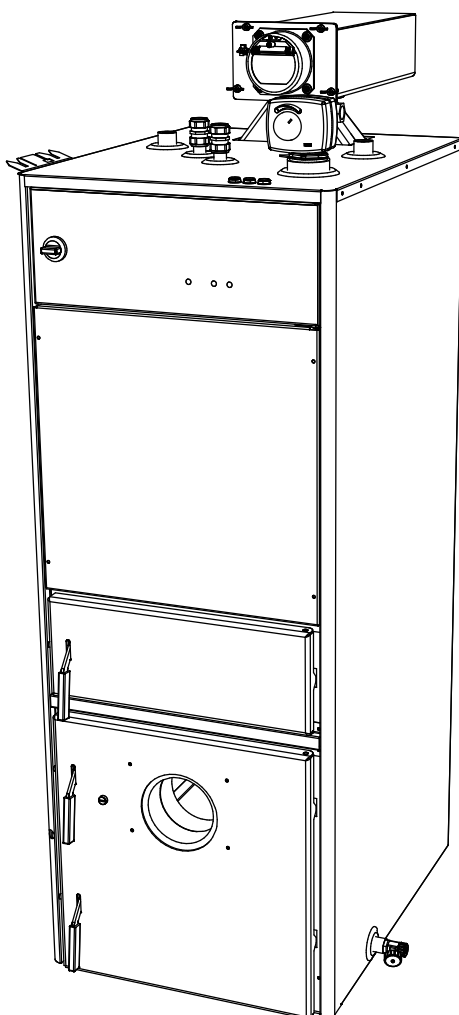


Pellmax CU



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If the water boils			
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Cleaning			

To be completed when the Pellmax CU is installed, see also "My settings"

Serial number:

Installation date:

Installer:

Tel:

Other:

.....
.....
.....
.....
.....
.....

Read this document carefully before carrying out any installation, adjustment or service – and follow the instructions.

Keep these instructions close to the boiler!

The boiler must not be modified, changed or rebuilt.

To guarantee high reliability, all installation, adjustment and ongoing service must be carried out correctly.

The correct settings are important for economical heating.

The type and serial number of the boiler must be quoted whenever you contact your retailer, see the rating plate.

For service issues, contact your installer.

Värmebaronen AB retains the right to change the specification without prior notice, as part of its policy of continuous improvement and development.

You may see the following symbols in these instructions and on the product:



Information that is important for optimum function.



Tells you what you must – or must not – do in order to avoid personal injury.



Tells you what you must – or must not – do in order to prevent damage or disturbance to the component, the burner, the process or the surroundings.



For further details, see the documentation supplied with the product.

Applications

The Pellmax CU is a high quality boiler designed primarily for heating houses. The boiler also features electric heating, which is intended as a backup if you run out of pellets. However, the Pellmax CU can be used with electric heating only if you wish. The system is environmentally friendly, economical and easy to manage, and requires minimal care. Its high efficiency guarantees good fuel economy.

Pellet operation and electric operation

When burning pellets, the boiler water is heated by the pellet combustion chamber and also by the flue gas pipes. In electric operation, the boiler water is heated directly by the immersion heater. The necessary control equipment is fitted at the factory.

Heating water is taken from the top of the boiler and pumped to the radiator circuit via a shunt valve. The cold water returning from the radiator circuit is mixed with the hot boiler water to obtain the correct temperature for the radiators.

The electric power is 9 kW on delivery. The electric power is divided into three stages of 3 kW each.

The maximum power when burning pellets is 25 kW.

Hot water

The water is heated in a copper-lined hot water tank. The boiler complies with Swedish Boverket standards applicable to hot water capacity.

Control

Pellmax CU is equipped with an electronic control system with many useful function.

Load guard

A three-stage load guard, which blocks reconnection of electric power after a power failure, measures the power consumption at the main fuses of the building. In the event of overload, the power stages are disconnected.

Automatic shunt valve

The automatic shunt valve provides high comfort levels. The boiler always produces the right amount of head for the building.

Summer mode, for the time of year when there is no heating requirement, switches off the shunt valve and the circulation pump. To prevent the pump jamming, it is operated periodically.

Easy to clean

The boiler pipes are round, with no corners where soot and ash can collect. Use the supplied pipe brush to clean the pipes from the same hatch on the front of the boiler.

Large ash bin

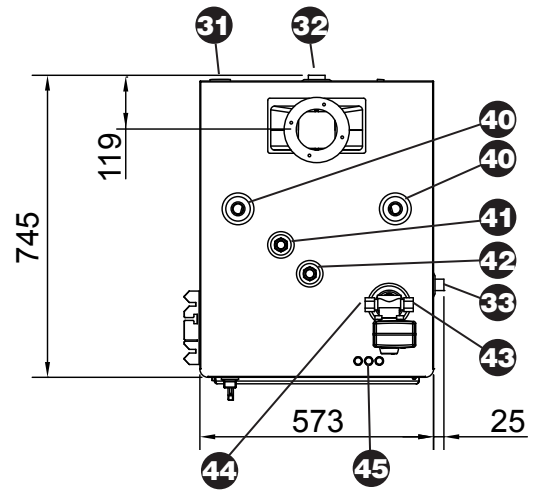
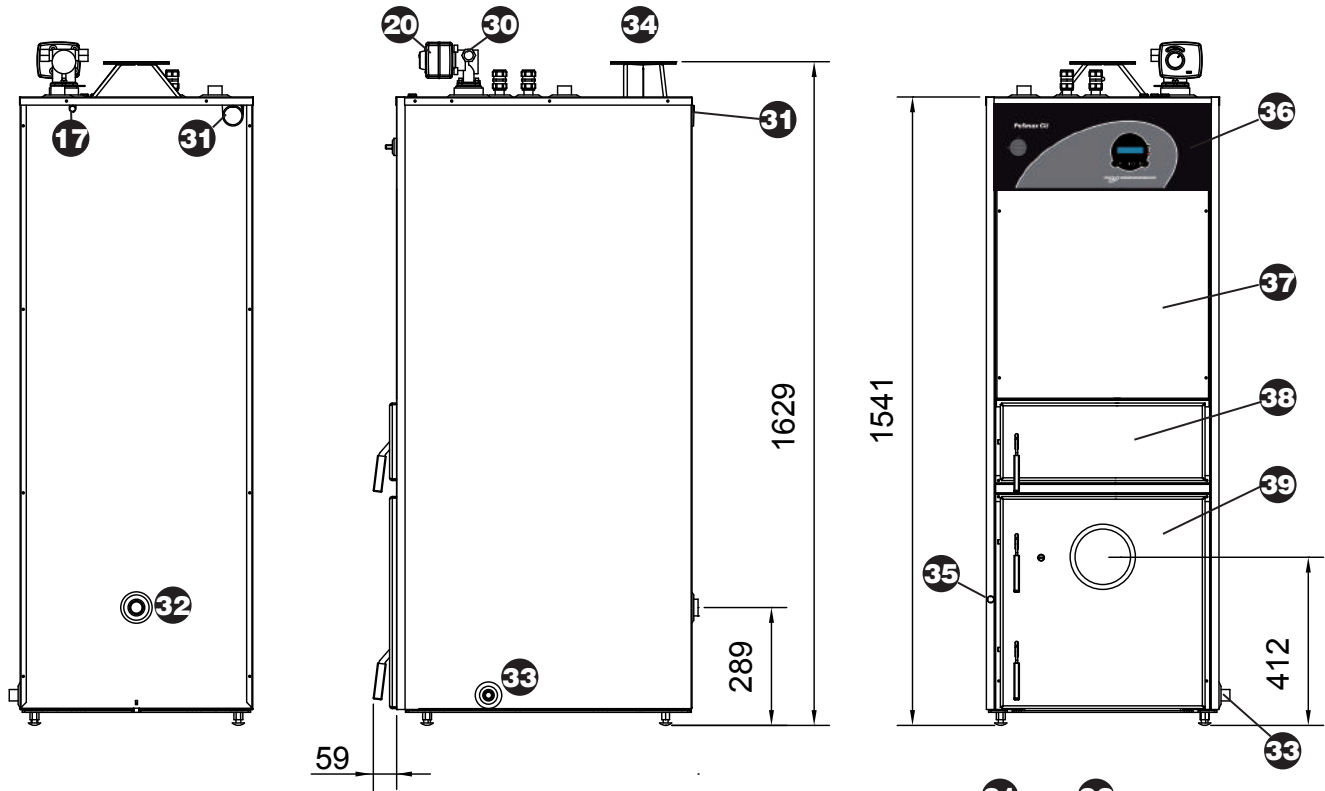
The large ash bin means that you only need to empty the ash a few times a year.

Testing

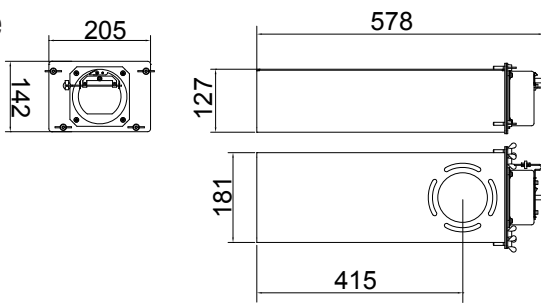
The Pellmax CU has been tested, with the Viking Bio pellet burner, by SP, Technical Research Institute of Sweden, and meets the requirements of the EN 303-5 standard.

Product contents

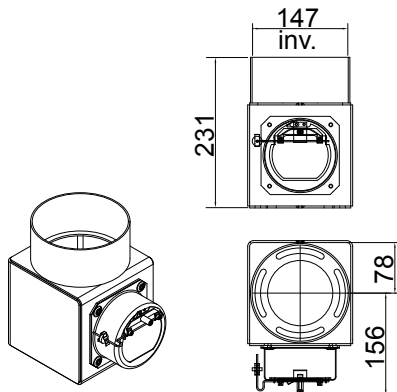
- Automatic shunt valve with outside temperature sensor.
- Angled flue pipe with lockable draught regulator.
- Load guard with current transformers.
- Drain valve.
- Flue gas turbulators with tool.
- Flue pipe cleaner.
- Bracket for cleaning tool.



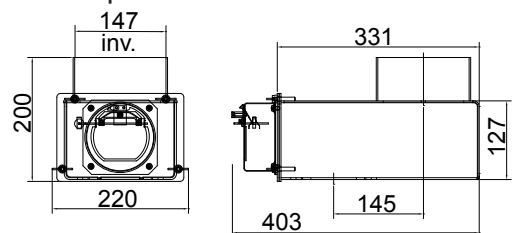
Angled flue pipe (included)



Flue pipe up (accessory)



Flue pipe back then up (accessory)



- 17. Cable tray for flue gas temperature sensor.
- 20. Shunt motor.
- 30. Shunt valve.
- 31. Cable tray, supply cable.
- 32. Hot water outlet, return, R32.
- 33. Draining, DN15.
- 34. Flue pipe connection.
- 35. Cable tray for burner cable.
- 36. Control panel over connection area.
- 37. Front panel over immersion heater.
- 38. Cleaning hatch.
- 39. Burner hatch, ash hatch.
- 40. Hot water outlet, riser/expansion connection, DN20.
- 41. Domestic hot water.
- 42. Cold water supply.
- 43. Heating system return.
- 44. Heating system flow.
- 45. Cable penetrations.

Weight:	empty:	300 kg
	filled with water:	565 kg
Volume:	boiler:	165 litre
	water heater:	100 litre
Design pressure:	boiler:	2.5 bar
	water heater:	10 bar
Test pressure:		4.3 bar
Design temperature:		110 °C
Operating temperature		30- 90 °C
Power:	electric:	9 kW
	pellets:	25 kW
Flue gas flow:	vid 20 kW	11.9 g/s
Volume of ash bin:		25 litre
Voltage:		400V3N~, 50Hz
Fuse:		16. A
Current		13 A
Protection class:		IP21
Manufactured to:		AFS 1999:4 §8 97/23 EC Article 3.3

Accessory

- Flue pipe extension
- Draught hatch large, with adapter
- Flue pipe back then up, with draught regulator
- Flue pipe straight up, with draught regulator
- Room unit
- Pellet store, PF200
- Burner hatch for Viking Bio, hinged on left
- Burner hatch for other make, hinged on left
- Burner hatch for other make, hinged on right

Prod.no. RSK

- 2907 622 19 26
- 2926
- 2943
- 2943
- 2950 611 62 95
- 3306 639 07 94
- 90283
- 90284
- 90285



The installation must comply with the applicable regulations and standards.

Contact the chimney-sweep before changing fuel.

The boiler room must comply with the applicable building standards.

The boiler must be installed indoors in a cellar or on the ground floor. The installation site must be designed for the total boiler weight of 565 kg including water.

Make sure that the flue pipe cleaning arrangements meet the applicable regulations.

The ambient temperature must not exceed 30°C.

Hard water with a high mineral content is not suitable for HVAC applications.

If you have your own water supply, the water quality must be monitored so it does not damage the tap water installation. Copper in the water heater and pipes must not be exposed to water with abnormally high free carbon dioxide concentrations. This can be determined by a water analysis. In the case of poor water quality, a water filter must be installed.

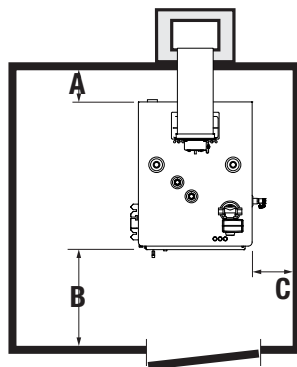
If soldered copper pipes are used, internal support sleeves must be used.

The applicable regulations state that an installation inspection must be carried out on a boiler system with an unvented expansion vessel, before it is put into operation. The inspection must be documented and carried out by a person qualified for the task. A further inspection is required if the boiler or the expansion vessel is replaced.

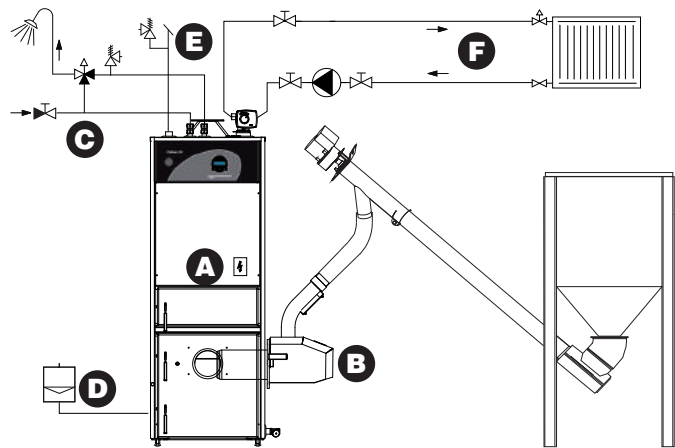
The boiler is fitted with adjustable base bolts, which can be adjusted to level the boiler.

Location of the boiler, dimensions:

- A: min 50 mm
- B: min 1000 mm
- C: min 100 mm, 300 mm with hatch hinged on left.



System principle



- A. Immersion heater.
- B. Pellet burner.
- C. Domestic hot water with mixing valve, safety valve and filling/non-return valve.
- D. Expansion vessel, unvented.
- E. Safety and bleed valve.
- F. Heating system with circulation pump.

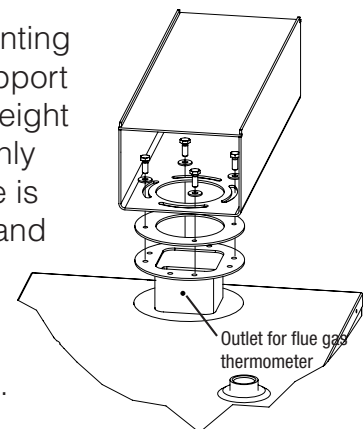
Chimney - fresh air intake

The flue duct should be at least $\varnothing 90$ mm or equivalent.

The boiler room must have a fresh air intake with at least the same cross sectional area as the flue duct.

Flue pipe

With the flue pipe pointing up, the boiler can support up to 300 kg of the weight of the chimney, but only 100 kg if the flue pipe is directed backwards and then upwards. The installation site must be able to support this additional weight.



Expansion system

The boiler must be connected to a vented or unvented expansion system. The volume of the expansion vessel is dimensioned according to the circumstances. The guideline values for volume are approx. 5 % of the total system volume for vented systems, or 7- 15 % for unvented systems.

Vented: To prevent oxygen saturation of the water in the heating system, the distance between the top of the highest radiator and the expansion vessel must be at least 2.5 m. The expansion vessel is connected in a continuous and unisolatable rise from the boiler's expansion connection at the top. To prevent damage occurring if the expansion system fails, the boiler should be fitted with a type approved safety valve.

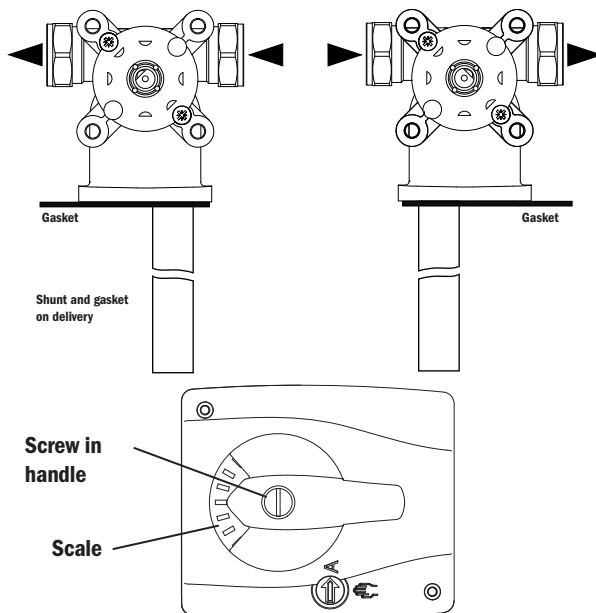
Unvented: In unvented systems, the boiler must be fitted with a type approved safety valve connected using an unisolatable pipe from the connection at the top of the boiler, as well as a bleed valve. The overflow pipe from the safety valve must be laid to a floor drain, and the opening must be visible.



The opening pressure of the safety valve is based on the lowest maximum pressure that any system component can withstand.

Shunt

On delivery, the supply side is to the left and the return side is to the right. The direction can be changed by following these steps:



Remove the screw from the handle on the shunt motor. Take off the handle, scale and motor from the shunt valve. Take away the shunt valve and move the plastic pipe to the left port.

Rotate the gasket so that the flow is indicated by the arrow direction of the gasket.

Turn the axle on the shunt valve 90 clockwise, and then

put the motor back on the shunt valve. The scale shall be mounted with the blue field upwards.

Put the handle back in place.

By changing places on the cables connected to terminal 2 and 3 you will change the direction of movement for the shunt motor operation.

Filling - draining

The best way to fill the boiler is to use a permanent filling pipe to the expansion fitting or a hose to the drain valve. For filling, the shunt must be fully open.

To drain the system, use the drain valve on the right of the boiler.

Bleeding

The system must be installed so that air is automatically vented through the expansion pipe and/or via bleed valves.

Heating system circulation pump

The circulation pump is dimensioned according to the size, pipe dimensions and design of the system.

Water heating

The water is heated in a copper-lined hot water tank.

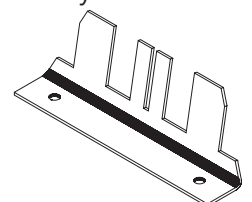
For installation, a type approved safety valve with an opening pressure of 9 bar must be fitted, in addition to a non-return and mixing valve.

Hot water outlet

There is a high-temperature hot water outlet on the rear of the boiler. Do not forget to seal this outlet if it will not be used.

Bracket for cleaning tool

The bracket for the cleaning tool can be fitted to either side of the boiler or any suitable place close to the boiler.



Pellet burner

The output of the burner must be compatible with the output range of the boiler.

Otherwise, follow the applicable installation instructions and the instructions of the burner manufacturer.

The burner hatch of the boiler is designed for installation of the Värmebaronen Viking Bio pellet burner. A burner hatch for the Viking Bio (hinged on the left), and a burner hatch for other makes (hinged on the right and left) are available as accessories.

The hatch can be opened easily using the two handles. If the hatch can be opened without removing the pellet feed tube or disconnecting the electricity supply to the burner, a safety switch must be fitted to the hatch. This is to prevent the burner starting with the hatch open.

For the most efficient operation, a modern burner should be used that can work with a low draught.

Instruments must be used for initial adjustment. Pay attention to the flue gas temperature.



If the hatch can be opened without removing the pellet feed tube or disconnecting the electricity supply to the burner, a safety switch must be fitted to the hatch.

Flue gas temperature

Combustion produces water vapour, which rises with the flue gases into the chimney, where it can condense and form water, potentially damaging the inside of the chimney.

A low flue gas temperature does improve efficiency, but this must be balanced against the risk of condensation.

Steps to reduce the risk of condensation:

- check and adjust the operation of the draught regulator.
- insulate the flue pipe between the boiler and the chimney.
- insulate the chimney in cold spaces.
- remove/shorten turbulators.
- increase the burner capacity.
- install a flue liner.



The flue gas temperature must be checked at all times to prevent condensation forming in the chimney.

Turbulators

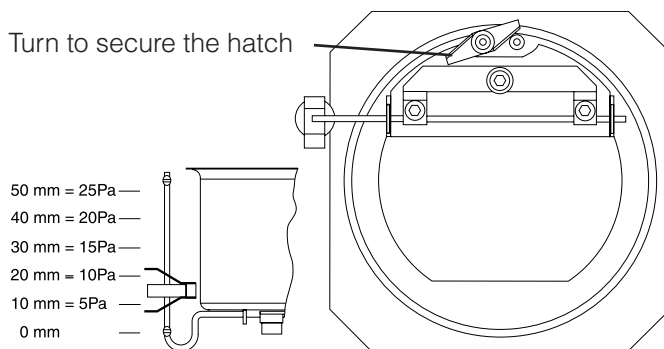
The boiler is supplied with turbulators designed for pellet operation. The purpose of the turbulators is to introduce turbulence to the flue gases and so extract more heat from them, thereby improving efficiency. The turbulators increase the flue gas resistance in the boiler.

Draught regulator

The chimney draft is influenced by the temperature and by weather and wind conditions, and because the efficiency of combustion depends on the draught, the aim is to achieve a stable draught.

The draught regulator is used to allow ambient air from the boiler room into the flue duct, which has the following benefits:

- more stable draught and flue gas temperature.
- reduced downtime losses.
- flue duct ventilation.
- drier flue gases, reducing the risk of condensation.



Adjusting the underpressure

For optimum function, the right amount of air must pass through the draught regulator. If the chimney is tall or has a large cross section, a larger draught regulator may need to be installed, accessory: draught hatch large, with adapter, prod. no. 2926

To adjust the underpressure when the hatch is opened, squeeze the clips holding the weight and move it along the shaft. The underpressure changes by around 0.5 Pa/mm as shown in the figure.

For the Viking Bio, the draught should be 5-10 Pa.



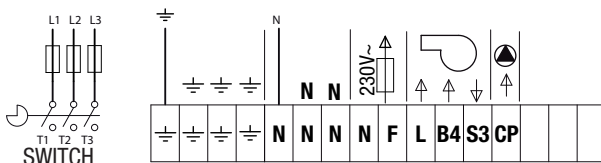
Electrical installation must be in accordance with the applicable regulations, under the supervision of an authorised installer.

- The boiler and water heater must be filled with water before electrical installation begins.
 - The minimum cross sectional area of cable for external units connected to the boiler is 1.5 mm².
 - The main switch of the boiler is an all-pole switch.
 - The terminal block is located under the boiler control panel - the connections are routed through the cable penetrations at the top of the boiler.
 - The ambient temperature must not exceed 30°C.
 - Sensor cables must not be laid next to power cables.
 - The select the maximum permitted electric power, use stepping, see Installation menu. The select power must be documented, see My settings.
- The internal connections of the boiler are already made in the factory, and external connections are made according to the wiring diagram.
- Cable trays for the power supply and burner cables are accessible in the connection area.

If you want to use the boiler before completing electrical installation, the burner and circulation pump can be put into service if a single phase connection is used. The phase is connected to terminal L3, the control phase of the boiler, see "Wiring diagram"

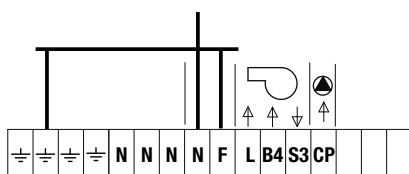
Supply cable

400V 3N~+ PE, with a 16 A fuse. Connected units use phase L3.



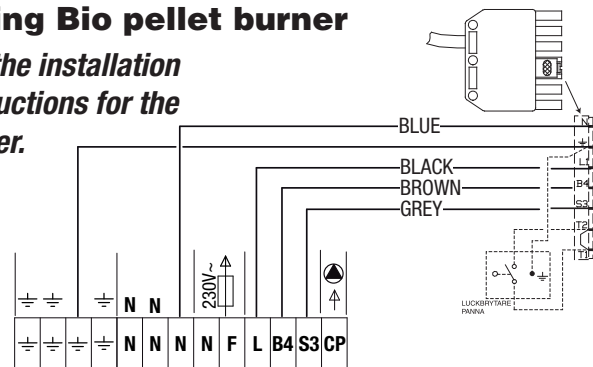
Power supply for external unit

Fused output, 10 A, for external equipment, max load 2 A.



Viking Bio pellet burner

See the installation instructions for the burner.



- L = phase supply, 230V~.
- B4 = control phase via thermostat.
- S3 = alarm signal, 230V~, from the burner.

Other pellet burner.

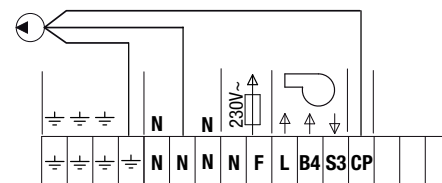
To be able to use certain functions of the boiler control system, the burner must provide a 230V~ signal when it stops/as an alarm. See Installation menu: Only boost when trouble and Alarms: Alarms burner.

- L = phase supply 230V~
- B4 = control phase, 230V~, via thermostat.
- S3 = alarm signal, 230V~, from the burner.

See the installation instructions for the burner.

Circulation pump

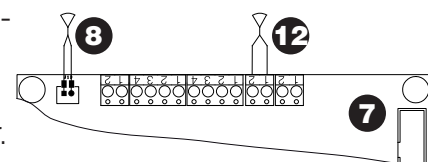
The circulation pump for the heating system is controlled by the boiler, max load 2 A. **The pump must be labelled to indicate that it is controlled by the boiler.**



Temperature sensor

Outside temperature sensor, 12, installed facing north or northwest. Position the sensor half way up the building close to a corner and away from outlets, windows and doors. Connect the sensor with up to 50 m of 0.4 mm² cable. Ducting must be sealed to prevent condensation in the sensor enclosure.

Install the flow pipe sensor, 8, on the flow pipe, as far away from the circulation pump as possible. The sensor must have good contact with the pipe. Use the supplied cable ties and insulation to secure the sensor.



External block

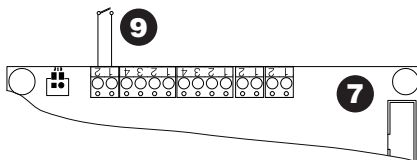
The burner/electricity, shunt control and circulation pump can be blocked by an external voltage-free contact (SELV). For details of how it works, see Installation menu:

Ext. block (J4)

Close cpump vid block.

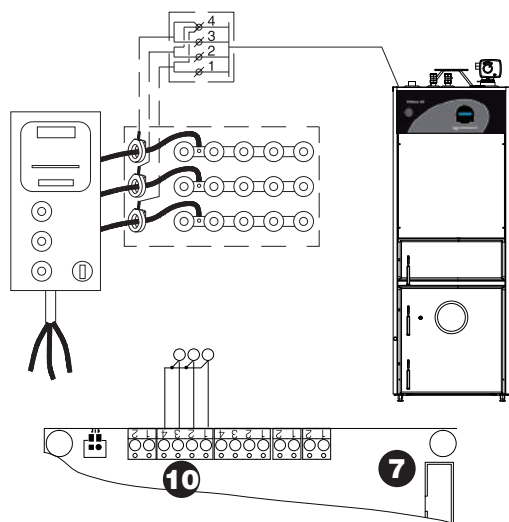
Close shunt vid block.

Close el/bränn. vid block.



Load guard

The load guard protects the main fuses from overload. The load guard requires information about the size of the main fuse, see Installation menu: **Huvudsäkring.**



The current transformers are connected to a terminal, 10, and the common conductor is connected to terminal 4. Only use the supplied current transformers.

The load guard is not phase sensitive, which means it does not matter which terminal a current transformer is connected to.

The load guard and the current display function, see Info menu, use the current transformers. If these functions are not required, the current transformers do not need to be connected.

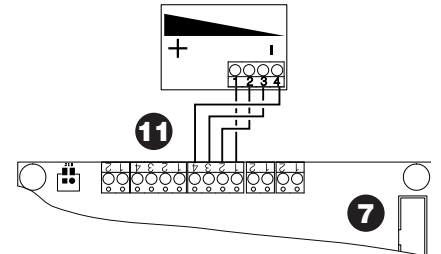
The cable to the current transformers must be high current insulated and at least 0.75 mm².

Room unit

A room unit, accessory, provides comfortable temperatures while minimising energy consumption:

For further details, see the documentation supplied with the room unit.

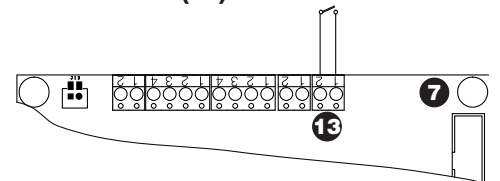
See Configuration menu **install rumsenhet**



Alternative heating

The room temperature can be controlled via an external contact function, for example a timer. The contact must be voltage-free (SELV).

See Operating menu: **MAN/EXT JUST.** and Installation menu **Ext. block (J4).**

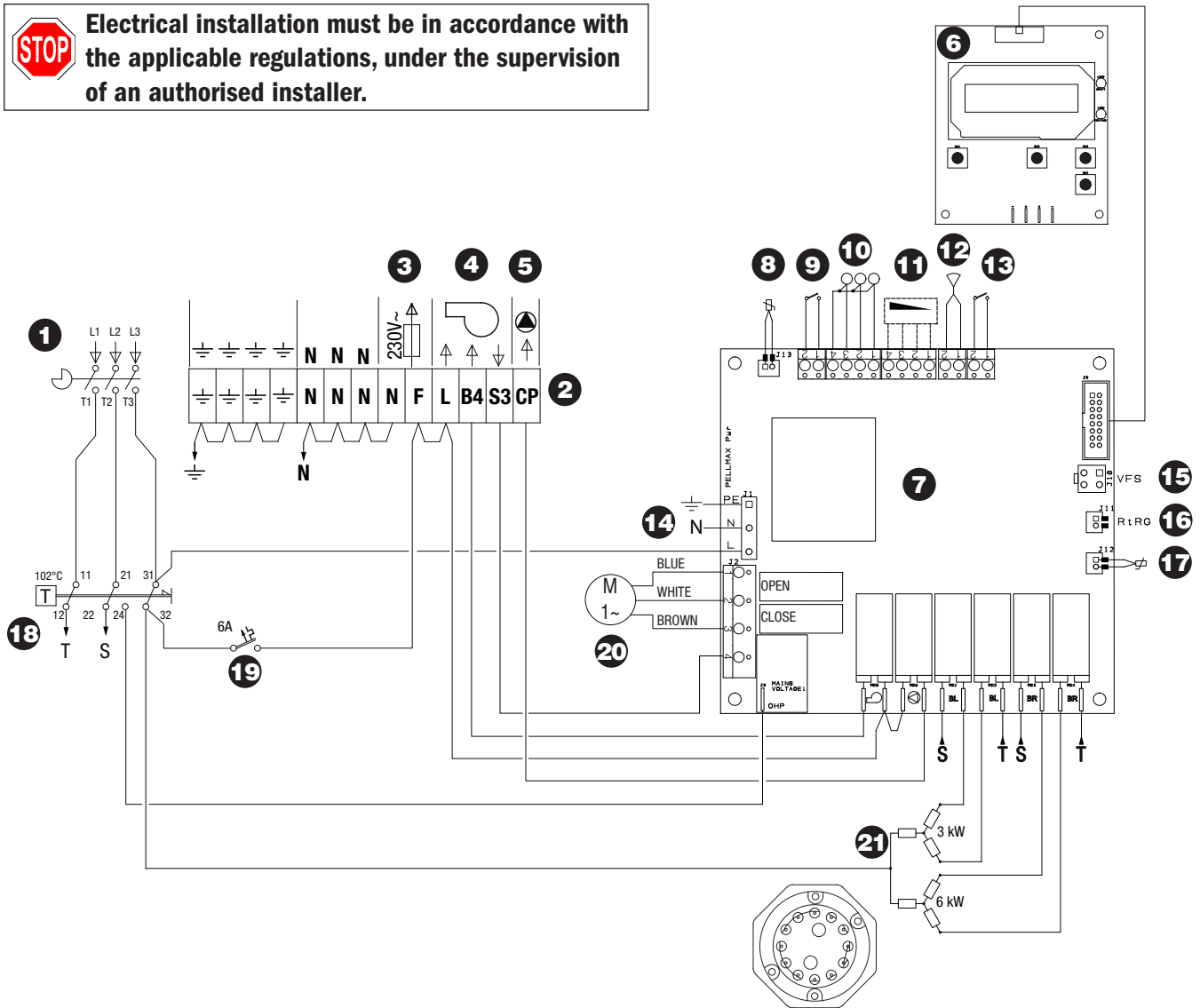


Delayed reconnection

After an electricity cut lasting longer than three minutes, no more than 6 kW is connected during the first two hours. To check the function of the power stages, the delay can be temporarily bypassed. Push button, 29, on the control panel – text appears in the display.

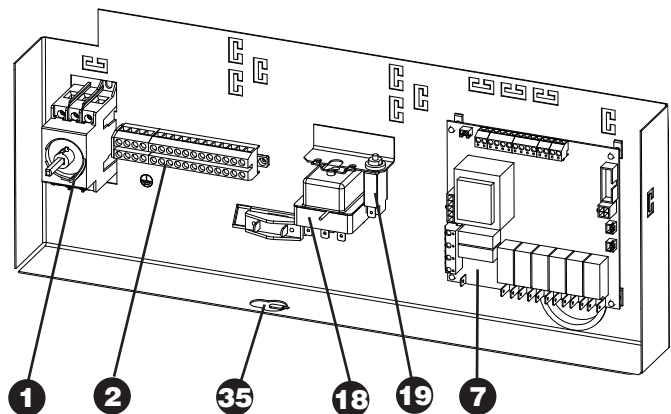


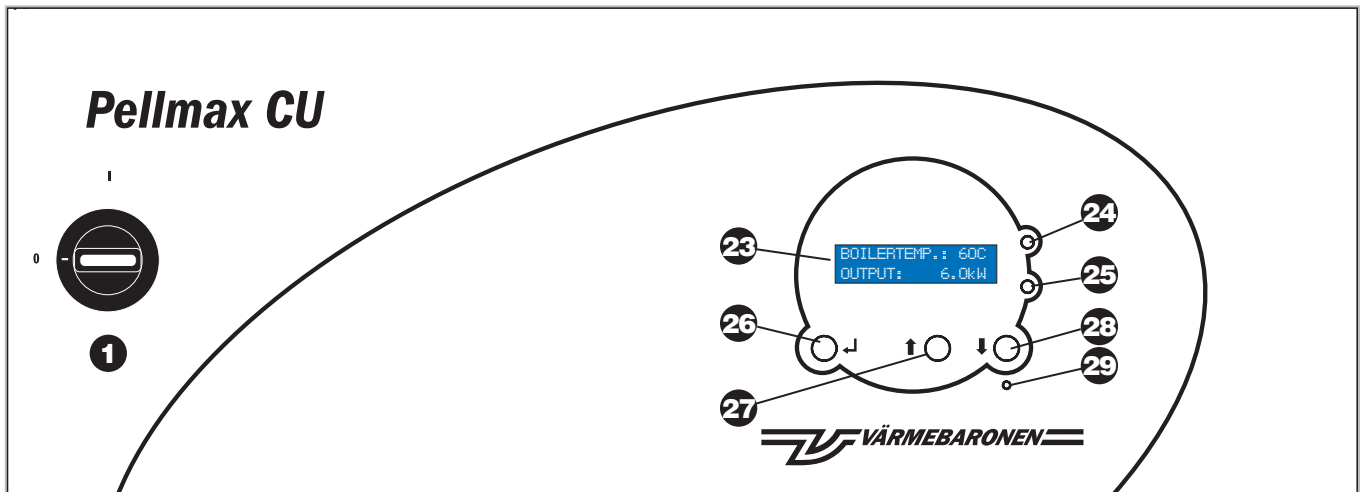
Electrical installation must be in accordance with the applicable regulations, under the supervision of an authorised installer.



1. Main switch, power supply connection, 400V 3N~.
2. Terminal block.
3. Connection for supply voltage, 230V~, to external unit
4. Viking Bio pellet burner connection.
5. Heating system circulation pump.
6. Circuit board, panel.
7. Circuit board, power.
8. Temperature sensor, flow
9. Connection for external block.
10. Connection, current transformers for load guard.
11. Room unit (accessory).
12. Temperature sensor, flow.
13. Alternative heating.
14. Power supply connection on circuit board.
15. -
16. Flue gas temperature sensor.
17. Temperature sensor, boiler.

18. Overheating protection.
19. Control fuse.
20. Shunt motor.
21. Immersion heater, 6 + 3 kW.
35. Cable tray for burner cable.





1. All-pole switch, interrupts the power to the boiler and all units receiving their power supply from the boiler.
23. The display shows .
- Operating information, see Menus.
 - The various boiler settings, see Menus.
 - Information about what triggered an alarm. The following alarm information can be displayed.
 - Fault in outside sensor.
 - Fault in flow temperature sensor.
 - Fault in boiler temperature sensor.
 - Fault in flue gas temperature sensor.
 - High flue gas temperature.
 - Fault in room unit.
 - High temperature on power PCB.
 - High boiler temperature.
 - Overheating protection triggered.
 - Alarm from burner alarm relay.
- For more information, see Troubleshooting.
- If you override the 2h block by pressing button 29, the display shows "SPEEDING UP TIME BLOCK..."
24. "OPERATING", is displayed if the boiler is switched on.
Flashes if the boiler is being blocked by an external unit.
25. Alarm indication:
Constant light: Alarm, additional information is displayed. Sometimes the indication starts flashing if a button is pressed, and the additional information disappears.
Flashing: "Something to report".
26. " ← " button, used to select menu options and to confirm a change of control parameter.
27. " ↑ " -button, used to read and adjust control parameters.
28. " ↓ " -button, used to read and adjust control parameters.
29. Button, used override the 2h block, see Delayed reconnection.

After installation, check with the installer that the system is in perfect condition. Ask the installer to demonstrate the settings and functions so you know how to operate and care for the system.

Check that the boiler and heating system are filled with water before switching to position "I".



Always disconnect the power supply to the boiler before:

- draining the boiler water
- accessing the automation cabinet or units powered by the boiler

Settings - Menus

All settings are changed in the menu system of the boiler. Work through the menus and change the parameters where necessary.

The Configuration menu, where you can select the language and other settings, is only available immediately after the boiler is switched on, see Configuration menu.

Bleeding/filling

Regularly check that there is sufficient water in the heating system. Air may remain in the heating system for a while after installation, so bleeding should be repeated a few times. After bleeding, check the pressure and add water if necessary.

The volume of water changes with the temperature, and this affects the pressure in the heating system. Higher temperatures increase the volume and pressure. The expansion vessel takes up the changes in volume in the system. For filling, the shunt must be fully open.



The pressure in a heating system varies with the temperature, so only add water if it is necessary.

Operation

Pellets or electricity can be used as a single heat source.

Electric operation can support pellets, and you can adjust the relevant settings in the Installation menu.

The power may be limited by the load guard or the delayed reconnection after an electricity cut.

For reliability and efficiency, it is important to check and adjust the burner regularly.

Boiler temperature

The temperature should measure at least 60 °C to prevent the growth of legionella in the domestic hot water system. Electric operation/burner operation share the same temperature setting.

Switch spread of burner

The temperature difference between the on and off temperatures of the burner can be adjusted, 8 -16°C.

A small temperature difference means that the burner will operate in shorter and more frequent on/off cycles. A large temperature difference means that the burner will run for longer, with fewer on/off cycles, but the boiler temperature will fluctuate more widely.

Load guard

The load guard protects the main fuses from overload.

The electrical output can be limited, for example when a washing machine, tumble drier, cooker, etc., are working at the same time as the boiler. After the overload finishes, the power stage is automatically reconnected.

Delayed reconnection

After an electricity cut lasting longer than three minutes, no more than 6 kW of electric power can be connected during the first two hours after electricity is restored. The boiler loses power if there is an electricity cut or if the main switch is set to "0".

Automatic shunt valve

This feature adjusts the flow temperature according to the outside temperature and the selected heating curve. The colder it is outside, the higher the flow temperature must be, and the boiler must be correctly set up first.

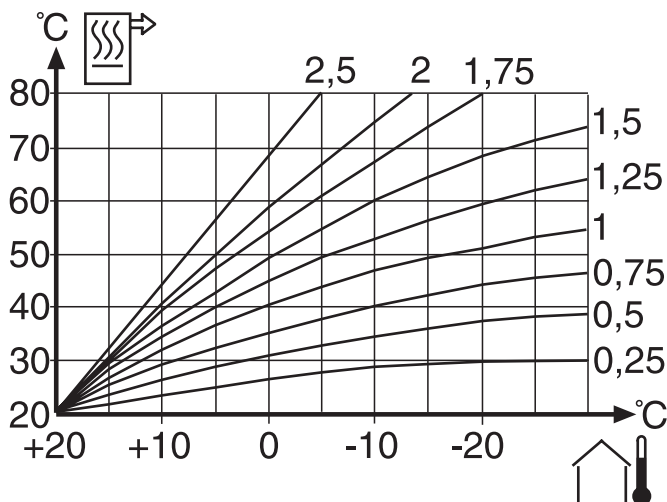
Heating curve

The heating curve depends on the needs of the heating system, the building and the climate zone. The initial value is the design flow temperature of the heating system. If this value is unknown, generic values are used.

If the room temperature is not the temperature

required, further adjustment may be necessary. Wait at least 24 hours between adjustments to allow the temperature to stabilise.

The temperature chart shows the relationship between the flow temperature and the selected heating curve and the outside temperature. The vertical axis shows the flow temperature and the horizontal axis shows the outside temperature.



Example: With an outside temperature of -10°C , curve 1 produces a flow temperature of approx. 47°C .

Initial values, design values

Heating curve: selected according to design values.
Heating adjustment +/-: initial value 0.

Initial values, unknown values

Heating curve: see below.
Heating adjustment +/-: initial value 0.

Underfloor heating system

Heating curve: 0.75 - 1 for wooden joists.
0.5 for concrete slabs.

Radiator system

Select a curve that produces:
 55°C flow temperature for a **low-temperature** system on the "coldest day".
 70°C flow temperature for a **high-temperature** system on the "coldest day".

The "coldest day" is the lowest normally occurring temperature in the local area.

Adjusting basic settings

For a low temperature: choose a higher curve.

An increase in room temperature may be limited by the thermostats for the radiators or underfloor heating, or by a room unit.

For a high temperature: choose a lower curve.

Fine-tune the temperature: Heating adjustment +/-.

Summer mode

Set summer mode in the Adjustment menu.

NOT No summer mode, normal operation.

MAN Circulation pump switched off, pump exercising and frost protection active. Frost protection, power on, circulation pump starts and flow temperature raised to 10°C when the outside temperature falls below 0°C . To prevent the pump jamming, it is operated periodically.

AUT Switches off the heating, i.e. the shunt and circulation pump stop when the outside temperature exceeds a selectable temperature, $10-25^{\circ}\text{C}$, for 60 minutes. The return to normal operation occurs when the outside temperature remains at 3°C below the activation temperature for 90 minutes. To prevent the pump jamming, it must be operated regularly.

Limiting the flow temperature

The flow temperature can be limited to a specified maximum and minimum. The maximum flow temperature depends on the kind of heating system. The temperature is chosen so it is not less than the temperature produced by the selected curve on the "coldest day". Also check the boiler temperature setting to ensure it can supply the flow temperature, see Heating curve - Temperature chart.

If there are no special requirements, the minimum flow temperature should be set to 20°C .

Time-controlled change of temperature


A timer can be connected to the boiler to provide different temperatures at different times of the day, see Electrical installation; Alternative heating.

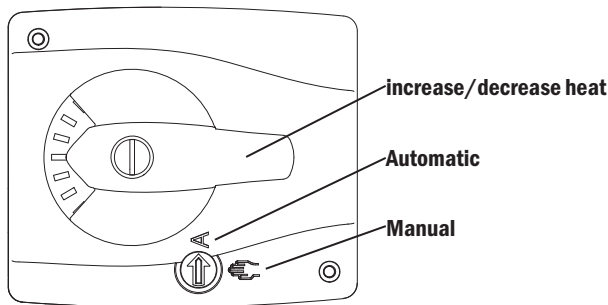
Room unit

A room unit, accessory, provides comfortable temperatures while minimising energy consumption:

Further details are provided with the room unit

Shunt motor

The shunt can be operated manually by turning the knob to “”.



Draining

To drain the system, connect a hose to the drain valve on the side of the boiler.



Always disconnect the power supply to the boiler before:

- draining the boiler water
- accessing the automation cabinet or units powered by the boiler

Safety valves

Safety valves must be exercised regularly in order to maintain the safety function.

If there is a risk of freezing

In severe cold weather, no part of the heating system should be turned off as this would involve a risk of burst pipes. The boiler must not be put into operation if any part of the heating system is suspected of being frozen. **Call the installer.**

If the water boils

Disconnect the power supply to the boiler, then fully open the nearest hot water tap. Call the installer.

Overheating protection

The overheating protection, 18, in the boiler is triggered when the boiler temperature exceeds 110°C. To access the unit, open the control panel. You can only reset once the boiler temperature is below 80°C. **Call the installer.**



Always check the reason for overheating!

Cleaning

Ash and soot are formed in pellet operation, so the boiler must be regularly cleaned, if possible when the flue gas temperature has risen by 50°C compared to when the boiler is clean. The ash bin only needs to be emptied a few times a year.

All boiler cleaning takes place from the front. Ashes may contain embers for a long time after the burning cycle, so keep them in a non-flammable container with a cover. The container must be placed on non-flammable material.

When the ash bin is full, remove it from the boiler and empty it. This is also a good time to clean the combustion chamber.

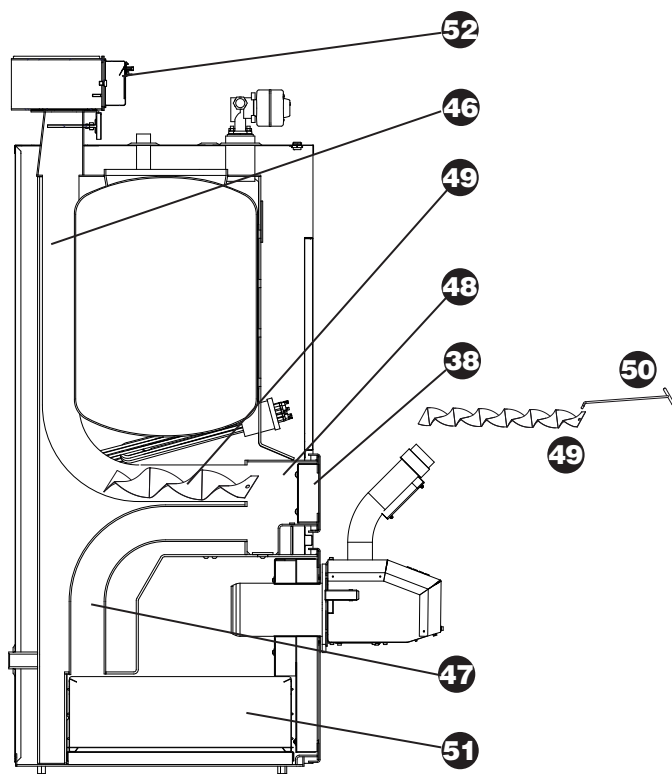
Follow the burner manufacturer's instructions to clean the pellet burner.

Ash attachments are available for vacuum cleaners, making it easier to clean ash from the boiler and burner.

The turbulators must be checked every time the boiler is cleaned. Damaged turbulators should be replaced.



Always be careful with ash, as it may contain hot embers.



- 38. Cleaning hatch
- 46. Upper flue gas pipes
- 47. Lower flue gas pipes
- 48. Collection chamber
- 49. Turbulator
- 50. Turbulator tool
- 51. Ash bin
- 52. Draught regulator

Follow these steps:

- In the Operating menu, select “STOP THE BURNER”.
- Secure the draught regulator, 52, in the closed position.
- Open the boiler hatches.
- Use the tool, 50, to remove the turbulators, 49.
- Clean the flue gas pipes, 46 and 47, with the pipe brush.
- Vacuum the collection chamber, 48.
- Replace the turbulators.
- Clean the walls of the combustion chamber with a brush.
- Empty the ash bin, 51, if necessary.
- Close the hatches.
- Release the draught regulator.
- In the Operating menu, select “START BURNER”.



Risk of burns.

Leave the burner to cool down before cleaning.

Chimney sweeping

Secure the draught regulator in the closed position to prevent soot escaping into the boiler room.

After cleaning the chimney, take off the draught regulator to allow soot and ash to be removed. The best way to remove ash and soot that has fallen into the boiler is to use a vacuum cleaner through the upper flue gas pipes in the boiler.

Boiler cleaning

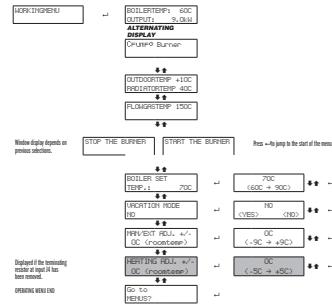
Keep the boiler clean and tidy. Alkaline cleaning agents are useful for removing soot marks from the boiler.



Go to
MENUS?

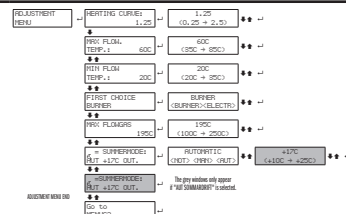
(Make a selection by pressing ↓ / ↑, then press ←.)

Operating menu



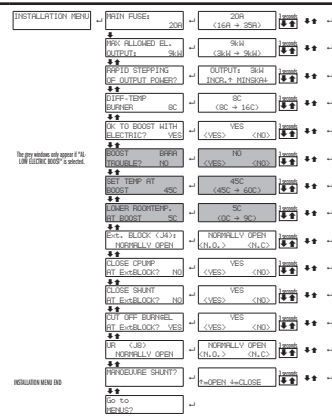
This menu contains the parameters the householder is most likely to want to change, for example the room temperature, the night-time reduction and start/stop burner.

Adjustment menu



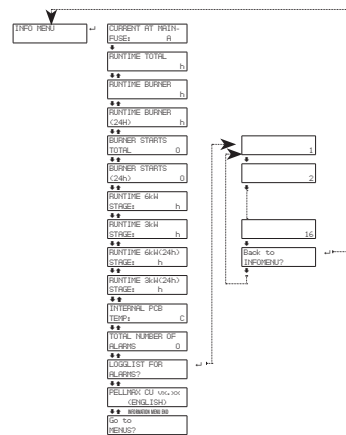
This menu contains more advanced settings like the heating curve, minimum and maximum flow temperatures, etc.

Installation menu



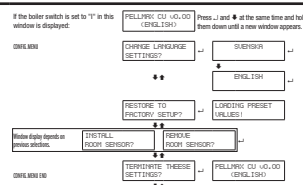
When the boiler has been installed, the installer sets these parameters.

Info menu



This menu provides access to runtimes, temperatures and any failures.

Configuration menu



To select the language, restore factory settings and install/uninstall a room thermostat. *The menu is only available when the boiler starts up.*

If the boiler switch is set to „I“ in this window is displayed:

PELLMAX CU 0X.XX
(ENGLISH)

Press ↵ and ↓ at the same time and hold them down until a new window appears.

CONFIGURATION MENU

CHANGE LANGUAGE
SETTINGS?

SUENSKA

ENGLISH

DEUTSCH



RESTORE TO
FACTORY SETUP?

LOADING PRESET
VALUES!



Window display depends on previous selections.

INSTALL
ROOM SENSOR?

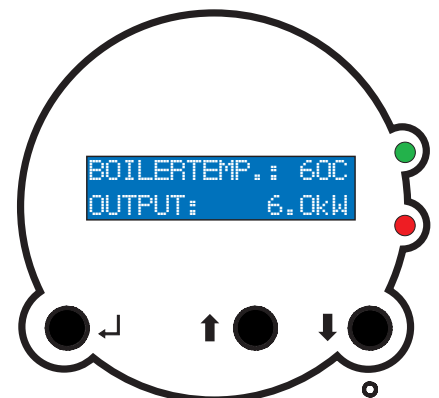
REMOVE
ROOM SENSOR?

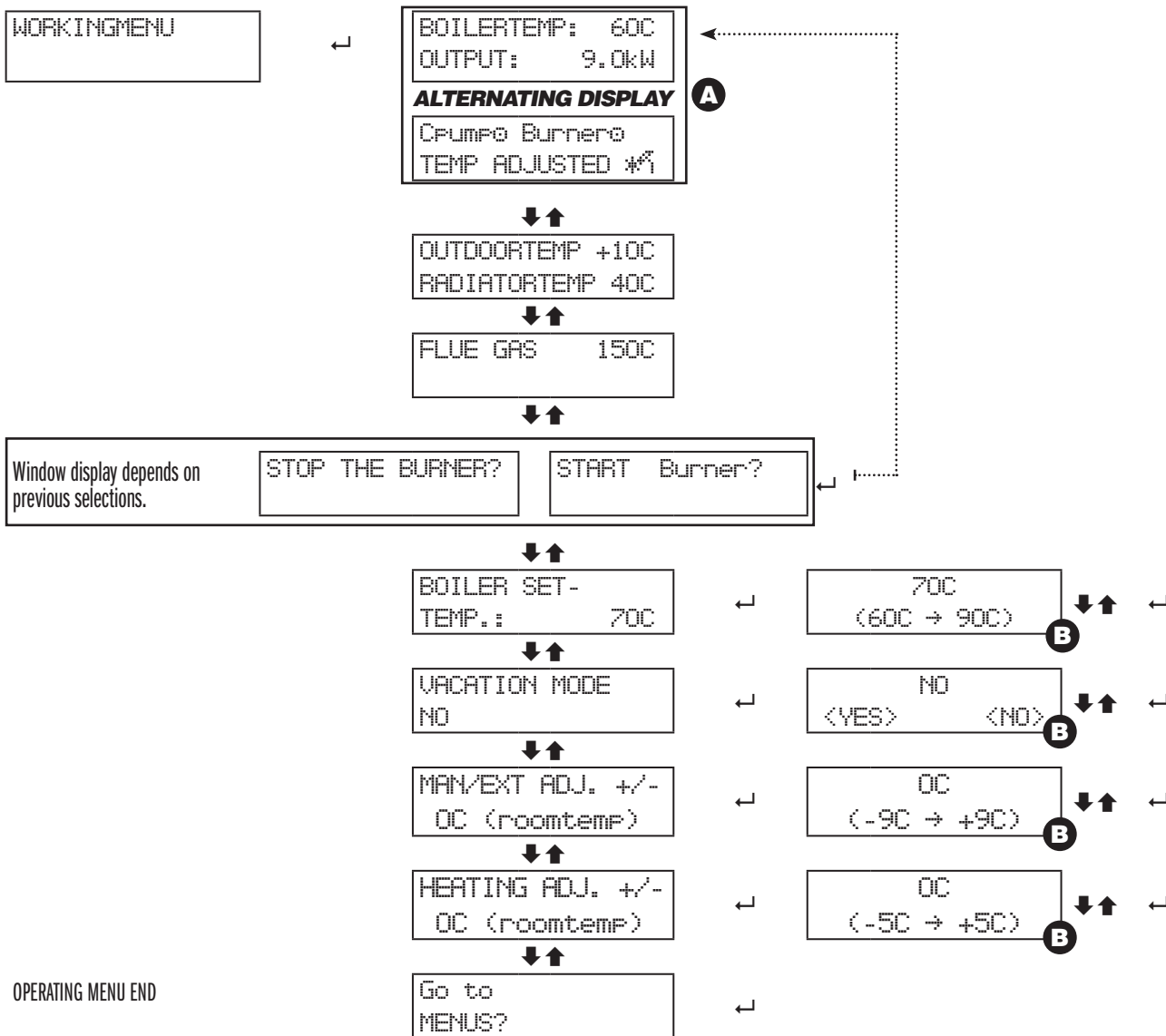


CONFIGURATION MENU END

TERMINATE THEESE
SETTINGS?

PELLMAX CU 0X.XX
(ENGLISH)





A The indicated electric power flashes while the load guard or 2-hour block is limiting the supply, e.g. 6.0kW.

OUTPUT: 0.0kW flashes during an external block.

The on indicator, 24, flashes if there is an external block.

CPumpo = circulation pump running.

CPump = circulation pump stopped by external block.

CPump = flashing, circulation pump stopped by summer mode.

Burnero = burner running.

Burner = burner stopped because temperature reached, during electric operation or if there is an external block.

Burner = flashing, burner stopped manually.

* = frost protection.

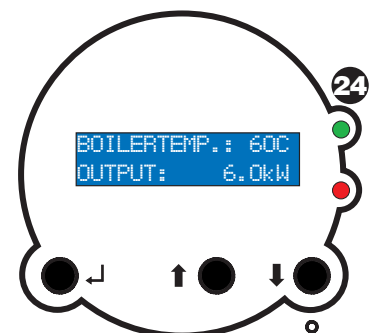
⌘ = summer mode.

TEMP ADJUSTED = holiday mode activated.

B Constant light: The selected option.

Flashing: To change the option, press the ↓ and ↑ buttons.

The change is not applied until you press ←. If you do not make a selection, you are automatically returned to the previous screen after 15 seconds.



Stop burner/start burner

Stops or starts the burner.

Electric backup may be switched on if the conditions are met, see Installation menu.

Follow these steps:

- ▶▶ Use ↓/↑ to move to "STOP THE BURNER" or "START BURNER".
- ▶ Press ←.

Boiler temperature setting

Sets the desired boiler temperature, applies to electric operation and pellet operation.

Holiday mode

Used to set an alternative room temperature for an extended period. The temperature is changed as in "MAN/EXT JUST."

MAN/EXT ADJUST.:

Desired temperature change in relation to the normal temperature.

The change is affected by the holiday mode (MAN) and/or whether a timer (EXT) for day/night-time temperature is connected to the boiler. See CLOCK (J8) in Installation menu.

Holiday mode has a higher priority than the day/night timer.

The room temperature is graduated in degrees.

An increase in room temperature may be limited by the thermostats for the radiators or underfloor heating, or by a room thermostat.

Heating adjustment +/-

Adjusts the selected heating curve.

The room temperature is graduated in degrees.

An increase in room temperature may be limited by the thermostats for the radiators or underfloor heating, or by a room thermostat.

The initial setting should be 0°C.

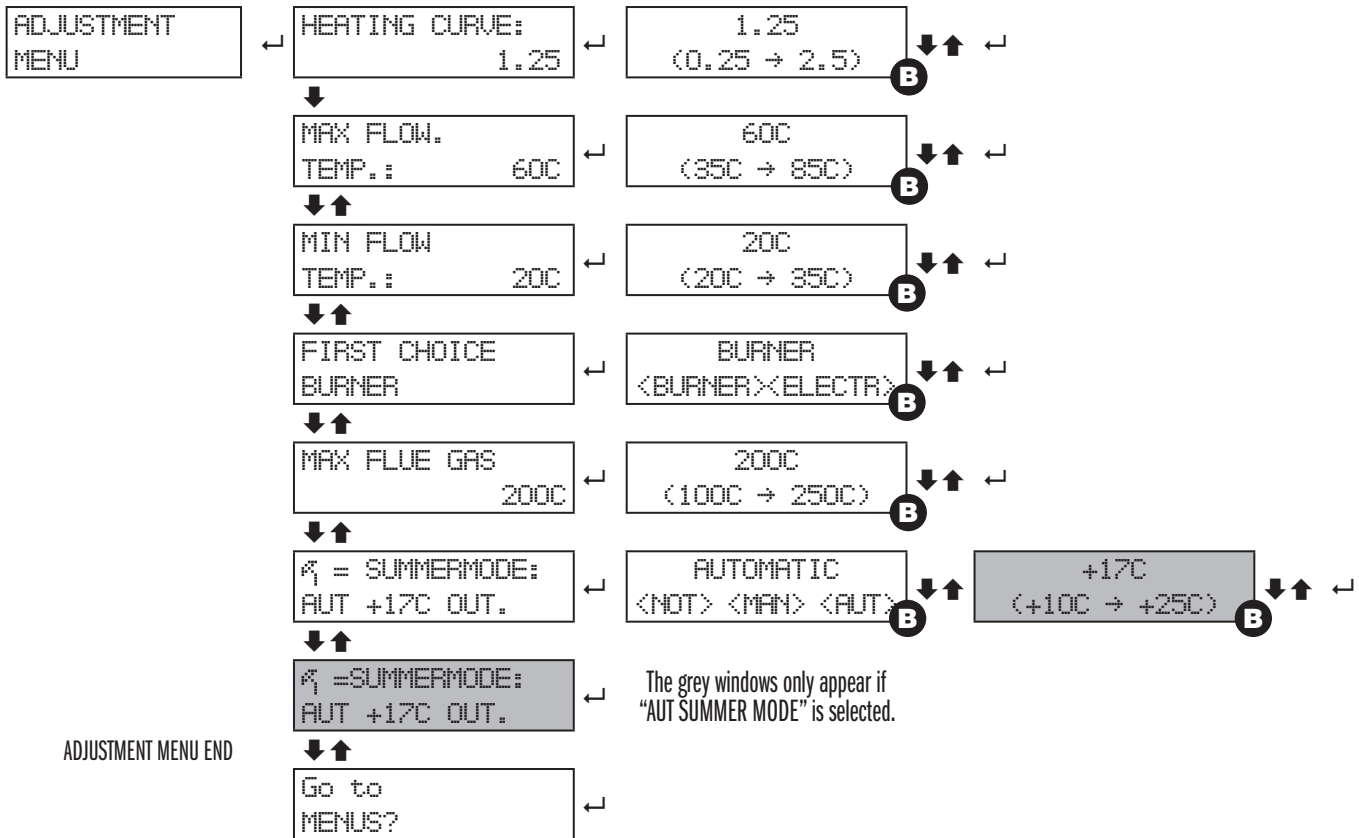
**Note the settings in
"My settings"**

How to change a parameter:

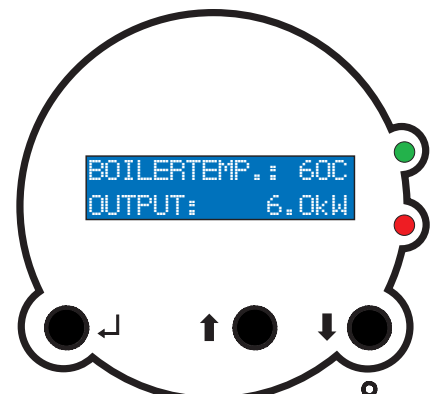
- ▶▶ Use ↓/↑ to move to the parameter you want to change:

```
BOILER SET TEMP.
VACATION MODE
MAN/EXT JUST.
HEATING ADJ. +/-
```

- ▶ Press ←.
- ▶ Make the selection by pressing ↓/↑.
- ▶ Confirm with ←.



- B** Constant light: The selected option.
- Flashing: To change the option, press the **↓** and **↑** buttons. The change is not applied until you press **↵**. If you do not make a selection, you are automatically returned to the previous screen after 15 seconds.



Heating curve

The heating curve depends on the needs of the heating system, the building and the climate zone. See Operation and care.

Max flow temperature

Highest permitted flow temperature, chosen so it is not less than the temperature produced by the selected curve on the "coldest day". See also "Limiting the flow temperature" in "Operation and care".

Min flow temperature

Lowest permitted flow temperature. If there are no special requirements, this should be set to 20°C.

Energy priority

Which energy source can be used?

See also Installation menu: Allow electric boost
 Only boost when trouble
 Electric boost setting
 Lower roomtemp. at boost.

Max flue gas temperature

Select the highest permitted flue gas temperature. When the temperature is reached an alarm appears as a cleaning reminder.

Summer mode

NOT No summer mode, normal operation.

MAN Circulation pump switched off, pump exercising and frost protection active.

AUT Switches off the heating when the outside temperature exceeds the temperature setting for one hour. Pump exercise

See Operation and care.

The flow temperature is determined by the outside temperature, the selected heating curve, the heating adjustment and the night reduction

How to change a parameter:

▶▶ Use ↓/↑ to move to the parameter you want to change:

```
HEATING CURVE
MAX FLOW.      TEMP.
MIN FLOW      TEMP.
FIRST CHOICE
MAX FLUE GAS
```

▶ Press ←.

▶ Make the selection by pressing ↓/↑.

▶ Confirm with ←.

**Note the settings in
"My settings"**

How to change the setting:

▶▶ Use ↓/↑ to move to κ_1 = SUMMERMODE.

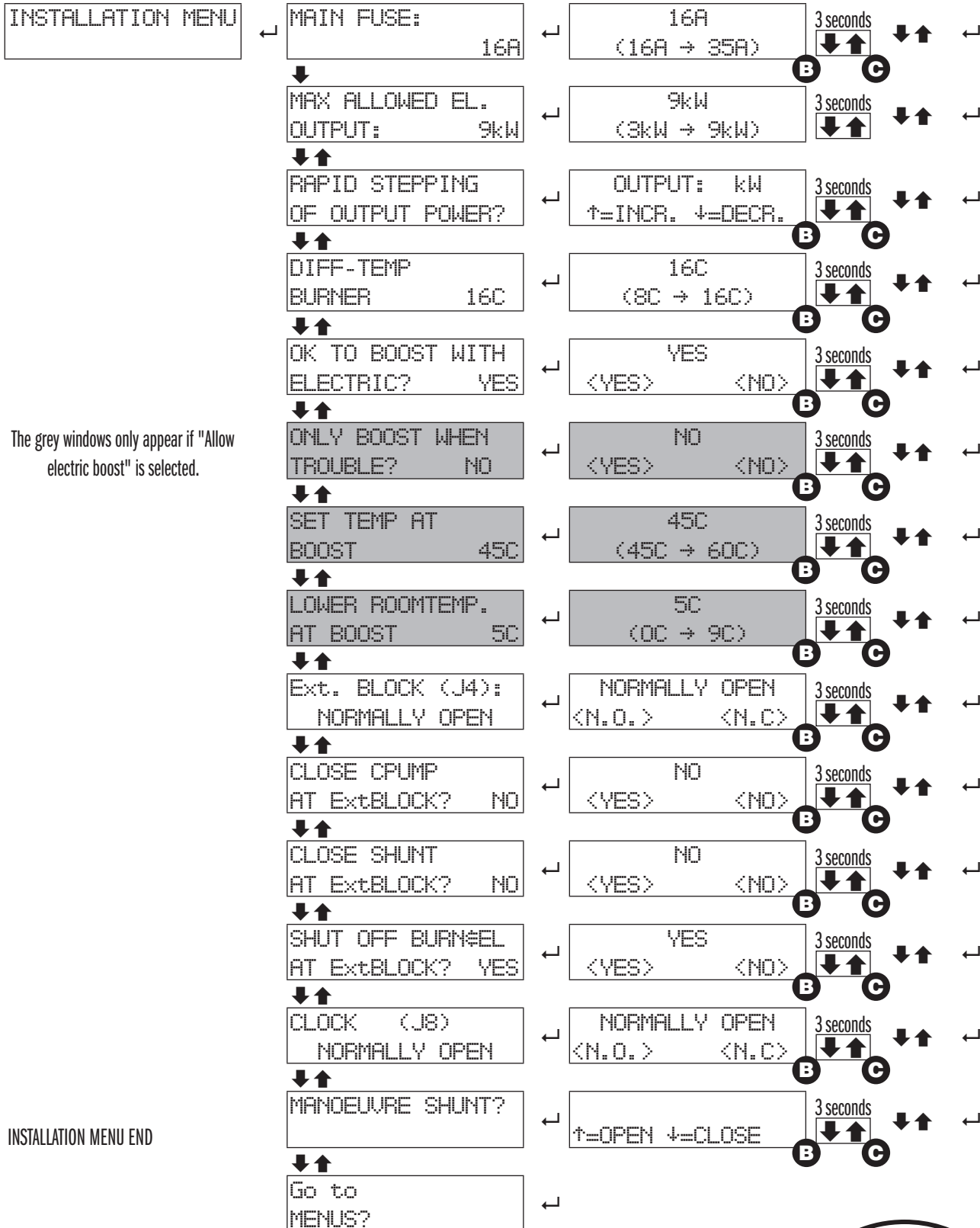
▶ Press ←.

▶ Use ↓/↑ to select "NOT SELECTED", "MANUAL" or "AUTOMATIC".

▶ Confirm with ←.

If you want, you can then use ↓/↑ to select the temperature at which the boiler automatically switches to summer mode.

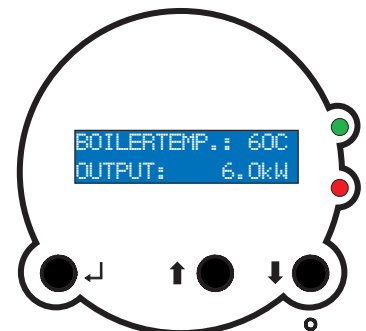
Press ← when the temperature is selected.



The grey windows only appear if "Allow electric boost" is selected.

INSTALLATION MENU END

- B** Constant light: The selected option.
- C** Keep both buttons pressed for three seconds until the display starts flashing. To change the option, press the and buttons. The change is not applied until you press . If you do not make a selection, you are automatically returned to the previous screen after 15 seconds.



Main fuse

Size of main fuse?

Max permitted electric power

What is the maximum permitted electric power?

3 kW ⇒ 4.3 A

6 kW ⇒ 8.6 A

9 kW ⇒ 13 A

Fast connection of electric power

For service and inspection.

↑ = increase. ↓ = decrease.

Switch spread of burner

Desired temperature difference between the on and off temperatures of the boiler?

Allow electric boost

Is electric operation allowed to support the burner?

Electric boost only if there is a problem

Electric operation provides backup only if the burner has stopped/issued an alarm?

Electric boost setting

Boiler temperature setting for the electric boost if the burner has stopped/issued an alarm?

Lower room temperature with electric boost

How many degrees can the room temperature fall if the burner has stopped/issued an alarm?

External block (J4) *See Wiring diagram point 9.*

Implement the block with a making or breaking voltage-free contact?

Stop circulation pump on block

Stop the circulation pump if there is a block?

Stop shunt on block.

Stop the shunt and stay stopped if there is a block?

Stop electric operation/burner on block

Stop electric operation/burner if there is a block?

CLOCK (J8) *See wiring diagram point 13.*

Activate alternative heating with a making or breaking voltage-free contact?

Manoeuvre shunt

Open/close the shunt for service and inspection.

↑ = open. ↓ = close.

**Note the settings in
"My settings"**

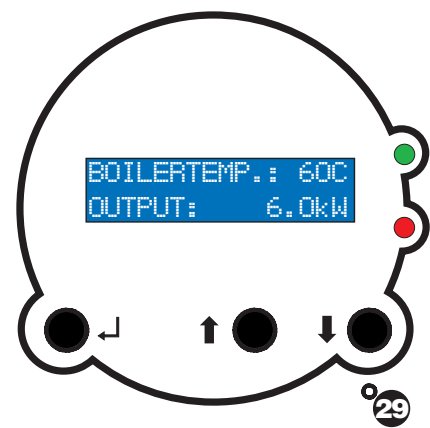
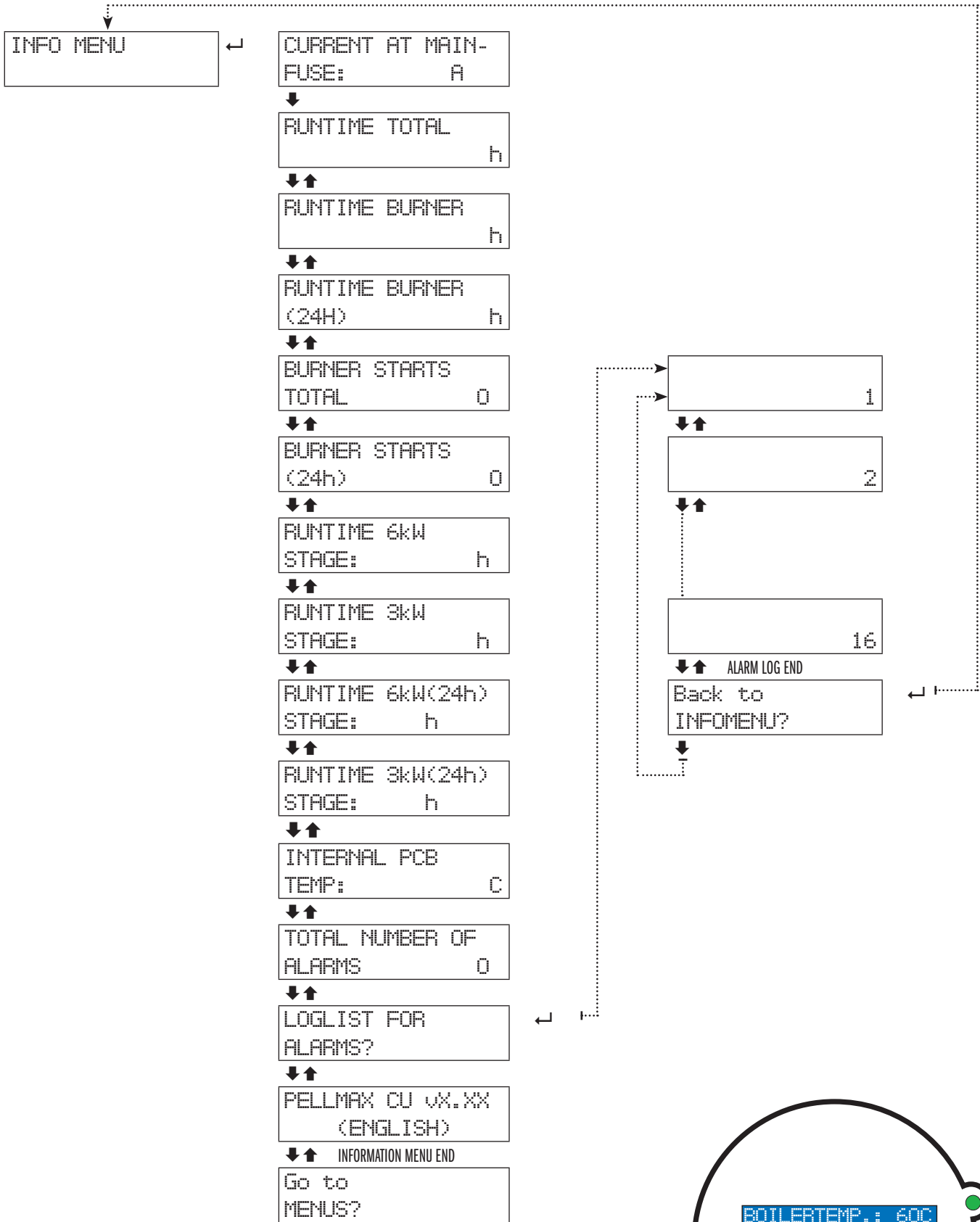
How to change a parameter:

▶▶ Use ↓/↑ to move to the parameter you want to change:

```

MAIN FUSE
MAX ALLOWED EL. OUTPUT
RAPID STEPPING OF OUTPUT POWER
DIFF-TEMP DIFFERENS
OK TO BOOST WITH ELECTRIC
ONLY BOOST WHEN TROUBLE
SET TEMP AT BOOST
LOWER ROOMTEMP. AT BOOST
Ext. BLOCK (J4):
CLOSE CPUMP BY BLOCK.
CLOSE SHUNT BY BLOCK.
SHUT OFF BURN&EL BY BLOCK.
CLOCK (J8)
MANOEUVRE SHUNT
  
```

- ▶ Press ←.
- ▶ Keep both arrow buttons pressed until the display starts flashing.
- ▶ Make the selection by pressing ↓/↑.
- ▶ Confirm with ←.



Current at main fuse

Current through the main fuse under the highest load.
The current transformers of the load guard must be connected

Runtime total

Shows the total runtime of the boiler in hours since it was started for the first time or the counter was reset.

Burner in operation

The total runtime of the boiler in hours since it was started for the first time or the counter was reset.

Burner in operation (24h)

Runtime of burner, in hours, for the last 24 hour period. The measuring period is the preceding 24 hours. A new measuring period starts every 24th hour during normal operation, immediately after a reset or when the boiler is switched on.

Burner starts total

The total number of burner starts since it was started for the first time or the counter was reset.

Burner starts (24h)

The number of burner starts, in hours, for the last 24 hour period. The measuring period is the preceding 24 hours. A new measuring period starts every 24th hour during normal operation, immediately after a reset or when the boiler is switched on.

Runtime electric 6 kW stage

Shows the total runtime of the 6 kW stage since the boiler was started for the first time or the counter was reset.

Runtime electric 3 kW stage

Shows the total runtime of the 3 kW stage since the boiler was started for the first time or the counter was reset.

Runtime electric (24h) 6 kW stage

Runtime of the 6 kW stage, in hours, for the last 24 hour period.

The measuring period is the preceding 24 hours. A new measuring period starts every 24th hour during normal operation, immediately after a reset or when the boiler is switched on.

Runtime electric (24h) 3 kW stage

Runtime of the 3 kW stage, in hours, for the last 24 hour period. The measuring period is the preceding 24 hours. A new measuring period starts after a reset or when the boiler is switched on.

Circuit board temp

The current temperature on the power PCB. If the temperature is too high an alarm is displayed.

Total number of alarms

The number of alarms since the initial startup.

Log list for alarms

16 levels – the most recent alarm is saved at the first level, and previous alarms are moved one level down. The following faults are logged:

- Fault in outside sensor.
- Fault in flow sensor.
- Fault in boiler sensor.
- Fault in flue gas sensor.
- High flue gas temperature.
- Fault in room unit.
- High temperature on power PCB.
- High boiler temperature.
- Overheating protection triggered.
- Alarm from burner alarm relay.

Pellmax Cu vX.XX (Swedish)

Shows the program version and the selected language. X.XX indicates the program version

Reset

All counters and runtime meters can be reset. Follow these steps: Use ↓ or ↑ to move to the counter or runtime meter you want to reset. Press button 29 to reset.

Electrical interventions requiring tools can only be carried out under the supervision of an authorised installer.

Low room temperature

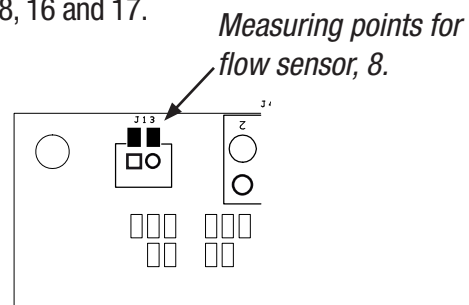
Shunt control incorrectly adjusted.	Check/adjust the setting.
Main switch in position 0.	Turn the switch to position "1" The delayed reconnection function will block electric operation if the boiler was without power for more than three minutes.
Overheating protection triggered.	Always check the cause. Call the service engineer. Reset the overheating protection.
Boiler temperature too low.	Check/adjust the thermostat setting.
Burner malfunction	Check, correct.
Controle fuse triggered.	Always check the cause. Call the service engineer. Reset the controle fuse.
Air in boiler or heating system.	Bleed and fill the heating system as necessary.
Closed valves in heating system.	Open the valves.
Circulation pump switched off or seized up.	Check, assisted start of pump.

Low hot water capacity

Domestic hot water flow too high.	Reduce the tap flow.
Boiler temperature too low.	Check/adjust the thermostat setting.
Mixing valve set too low.	Check/adjust the temperature.
Main switch in position 0.	Set the switch to position "1"
Fully/partly closed valves to/from water heater	Open the valves.
Overheating protection triggered.	Always check the cause. Call the service engineer. Reset the overheating protection.
Burner malfunction	Check, correct
Controle fuse triggered.	Always check the cause. Call the service engineer. Reset the controle fuse.

Temperature sensor					
Boiler and flow		Outside		Flue gas	
°C	V(dc)	°C	V(dc)	°C	V(dc)
20	4.4	-35	4.5	25	4.8
25	4.3	-30	4.3	50	4.4
30	4.1	-25	4.1	75	3.7
35	3.9	-20	3.9	100	2.8
40	3.8	-15	3.6	125	1.9
45	3.6	-10	3.3	150	1.2
50	3.3	-5	3.0	175	0.7
55	3.1	0	2.7	200	0.5
60	2.9	5	2.4	225	0.3
65	2.7	10	2.1	250	0.2
70	2.5	15	1.8		
75	2.3	20	1.6		
80	2.0	25	1.3		
85	1.9	30	1.1		
90	1.7				
95	1.5				

Where the boiler, flow and flue gas temperature sensors connected to the circuit board, there are measuring points to test the voltage of the sensors. See the wiring diagram points 8, 16 and 17.



The outside temperature sensor is tested at its terminal block.

See the wiring diagram, point 12.

OVERHEAT PROTECT
RELEASED!

The "ALARM" light, 25, switches on. Burner and electric operation disconnected. To restart, disconnect the boiler and reset the overheating protection.
Always check the reason for overheating, and call the service engineer.

HIGH TEMP. IN
BOILER!

The "ALARM" light, 25, switches on. Burner and electric operation disconnected. Returns to normal operation automatically when the boiler temperature falls below the maximum temperature.

ALARM FROM

The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text but the ALARM lights continues flashing.
To return to normal operation the alarm must be acknowledged in the burner as well as the boiler.
Check the burner.

ERROR!
(OUT.)

Operation with a simulated outside temperature of 0°C. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text but allows the outside temperature to be 0°C, and the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the outside temperature sensor.

ERROR!
(BOILERTEMP)

Burner and electric operation disconnected, circulation pump and shunt control running. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text but the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the boiler temperature sensor.

ERROR!
(RADIATORTEMP)

The shunt stops in the current position but can still be operated manually. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text but the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the flow temperature sensor.

ERROR!
(ROOM SENS)

Continues running with simulated room temperature, 20°C, without room correction. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text but the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the room unit.

ERROR!
(FLUE G. SENS)

Normal operation. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text and the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the flue gas temperature sensor.

HIGH FLUE GAS

Normal operation. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text and the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Time to clean the boiler.

HIGH TEMPERATURE
ON PCB!

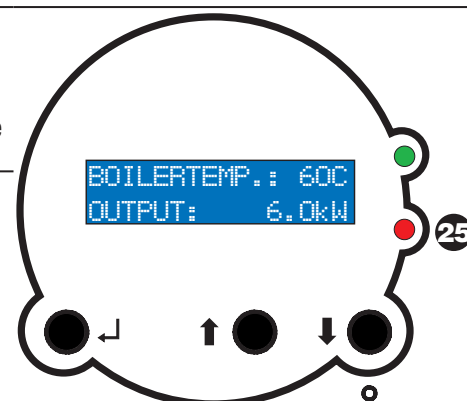
High temperature on relay PCB. Normal operation. The "ALARM" light, 25, switches on. Acknowledging the alarm removes the text and the ALARM lights continues flashing if the fault remains. Otherwise the boiler returns to normal operation when the alarm is acknowledged.
Check the ambient temperature of the boiler.

IS THE BURNER
CONNECTED?

The boiler detects that the flue gas temperature has not risen sufficiently in a reasonable time. This may be because the burner has not been reconnected after cleaning. Acknowledging the alarm removes the text, switches off the ALARM light, and resets everything.

To acknowledge an alarm, press "←", "↑" or "↓".

When an alarm is acknowledged is it stored in the "Log list for alarms", see information menu.



11 00 20	Immersion heater 9 kW (6+3) 400V	1	72 01 94	Holder for cable tray	1
30 00 17	O-ring for immersion heater	1	72 01 95	Cover plate, lower	1
13 00 11	Switch	1	72 02 07	Rear side	1
12 00 09	Knob for switch	1	72 02 08	Front	1
12 00 25	Overheating protection	1	72 02 09	Right side	1
18 00 21	Controle fuse	1	72 02 10	Left side	1
21 00 22	Circuit board "power"	1	72 02 11	Cover	1
21 00 23	Circuit board "panel"	1			
21 02 05	Temperature sensor, boiler	1	71 08 33	Bypass, retainer	1
21 02 06	Temperature sensor, flow	1	71 08 34	Bypass, cover plate	1
21 02 07	Temperature sensor, flue gas	1			
21 02 11	Outside temperature sensor	1	71 08 22	Ash bin	1
26 00 13	Shunt motor	1			
36 00 20	Current transformer	3			
			71 08 30	Angled flue pipe complete	1
921 01	Control panel	1	10 01 15	Wingnut	4
10 11 02	Circuit board spacer	1	10 03 22	Cross screw	4
10 11 05	Circuit board spacer	4	44 00 81	Draught hatch	1
14 00 10	Sealing nipple 18.6	3	71 06 95	Gasket	1
14 00 31	Lock nut 18.6	3	71 06 96	Flue pipe	1
14 00 42	Strain relief	1	71 08 29	Front	1
14 02 04	Cable entry 50 mm	1			
16 00 02	Terminal block 4-pole	1	70 01 70	Gasket for flue pipe flange	1
16 00 03	Terminal block 12-pole	1			
16 00 06	End plate for terminal block	1	71 08 76	Burner hatch complete	1
37 01 90	Plastic cabel pipe 16 mm (m)	0.7	10 00 06	Washer	8
37 01 93	Plastic cabel pipe 50 mm (m)	0.7	10 03 05	Cross screw	8
39 02 55	Protective hose 13 mm (m)	1.3	10 04 19	Cap screw M6	2
70 00 81	Glass cover for panel	1	10 04 21	Cap screw M10	1
			70 03 17	Insulation, inner	1
24 03 50	Drain valve	1	70 03 18	Insulation, outer	1
24 20 02	Conex, straight	2	70 03 19	Hatch gasket	1
24 80 01	PEX pipe, shunt	1	71 08 77	Cleaning hatch	1
26 00 04	Shunt valve	1	71 08 79	Combustion plate, lower, complete	1
70 00 70	Shunt gasket	1	71 08 81	Combustion plate, lower, inner	1
			71 08 13	Cleaning hatch complete	1
37 00 21	Cover plate 25.4 x 65, white	1	10 00 06	Washer	4
37 00 22	Cover plate 32.5 x 77, white	2	10 03 05	Cross screw M5	4
37 00 23	Cover plate 39.5 x 77, white	1	10 04 19	Cap screw M6	1
37 00 25	Cover plate 70 x 110, white	1	10 09 53	Handle	1
37 00 27	Cover plate 21 x 65, red	1	70 02 92	Hatch gasket	1
37 00 28	Cover plate, 21 x 65, blue	1	70 02 96	Hatch insulation	1
			71 08 03	Combustion plate	1
44 00 02	Pipe cleaner	1	71 08 15	Cleaning hatch	1
44 00 10	Spring steel shaft	1			
70 02 56	Cleaning tool bracket	1			
70 02 99	Base insulation	1			
71 05 08	Lock ring	3			
71 07 99	Insulating plate for base	1			

To be completed when the Pellmax CU is installed

	Factory setting	Alternative	1	2	3	
OPERATING MENU	BOILER SET TEMP.: 70C	70C (60C → 90C)				
	VACATION MODE NO	NO <YES> <NO>				
	MAN/EXT ADJ. +/- 0C (roomtemp)	0C (-9C → +9C)				
	HEATING ADJ. +/- 0C (roomtemp)	0C (-5C → +5C)				
ADJUSTMENT MENU	HEATING CURVE: 1.25	1.25 (0.25 → 2.5)				
	MAX FLOW. TEMP.: 60C	60C (35C → 80C)				
	MIN FLOW TEMP.: 20C	20C (20C → 35C)				
	FIRST CHOICE BURNER	BURNER <BURNER><ELECTR>				
	MAX FLUE GAS 200C	200C (100C → 250C)				
	κ ₁ = SUMMERMODE: AUT +17C OUT.	NOT SELECTED <NOT> <MAN> <AUT>				
	The grey windows only appear if "AUT SOMMARDRIFT" is selected.					
	κ ₁ =SUMMERMODE: AUT +17C OUT.	+17C (+10C → +25C)				
	INSTALLATION MENU	MAIN FUSE: 16A	16A (16A → 35A)			
		MAX ALLOWED EL. OUTPUT: 9kW	9kW (3kW → 9kW)			
DIFF-TEMP BURNER 16C		16C (8C → 16C)				
OK TO BOOST WITH ELECTRIC? YES		YES <YES> <NO>				
The grey windows only appear if "TILLÅT EL-TILLSKOTT" is selected.						
ONLY BOOST WHEN TROUBLE? NO		NO <YES> <NO>				
SET TEMP AT BOOST 45C		45C (45C → 60C)				
LOWER ROOMTEMP. AT BOOST 5C		5C (0C → 9C)				
Ext. BLOCK (J4): NORMALLY OPEN		NORMALLY OPEN <N.O.> <N.C>				
CLOSE CPUMP AT ExtBLOCK? NO		NO <YES> <NO>				
CLOSE SHUNT AT ExtBLOCK? NO	NO <YES> <NO>					
SHUT OFF BURN&EL AT ExtBLOCK? YES	YES <YES> <NO>					
CLOCK (J8) NORMALLY OPEN	NORMALLY OPEN <N.O.> <N.C>					

	Factory setting	Alternative	4	5	6	
OPERATING MENU	BOILER SET TEMP.: 70C	70C (60C → 90C)				
	VACATION MODE NO	NO <YES> <NO>				
	MAN/EXT ADJ. +/- 0C (roomtemp)	0C (-9C → +9C)				
	HEATING ADJ. +/- 0C (roomtemp)	0C (-5C → +5C)				
ADJUSTMENT MENU	HEATING CURVE: 1.25	1.25 (0.25 → 2.5)				
	MAX FLOW. TEMP.: 60C	60C (35C → 80C)				
	MIN FLOW TEMP.: 20C	20C (20C → 35C)				
	FIRST CHOICE BURNER	BURNER <BURNER><ELECTR>				
	MAX FLUE GAS 200C	200C (100C → 250C)				
	⌘ = SUMMERMODE: AUT +17C OUT.	NOT SELECTED <NOT> <MAN> <AUT>				
	The grey windows only appear if "AUT SOMMARDRIFT" is selected.					
	⌘ =SUMMERMODE: AUT +17C OUT.	+17C (+10C → +25C)				
INSTALLATION MENU	MAIN FUSE: 16A	16A (16A → 35A)				
	MAX ALLOWED EL. OUTPUT: 9kW	9kW (3kW → 9kW)				
	DIFF-TEMP BURNER 16C	16C (8C → 16C)				
	OK TO BOOST WITH ELECTRIC? YES	YES <YES> <NO>				
	The grey windows only appear if "TILLÅT EL-TILLSKOTT" is selected.					
	ONLY BOOST WHEN TROUBLE? NO	NO <YES> <NO>				
	SET TEMP AT BOOST 45C	45C (45C → 60C)				
	LOWER ROOMTEMP. AT BOOST 5C	5C (0C → 9C)				
	Ext. BLOCK (J4): NORMALLY OPEN	NORMALLY OPEN <N.O.> <N.C>				
	CLOSE CPUMP AT ExtBLOCK? NO	NO <YES> <NO>				
CLOSE SHUNT AT ExtBLOCK? NO	NO <YES> <NO>					
SHUT OFF BURN&EL AT ExtBLOCK? YES	YES <YES> <NO>					
CLOCK (J8) NORMALLY OPEN	NORMALLY OPEN <N.O.> <N.C>					

Lossa skruven i shuntmotorns vred, tag bort vred skala och motor från shunten.

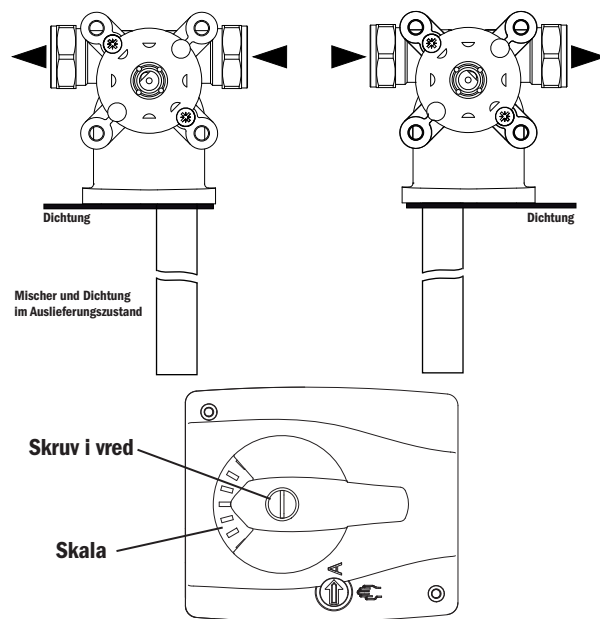
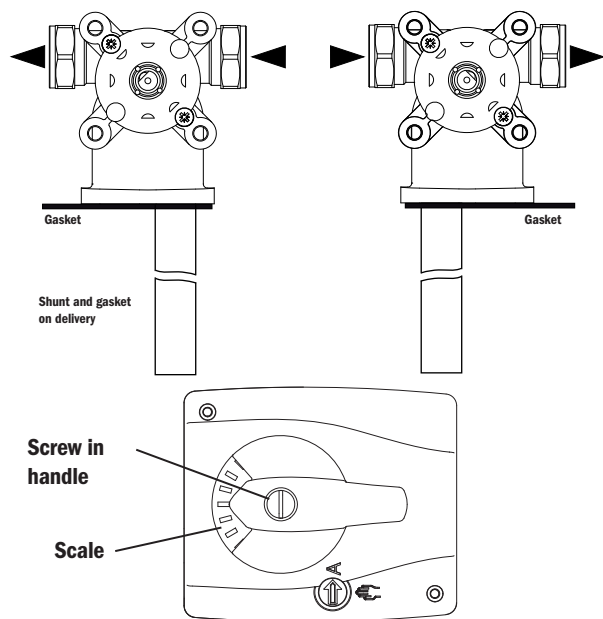
Lossa shunten och flytta plaströret till vänster port.

Vänd packningen så att framledningen är i pilens riktning, återmontera shunten.

Vrid shuntens axel 90° medurs, sätt tillbaka motorn på shunten. Skalan monteras så att blått fältet kommer uppåt.

Återmontera vredet.

Motorns rörelseriktning skiftas genom att låta kablarna, som är anslutna i plint på kretskortet till klämmorna 2 och 3, få byta plats.



Värmebaronen AB retains the right to change the specification of included components without prior notice, as part of its policy of continuous improvement and development.

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