Operating Instructions

Vitotronic 200, Model KW2
Part No. Z001 230
Vitotronic 300, Model KW3
Part No. Z001 231
Weather-responsive indoor/outdoor, digital boiler control
for heating systems with one or more heating circuits

VITOTRONIC 200/300

Vitotronic 200, Model KW2

Vitotronic 300, Model KW3

IMPORTANT

Read and save these instructions for future reference.

C US
Certified as a component part of Viessmann boilers only

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Safety, Installation and Warranty Requirements

Safety, Installation and Warranty Requirements

Please ensure that these instructions are read and understood before commencing installation and operation. Failure to comply with the instructions listed below and details printed in these instructions can cause **product / property damage**, **severe personal injury**, and / or **loss of life**. Ensure all requirements below are understood and fulfilled (including detailed information found in manual sub-sections).

■ **Licensed professional heating contractor**
The installation, adjustment, service, and maintenance of this equipment *must be* performed by a licensed professional heating contractor.
Please see sections entitled "Safety" and "Important Regulatory and Installation Requirements".

■ **Advice to owner**
Once the installation work is complete, the heating contractor must familiarize the system operator / ultimate owner with all equipment, as well as safety precautions / requirements, shut-down procedure, and the need for professional service annually before the heating season begins.

■ **Product documentation**
Read all applicable documentation before commencing installation. Store documentation near boiler in a readily accessible location for reference in the future by service personnel.
For a listing of applicable literature, please see section entitled "Important Regulatory and Installation Requirements".

■ **Warranty**
Information contained in this and related product documentation must be read and followed. *Failure to do so renders warranty null and void.*

Safety Terminology

The following terms are used throughout this manual to bring attention to the presence of potential hazards or important product information. **Please heed the advice given!**

DANGER
Indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury or substantial product / property damage.

WARNING
Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product / property damage.

CAUTION
Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product / property damage.

IMPORTANT
Helpful hints for installation, operation or maintenance which pertain to the product.

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About These Instructions

The following symbols and flag words are utilized in these Installation Instructions:

⚠ WARNING

Warnings draw your attention to the presence of potential hazards or important product information.

→ *Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product / property damage.*

⚠ CAUTION

Cautions draw your attention to the presence of potential hazards or important product information.

→ *Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product / property damage.*

IMPORTANT

→ *Helpful hints for installation, operation or maintenance which pertain to the product.*

→

→ *This symbol indicates that additional, pertinent information is to be found in column three.*

→ *This symbol indicates that other instructions must be referenced.*

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Tips on Getting Started

Your heating system provides central heating and domestic hot water heating in conjunction with a domestic hot water tank.

The timer of the control unit switches over between "normal room temperature" and "reduced room temperature" at the required times.

1. **Normal room temperature**
   for the times you spend at home and require a comfortably warm room temperature (e.g. 68 °F / 20 °C).

2. **Reduced room temperature**
   at nighttime or for the times you spend away from home. To save energy, a temperature which is lower than the "normal room temperature" is normally selected.
   In the factory setting, "frost protection at 37 °F / 3 °C" is selected.

IMPORTANT

Times and duration of the two room temperatures can be set via the programming unit.
You can set the required temperature value for both the "normal room temperature" and the "reduced room temperature".

The timer of the control unit activates and deactivates the domestic hot water supply at the required times (applicable to boiler with domestic hot water tank only).

1. **Domestic hot water heating takes place**
   for the times you spend at home and require hot water for your daily requirements (e.g. for showering).

2. **Domestic hot water heating does not take place**
   at nighttime for example.

IMPORTANT

Times and duration of domestic hot water heating can be set via the programming unit.

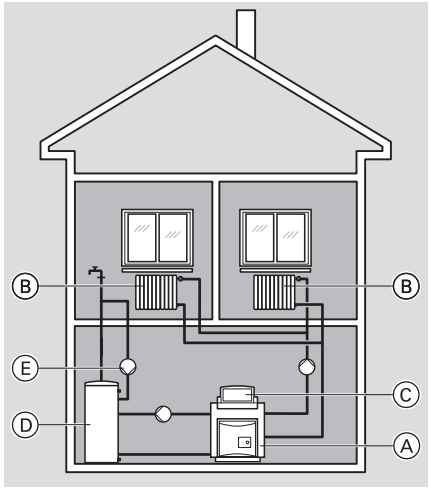
The domestic hot water temperature can be set according to your personal preference up to 140 °F / 60 °C.

The DHW recirculation pump (if installed) ensures instantaneous availability of hot water.

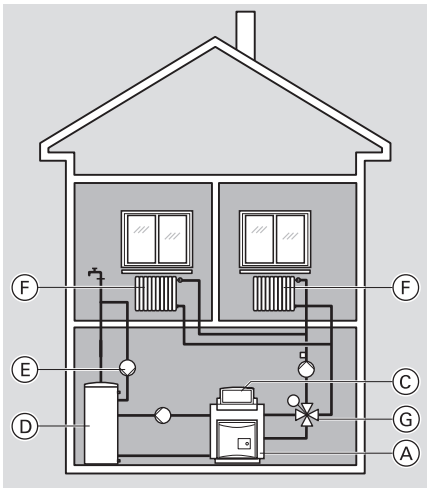
Heating Systems - Application Examples

Please ask your heating contractor to make an X in the appropriate box.

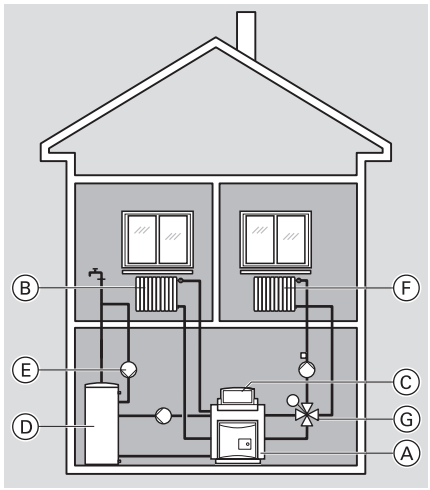
☐ **System type 1**
Boiler Ⓐ with one heating circuit 1 Ⓑ
without mixing valve
optionally with
☐ Vitotronic 200 Ⓒ
or
☐ Vitotronic 300 Ⓒ
☐ Domestic hot water tank Ⓓ
☐ DHW recirculation pump Ⓔ
☐ Vitotrol remote control



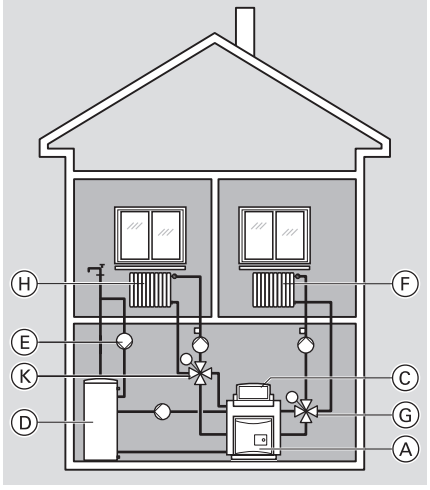
☐ **System type 2**
Boiler Ⓐ with one heating circuit 2 Ⓕ
with mixing valve Ⓖ
optionally with
☐ Vitotronic 200 Ⓒ
or
☐ Vitotronic 300 Ⓒ
☐ Domestic hot water tank Ⓓ
☐ DHW recirculation pump Ⓔ
☐ Vitotrol remote control



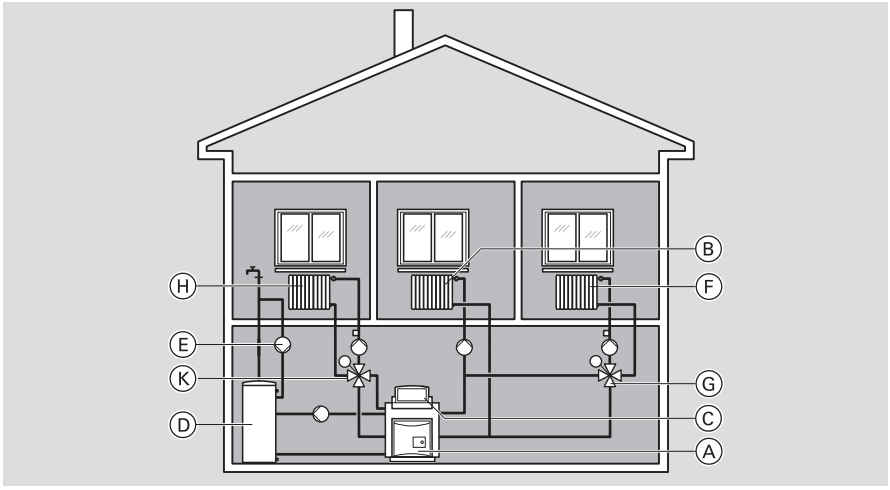
☐ **System type 3**
Boiler Ⓐ with one heating circuit 1 Ⓑ
without mixing valve and one heating
circuit 2 Ⓕ with mixing valve Ⓖ
optionally with
☐ Vitotronic 200 Ⓒ
or
☐ Vitotronic 300 Ⓒ
☐ Domestic hot water tank Ⓓ
☐ DHW recirculation pump Ⓔ
☐ Vitotrol remote control



☐ **System type 4**
Boiler Ⓐ with two heating circuits with
mixing valve
(heating circuit 2 Ⓕ with mixing valve
Ⓖ, heating circuit 3 Ⓗ with mixing
valve Ⓚ)
optionally with
☐ Vitotronic 300 Ⓒ
☐ Domestic hot water tank Ⓓ
☐ DHW recirculation pump Ⓔ
☐ Vitotrol remote control



☐ **System type 5**
Boiler Ⓐ with one heating circuit 1 Ⓑ
without mixing valve and two heating
circuits with mixing valve
(heating circuit 2 Ⓕ with mixing valve Ⓖ,
heating circuit 3 Ⓗ with mixing valve Ⓚ)
optionally with
☐ Vitotronic 300 Ⓒ
☐ Domestic hot water tank Ⓓ
☐ DHW recirculation pump Ⓔ
☐ Vitotrol remote control



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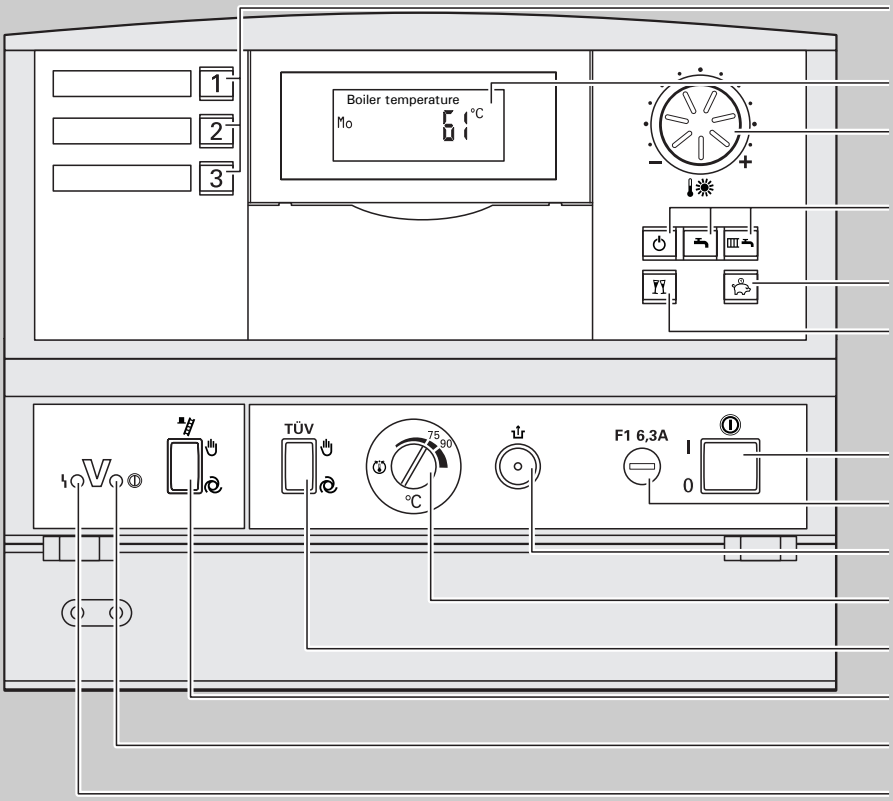
Overview of Controls and Indicators (with hinged covers open)



Heating circuit switches, only 1 and 2 on Vitotronic 200

Display

Setpoint selector for "normal room temperature"

Heating program settings

Energy saving mode on / off

Party mode on / off

Heating system on / off switch

Fuse

Fixed high limit reset button

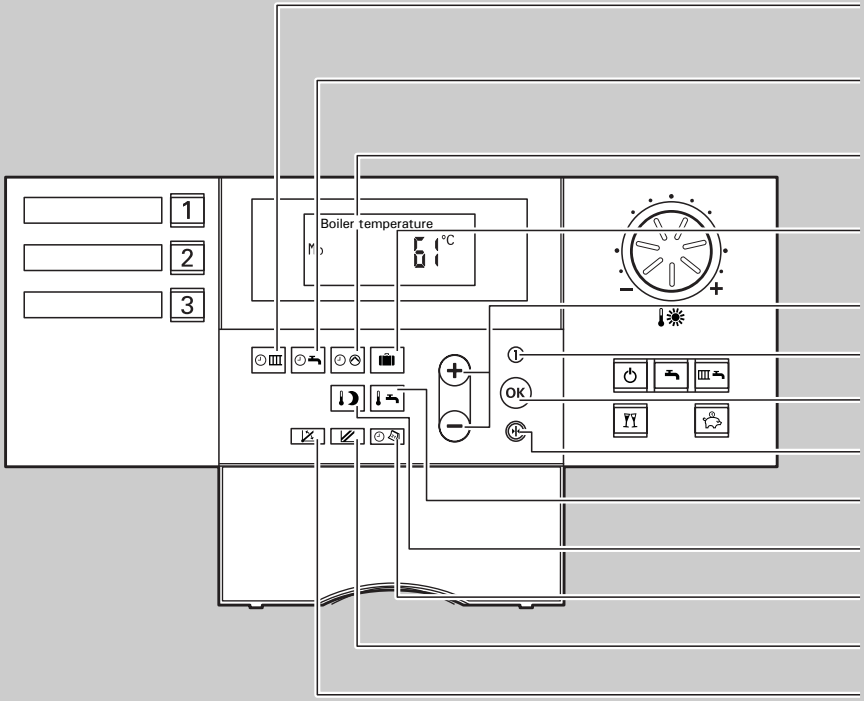
Adjustable high limit

TUV service button (for service purposes only)

Emissions test switch

Operating status display (green)

Fault display (red)



Time program for central heating

Time program for domestic hot water heating

Time program for DHW recirculation pump

Holiday program

Adjustment buttons

Information

Confirmation button

Factory default settings button

Domestic hot water temperature

Reduced room temperature

Time / date

Heating curve shift

Heating curve slope

Overview of Controls and Indicators (with hinged covers open)

Other display symbols
(These appear in the bottom line of the display)

- Risk of freezing
- Central heating with normal room temperature
- Central heating with reduced room temperature
- Heating circuit pump running
- Mixing valve "Open"
- Mixing valve "Closed"
- DHW pump ON
- Tank primary pump running, DHW is being heated
- DHW heating via solar heating system
- Heating circuit pump ON

- Burner ON
- Time adjustment display
- Emissions test ON

Contrast adjustment
Open the hinged cover on the programming unit, press OK and, at the same time, adjust the contrast with the ⊕ or ⊖ button.

Factory default settings
Press this button to reset altered values to their factory default settings. Please note that this action will reset all previously altered values to the original factory default settings.

IMPORTANT

Data flashing in the display means that new settings can be entered.

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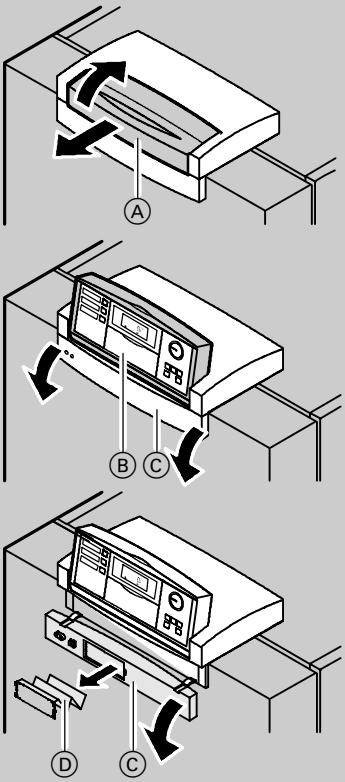
Operating Controls / Display Elements



All settings of your heating system are centralized on the control unit and on the built-in programming unit.

If your system is equipped with a remote control, the settings can also be made on the remote control unit.

See Operating Instructions for remote control

Please refer also to the section headed "Special Displays" in these instructions.

The programming unit is arranged in a drawer-type compartment.
Pull the unit forward, swing it up and lock it in a convenient position to read the data shown in the display.

Ⓐ Programming unit
Ⓑ Programming unit flap
Ⓒ Hinged cover
Ⓓ Abridged operating instructions

Vitotronic Control Unit - Factory Default Setting

The control unit comes factory adjusted to a standard operating mode.
Your heating system is therefore ready for operation. You can change the factory default settings to suit your individual preferences.

Date and time (EST)
Date and time are factory preset and are maintained through the built-in long-life battery. For changes due to different time zones, please refer to the following page.
Resetting for daylight savings time takes place automatically, depending on settings for day / week / month.

Heating program
The heating program is set for "Central heating and domestic hot water", i.e. central heating and domestic hot water heating take place in accordance with the time programs.

Time programs
Between 06:00 and 22:00 hrs, central heating takes place with the normal room temperature and, between 05:30 and 22:00 hrs, domestic hot water heating (if a DHW tank is installed).
Frost protection (37 °F / 3 °C) is provided between 22:00 and 06:00 hrs.

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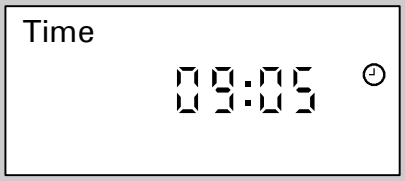
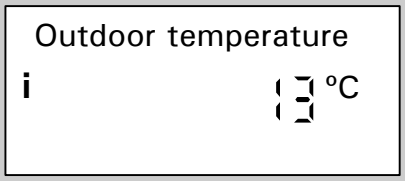
Resetting Time and Date

The time and date are preset at the factory and can be changed manually.



1. Open the hinged cover on the programming unit.
2. ⏲ for **"Time"**.
3. ⊕ / ⊖ to enter the time.
4. OK to confirm; the date is displayed.
5. ⊕ / ⊖ to enter the date. Press and hold to scroll through day, month and year.
6. OK to confirm.
7. Close the hinged cover on the programming unit.

Language Selection



1. Open the hinged cover on the programming unit.
2. ⓘ to scan data; the outdoor temperature is displayed.
3. ⊖ until the required language appears.
4. OK to confirm; the display changes and shows the boiler water temperature.
5. Close the hinged cover on the programming unit.

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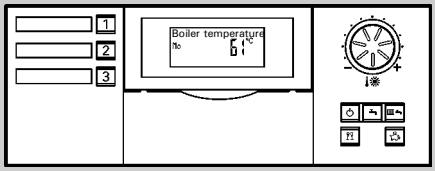
Selecting the Heating Circuit

On heating systems with two or three heating circuits, the corresponding heating circuit must be selected before making settings and adjustments.

Heating circuit 1:	*Heating circuit 1 without mixing valve*
Heating circuit 2:	*Heating circuit 2 with mixing valve*
Heating circuit 3:	*Heating circuit 3 with mixing valve (only on Vitotronic 300)*

The heating circuits are individually labelled by your heating contractor.



Press 1 or 2 or 3; the corresponding button is lit. You can now make the settings and adjustments for the selected heating circuit.

→ *If this is not done, the following instruction appears in display: "Select button 1-2" or button "1-3".*

Setting the Heating Program

Select one of the heating programs according to your personal requirements.

After pressing the corresponding button, the display over the button will light up; the selected heating program appears in the display window for a short time.

Central heating and domestic hot water → *e.g. for winter and transitional periods.*

- Central heating with alternating normal and reduced room temperature (frost protection) according to the selected time program
- Domestic hot water supply (if a DHW tank is installed) and DHW recirculation pump (if installed) ON
- Frost protection of the heating system

Domestic hot water only → *e.g. for the summer.*

- No central heating
- Domestic hot water supply (if a DHW tank is installed) and DHW recirculation pump (if installed) according to the selected time program
- Frost protection of the heating system

IMPORTANT

If no domestic hot water tank is connected, the message "Without function" is displayed.

Stand-by operation

- No central heating
- No domestic hot water supply
- Frost protection of the heating system

IMPORTANT

The circulation pumps are switched on for a short time every 24 hours to prevent them from seizing up.

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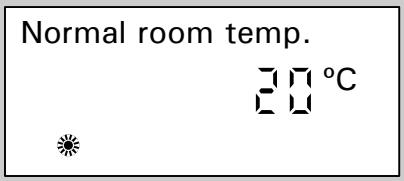
Altering Room Temperature

In the "Central heating and domestic hot water" heating program, central heating takes place with alternating "normal room temperature" and "reduced room temperature" according to the selected time program.
You can set the required room temperature as follows:

To change the "normal room temperature"



Factory setting: 68 °F / 20 °C from 06:00 to 22:00 hrs.
The "normal room temperature" can be set between 37 and 99 °F / 3 and 37 °C.

→ ***Example***
For the times you spend at home and require a comfortably warm room temperature.

Press 1 or 2 or 3 to select the desired heating circuit.
Turn the "☼" selector knob; the temperature value appears in the display window.

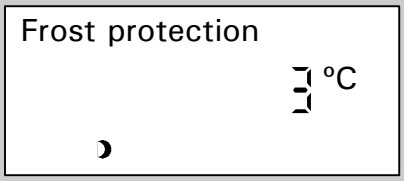
→ *If this is not done, the following instruction appears in display: "Select button 1-2" or button "1-3".*

To change the "reduced room temperature"

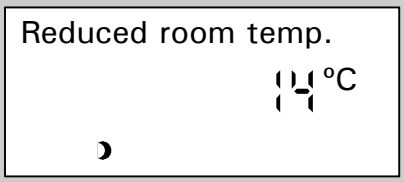
Factory setting: frost protection 37 °F / 3 °C from 22:00 to 06:00 hrs.
The "reduced room temperature" can be set between 37 and 99 °F / 3 and 37 °C.

→ ***Example***
At nighttime or times you spend away from home.

1. Open the hinged cover on the programming unit.



2. Press ; the display shown on the left appears.



3. Set the required value with the ⊕ or ⊖ button.

4. Confirm by pressing OK; the temperature value stops flashing and is saved.

5. Close the hinged cover on the programming unit.

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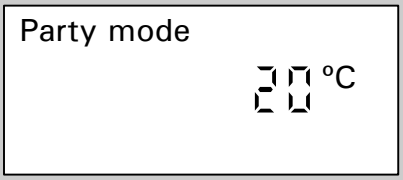
Setting the Party Mode

*Switch on the party mode when you require central heating and domestic hot water for a short time independent of the preset heating and time program. During the party mode, your central heating system operates on the basis of the selected **"normal room temperature"**.*
You can adjust the room temperature (party temperature) to suit your personal preference.



To activate the party mode
Press [Y]. The button is lit and remains lit throughout the party mode.
The display for the party mode appears in the display window for a short time and the preset temperature value flashes.

→ ***Example***
Use when you want to stay up longer than usual, e.g. because you have guests, and require central heating and domestic hot water without having to change the time program.

To change the room temperature (party temperature)

1. Open the hinged cover on the programming unit.
2. Press [1] or [2] or [3] to select a heating circuit. Then press [Y]. The preset temperature value flashes.
3. Set the required value with the ⊕ or ⊖ button.
4. Confirm by pressing OK; the temperature value stops flashing and is saved.
5. Close the hinged cover on the programming unit.

To cancel the party mode

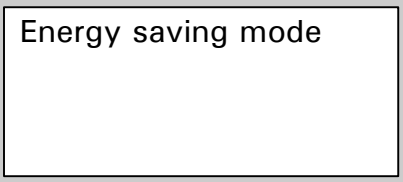
- The party mode is cancelled the next time the preset heating program switches automatically to central heating with "normal room temperature".
- If you want to cancel the party mode immediately, press the [Y] button again; the button is no longer lit.

IMPORTANT

Use party mode if the space heating function of your heating system is deactivated, but temporary reactivation is desired. DHW production is also reinstated.

Setting the Energy Saving Mode

The energy saving mode is only possible in the " " heating program.
Switch on the energy saving mode when you require economical central heating for a short time. In the energy saving mode the preset room temperature is automatically lowered.



To activate the energy saving mode
Press [1] or [2] or [3] to select a heating circuit. Then press [⌂]. The button is lit and remains lit throughout the energy saving mode.
The display for the energy saving mode appears in the display window for a short time.

To cancel the energy saving mode

- The energy saving mode is cancelled automatically the next time the preset heating program switches to central heating with "reduced room temperature".
- To cancel the energy saving mode immediately, select the heating circuit and press [⌂] to deactivate the energy saving mode. The button will no longer be lit.

→ ***Example***
Use when you leave the house unoccupied for some time, e.g. to go shopping during the day.

IMPORTANT

Energy saving mode lowers the room temperature by approx. 4 °F / 2 °C.

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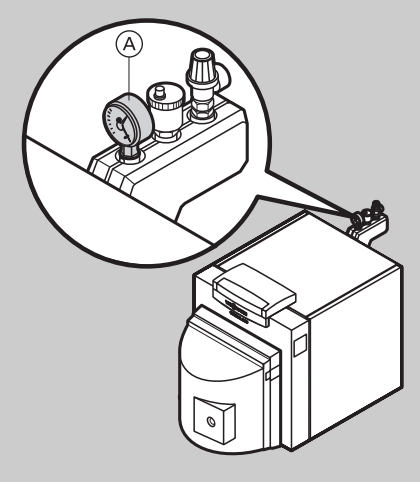
Activating the Heating System

The initial start-up and adjustment of the control unit to local conditions and the structural characteristics of the building must be performed by your heating contractor.
We advise you to contact your heating contractor before re-starting the heating system if it has been shut down for a long period.

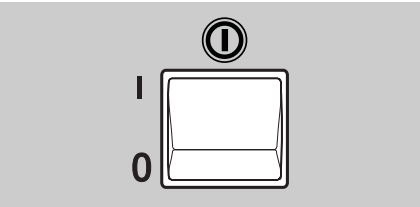


1. Check the pressure of the heating system on the pressure gage Ⓐ:
   If the needle is below the red marker or 10 psi / 0.7 bar the system pressure is too low - in which case you need to add more water or contact your heating contractor.

2. Open the shut-off valves in the oil pipes (at the tank and filter) or open the gas shut-off valve, whichever is applicable.

3. Switch on the power, e.g. at the breaker or electrical disconnect switch.

See Start-up Instructions of the boiler (and DHW tank if applicable)



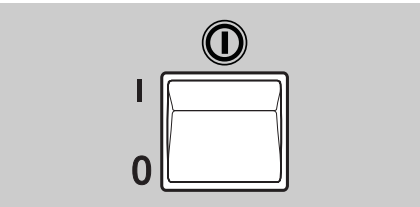
4. Switch on the heating system on / off switch "⏻"; the operating status is indicated by the green LED and the boiler water temperature will appear in the display (see page 7).

Your heating system and, if installed, the remote control are now ready for operation.

Deactivating the Heating System

If you do not want to use your heating system temporarily, e.g. during your summer holidays, switch to stand-by operation (see "Setting the Heating Program").

If you do not want to use your heating system for a long period (several months), you should shut down the system.
We advise you to contact your heating contractor before shutting down the heating system for long periods. Your heating contractor will take any necessary action, e.g. for frost protection of the system or to safeguard the heat exchanger surfaces.



1. Switch off the heating system on / off switch "⏻".
2. Close the shut-off valves in the oil pipes (at the tank and filter) or close the gas shut-off valve, whichever is applicable.
3. Switch off the power supply, e.g. at the breaker or electrical disconnect switch.
   The power supply to the system is now switched off.
   There is no frost protection.

IMPORTANT

The settings of the control unit remain intact.

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Altering the Time Program for Central Heating

The time program consists of 4 cycles. Heating cycle 1 is preset at the factory from 06:00 to 22:00 hrs, i.e. you have the "normal room temperature" during this period.

You have the following options to set the timer program to suit your requirements:

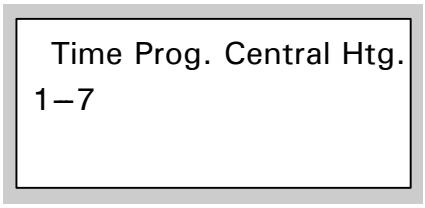
- *By setting the corresponding timer cycles, the central heating can be switched up to 4 times per day between the "normal room temperature" and the "reduced room temperature".*
- *You can set identical timer cycles for every day of the week **or** individual timer cycles for each day of the week.*

IMPORTANT

When setting the heating cycle, please take into account the reaction time of your heating system. Therefore choose correspondingly earlier starting and finishing times.

When timer is programmed with --:--, heating circuits will be in continuous energy saving mode. When timer is programmed with ON 00:00, OFF 24:00, heating circuits will be in continuous normal room temperature mode.

Identical time cycles for every day of the week



1. Open the hinged cover on the programming unit. Select heating circuit, activating 1 or 2 or 3.
2. ⊙ for **"Central heating time program"**. Wait until the display shown on the left appears.
3. OK for **"Heating cycle 1"**.
4. OK for **"Heating cycle 1 ON"**.
5. ⊕ / ⊖ to enter the start of the cycle
6. OK to confirm; t**he display changes to "Heating cycle 1 OFF"**.
7. ⊕ / ⊖ to enter the end of the cycle.
8. OK to confirm; the display changes to **"Heating cycle 2 ON"**.
9. To set the start and end of heating cycles 2 to 4, follow the procedure described in points 5 to 8.
10. Close the hinged cover on the programming unit.

→ *If you wish to exit the time program setting mode, press ⊙ again.*

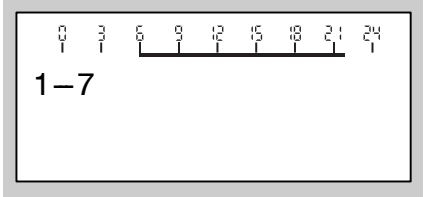
→ *Press ⊕ to skip a timer cycle.*

→ *After you have confirmed the last input with OK, the display changes and shows the boiler water temperature.*

To scan the heating cycles

Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

The heating cycles at a glance



1. Open the hinged cover on the programming unit.
2. Press ⊙ and ⓘ simultaneously; the preset cycles appear on a time slot graphic.
3. Close the hinged cover on the programming unit.

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Altering the Time Program for Central Heating (continued)

Individual heating cycles for each day of the week

Time Prog. Central Htg.
1–7

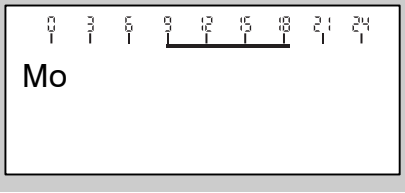
Time Prog. Central Htg.
Mo

1. Open the hinged cover on the programming unit. Select heating circuit, activating 1 or 2 or 3.
2. 🕒 for **"Central heating time program"**. Wait until the display shown on the left appears.
   → *If you wish to exit the time program setting mode, press 🕒 again.*
3. ⊕ / ⊖ to enter the day of the week for which you require a different time program.
4. OK for **"Heating cycle 1"**.
   → *Press ⊕ to skip a timer cycle.*
5. OK for **"Heating cycle 1 ON"**.
6. ⊕ / ⊖ to enter the start of the cycle.
7. OK to confirm; the display changes to **"Heating cycle 1 OFF"**.
8. ⊕ / ⊖ to enter the end of the cycle.
9. OK to confirm; the display changes to **"Heating cycle 2 ON"**.
10. To set the start and end of heating cycles 2 to 4, follow the procedure described in points 6 and 9.
    → *After you have confirmed the last input with OK, the display changes and shows the boiler water temperature.*
11. Close the hinged cover on the programming unit.

To scan the heating cycle timer

Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

The heating cycles at a glance



1. Open the hinged cover on the programming unit.
2. Press 🕒 and ⓘ simultaneously; the preset heating cycles for the current day of the week appear on a time slot graphic.
3. Close the hinged cover on the programming unit.

Altering the Time Program for DHW Production

The time program consists of 4 DHW cycles. Cycle 1 is preset at the factory from 05:30 to 22:00 hrs, i.e. domestic hot water is heated during this period.
The automatic mode is also selected, i.e. domestic hot water heating takes place parallel to the central heating time program, but starts 30 minutes earlier.
You have the following options to set the DHW cycles to suit your requirements:
- *By setting the corresponding timer cycles, domestic hot water heating can be switched on and off up to 4 times per day.*
- *You can set identical timer cycles for every day of the week **or** individual timer cycles for each day of the week.*

If you require domestic hot water heating on a one time basis outside the programmed DHW cycle, e.g. after 22.00 hrs., press [🍴] twice 2 to 3 seconds apart.

IMPORTANT

The control unit is set up so that the last setting change is applicable to all heating circuits, i.e. a change of the time program for heating circuit 1 is also applied to the other heating circuits. If you require this to be changed, please contact your heating contractor.
When timer is programmed with --:--, DHW production is disabled.
When timer is programmed with ON 00:00 OFF 24:00, DHW production is possible 24 hours a day, 7 days a week.

Identical cycles for every day of the week

1. Open the hinged cover on the programming unit.

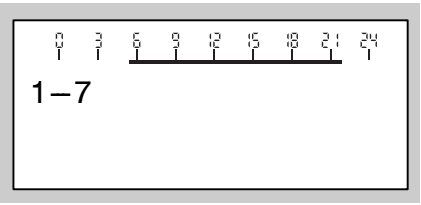
Automatic?

2. [⏲] for **"DHW time program"**. Wait until the display shown on the left appears.
   → *If you wish to exit the time program setting mode, press [⏲] again.*
3. ⊕ for **"Individual?"**.

Time prog. DHW
1–7

4. (OK) to confirm.
   → *Press ⊕ to skip a timer cycle.*
5. (OK) for **"DHW cycle 1"**.
6. (OK) for **"DHW cycle 1 ON"**.
7. ⊕ / ⊖ to enter the start of the cycle.
8. (OK) to confirm; the display changes to **"DHW cycle 1 OFF"**.
9. ⊕ / ⊖ to enter the end of the cycle.
10. (OK) to confirm; the display changes to **"DHW cycle 2 ON"**.
    → *After you have confirmed the last input with (OK), the display changes and shows the boiler water temperature.*
11. To set the start and end of DHW cycles 2 to 4, follow the procedure described in points 5 to 10.
12. Close the hinged cover on the programming unit.

Altering the Time Program for DHW Production (continued)



To scan the DHW cycle timer

Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

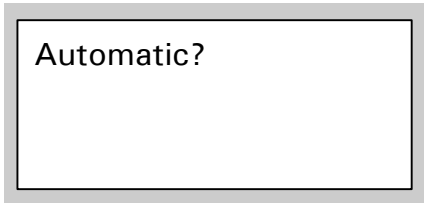
The DHW cycles at a glance

1. Open the hinged cover on the programming unit.
2. Press ⏲ and ⓘ simultaneously; the preset timer cycles appear on a time slot graphic.
3. Close the hinged cover on the programming unit.

Altering the Time Program for DHW Production (continued)

Individual DHW cycles for each day of the week

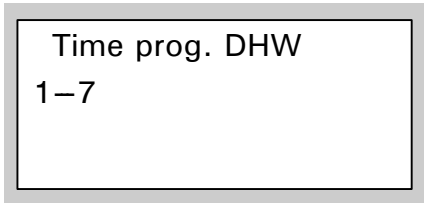
1. Open the hinged cover on the programming unit.



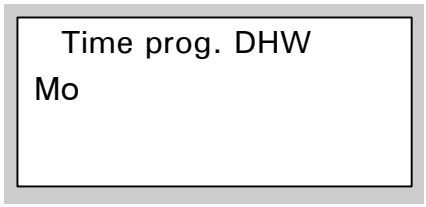
2. ⏲ for **"DHW time program".** Wait until the display shown on the left appears.

→ *If you wish to exit the time program setting mode, press ⏲ again.*

3. ⊕ for **"Individual?"**.



4. OK to confirm.



5. ⊕ / ⊖ to enter the day of the week for which you require a different time program.

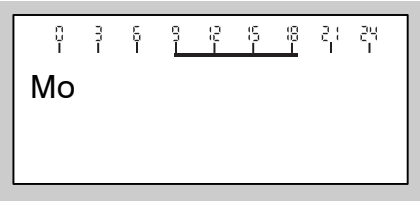
→ *Press ⊕ to skip a timer cycle.*

6. OK for **"DHW cycle 1"**.
7. OK for **"DHW cycle 1 ON"**.
8. ⊕ / ⊖ to enter the start of the cycle.
9. OK to confirm; the display changes to **"DHW cycle 1 OFF"**.
10. ⊕ / ⊖ to enter the end of the cycle.
11. OK to confirm; the display changes to **"DHW cycle 2 ON"**.
12. To set the start and end of DHW cycles 2 to 4, follow the procedure described in points 6 to 10.

→ *After you have confirmed the last input with OK, the display changes and shows the boiler water temperature.*

13. Close the hinged cover on the programming unit.

Altering the Time Program for DHW Production (continued)



To scan the DHW cycles

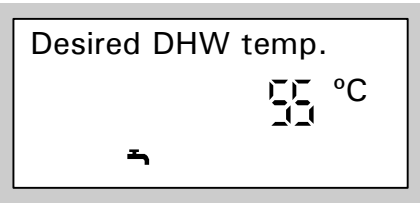
Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

The DHW cycles at a glance

1. Open the hinged cover on the programming unit.
2. Press [⏲] and ⓘ simultaneously; the preset timer cycles for the current day of the week appear on a time slot graphic.
3. Close the hinged cover on the programming unit.

Altering the DHW Temperature

You can choose the domestic hot water temperature to suit your personal preference (e.g. for showering).



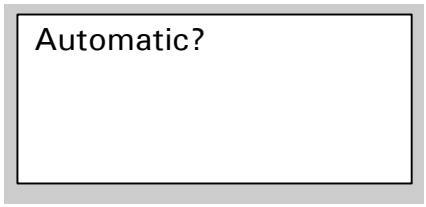
1. Open the hinged cover on the programming unit.
2. [🌡] for domestic hot water temperature; the temperature value flashes.
3. ⊕ / ⊖ to enter the required value.
4. OK to confirm; the temperature value stops flashing and is stored.
5. Close the hinged cover on the programming unit.

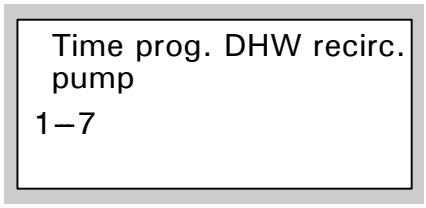
Altering the Time Program for the DHW Recirculation Pump

The time program consists of 4 timer cycles. Cycle 1 is preset at the factory from 06:00 to 22:00 hrs, i.e. the DHW recirculation pump is on during this period.
The automatic mode is also selected, i.e. the DHW recirculation pump runs parallel to the domestic hot water heating time program.
You have the following options to set the timer cycles to suit your requirements:
- *By setting the corresponding timer cycles, the DHW recirculation pump can be switched on and off up to 4 times per day.*
- *You can set identical timer cycles for every day of the week **or** individual timer cycles for each day of the week.*

The DHW recirculation pump should run at those times when you require hot water.
Please see the note headed "Important" on page 16.
When timer is programmed with --:--, DHW recirculation pump is off.
When timer is programmed with ON 00:00, OFF 24:00, DHW recirculation pump operates continuously.

Identical DHW recirculation pump cycles for every day of the week





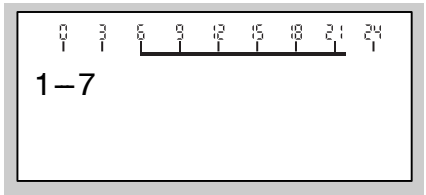
1. Open the hinged cover on the programming unit.
2. ⊙⊘ for **"DHW recirc. pump time program"**. Wait until the display shown on the left appears.
   → *If you wish to exit the time program setting mode, press ⊙⊘ again.*
3. ⊕ for **"Individual?"**.
4. OK to confirm.
5. OK for **"DHW recirc. pump cycle 1"**.
   → *Press ⊕ to skip a timer cycle.*
6. OK for **"DHW recirc. pump cycle 1 ON"**.
7. ⊕ / ⊖ to enter the start of the cycle.
8. OK to confirm; the display changes to **"DHW recirc. pump cycle 1 OFF"**.
9. ⊕ / ⊖ to enter the end of the cycle.
10. OK to confirm; the display changes to **"DHW recirc. pump cycle 2 ON"**.
11. To set the start and end of the DHW recirculation pump cycles 2 to 4, follow the procedure described in points 5 to 10.
    → *After you have confirmed the last input with OK, the display changes and shows the boiler water temperature.*
12. Close the hinged cover on the programming unit.

To scan the timer cycles

Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

The DHW recirculation pump cycles at a glance

1. Open the hinged cover on the programming unit.
2. Press ⊙⊘ and ⓘ simultaneously; the preset time cycles appear on a time slot graphic.
3. Close the hinged cover on the programming unit.



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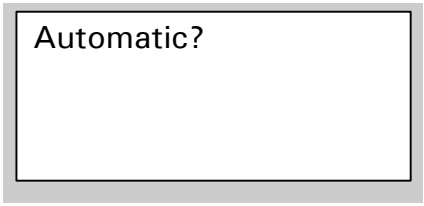
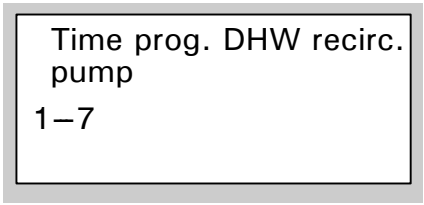
Altering the Time Program for the DHW Recirculation Pump (continued)

Individual DHW recirculation pump cycles for each day of the week

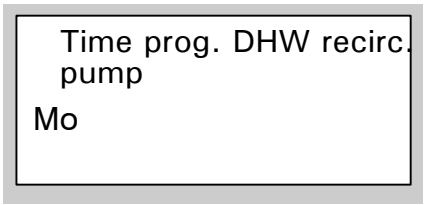
1. Open the hinged cover on the programming unit.



2. [⊙⊘] for **"DHW recirculation pump time program"**. Wait until the display shown on the left appears.
   → *If you wish to exit the time program setting mode, press [⊙⊘] again.*
3. ⊕ for **"Individual?"**.
4. OK to confirm.



5. ⊕ / ⊖ to enter the day of the week for which you require a different time program.
   → *Press ⊕ to skip a timer cycle.*
6. OK for **"DHW recirc. pump time cycle 1"**.
7. OK for **"DHW recirc. pump cycle 1 ON"**.
8. ⊕ / ⊖ to enter the start of the cycle.
9. OK to confirm; the display changes to **"DHW recirc. pump cycle 1 OFF"**.
10. ⊕ / ⊖ to enter the end of the cycle.
11. OK to confirm; the display changes to **"DHW recirc. pump cycle 2 ON"**.
12. To set the start and end of the DHW recirculation pump cycles 2 to 4, follow the procedure described in points 6 to 10.
    → *After you have confirmed the last input with OK, the display changes and shows the boiler water temperature.*
13. Close the hinged cover on the programming unit.

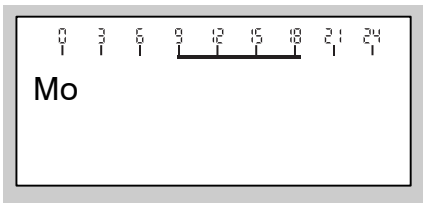


To scan the DHW recirculation pump cycles

Follow the procedure described above, but without using the ⊕ and ⊖ buttons.

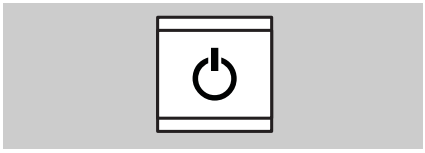
The DHW recirculation pump cycles at a glance

1. Open the hinged cover on the programming unit.
2. Press [⊙⊘] and ⓘ simultaneously; the preset time cycles for the current day of the week appear on a time slot graphic.
3. Close the hinged cover on the programming unit.



Activating the Holiday Program

When you go away on holiday and want to reduce your energy consumption, choose one of the following heating programs.



Stand-by operation

- No central heating
- No domestic hot water heating
- Frost protection of the heating system.

→ *e.g. for your summer holiday.*

The recirculation pump is switched on for a short time every 24 hours to prevent it from seizing up.

Holiday program

- No domestic hot water heating
- The selected heating and time programs are active on the dates of your departure and return.
- When the "🏛 ⬑" heating program is set, central heating takes place during the holiday program with the selected "reduced room temperature" (see "Altering Room Temperature").
- When the "⬑" or "⏻" heating program is set, only frost protection of the heating system takes place during the holiday program.

→ *e.g. to protect house plants during your winter holiday and when you want a warm home to return to.*

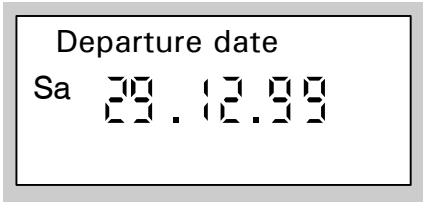
IMPORTANT

The control unit is set up so that the last setting change is applicable to all heating circuits, i.e. the holiday program is effective for all heating circuits.
If you require this to be changed, please contact your heating contractor.

1. Open the cover on the programming unit.

2. 💼 for **"Holiday program"**.

3. OK to confirm or automatic after 4 seconds; the display shown on the left appears.



4. ⊕ / ⊖ to enter the departure date.

5. OK to confirm; the return date shown is the day following the entered departure date.

6. ⊕ / ⊖ to enter the return date.

7. OK to confirm; the display changes and shows the boiler water temperature.

8. Close the hinged cover on the programming unit.

After the departure date, "Holiday program" and the current date appear in the display.

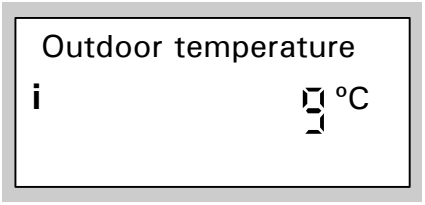
On the return date, the boiler water temperature appears in the display.

→ *If you wish to switch off the holiday program before the selected return date, press 💼 again.*

Scanning Temperatures and Operating Status

You can scan various current temperatures and operating status information depending on the system components and the settings.

- *Holiday program (if entered) with dates of departure and return*
- *Outdoor temperature*
- *Supply temperature (for heating circuit with mixing valve)*
- *Boiler water temperature*
- *Domestic hot water temperature*
- *Return water temperature (for heating circuit with mixing valve and if sensor installed)*
- *Room temperature (if Vitotrol remote control installed)*
- *Flue gas temperature (if sensor is installed)*
- *Burner operating hours*
- *Number of burner starts*
- *Fuel consumption (if the corresponding setting has been carried out by the heating contractor)*
- *Time*
- *Date*
- *Burner on / off*
- *Heating circuit pump on / off*
- *Tank pump on / off*
- *DHW recirculation pump on / off*
- *Mixing valve open / closed*
- *Language*



1. Open the hinged cover on the programming unit. Select heating circuit, activating 1 or 2 or 3.

2. ⓘ to scan data; the outdoor temperature is displayed.

3. ⊕ / ⊖ to scan other data.

4. ⓘ to exit the scanning mode; the display changes and shows the boiler water temperature.

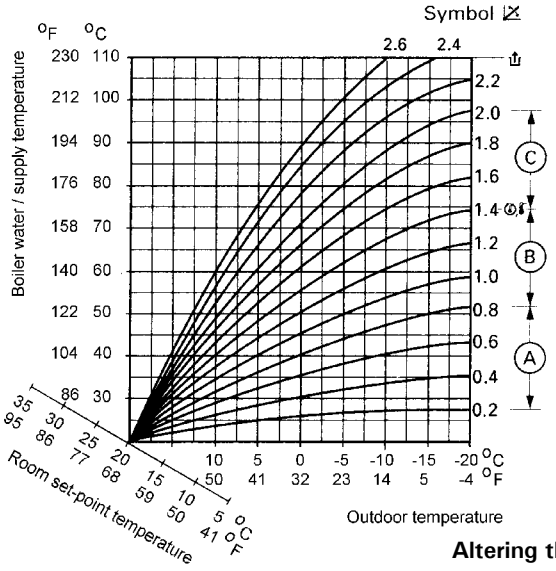
5. Close the hinged cover on the programming unit.

Altering Settings of the Heating System

The heating pattern of your boiler is influenced by the outdoor temperature and the settings of the "shift" and "slope" of the "heating curve". You can change the settings if the room temperature has not met your requirements over a certain period of time.
After changing the settings, please observe the difference in the heating pattern over a sufficiently long period before altering the settings again.
Short-term changes in the room temperature are carried out with the "🌡☀" selector knob or "🌡☽" button (see "Altering the Room Temperature").

Heating curves represent the relationship between the outdoor temperature and the boiler water or supply temperature. Put simply: The lower the outdoor temperature, the higher the boiler water or supply temperature.

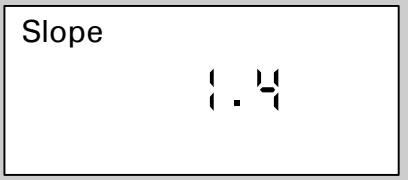
In the factory default settings, the slope is set to 1.4 and the shift to 0.
The heating curves shown are based on the following settings:
"Shift of heating curve" = 0
With a different shift setting, the curves are shifted parallel in a vertical direction.
"Normal room temperature" = approx. 68 °F / 20 °C.

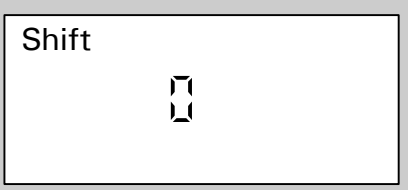


The slope of the heating curve is normally within the range marked
- Ⓐ for underfloor heating systems,
- Ⓑ for modulating heating systems,
- Ⓒ for heating systems with temperatures over 167 °F / 75 °C

→ ***Examples***
- *Well insulated house in protected location (radiator heating):*
  Slope = 1.2
- *House in exposed location or with old heating system (radiator heating):*
  Slope = 1.6

Altering the heating pattern by adjusting the heating curve





1. Open the cover on the programming unit. Select heating circuit, activating 1 or 2 or 3.
2. 🌡 for **"Slope"**.
   or
   🌡 for **"Shift"**.
3. ⊕ / ⊖ to enter the values.
4. OK to confirm;
   the display changes and shows the boiler water temperature.
5. Close the hinged cover on the programming unit.

→ *As a guide, please refer to the table headed "Alter heating pattern if..." on page 26.*

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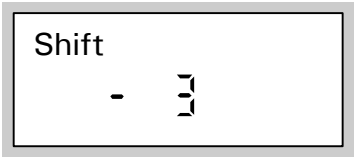
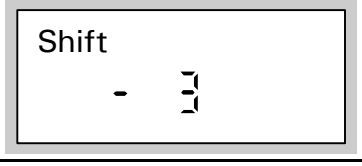
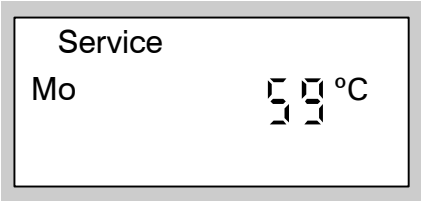
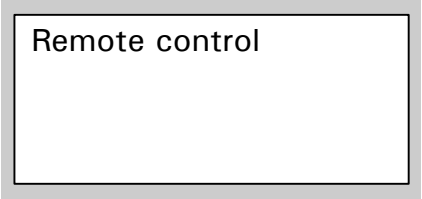
Altering Settings of the Heating System (continued)

Alter heating pattern if ...	Action	Example
... the accommodation is **too cold** at **cold time of year**	Adjust the **slope** of the heating curve **upwards by one increment**	
... the accommodation is **too warm** at **cold time of year**	Adjust the **slope** of the heating curve **downwards by one increment**	
... the accommodation is **too cold** at **transitional time of year** and at **cold time of year**.	Adjust the **shift** of the heating curve to a **higher** value (e.g. +5.4 °F / +3 °C)	
... the accommodation is **too warm** at **transitional time of year** and at **cold time of year**.	Adjust the **shift** of the heating curve to a **lower** value (e.g. -5.4 °F / -3 °C)	
... the accommodation is **too cold** at **transitional time of year**, but warm enough at cold time of year.	Adjust the **shift** of the heating curve to a **higher** value (e.g. +5.4 °F / 3 °C) and the **slope downwards by one increment**	 
... the accommodation is **too warm** at **transitional time of year**, but warm enough at cold time of year.	Adjust the **shift** of the heating curve to a **lower** value (e.g. -5.4 °F / -3 °C) and the **slope upwards by one increment**	 

Special Displays

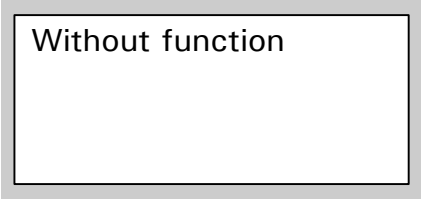


Contact your heating contractor to arrange a service call.



This display appears when a setting cannot be made on the control unit, but only on the remote control.

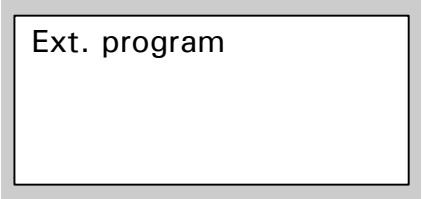
→ ***Example***
"Normal room temperature" on the "🌡☀" selector knob can only be set on the remote control.



This display flashes when you have pressed a button to which no function is assigned.

→ ***Example***
🚿 *if no DHW tank is connected.*

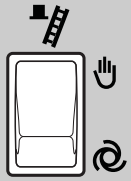
The heating program which is set on the control unit has been switched over by an external control unit (e.g. Switching Module-V).



The heating program which is set on the control unit has been switched over by the communication interface Vitocom 100.

Emissions Test Switch

For flue gas measurements with short-term elevated boiler water temperature.

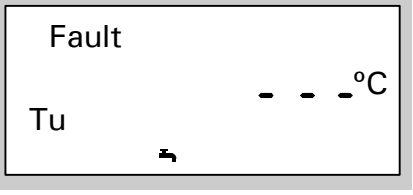


Emissions test switch
= Manual operation
= Automatic

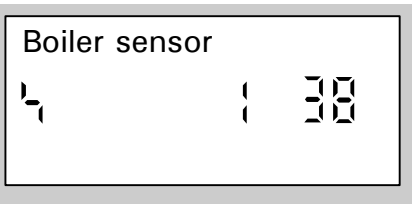
1. Open the bottom hinged cover on the control unit.
2. Turn the emissions test switch from "" to "".
3. Activate the heat emitters (e.g. by opening the thermostatic valves).
4. After completing the measurement, close the hinged cover; the switch is automatically set to "".

→ *The following functions are triggered:*
- *The boiler water temperature is controlled by the temperature regulator "".*
- *All pumps are switched on*
- *The mixing valve (if installed) remains in its control mode.*
- *The burner is switched on (at max. output).*

Diagnosis and Correction



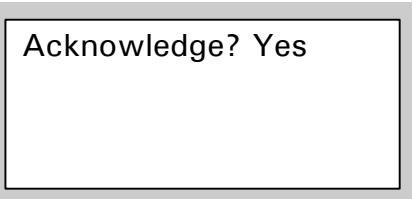
If a fault occurs in your heating system, it will be indicated in the display window with the cover closed and by a flashing red fault lamp. Using the scan facility, you can access the fault code in the display window and inform your heating contractor accordingly.



1. Open the hinged cover on the programming unit.
2. ⓘ for fault search. The error source is displayed in plain language and in the form of a fault code.

→ ***Example***
- *Fault display*
- *Error number*
- *Sensor designation*
- *≙ plug designation*
- *Open circuit*

or
- *Short circuit*



3. ⓞ to acknowledge the fault.
4. ⊕ / ⊖ for Yes or No.
5. ⓞ to confirm; the display changes and shows the boiler water temperature.
6. Close the hinged cover on the programming unit.

→ ***Please note:***
The fault message will re-appear at 07:00 hrs on the following day if the fault has not been corrected in the meantime. The red fault lamp continues to flash until the fault has been corrected.

To call up an acknowledged fault message

- Press ⓞ for approx. 2 seconds. → *Fault is displayed*
- Select the acknowledged fault with ⊕ / ⊖.

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Diagnosis and Correction (continued)

Fault	Cause	Corrective Action
Heating system does not activate	Heating system switch "8" on the control unit turned to OFF	Switch on
	Main power deactivated	Activate main power
	Fuse in the power circuit or in the control unit has blown or tripped	Inform heating contractor
Burner activation does not occur or burner fires irregularly	Vitotronic has been improperly programmed	Check setting of heating program and programming of the programming unit, and correct if necessary
	Power venter (if installed) defective	Call heating contractor
	Vitotronic defective	After consulting your heating contractor, the boiler can be operated temporarily with constant boiler water temperature by turning the emissions test switch "" to "" (leave cover open)
	No fuel	Oil / LPG: Check fuel supply and re-order if necessary. Natural gas: Open gas shut-off valve or contact gas supply company if necessary.
On systems with DHW tank: Burner is operating, but no hot water	Vitotronic has been improperly programmed	Check time program for domestic hot water heating, check domestic hot water temperature, and correct if necessary (see page 16)
	Tank temperature sensor or recirculation pump defective	Inform heating contractor
The rooms are cold even though the burner is operating	Operation with domestic hot water tank only: Domestic hot water supply has priority (" " in display window)	Wait until the domestic hot water tank has heated up
	Heating program "" or "" is set (corresponding button is lit)	Set heating program ""
	In conjunction with Vitotronic 300: On / off switch on mixing valve motor turned to OFF	Switch on the on / off switch I ≙ ON. 
The room temperature is not high enough with a low outdoor temp.	Heating curve setting incorrect	Check and, if necessary, correct the heating curve setting
	Vitotronic has been incorrectly programmed	Check and, if necessary, correct the settings for the temperatures, the time and heating program
Cold during the day, but warm at night	Vitotronic has been incorrectly programmed	Check and, if necessary, correct the settings for the temperatures, the time and heating program
"Fault" flashes in the display window	Heating system defective	Make a note of the fault code and inform your heating contractor
"Without function" appears in the display window of the control unit	The button pressed has no function, e.g. if no DHW tank is connected.	

Service Instructions

Servicing is required under current heating system regulations and standards.

Regular servicing of the heating system will ensure troublefree, energy-saving and environmentally friendly heating. We strongly advise you to arrange a service contract with your heating contractor.

Boiler
All boilers have to be cleaned at certain intervals as the flue gas temperature and therefore the energy loss rise as the level of contamination increases.

We recommend the use of a flue gas thermometer.
The flue gas thermometer, which is available as an accessory, can be used to monitor the flue gas temperature. This will show whether the burner setting is incorrect and will provide an indication of the degree of contamination of the boiler.

The efficiency of the system will be impaired if the flue gas temperature is excessively high due to contamination of the boiler or incorrect adjustment of the burner. In this case it may be necessary to clean the boiler or readjust the burner.
A built-in operating hours counter measures the operating times of the burner.
The longer the operating times, the lower the stand-by losses.

→ ***Notes on operation:***
- *Keep the boiler room and the boiler clean.*
- *Regularly check the pressure of the heating system on the pressure gage.*

Domestic hot water tank
The domestic hot water tank must be serviced or cleaned two years after start-up at the latest and at regular intervals thereafter.
Cleaning of the inside surfaces of the domestic hot water tank including the domestic hot water connections may only be undertaken by a licensed heating contractor.
Vitocell 100:
We recommend that a functional inspection be carried out annually by the heating contractor to check the sacrificial anode. This can be done without interrupting the operation of the system. The heating contractor measures the protective current with an anode testing instrument.

IMPORTANT

If the cold water supply to the hot water tank incorporates a water treatment device (e.g. a sluice or inoculation unit), the filling must be renewed promptly.
The same applies if a dirt trap or a filter is installed in the cold water supply. These must be flushed out and serviced regularly.

Safety relief valve (DHW tank)
The valve test lever must be operated at least once a year by the owner. A licensed heating contractor shall reinspect the safety relief valve at least once every 3 years.

IMPORTANT

There is a risk of dirt collecting at the valve seat (see valve manufacturer's instructions).

Drinking water filter (if installed)
For hygienic reasons
- replace the filter element every 6 months on filters which cannot be flushed back (also make a visual inspection every 2 months),
- flush back reversible supply filters every 2 months.

IMPORTANT

Please refer to the manufacturer's instructions.

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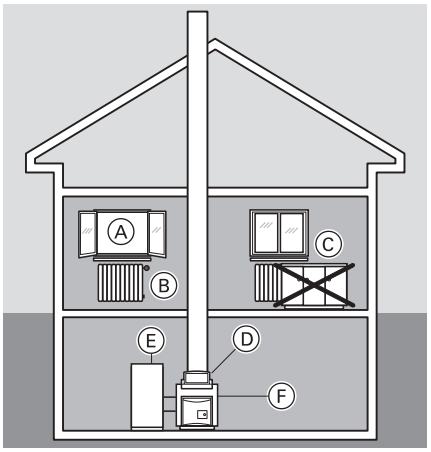
Saving Energy



.... by heating correctly

Apart from using the benefits offered by a modern heating system, there's a lot you can do yourself to make additional fuel savings. For instance:

- Proper ventilation → *Fully open the windows for a short time with the thermostatic valves Ⓑ closed.*
- Do not overheat → *Aim at a room temperature of 68 °F / 20 °C. Every °C less in room temperature will reduce your heating costs by up to 6 %.*
- Close window shutters (if installed) at dusk.
- Operate thermostatic valves Ⓑ correctly.
- Don't obstruct radiators Ⓒ and thermostatic valves Ⓑ.
- Make use of the individual adjustment facilities of the control unit Ⓓ. → *e.g. "normal room temperature" alternating with "reduced room temperature"*
- Set the domestic hot water temperature of the DHW tank Ⓔ on the control unit Ⓓ.
- Control your consumption of hot water. → *A shower generally consumes less energy than a bath.*

... by regular maintenance

Regular maintenance of your heating system by a service contractor will ensure energy-saving and environmentally friendly operation.

.... by effective insulation

If you wish to make use of additional energy-saving measures, check out the thermal insulation:

- of the heating and domestic hot water pipes
- of the external walls and the roof
- between the heated and the unheated rooms
- of the windows

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