device. | No action required |

## "Panel locked" is displayed

| Cause | Remedy |
|---|---|
| The control panel is locked. | Unlock it: See page 48. |

## "Outdoor unit locked" is displayed

| Cause | Remedy |
|---|---|
| Fault on the outdoor unit | ▪ To unlock the outdoor unit, follow the instructions on the display.<br>⚠ **Danger**<br>Risk of explosion: Escaping refrigerant may form a flammable or explosive atmosphere in the ambient air.<br>Do not unlock the outdoor unit multiple times in quick succession.<br>Notify your contractor.<br>▪ If the message appears repeatedly:<br>Proceed as described on page 57. Notify your contractor.<br>▪ Turn on emergency mode: See page 46.<br>In the case of a fault on the outdoor unit, the other heat sources will take over heat generation completely. Room cooling is switched off.<br>Room heating and DHW heating are provided by the external heat generator (if installed) or the integral instantaneous heating water heater (if installed) in the indoor unit. |

## Cleaning

Clean the surface of the programming unit with a microfibre cloth.

⚠ **Danger**
The sharp edges of the heat exchanger (evaporator) fins can cause cut injuries.
Do not touch the fins on the back of the outdoor unit.

⚠ **Danger**
The hot or cold fins of the heat exchanger (evaporator) can cause burn or frostbite injuries.
Do not touch the fins on the back of the outdoor unit.

! **Please note**
Commercially available domestic cleaning agents and special cleaning agents for the heat exchanger (evaporator) can damage the indoor and outdoor units.
- Clean the appliance surfaces only with a damp cloth.
- If necessary, clean the heat exchanger (evaporator) fins on the back of the outdoor unit only with a hand brush with long bristles.

! **Please note**
Commercially available cleaning agents can damage the surface of the external casing.
- Use only mild water-based domestic cleaning agents.
- Do **not** use substances containing acids or solvents, such as vinegar-based cleaners, nitro or synthetic resin solutions, nail varnish remover, ethyl alcohol, etc.

! **Please note**
Mechanical impact will scratch the surface of the external casing.
- Wipe the surface with a soft damp cloth only.
- Do **not** use substances that contain abrasive particles such as polishes, scouring agents, dirt erasers or scouring pads.
- Do **not** clean the external casing with a pressure washer.

## Inspection and maintenance

The inspection and maintenance of a heating system is prescribed by the German Buildings Energy Act and the DIN 4755, DVGW-TRGI 2018, DIN 1988-8 and EN 806 standards.
Regular maintenance ensures trouble-free, energy efficient, environmentally responsible and secure heating and cooling operation. For this, it is best to arrange an inspection and maintenance contract with your local contractor.

***Note***
*Your outdoor unit contains highly flammable refrigerant of safety group A3. To ensure operational reliability over the entire service life of the heat pump, there are special requirements for inspection and maintenance. A special test of safety equipment is required after 12 years. Please contact your contractor.*

### DHW cylinder

Standard EN 806-5 specifies that maintenance and cleaning should be carried out no later than 2 years after commissioning and as required thereafter.
Only a qualified contractor should clean the inside of the DHW cylinder and the DHW connections.

If any water treatment equipment (e.g. a sluice or injection system) is installed in the cold water supply of the DHW cylinder, ensure this is refilled in good time. For this, observe the manufacturer's instructions.

### Safety valve (DHW cylinder)

The function of the safety valve must be checked every six months by the user or a contractor through venting (see valve manufacturer's instructions). The valve seat may become contaminated.
Water may drip from the safety valve during a heat-up process. The outlet is open to the atmosphere.

! **Please note**
Overpressure can cause damage.
Do not close the safety valve.

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## Inspection and maintenance (cont.)

### Potable water filter (if installed)

To maintain high hygienic standards, proceed as follows:

- Replace filter element on non-back flushing filters every six months (visual inspection every two months).
- On back flushing filters, back flush every two months.

## Damaged cables / lines

If there is damage to the connecting cables or lines of the appliance or installed accessories, these must be replaced with original cables or lines from the manufacturer. Notify your contractor about this.

## Overview of "Main menu"

***Note***
*Not all of the displays and checks listed may be available under ☰, depending on the features of your system.*

☰

**Switch on/off**

- Buffer mode
- Heating/cooling circuit 1
- Heating/cooling circuit 2
- Heating/cooling circuit 3
- Heating/cooling circuit 4
- DHW
- Entire system

**Buffer mode**

- Heating
- Cooling

**Room climate**

- Heating/cooling circuit 1
  - Set room temperatures
  - Time program
  - Heating curve
- Additional heating/cooling circuits ②, ...
  - As for ① Heating/cooling circuit 1

**Test mode**

**DHW**

- Set DHW temperature
- Time program DHW
- Time program DHW circulation
- Hygiene function
- Scald protection ON/OFF
- Mode of DHW heating

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## Overview of "Main menu" (cont.)

| Settings |
|---|
| Language |
| Date and time |
| Display setting |
| Lightguide standby mode |
| Rename heating/cooling circuits |
| Factory settings |
| Low power radio on/off |
| Internet |
| Clean screen |
| Units |
| Lock panel |
| Change password |
| Selecting the default display |

| Information | |
|---|---|
| General | |
| | System pressure |
| | Outside temperature |
| | Primary circuit pump |
| | Temp. low loss header/buffer cylinder |
| | Thermal output |
| | Screed drying |
| | 4/3-way valve position |
| | Central fault message |
| | Time |
| | Date |
| | Altitude |
| | OEM product version |
| | Refrigerant circuit status |
| | Refrigerant circuit start |
| | Operating hours refrigeration circuit |

## Overview of "Main menu" (cont.)

### ⓘ Information

- Heat pump
  - Flow temperature
  - Flow sensor
  - Emergency mode
  - Electric booster heater
    - Function status
    - Operating status
    - Stop limit for electric booster heater
    - Outside temperature value stop limit
  - External heat generator
    - Status messages
  - Low-noise mode:
    - Setting
    - Time program
  - Smart Grid
  - Grid-Lock
  - External blocking
- DHW
  - Time program DHW
  - Time program DHW circulation
  - DHW temperature
  - Mode of DHW heating
  - Domestic hot water hysteresis
    - Switch on value
    - Switch off value
  - DHW circulation pump
  - Cylinder loading pump
  - Circulation pump for cylinder heating
  - Actuator for DHW heating
- Heating/cooling circuit 1
  - Operating program
  - Operating status
  - Time program
  - Room temperature
  - Set reduced room temperature
  - Set normal room temperature
  - Set comfort temperature
  - Heating curve slope
  - Heating curve level
  - Flow temperature
  - Holiday program
  - Holidays at home
- Additional heating/cooling circuits, ...

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## Overview of "Main menu" (cont.)

- **Information**
  - Contractor contact details
  - Internet
    - ViCloud (server)
    - WLAN
    - Access point
  - Open source licence
- **Holiday program**

  ***Note***
  *This can be selected only if **"Apartment building"** was selected during commissioning and multiple heating/cooling circuits are installed.*
  - Select all
  - Heating/cooling circuit 1
  - Heating/cooling circuit 2
  - etc.
- **Holidays at home**

  ***Note***
  *This can be selected only if **"Apartment building"** was selected during commissioning and multiple heating/cooling circuits are installed.*
  - Select all
  - Heating/cooling circuit 1
  - Heating/cooling circuit 2
  - etc.
- **Message lists**
- **Service**
- **Extended menu**
  - Low-noise mode
  - Emergency mode
  - Test mode

## Terminology

### Defrosting

Ice can form on the evaporator during the operation of air source heat pumps.

To remove this ice, the evaporator is automatically defrosted.

## Terminology (cont.)

During defrosting, the heat pump is not available for room heating/room cooling or DHW heating.

Water vapour can rise from the heat pump during defrosting.

### System version

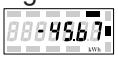
The system version describes the components of your system, such as heat pump, heating circuit pump, mixer, valves, control unit, radiators, etc.

Your contractor will adjust the system to the local conditions and customise it to suit your requirements.

### Self-consumption

With self-consumption, the power generated by the photovoltaic system is used to operate the heat pump and other components in the heating system.
Your contractor has connected an electricity meter (energy meter) to the heat pump control unit for self-consumption. It supplies the heat pump control unit with information about whether and how much power is available from the photovoltaic system.

**Display on energy meter**

- **Energy drawn from the public grid:**
  The energy meter shows the output with a minus sign in front of it:
  
  *Fig. 22*

  ***Note***
  *Up to 3 fault bars are displayed on the energy meter. This does not affect the function of the heat pump control unit.*
- **Energy exported to the public grid:**
  The energy meter shows the output without a minus sign in front of it.

**Functions for self-consumption**

Enable one or more functions for self-consumption. The functions that can be used depend on the appliance type.

If you enable several functions for self-consumption, the functions for DHW heating will have priority over the functions for room heating.
To utilise self-generated power, you can raise the set temperature for some functions or lower it for cooling.

**Example: self-consumption for DHW heating**

If sufficient power from the photovoltaic system is available, the heat pump will be operated for DHW heating using this power.
In the time program you have set the time phases during which DHW heating is enabled. In order to use as much of the power generated by the photovoltaic system as possible, DHW heating may also be switched on outside the set time phases.
In order to make more effective use of self-generated power, set an increase for the DHW temperature.

- Standard DHW temperature:
  50 °C
- Increase in DHW temperature with self-consumption:
  10 K (10 Kelvin)

The DHW is heated to 60 °C. If DHW consumption remains the same, the next DHW heating period using power from the grid is postponed until later.

### Electric booster heater

If the required room temperature or DHW temperature cannot be achieved with the heat pump alone, an electric booster heater, e.g. an instantaneous heating water heater, can be activated.
Depending on the settings made by your contractor, the electric booster heater may only be switched on below a set outside temperature limit. You can call up this outside temperature limit in the main menu under **"Information"**, **"Heat pump"**.

***Note***
*Constant operation of an electric booster heater results in high electricity consumption.*

## Terminology (cont.)

### Power-OFF

Your power supply utility can block the power supply to the heat pump or limit the electrical power consumption at times of high electricity demand. During this blocking time, the message **"Grid-Lock"** is shown on the display.
The full output of your heat pump is available again as soon as the power supply utility re-enables the power supply.

- Depending on the existing system components and settings, the system is supplied with heat via the separate buffer cylinder, the instantaneous heating water heater or the external heat generator during the **power-OFF** time.
  ***Note***
  *Your contractor must enable operation of the instantaneous heating water heater during power-OFF times.*
  Cooling mode is switched off during the power-OFF time.
- If there is an **output restriction**, during the blocking time the system is supplied via the heat pump and/or the instantaneous heating water heater, with reduced heating output if necessary.
  If required, the external heat generator is switched on (if installed).

### Underfloor heating

Underfloor heating systems are slow, low temperature heating systems that respond only very slowly to short term temperature changes.

Heating with reduced room temperature at night or during short absences, therefore, does not result in any significant energy savings.

### Low-noise mode

Fans and compressors in the outdoor unit create operational noise when running air source heat pumps. In quieter operation, the speed of fans and, where relevant, compressors is reduced so that operating noise is lower. You set the start and end times of quieter operation, such as night-times, through the time program.

***Note***
*The reduced fan and compressor speeds may mean that less heating output is available.*

### Heating mode

In heating mode, the flow temperature of the heat pump in relation to the outside temperature is regulated so that the room temperature that you have set is achieved: See "Heating curve".
The outside temperature is captured and transmitted to the heat pump control unit by a sensor fitted outside the building.

#### Standard heating mode or comfort heating mode

For periods when you will be at home, heat your rooms to the standard room temperature or the comfort room temperature. Set the periods (time phases) using the time program for central heating/cooling.

#### Reduced heating mode

For periods when you will be absent or during the night, heat your rooms to the reduced room temperature. Set the periods using the time program for central heating/cooling. With underfloor heating systems, reduced heating mode only yields limited energy savings: See "Underfloor heating".

## Terminology (cont.)

### Heating curve

Heating curves illustrate the relationship between the outside temperature, the set room temperature and the flow temperature. The lower the outside temperature, the higher the flow temperature.
In order to guarantee sufficient heat with minimum energy consumption at any outside temperature, the conditions of your building and system must be taken into consideration. The heating curve is adjusted by your contractor for this purpose.

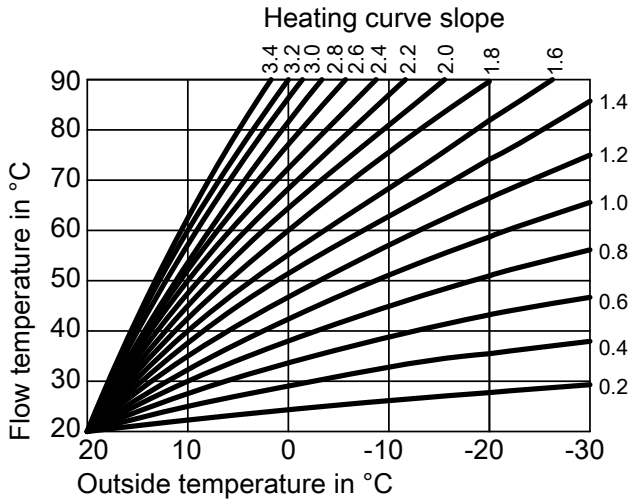



*Fig. 23*

**Setting the slope and level, taking the heating curve as an example**

Factory settings:
- Slope = 1.4
- Level = 0

The heating curves shown apply with the following settings:
- Heating curve level = 0
- Standard room temperature (set room temperature) = 20 °C

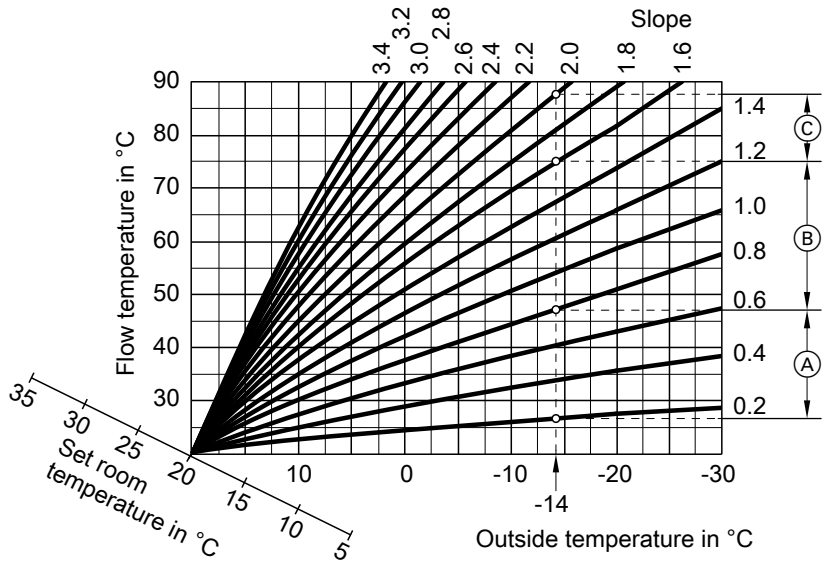



*Fig. 24*

For an outside temperature of **−14 °C**:
Ⓐ Underfloor heating system: Slope 0.2 to 0.8
Ⓑ Low temperature heating system: Slope 0.8 to 1.6
Ⓒ System with a flow temperature in excess of 75 °C, slope 1.6 to 2.0

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## Terminology (cont.)

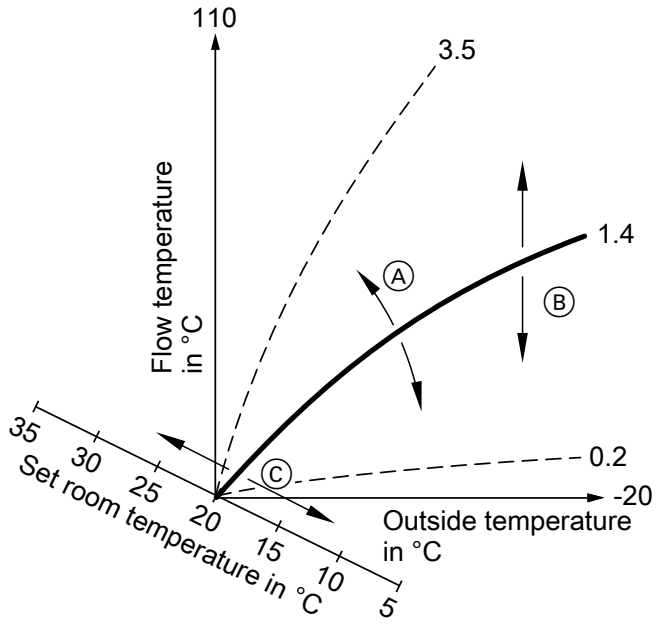


*Fig. 25*

Ⓐ If you change the slope:
The steepness of the heating curves changes.
Ⓑ If you change the level:
The heating curves are shifted in parallel in a vertical direction.
Ⓒ If you change the standard room temperature (set room temperature):
The heating curves are shifted along the "Set room temperature" axis.

***Note***
*Setting the slope or level too high or too low will not cause any damage to your heating system.*
*Both settings affect the level of the flow temperature, which may then be too low or unnecessarily high.*

### Heating/cooling circuits

A heating circuit or cooling circuit is a sealed unvented circuit between the consumers (e.g. underfloor heating system), in which the heating water or coolant circulates. With several heating circuits and cooling circuits, the residential units in a building can be supplied separately, e.g. one heating circuit for your apartment and one heating circuit for a separate apartment.
If different types of consumers (e.g. underfloor heating and radiators) are installed in a residential unit or building, these consumers are normally connected to different heating or cooling circuits.

***Note***
*It is not possible to provide room cooling via radiators.*

Different flow temperatures are possible simultaneously for the different heating/cooling circuits.

**Heating/cooling circuits**

- **Heating circuit**
  A heating circuit heats your rooms, e.g. via the radiators.
- **Heating/cooling circuit**
  A heating/cooling circuit heats your rooms in winter and cools them in summer, e.g. via an underfloor heating system.

**Designations for heating/cooling circuits**

The heating/cooling circuits are designated **"Heating circuit 1"**, **"Heating circuit 2"** etc. at the factory.
If you or your qualified contractor have renamed the heating/cooling circuits, e.g. as "Apartment", that name will be displayed instead of **"Heating circuit ..."**.

### Heating circuit pump

Circulation pump for the circulation of the heating water in the heating/cooling circuit.

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## Terminology (cont.)

### Instantaneous heating water heater

The instantaneous heating water heater is an electric booster heater built into the indoor unit.
If the required room temperature or DHW temperature cannot be achieved with the heat pump alone, the instantaneous heating water heater can be activated automatically.

***Note***
*Constant operation of an electric booster heater results in high electricity consumption.*

### Heating water buffer cylinder with integral DHW heating

Buffer cylinder for storing heating water with integral indirect coil for heating DHW.

See also "Buffer cylinder".

### Hybrid mode

In hybrid mode, different heat generators are integrated into your system. These heat generators use different primary energies to generate heat. An air/water heat pump uses the air and the external heat generator uses solid fuels or fossil fuels, e.g. wood or gas. Depending on the settings made by your contractor and on the outside temperature, either the heat pump and the external heat generator are switched on simultaneously, or just one of the two is switched on.

You can combine the external heat generator optimally with the heat pump to suit either ecological or economic priorities. The two heat sources operate individually or together, depending on the operating situation: See "Control strategy".

### Hygiene function (increased DHW hygiene)

This function improves the microbiological quality of the DHW by heating it to a higher temperature for a short period.

### Cascade

See "Heat pump cascade".

### Cooling mode

In cooling mode, the flow temperature of the heat pump is adjusted in relation to the type of heating/cooling circuit, regardless of the outside temperature. Where cooling is provided via underfloor heating circuits, the flow temperatures required are different from those for cooling via a fan convector.

Cooling is switched on and off such that the room temperature that you set is achieved.

### Cooling circuit

See "Heating/cooling circuits".

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## Terminology (cont.)

### Mixer

Hot heating water from the heat generator is mixed with cooled heating water from the heating circuit. The heating water, thus brought to the required temperature, is pumped to the heating circuit by the heating circuit pump. To ensure the required set room temperature is achieved, the control unit adjusts the flow temperature via the mixer to suit different conditions.

### Primary energy factor

The energy source used for generating heat (e.g. electricity or gas) has to be captured, converted and transported.
The energy used in doing so and the resulting $CO_2$ emissions are expressed by the primary energy factor.

The currently applicable primary energy factors for the energy sources are stored in the heat pump control unit. If the primary energy factors change, the relevant values are automatically updated via the update function.

### Buffer cylinder

A buffer cylinder stores a large quantity of heating water or coolant. This allows the heating/cooling circuits to be supplied over a longer period without the heat pump needing to start up, e.g. during power-OFF.

Due to the large buffer volume, the heat pump continues to operate to heat or cool the buffer cylinder for longer than it would if there were no buffer cylinder. Infrequent starting of the heat pump and long runtimes ensure long and efficient operation.

### Room temperature

- Standard room temperature or comfort room temperature:
  Set the standard room temperature or comfort room temperature for periods when you are at home during the day.
- Reduced room temperature:
  For periods when you will be absent or during the night, set the reduced room temperature: See "Room heating/room cooling".

### Control strategy

The control strategy specifies in which operating ranges the heat pump and/or external heat generator operates.
These operating ranges also depend on the operating mode set by your heating contractor.

**Parallel operation**

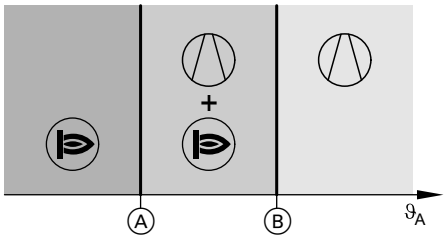


*Fig. 26*

$\vartheta_A$ Outside temperature
Ⓐ Lower temperature limit, value dependent on the control strategy
Ⓑ Upper temperature limit

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## Terminology (cont.)

- The heat pump is switched on for room heating/ room cooling and DHW heating as required.
- The external heat generator is switched on for central heating and DHW heating as required.

- When outside temperature is **above the upper** temperature limit Ⓑ:
  - Room heating/room cooling and DHW heating are supplied only by the heat pump.
  - The external heat generator does not start.
- When outside temperature is **between** the two temperature limits:
  - For normal heat demand, only the heat pump is switched on.
  - For increased heat demand, the external heat generator is switched on **in addition** to the heat pump.
  - The heat pump can be switched on for room cooling.
- When outside temperature is **below the lower** temperature limit Ⓐ:
  - The heat pump does not operate.
  - Room heating and DHW heating are supplied only by the external heat generator.
  - Room cooling is switched off.

**Alternative operation**

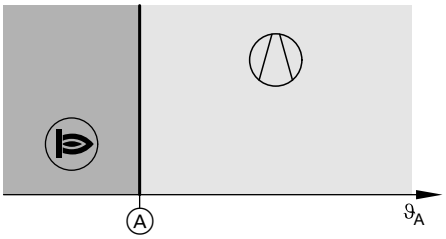


*Fig. 27*

- $\vartheta_A$ Outside temperature
- Ⓐ Temperature limit, value dependent on the control strategy
- The heat pump is switched on for room heating/ room cooling and DHW heating as required.
- The external heat generator is switched on for central heating and DHW heating as required.

- When the outside temperature is **above** temperature limit Ⓐ:
  - Room heating/room cooling and DHW heating are supplied only by the heat pump.
  - The external heat generator does not start.
- When the outside temperature is **below** temperature limit Ⓐ:
  - The heat pump does not operate.
  - Room heating and DHW heating are supplied only by the external heat generator.
  - Room cooling is switched off.

The temperature limits of these operating ranges are determined in the control strategy.

**Ecological control strategy**

The control unit specifies the temperature limit Ⓐ based on what will achieve the lowest $CO_2$ emissions. The heat pump control unit calculates the resulting $CO_2$ emissions on the basis of the primary energy factors for electricity and fossil fuels.
You can enter the energy prices via the ViCare app.

**Economical control strategy**

The control unit specifies the temperature limit Ⓐ based on what will achieve the lowest running costs. The heat pump control unit calculates the running costs on the basis of the energy prices you have entered for electricity and fossil fuels.
You can enter the energy prices via the ViCare app.

**Control strategy with constant temperature limits**

Your contractor has permanently set the two outside temperature limits Ⓐ and Ⓑ: See Fig. 26 and Fig. 27.

## Return temperature

The return temperature is the temperature at which the heating water or coolant leaves a system component such as a heating circuit.

## Safety valve

Safety equipment that must be installed in the cold water pipe by your contractor. The safety valve opens automatically to prevent excess pressure in the DHW cylinder.

The heating circuits are also equipped with safety valves.

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## Terminology (cont.)

### Smart Grid (SG)

To enable you to use Smart Grid, your contractor has connected the heat pump control unit to the mains supply via two switching contacts. The power supply utility can use these switching contacts to match operation of the heat pump to the current grid utilisation level.

The following 4 options for grid utilisation are taken into account:

1. Not a lot of power in the grid (grid overload):
   If there is little electricity available, the power supply utility can block the heat pump or limit the electrical power consumption, depending on how your heat pump is connected and configured. For this, consult your contractor.
   - Power-OFF active:
     Room heating is provided by the buffer cylinder. If there is no buffer cylinder installed or its temperature is too low, the rooms will be heated only by the instantaneous heating water heater.
     ***Note on the instantaneous heating water heater***
     *Your contractor must enable operation of the instantaneous heating water heater during power-OFF periods.*
   - Output restriction active:
     By limiting the electrical power consumption, reduced heating output of the heat pump may be available.

   The heat pump restarts automatically with the previously set operating program as soon as the power supply utility restores the power supply.
2. No excess power, normal grid utilisation:
   The heat pump is operated with your settings.
3. Small amount of excess power:
   If a time phase is active in the time program, the heat pump is started. Additional energy is stored in your system. For this purpose, your contractor may have increased (or reduced, for cooling) the set temperature values for the following functions:
   - DHW heating
   - Buffer cylinder heating
   - Central heating
   - Room cooling
4. Large amount of excess power:
   The power supply utility starts the heat pump immediately, even if **no** time phase is active in the time program. System components are heated to the max. possible temperatures or cooled to the min. possible temperatures. As much energy as possible is stored in your system.

***Note on operation with small and large amounts of surplus power***
*The electric power consumption of the heat pump is not taken into account when calculating the seasonal performance factor.*

**Example: Utilisation of excess power for DHW heating**

**Small amount of surplus power**

The heat pump is operated with excess power from the power supply utility to heat DHW to the increased set DHW temperature.
In the time program you have set the time phases during which DHW heating is enabled. The power supply utility may start DHW heating, even outside the set time phases.
To utilise even more surplus power for DHW heating, the standard DHW temperature can be increased. Your contractor can set the value for this temperature increase.

- Standard DHW temperature:
  50 °C
- Increase in DHW temperature (set by your contractor):
  10 K (10 Kelvin)

The DHW is heated to 60 °C. If DHW consumption remains the same, the next DHW heating period is postponed.

**Large amount of surplus power**

DHW heating is started immediately, regardless of your settings in the time program.
The DHW will be heated to the maximum possible temperature. This temperature has been set by your contractor.

- Standard DHW temperature:
  50 °C
- Max. temperature of your DHW cylinder (set by your contractor):
  65 °C

The DHW is heated to 65 °C. If DHW consumption remains the same, the next DHW heating period is postponed until later.

***Note***
*If scald protection is enabled, the DHW is heated to a maximum of 60 °C, even if the Smart Grid settings specify a higher DHW temperature.*

***Note***
*If you have enabled several functions for Smart Grid, the functions for DHW heating will have priority over the functions for room heating.*

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## Terminology (cont.)

### System network

Appliances compatible with the Viessmann One Base can form a system network. The appliances are networked in this system network and can be operated in an energy-optimised manner.
The integrated Viessmann Energy Management system enables balanced operation of all components in the house that consume and generate electricity. This optimises self-consumption of the self-generated power.
The appliances in a system network can be operated together via the ViCare app.

Examples of a system network:
- In conjunction with a photovoltaic system:
  Heat pump and inverter with battery storage unit, e.g. Vitocharge VX3
- In conjunction with one or more external heat generators in hybrid mode:
  Heat pump and wall mounted gas condensing boiler, e.g. one or more Vitodens 200-W, type B2HH
- Heat pump cascade as a special system network:
  Heat pump and one or more additional heat pumps

### Set temperature

Specific temperature that should be reached, e.g. set DHW temperature for example.

### Drinking water filter

A device that removes solids from the drinking water. The drinking water filter is built into the cold water pipework to the DHW cylinder.

### Evaporator

The evaporator is a heat exchanger that transfers thermal energy from the outdoor air to the heat pump.
In this process, cooling of the supplied air can cause water to condense. This condensate can freeze on the evaporator, which has a negative effect on heat transfer.

To remove this ice, the evaporator is automatically defrosted. In the process, steam may be visibly released from the outdoor unit.

### Compressor

The compressor is the central component of the heat pump. The compressor raises the refrigerant to the temperature level required for the heating mode.

Depending on the energy required in the building, the speed of the compressor will be adjusted to the output required.

### Condenser

The condenser is a heat exchanger that transfers thermal energy from the heat pump to the system.

### Flow temperature

The flow temperature is the temperature at which the heating water or coolant enters a system component such as a heating/cooling circuit.

## Terminology (cont.)

### Heat pump cascade

A heat pump cascade consists of a maximum of 5 linked heat pumps that are switched on individually or together, depending on the demand for heat or cooling.
In a heat pump cascade, each heat pump has its own control unit. One of the heat pumps takes the role of master heat pump and controls the entire heat pump cascade.

- You make the settings for room heating/room cooling, DHW heating and the various functions only at the programming unit of the master heat pump.
- Not all menus are available at the programming unit of the slave heat pump, and some values are not shown in the energy cockpit.
- Checks and other settings such as language or display brightness can be made at all programming units.

### Time program

In the time programs you determine what your heating system should do at what time.

**Operating status**

The operating status indicates how a component in your system is being operated.

For example, the operating statuses for room heating have different temperature levels.
The times for the operating status changeover are defined when the time program is set.

### DHW circulation pump

The DHW circulation pump transports the DHW around a loop line between the DHW cylinder and the draw-off points (e.g. hot tap). This ensures that hot water is rapidly available at the draw-off points.

## Required information about energy efficiency

The required information about energy efficiency according to the EU Directive on the environmentally sound design of energy related products can be found as an appendix to these operating instructions, and using the appliance serial no. at
**climate-solutions.com/document-finder**

## Instructions for disposal

### Disposal of the packaging

Your contractor will dispose of the packaging from your product.

### Final decommissioning and disposal of the heating system

This product can be recycled. Components and operating fluids from your heating system do not belong in ordinary domestic waste.
Please speak to your contractor about the correct disposal of your old system.

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## Certification

RoHS
compliant
2011 / 65 / EU

## Your contact

Contact your local contractor if you have any questions about your system or wish to arrange maintenance or repair work.

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