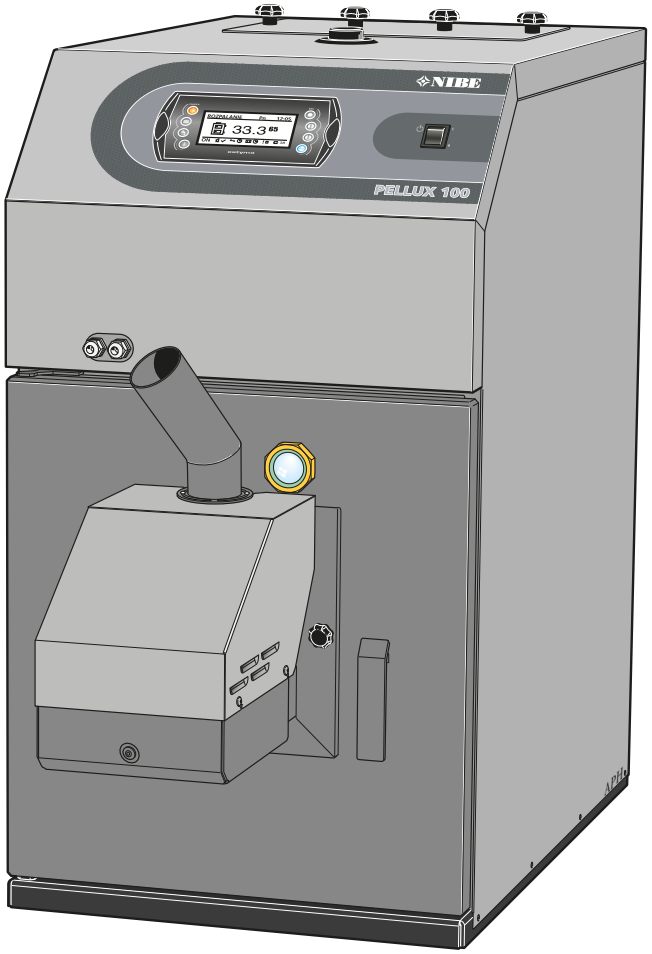
MOS GB 1411-1
PELLUX 100
331139

INSTALLATION AND MAINTENANCE INSTRUCTIONS

PELLUX 100



NIBE

For Home Owners

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General

Thank you for relying on us to supply your boiler and congratulations on choosing PELLUX 100, a high quality pellet boiler with a long service life.

In order to get the ultimate benefit from your PELLUX 100 you should read through these Installation and Maintenance Instructions.

PELLUX 100 is a boiler intended for firing with wood pellets. The boiler is intended for houses with waterborne heating.

The controls are gathered and easily viewed in the front panel.

The serial number*, must always be stated in all correspondence with NIBE. **069**_ _ _ _ _ _ _ _ _ _ _
Installation date
Installation engineers
Setting "Max boiler temperature" (60 ºC at delivery)
"Fuse size" setting (On delivery: 16 A)
"Heating curve offset" setting (On delivery: 10)
"Heating curve offset" setting (On delivery: -2)
Make any changes to the default settings here.
Datum_____ Sign_____

*The serial number is located on the left of the top of the housing.

NOTE

PELLUX 100 must be installed by approved and competent personnel in accordance with the manufacturer's instructions and applicable regulations, norms and laws.

Failure to do so will void the warranty.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

System description

Area of use

PELLUX 100 is heating boiler intended for heating houses and other small buildings.

Product description

PELLUX 100 is a boiler developed for pellet firing.

An upright convection system and automatic sweeping facilitate cleaning. This also gives a high and even level of efficiency. A generously sized ash and soot box facilitates the normal maintenance.

PELLUX 100 has a top connection and is equipped with automatic charging for preparation of domestic hot water. PELLUX 100 is also equipped with a climate controlled automatic shunt.

Available output with pellet operation is 20 kW.

Heating

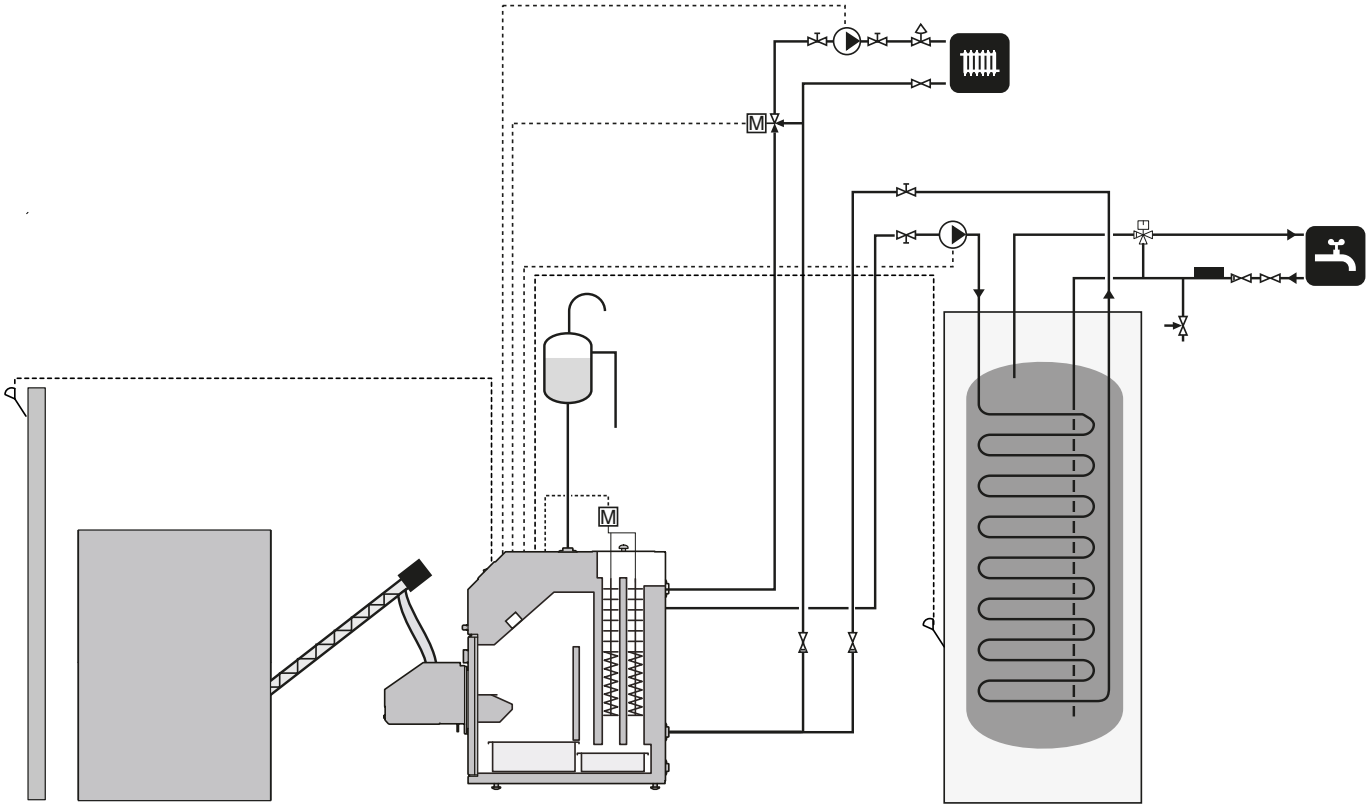
The boiler water is led from the top of the boiler to the radiator circuit via a shunt valve, where the desired temperature to the radiators is maintained by mixing the hot boiler water with the cooled return water from the radiator circuit.

Hot water heating

The boiler is equipped with automatic charging to charge an external water heater.

The external circulation pump starts when the temperature in the heater falls below the set values.

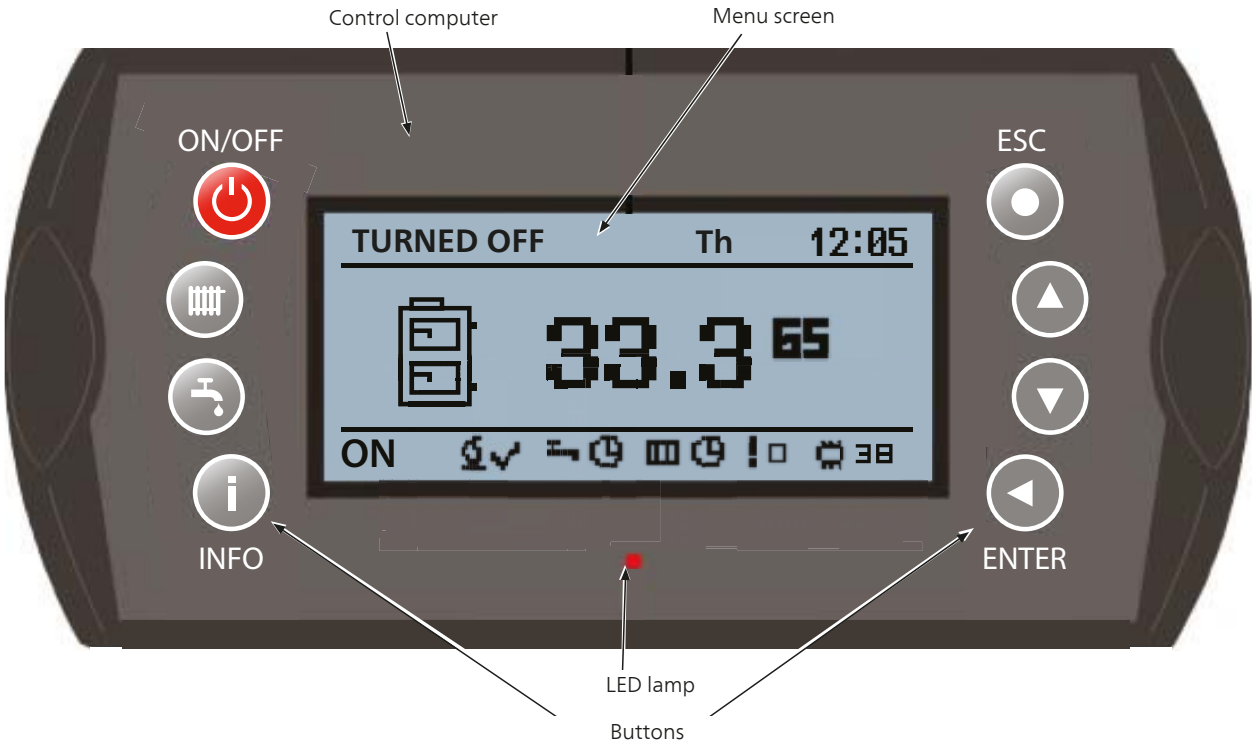
System diagram



NOTE

This is an outline diagram. Actual installation must be project planned according to applicable norms.

Front panel



The control computer has two different menus that are displayed in the menu window:

Simplified - gives quick access to the control computer basic functions. Enter the simplified menu by pressing the Up or Down arrow.

Main menu - gives access to all functions in the control computer. Enter the main menu by pressing Enter.

To quickly return to the start menu press ESC until you are back.

Functions on the front panel

LED lamp	Continuous green light.	Control computer OFF.
	Pulsing green light.	Control computer on. Burner off.
	Continuous orange light.	Control computer on. Burner on.
	Pulsing orange light.	Burner in function.
	Continuous red light.	Unacknowledged alarm
	Pulsing red light.	Acknowledged but remaining alarm.

On/Off. Press the On/Off button for a minimum of 3 seconds to start or switch off the control computer.

NOTE

The boiler does not switch off!

It is only the control computer that is switched off.

Heating. Allows possibility of setting the different parts of the heating system.

HW. Allows possibility of setting the different parts of the hot water system.

INFO. Opens the alarm table so that you can acknowledge an alarm and check which alarms have not been rectified in the alarm log.

Escape. Moves up a level in the menus or erases a parameter setting.

Arrow up. Makes it possible to navigate in the menus and to raise a set value.

If you find yourself on the start page you can move to the simplified menu by pressing the up arrow.

Arrow down. Makes it possible to navigate in the menus and to lower a set value.

If you find yourself on the start page you can move to the simplified menu by pressing the down arrow.

Enter.

Press Enter to:

- open the menu that you have up at present.
- change to entered value.
- confirm an alarm.

Start and stop

The boiler's burner is fully automatic and manages starting and stopping itself if the control computer is connected and has received the correct settings. For instructions about settings prior to starting the boiler, see *Setting the control computer* on page 20.

Start

Upon first start-up or if the fuel has finished and been topped up, first allow fuel filling to run until the pellets drop out of the flameproof hose. For instructions on how to top up the pellet auger see *Pellet hopper and pellet screw* points 6 - 9 on page 18.

1. To start the boiler press the main switch.
2. To start the burner, hold in the control computer's *ON/OFF* button for at least 3 seconds.
3. 2 stages of cleaning are performed before the burner is lit. (Default setting, can be set between 2–5.) The control computer's menu displays boiler status *CLEANING*.
4. When the cleaning is finished the start process continues.
   - A The control computer displays *LIGHTING*
   - B Pellets are fed into the burner for the set time (default setting 50 seconds).
   - C Lighter and burner fan are started.
   - D The photo cell registers when the pellets are lit and shuts off the ignition pod.
   - E The start-up process begins and the menu displays *START-UP*. This process takes 3 minutes and means that the fan speed and fuel supply increase gradually.
   - F At the end of the start-up process the boiler switches to the set control program.

TIP

Normal firing up takes approx. 9 minutes. If during this time the photocell does not register any flames the lighter will attempt to light a maximum of 5 times.

If no flames are registered after 5 attempts an alarm is given and the firing up attempt is stopped.

Stop

1. To stop the burner, hold in the control computer's *ON/OFF* button for 3 seconds.
2. The menu displays *SHUTDOWN*.
3. The fuel feed is shut off.
4. The burner fan operates until no flames can be registered.

NOTE

The control computer does not control the heat pump circulation pumps when the boiler is stopped in this way.

In order for the control computer to control the heating system's circulation pumps, the simplified menu must be used when stopping. This means that only the burner shuts down, the control computer is still operational.

1. Go to the burner menu.
2. Press Enter.
3. Scroll to Settings using the Up or Down arrow.
4. Confirm using Enter.
5. Scroll to *Burner operation* and click Enter.
6. Use the Down arrow to change from Yes to No.
   - A The stop sequence is started immediately.
   - B The control computer still controls the heating system's circulation pumps.

NOTE

Emergency stop

Switch off the boiler at the main switch. This means that all processes are stopped.

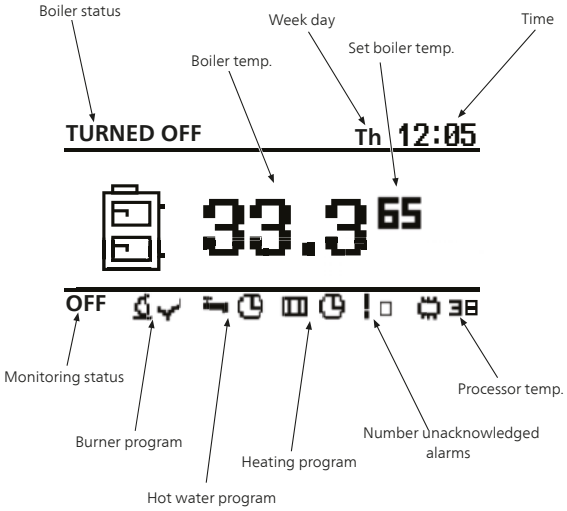
Remember that the remaining fuel will not be extinguished but must burn out.

Control

General

All the most common settings are made from the panel as well as control computer instructions such as comfort temperature etc. In order for the installation to be used optimally, certain default settings must have been made and the installation carried out according to the relevant instructions.

Start page



This is the menu that appears when PELLUX 100 is in its normal/start position. The menu displays boiler status, set temperature for the boiler and its current temperature. It is also possible to see the date, time, whether the control computer is being used or not, the running heating program, the number of alarms as well as the processor temperature.

Boiler status

Boiler status states what the boiler is doing right now.

Status	Explanation
OFF	Burner OFF and boiler monitoring are not running.
Cleaning	Cleaning the boiler.
Firing up	Settings of fuel volume for firing up, start of the firing up sequence and fans.
Starting	When the fuel has been ignited and a flame can be detected, the fuel volume is increased until the correct amount and speed is reached.
Power 1	The burner operates at 30 to 50 % power.
Power 2	The burner operates at a preset value between 50 and 100 % power.
Modulation type	The burner operates at a level adjusted by the control computer between 30 and 100 % power.
Burning off	Extinguishes the fire and controls the fans until the flames have died down completely.
Stop	The burner does not operate when the boiler set temperature has been reached.

Control computer

The boiler is controlled by a computer that ensures that all component parts work in the most efficient way for the relevant operation.

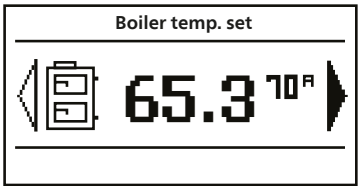
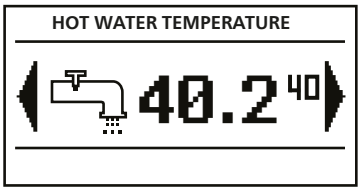
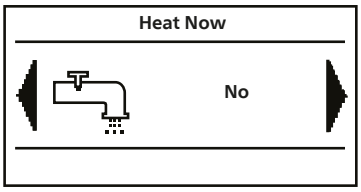
The control computer controls and monitors heating and hot water production and provides information about set control conditions. In the event of a malfunction, an alarm and warnings are transmitted to the display to keep the user informed about the conditions at all time.

The control computer controls the boiler in a way that prevents damage to the installation.

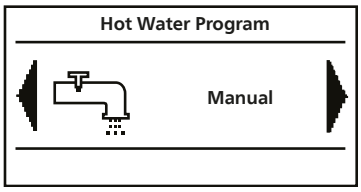
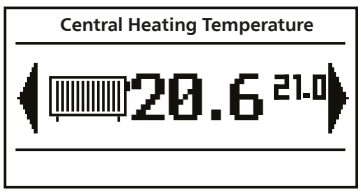
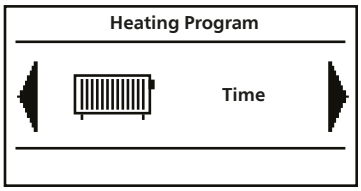
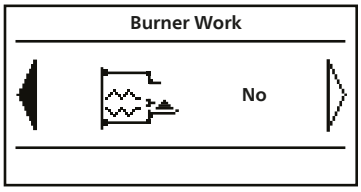
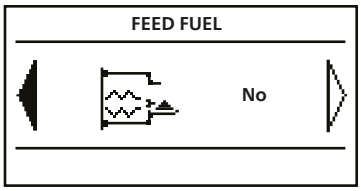
Simplified menu
Menu tree

1 - Main menu	1.1 - Boiler temp. set	1.1.1 - BOILER TEMPERATURE
	1.2 - HOT WATER TEMPERATURE	1.1.2 - Selection of H.W. temperature
	1.3 - HEAT NOW	1.1.3 - Start and stop of Heat now
	1.4 - HOT WATER PROGRAM	1.1.4 - Selection of control for hot water. Start and stop.
	1.5 - HEATING TEMPERATURE	1.1.5 - Selection of heating temperature
	1.6 - HEATING PROGRAM	1.1.6 - Selection of control for heating. Start and stop.
	1.7 - BURNER WORK	1.1.7 - Burner ON/OFF
	1.8 - FEED FUEL	1.1.8 - Feed fuel ON/OFF

After opening the simplified menu using either the Up or Down arrows these can be used for orientation in the menu that one wishes to look at. When you have found the menu that you wish to change or see sub-menus in open it by pressing Enter.

Menu	Explanation
	You can see the heat pump's present (large digits) and the set temperatures (small digits) here. To change the set boiler temperature, press Enter.
	You can see the hot water's present (large digits) and the set temperatures (small digits) here. To change the set hot water temperature, press Enter. **NOTE** *This is an accessory and only works if connected and all settings made in the control computer.*
	Here you can temporarily allow the boiler to heat the hot water to a comfortable temperature regardless of the settings. **NOTE** *This is an accessory and only works if connected and all settings made in the control computer.*

Front panel

Menu	Explanation
	There are three different hot water controls: 1. **Time** - heats the hot water in relation to the set time intervals. 2. **Manual** - ensures that the hot water always maintains a comfortable temperature regardless of the set time intervals. 3. **Switch off** - no hot water produced. **NOTE** *This is an accessory and only works if connected and all settings made in the control computer.*
	You can see the room temperature in room number 1 (large digits) and the set temperatures (small digits) here. To change the set room temperature, press Enter.
	Heat regulation for: 1. **Time** - heats the section in relation to the set time intervals. 2. **Permanent** - ensures that the section always maintains a comfortable temperature regardless of the set time intervals. 3. **Switch off** - no heating produced. 4. **Economy** - runs according to the set values for optimum economy.
	Here you see if the burner has permission to operate. If the burner does not have permission to operate the control computer monitors the heating system but does not start the burner even if the boiler/heating system temperature falls below the set values.
	Manual start of fuel feed from the pellet hopper. After filling an empty pellet hopper this function must be used until the fuel starts to come out of the fire proof hose from the pellet auger.

Heating settings

General

The indoor temperature depends on several factors.

- Sunlight and heat emissions from people and household machines are normally sufficient to keep the house warm during the warmer parts of the year.
- When it gets colder outside, the heating system must be started. The colder it is outside, the warmer radiators and floor heating systems must be.

After default setting the different values in the control computer, boiler operation is adjusted automatically to give the best possible indoor climate.

Controlling heat production

There are two main ways of controlling heat production from the boiler.

Outdoor sensor

The boiler heats the water and shunts the temperature required at a certain outdoor temperature. This occurs automatically on the basis of the collected temperature values from the outdoor sensor and sensors on the lines to the radiators (flow line sensors).

The temperature information that the outdoor sensor (mounted on an exterior wall of the house) sends to the boiler's control computer senses variations in the outdoor temperature early on. It does not have to be cold inside the house before the control system is activated, as soon as the temperature drops outside, the temperature of the water to the radiators inside the house is increased automatically .

Room sensor

The room sensor measures the temperature in the room and offsets the supply temperature. If the temperature in the room exceeds or falls below the set value of the room sensor the temperature of the supply line is reduced respectively increased by an automatic device.

Radiator temperature

The temperature of the radiators in relation to the outdoor temperature can be determined by you by selecting supply temperature.

Setting the automatic heating control system

Go to the central heating menu for setting different temperatures, settings are made under both settings and service. See *Setting the control computer* page 20 for instructions

NOTE

Wait one day between settings so that the temperatures have time to stabilise.

Basic values for the automatic heating control

Remember that with underfloor heating systems the temperature of the supply line must be controlled in relation to whether the floor structure is concrete or wood. The supply temperature can be set higher for wood floor structures.

Readjusting the default settings

If the required room temperature is not obtained, readjustment may be necessary.

Changing the room temperature manually

If you want to temporarily or permanently increase or lower the indoor temperature adjust the value in the menu Central heating/Select Heating circuit/Settings/Comfort temperature or Program or Economy temperature.

NOTE

An increase in the room temperature may be inhibited by the radiator or underfloor heating thermostats, if so these must be turned up.

Dealing with malfunctions and maintenance

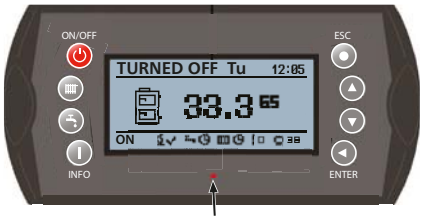
General

Alarm

In event of unacknowledged alarm the LED lights with a continuous red light.

In event of an acknowledged alarm the LED on the control computer lights with a flashing red light.

To see what has occurred, go in under the Alarm menu where you will find an alarm code. For explanation of alarm codes see page 41.



LED lamp

Pellet burner

Ensure that the pellet burner is always optimally adjusted to obtain the best economy and minimum environmental impact. Checking and adjusting is carried out by a specialist and should be carried out before every firing season.

Circulation pump

Even if the circulation pump, for a longer period is set to "OFF", the boiler's computer will run the pump for 3 minutes twice a day. This is so that the circulation pump does not jam.

Sweeping

Fire regulations state at what intervals a boiler and its chimney must be swept; contact a professional chimney sweep for more information.

⚠ WARNING!

The current to the boiler must be switched off during service and maintenance of the boiler and burner.

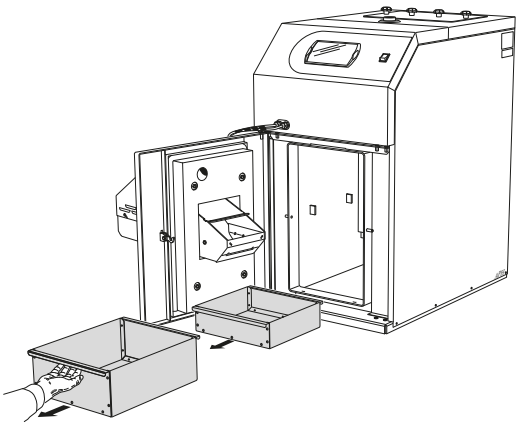
The boiler is equipped with automatic sweeping of the flues, which means that manual sweeping of these is not required between the chimney sweep's normal visits. In order to obtain the optimal efficiency with a modern and correctly adjusted pellet burner the boiler's other fire affected surfaces should be cleaned/swept occasionally between the chimney sweep's visits.

Before the sweep visits, the hatch for any draft limiter must be locked by turning the locking screw a quarter turn to the side of the hatch. This is to prevent soot from entering the boiler room when the chimney is swept. After sweeping the hatch must be unlocked again. For more instructions see the sweeping chapter page 7.

REMEMBER:

When the door for the combustion chamber opens, all current to the pellet burner is automatically cut. The hatch must be fully closed in order for the burner to start incandescing.

Check the optimum setting of the burner flame through the sight glass.



At the bottom of the hearth there is a removable ash box and a soot box. The ash box and soot box are generously sized and have room for ash and soot from two month's normal firing.

NOTE

Ash can still contain glowing embers after a long period of time. Therefore, always use a non-inflammable container and protective gloves when emptying ash and soot.

Causes and actions in event of malfunctions

In the event of a malfunction or disruption to normal operation, first check the points below:

⚠ WARNING!

If work behind covers or panels must be carried out the safety breaker must be locked or the group fuses removed!

The boiler water section must be water filled before starting, otherwise the temperature limiter function may be endangered.

NOTE

A tripped temperature limiter is a warning, if it occurs more than once a repairman must be called.

Low room temperature

- Incorrectly set shunt valve (when manually shunting).
- Tripped temperature limiter. It may have tripped during transportation.
- Air in the boiler or radiator system.
- Closed valve in the radiator circuit.
- The circulation pump is switched off or has jammed, see section. *Auxiliary start of the external circulation pump* page 11.
- Malfunctions in the pellet burner.
- Miniature circuit breaker tripped.
- Max flow line temperature set too low.
- Possible earth circuit-breaker tripped.
- Switch set to 0.
- External control may have blocked the burner.
- Circuit or main MCB tripped.

High room temperature

- Automatic heating control system settings incorrect.

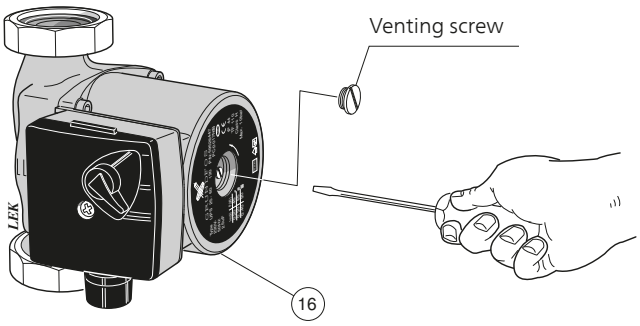
Resetting temperature limiter

There are two temperature limiters on the boiler. One on the boiler and one on the burner.

The temperature limiters break the power to the burner and pellet screw if the temperature exceeds 90 °C.

Before restarting the burner and pellet auger the tripped temperature limiter must be reset, see page 56 for instructions.

Auxiliary start of the external circulation pump



- Shut off the circulation pump.
- Loosen the venting screw with a screwdriver. Hold a cloth around the screwdriver blade as a certain amount of water may run out.
- Insert a screwdriver and turn the pump rotor.
- Screw the venting screw into place.
- Start the circulation pump and check that the circulation pump functions.

It is usually easier to start the circulation pump if it is switched on. If jump starting the circulation pump is performed in the on position, be prepared for the screwdriver to jerk when the pump starts.

NOTE

When returning to normal mode do not forget to reset the shunt knob to its original position by turning the knob until it springs out.

NOTE

The product's serial number should always be stated with all correspondence with NIBE.

069 _ _ _ _ _ _ _ _ _ _ _ _ _ _

Accessory (if connected)

Low hot water temperature

- Abnormally large hot water usage.
- Mixer valve set too low.
- Closed or throttled shut off valves to heat exchanger (or to hot water heater if present).
- Tripped temperature limiter. These may have tripped during transportation.
- External circulation pump set for low capacity, or does not start.
- Too high domestic water flow.
- Malfunctions in the pellet burner.
- Load monitor or external control may have blocked the burner.
- Circuit or main MCB tripped.
- Possible earth circuit-breaker tripped.
- Switch set to 0.
- Incorrectly set operating modes.
- Closed or throttled filler valve for the hot water heater.
- The hot water temperature is set at too low a value.

NOTE

A tripped temperature limiter is a warning, if it occurs more than once an installer must be called.

General information for the installer

Boiler room

The boiler room must be built in accordance with applicable building regulations.

The floor must not be flammable or must otherwise be covered by a 0.7 mm thick steel sheet that extends at least 0.5 m out from the boiler in each direction.

Provision for good air supply. The boiler room's air intake must have an area of at least 200 cm^2.

NOTE

Ensure that sweeping can be carried out in accordance with the applicable regulations. If in doubt, contact a chimney sweep.

Chimney

It is important that the flue is of sufficient diameter and height that over pressure does not occur in the boiler and flue.

The flue pipe must be dimensioned in accordance with building regulations and EN 13384-1 to facilitate a correctly functioning combustion system. The chimney draught is of great importance and should be 15 - 25 Pa. For the best combustion and the lowest environmental impact a draught limiter should be used. The boiler is supplied with a draught limiter and an angled flue pipe for rear connection. Straight flue pipe for connection upwards available as accessory.

The flue needs to be inspected and approved before installation.

Pellets

Good quality pellets ensure good combustion and it is therefore recommended to use pellets that meet *EN Plus A1* specification.

The boiler must be cleaned and swept more frequently if a poorer quality fuel is used.

Pellets must be stored in a dry and clean area.

Connection

Pipes are to be installed in accordance with the applicable heating and hot water standards. Internal support bushes should be fitted when annealed steel or copper pipe is used.

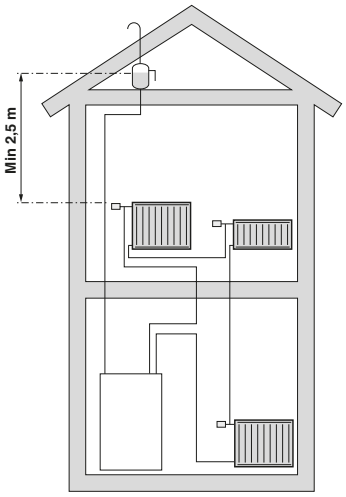
The supplied drain valve is installed in the connection on the boiler's right or left sides.

The overflow pipe from the safety valves must be routed to a floor drain to prevent hot water splashes when checking the valves or when bleeding the boiler. The outlet of the overflow pipe should be visible. The overflow pipe must be laid frost free and sloping along its entire length.

The hot water circuit must be equipped with a mixer valve to prevent scalding.

Current regulations require the heating installation to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person. The installation inspection must be documented. The above applies to installations with a closed expansion vessel. If the boiler or the expansion vessel is replaced, the installation must be inspected again.

If the heating system is equipped with an open expansion vessel, the distance between the highest radiator and the expansion vessel may not be less than 2.5 m.



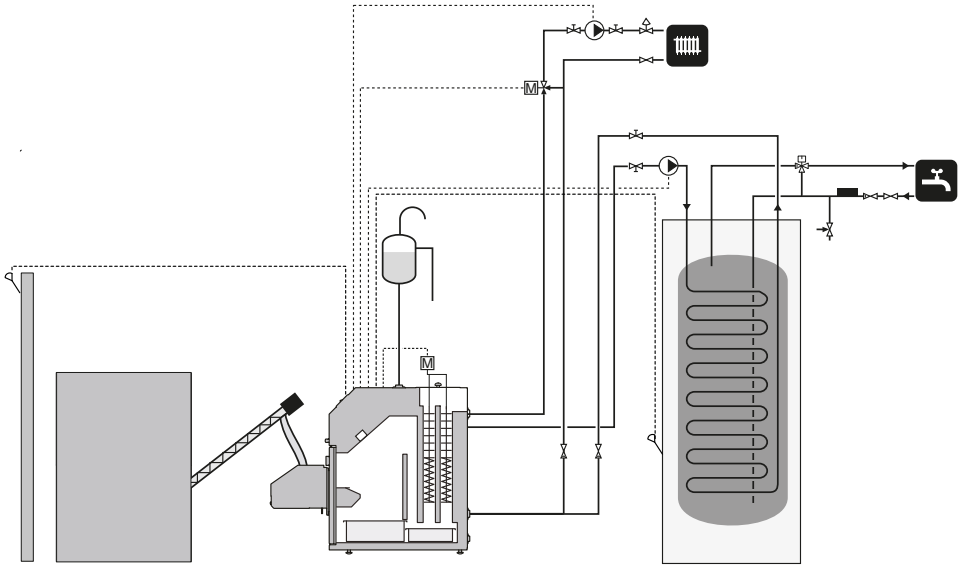
NOTE

The pipe system must be flushed before the boiler is connected so that any residual contaminants will not damage the components.

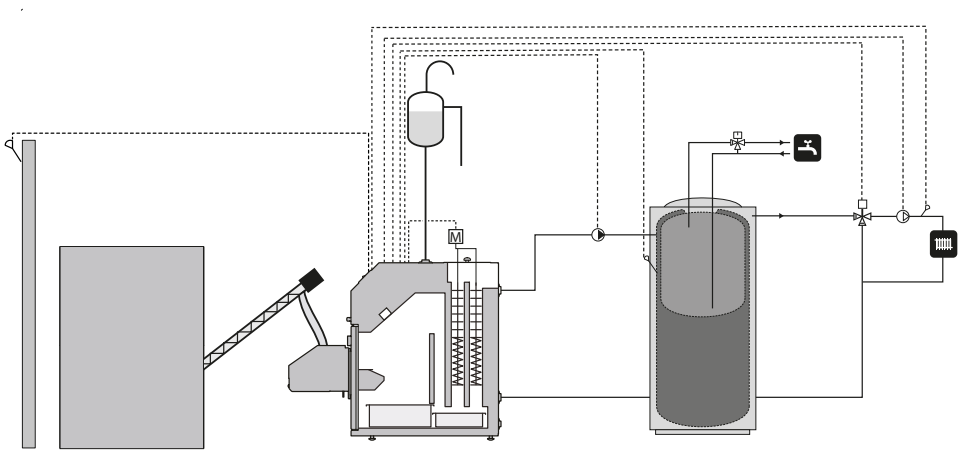
Pipe connections

This shows the outline diagram for pipe installation when one has a water heater, buffer tank or buffer tank with solar heating .

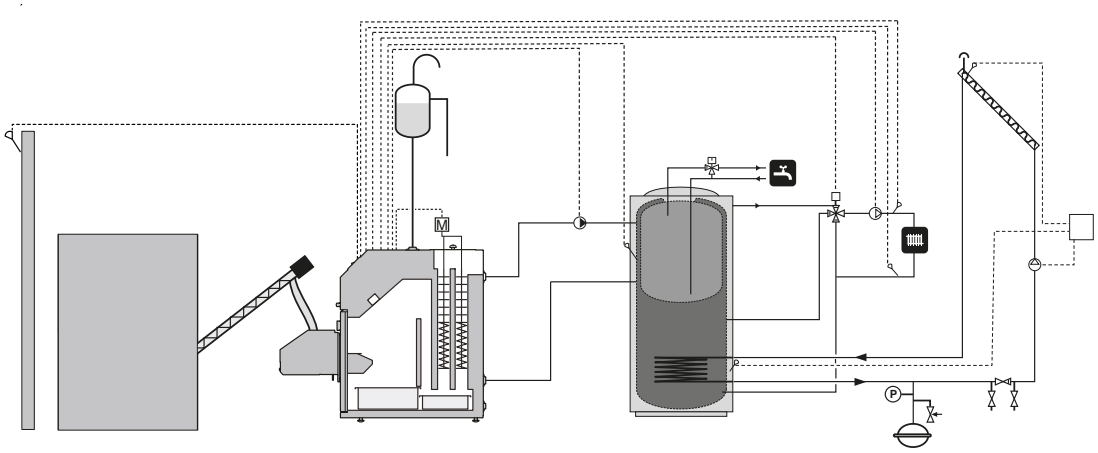
PELLUX 100 standard installation



PELLUX 100 with buffer



PELLUX 100 with buffer and solar heating



Electrical connections

Connection

Disconnect the heat pump before insulation testing the building.

PELLUX 100 must be installed via an isolator switch with a minimum breaking gap of 3 mm.

The boiler requires 230 V NAC 50 Hz

Connect the voltage/supply according to electrical wiring diagram, see page 59.

The boiler must be connected to a dedicated power cable protected by a 10 A fuse and an earth-fault breaker.

NOTE

Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

NOTE

No other consumers may be connected to the boiler's power supply.

Internal fuse protection

The automatic heating control system, circulation pump, burner and their wiring are internally fuse protected by a miniature circuit breaker.

Connecting the control computer

NOTE

Power supply to the heating system must be broken when the control computer is connected!

The control computer must be connected to all units in the heating system to control them. The control computer also requires that certain settings are made before the boiler can be started. For instructions see *Setting the control computer* on page 20.

Extra modules are required to connect all units to the control computer.

Connection is via a CAN-bus, which allows different accessories to be connected, for example:

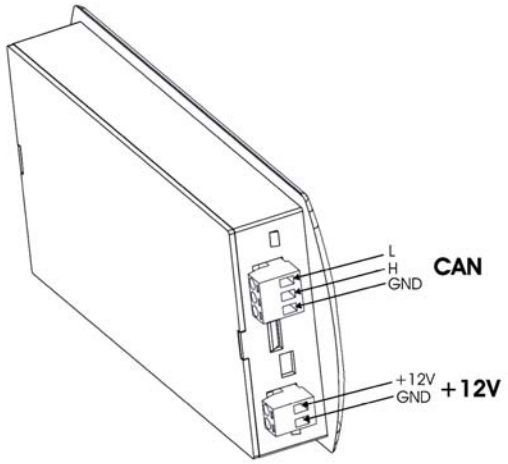
- up to 16 heating circuits.
- two hot water circuits.
- a buffer tank.
- solar heating system.
- extra boiler modules (exhaust fan).
- a lambda sensor.

NOTE

Remember to install a terminator at the end of the CAN-bus to prevent an echo.

There must be a terminator on the CAN bus even if only one module is connected to it.

The control computer is connected to the CAN bus and the power supply according to the image below.

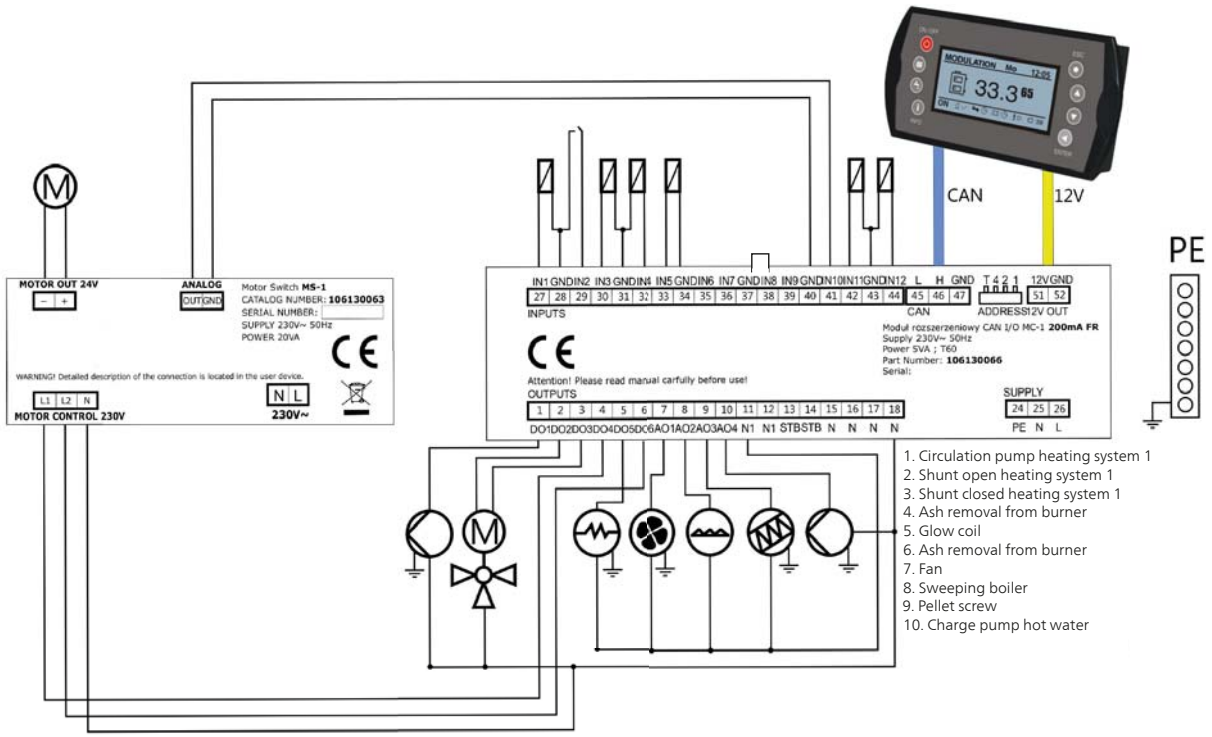


Installing sensors to the control computer

The diagram only shows connection of module 6 to the control computer and the units that can be connected without extra modules.

NOTE

Under no circumstances may the protective earth conductor (PE) be connected to the neutral conductor (N)!



Component	Explanation	Connections
Temperature sensor boiler	--	IN1, GND
Temperature limiter circuit	The safety circuit that stops the burner if it overheats.	IN2, GND
Temperature sensor hot water	--	IN3, GND
Temperature sensor supply line	--	IN4, GND
Room thermostat	--	IN5, GND
Outside temperature sensor	--	IN11, GND
Photocell	Light sensor for the burner	IN12, GND
GDN	Common neutral potential for sensors	
Pump	Circulation pump heating	DO1, N
Shunt motor	Shunt open	DO2, N
Shunt motor	Shunt closed	DO3, N
Grid cleaning L1	Control grid cleaning in module L1	DO4, N
Glow coil	Lighter for burner	DO5, N
Grid cleaning L2	Control grid cleaning in module L2	DO6, N
Fan	Fresh air fan for the burner.	AO1, N1
Pipe cleaning	Control of turbulator cleaning	AO2, N
Pellet screw	--	AO3, N1
Charge pump	Connected to water heater or accumulator	AO4, N
N	Neutral conductor	--
PE	Protective earth	--
Jumper	Must be on the module in order for the burner to work	IN8, GND

Connection burner

- Connect the burner's connection plug to the boiler's burner socket.

Connecting the outside sensor

Install the outdoor temperature sensor in the shade on a north or north-west facing wall, so it is unaffected by the morning sun. The sensor is connected to the CAN-bus module by a twin core cable, see table page 16. The minimum cable cross-section should be 0.4 mm^2 up to 50 m.

Connection of flow sensor

At delivery the flow line sensor is located in front of the shunt motor. Pull out the sensor and install it on the flow line. It is important that the sensor has a good connection with the pipe and that it is well insulated.

External control

Burner

Burner operation can be blocked by connecting a potential free contact to the CAN-bus module (e.g. temperature sensor supply line), see electrical wiring diagram page 16. The burner is blocked when the contact is open.

Output for external circulation pump

External circulation pump (e.g. hot water pump) is connected to the CAN-bus module, see electrical wiring diagram, page 16. The pump is operated using the set value in the control computer.

Output for shunt motor control

Shunt motor for controlling supply temperature is connected to the CAN-bus module, see electrical wiring diagram, page 16. The shunt motor is operated using the set values in the control computer.

Data for outdoor temperature sensor

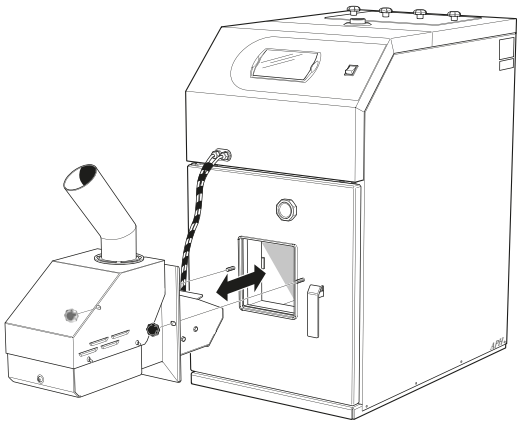
Temperature (°C)	Resistance Min. (kΩ)	Resistance Nominal (kΩ)	Resistance Max. (kΩ)
-40	329.927	345.275	361.300
-30	173.153	180.031	187.164
-20	95.009	98.187	101.460
-10	54.247	55.745	57.278
0	32.101	32.813	33.537
10	19.621	19.956	20.296
20	12.351	12.504	12.657
25	9.900	10.000	10.100
30	7.952	8.050	8.148
40	5.227	5.314	5.401
50	3.517	3.589	3.662
60	2.418	2.476	2.536
70	1.695	1.743	1.791
80	1.211	1.249	1.288
90	0.881	0.911	0.943
100	0.651	0.675	0.701
110	0.488	0.508	0.529
120	0.372	0.388	0.405
125	2.18	0.341	0.356

Data for hot gas sensor/boiler sensor

Temperature (°C)	Resistance Nominal (kΩ)	ΔR (%)
-40	332.1	2.66
-30	175.2	2.17
-20	96.36	1.71
-10	55.05	1.29
0	32.56	0.89
10	19.87	0.52
20	12.49	0.17
25	10.00	0.00
30	8.059	0.16
40	5.330	0.47
50	3.606	0.77
60	2.490	1.05
70	1.753	1.31
80	1.256	1.57
90	0.9154	1.81
100	0.6773	2.04
110	0.5083	2.26
120	0.3866	2.47
125	0.2977	2.67

Installing the boiler

Burner



The burner is installed in the outlet for the burner on PELLUX 100s burner hatch. The burner is then secured into position using the knobs supplied for the burner.

Pellet hopper and pellet screw

PELLUX 100 fuel is fed from a pellet hopper of an external pellet screw. The pellet screw should be inclined at a rising angle of 35-45° for best function and most even pellet feed. The pellet screw that is used should feed approx. 10 kg/h at continuous operation. The hose must be a little bent and the hose connections slightly offset from each other.

The pellet screw and pellet hopper are accessories, recommended pellet hopper and pellet screw are:

- Nibe pellet hopper ZP 300
- pellet screw from the Nibe PP series.

which are specially adapted to work together with PELLUX 100.

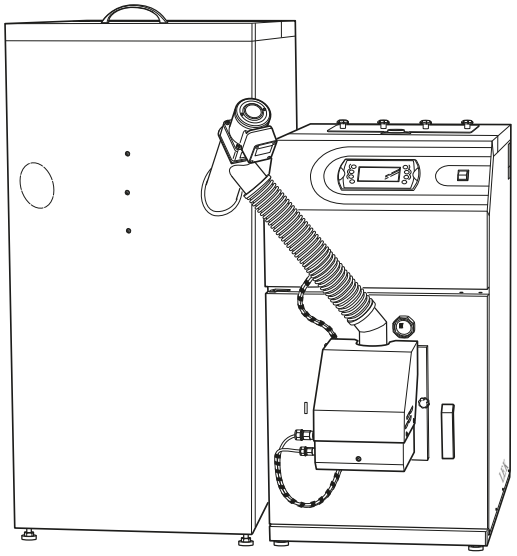
The pellet store should be positioned as close to the boiler as possible or on the left-hand side.

NOTE

Use only one of the fireproof hoses supplied with the feed screw to connect the pellet screw to the burner!

NOTE

Ensure that the boiler door cannot be opened when the fireproof hose is connected to the boiler!



1. Position the pellet hopper in a suitable location and open the appropriate hole in the front.
2. Install the pellet screw in the opened hole and to the feed pipe in the bottom of the pellet hopper.
3. Install the hose and hose clips on the pellet screw outlet pipe and the burner feed pipe.
4. Make any adjustments of the hose lengths. The hose must have slight bends to prevent sawdust collecting in it. The pellet screw outlet section must be slightly offset in relation to the burner's inlet section.
5. Connect the pellet screw connector to the burner and connect it to the control computer.
6. Detach the hose from the supply pipe and run the pellet auger via the control computer to supply pellets.
   - A Open the simplified menu using the up or down arrow.
   - B Scroll to *Fuel supply* with Up arrow.
   - C Open using Enter.
   - D Set to Yes
7. When pellets drop down through the hose, preferably into a bucket, run for an extra minute to ensure an even supply.
8. Stop the supply by setting *Fuel supply* to No. (see point 6).
9. Reinstall the hose on the feed pipe.

Draft limiter

The draft is dependent on the chimney's cross-section, height, position of the building, wind conditions, outdoor temperature, boiler output, flue gas temperature and soot build-up.

The majority of today's boilers are installed on and connected to older chimneys. Sometimes the chimneys have a cross-section and insulation that is not suitable for replacement between different fuels.

Great deviations in draft can cause different conditions in the boiler's firebox. To minimize this as well as the risk of any damage caused by condensation in the chimney, there is a draft equaliser (draft limiter, supplied) that is adapted for installation on the boiler's flue pipe.

Installing the draft limiter for chimneys

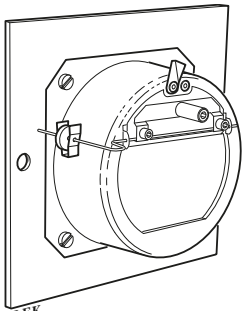
The draft limiter has a design that makes installation on the flue pipe possible in all positions. Vertical, angled as well as horizontal. The draft limiter is installed on an adjustable panel that replaces the existing soot hatch.

Adjusting vacuum

Adjust the vacuum when the hatch is opened by pressing the clamp together in which the weight is located and move it along the shaft. Alter the vacuum by 1 Pa per 2 mm, when moving the weight. These are approximate values and must be checked using a draft gauge if exact values are required.

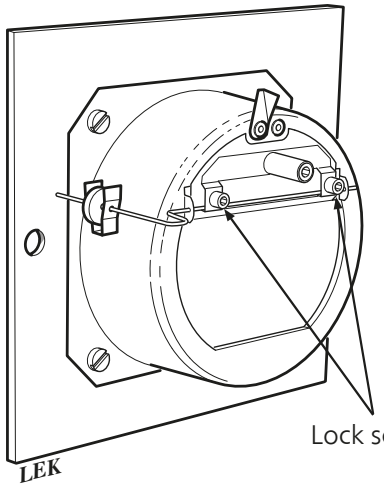
Upon delivery, the hatch is set at 10 Pa.

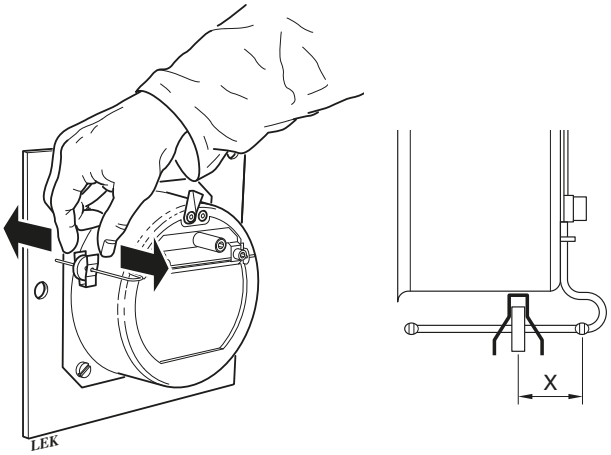
At the correct setting, the hatch must open smoothly and evenly when the burner is not in operation.



Adjusting the balance shaft

After installation, slacken off the two locking screws slightly and turn the balance shaft so that it is horizontal when the hatch is closed. Then tighten the screws.

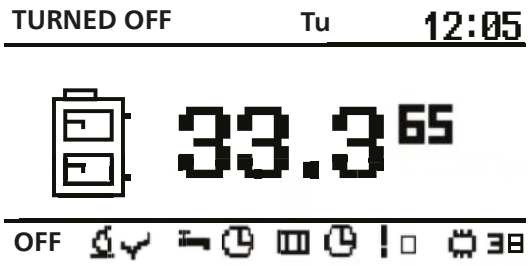
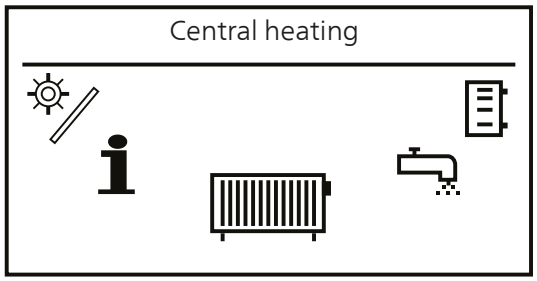
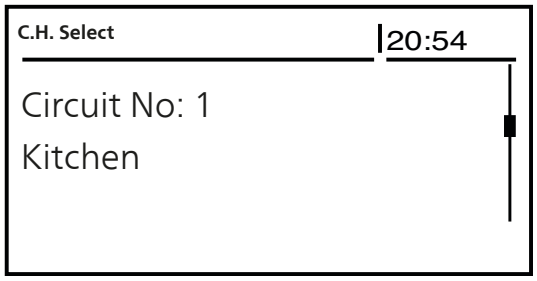
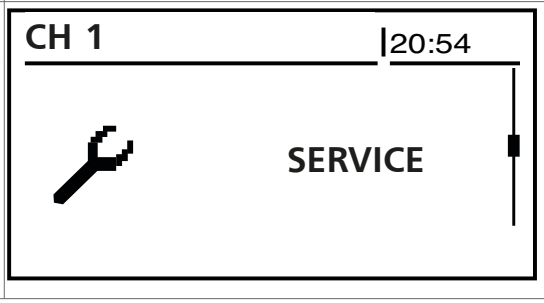


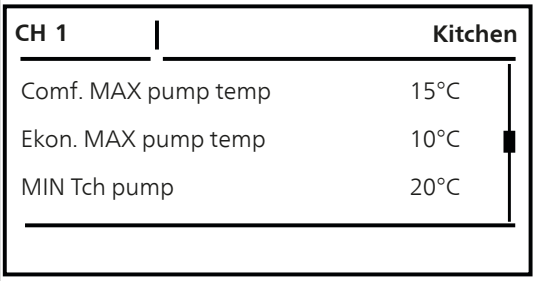
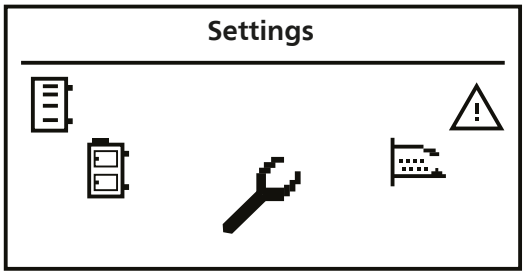
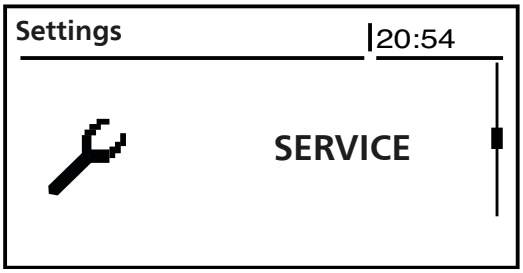
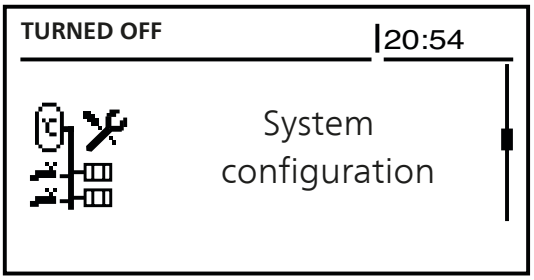
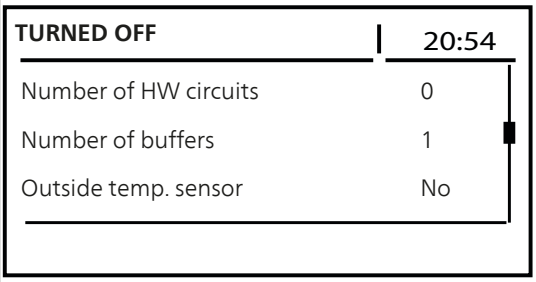


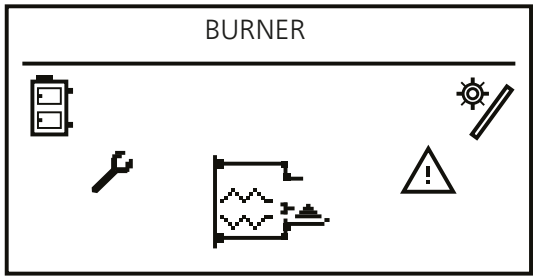
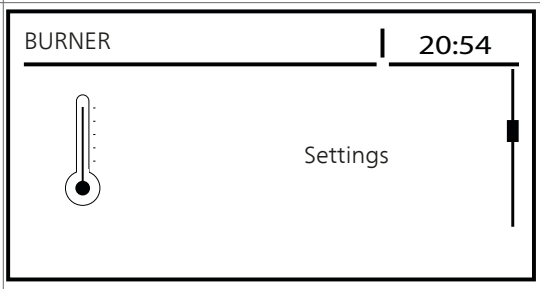
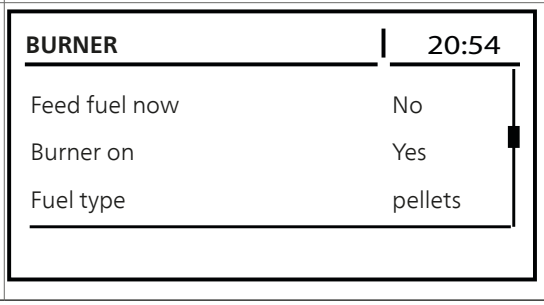
Setting the control computer

Before you can use the boiler for the first time, certain values must be set and certain functions must be started.

E.g. the supply temperature sensor must be activated and temperatures for the supply line set etc.

Step	Menu
1. In the start menu, press Enter to open the extended menu.	
2. When the extended menu opens, the central heating menu appears first, press Enter to open the menu.	
3. Scroll using the Up and Down arrows until the correct section appears in the menu. **4.** Press Enter to access the menu for the selected section.	
5. Using the Up and Down arrows scroll to the service menu. **6.** Click Enter to open the service menu, see instructions on page 23 for logging in.	

Step	Menu
7. Using the Up and Down arrows scroll to: ■ *Min. supply temperature*, click enter to open and set the minimum supply temperature to the lowest value (+20 °C). ■ *Supply temp. -20 °C 70 °C*, click enter to open and set the supply temperature for outdoor temperature -20 °C. ■ *Supply temp. 0 °C 50 °C*, click enter to open and set the supply temperature for outdoor temperature -0 °C. ■ *Supply temp. +10 °C 40 °C*, click enter to open and set the supply temperature for outdoor temperature +10 °C. ■ *Operating mode*, click enter to open and select Weather if you have an outdoor temperature sensor. ■ *Offset heating curve*, click enter to open and set the change of supply temperature for when the outdoor temperature changes 1 °C. ■ *Supply temperature sensor*, click enter to open and select Yes if you have a supply temperature sensor. ■ *Permanent pump*, if your system is controlled by an outdoor sensor and supply temperature sensor, click enter to open and select Yes. Confirm all these settings with Enter.	
8. Click Escape until you are back in the extended menu. **9.** Using the Up and Down arrows scroll to: *Settings*. **10.** Press Enter to access the settings menu.	
11. Using the Up and Down arrows scroll to: *Service*. **12.** Press Enter to open the service menu, see instructions on page 23 for logging in.	
13. Using the Up and Down arrows scroll to: *System configuration*. **14.** Press Enter to open the system configuration menu.	
15. Using the Up and Down arrows scroll to: *Outdoor temperature sensor*. **16.** Press Enter to open the outdoor temperature sensor menu. **17.** Set the outdoor temperature sensor to Yes.	

Step	Menu
18. Check that the burner is instigated. Using the Up and Down arrows, scroll to: *Burner*. **19.** Press Enter to open the burner menu.	
20. Using the Up and Down arrows scroll to: *Settings*. **21.** Press Enter to open the settings menu.	
22. Set *Burner on* to Yes.	

This is the minimum of what must be activated and set for the boiler to be started safely.

Depending on which accessory you have for your boiler, there are other values that must be activated and this is done as follows. E.g. Number of heating circuits, Number of HW circuits etc.

Default setting burner

Go to Burner/Service in the control computer's menu and set these values.

Menu	Value
Amount of air min (30%)	15
Amount of air max (100%)	30
Supply max (100%)	7,3
Power min (FL2)	30
Power max (FL2)	100
Modulation type	FL2
Photocell	50
Fuel weight	12 gr
Heating value	5,5
Amount of oxygen min (30%)	14
Amount of oxygen max (100%)	8
Start dose	50 seconds
Sweeping period	180 minutes
Sweeping cycles	2

Service

Service menus

NOTE

Only for installer/authorised persons!

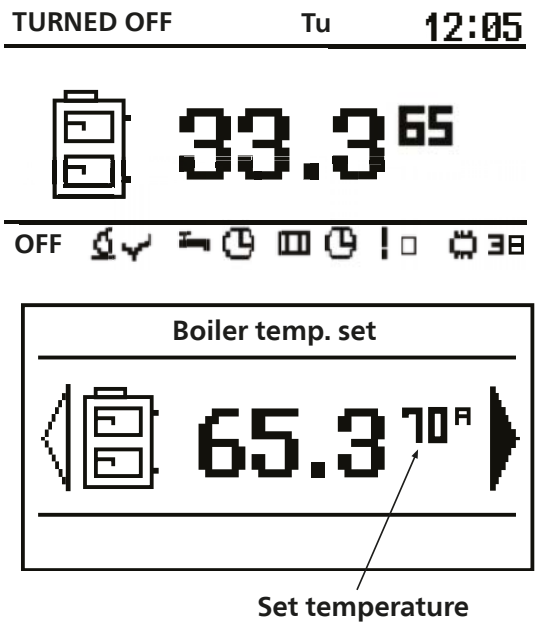
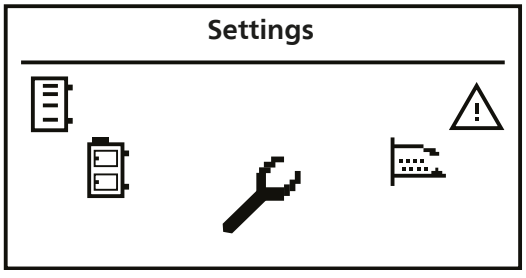
The service menus are password protected. The password is the heat pump's set temperature followed by the letters EST. Set temperature can be read from the control computer's window. The small digits indicate the set boiler temperature.

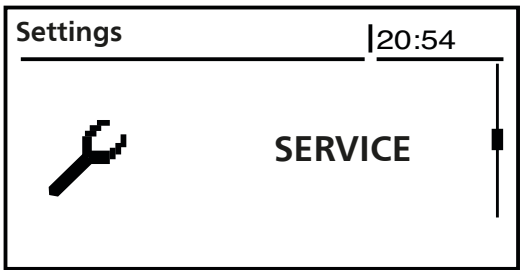
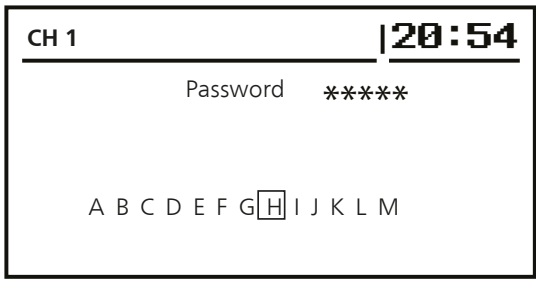
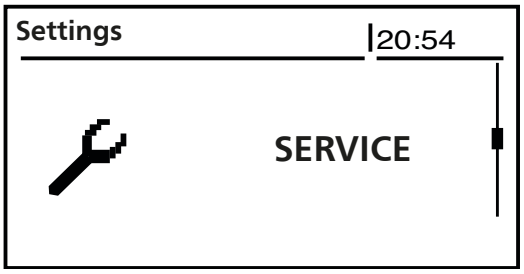
Example: if the heat pump is set to 70 °C the password is therefore 70EST.

The password only needs to be given for a service menu and then applies for everything until the control computer has returned to the basic menu.

The control computer automatically returns to the start menus approx 10 minutes after the last button push.

Example of how to manage the password for Service modes:

Step	Menu
1. Start by checking the set boiler temperature in the start menu. **2.** The small digits indicate the set temperature, in this example 70 °C. (Default setting 60 °C.) **3.** Click Enter to open the extended menu. **4.** Scroll using the Up and Down arrows.	
5. When you get to a menu you wish to use, for example *Settings*, click Enter to open that menu. **6.** Scroll to the *Service* menu using the Down arrow.	

Step	Menu
7. Open the menu using Enter.	
8. Enter the password using the Up and Down arrows and then Enter. (Password = set boiler temperature + EST. Example of password: 70EST.)	
9. When you have entered the correct password you are automatically returned to the menu *Settings*/*Service* **10.** Open the *Service* menu using Enter.	

For information about menus and their content see chapter *Extended menus* page 31 and further on.

Menu tree

This menu tree requires the use of the down arrow when navigating the menus.

Main menu

1 - Main menu	1.1 - Central heating
	1.2 - Hot Water*
	1.3 - Buffer*
	1.4 - Boiler
	1.5 - Settings
	1.6 - BURNER
	1.7 - Alarms
	1.8 - SOLAR*
	1.9 - INFO

*Accessory needed.

Central heating

1.1 - Central heating	1.1.1 - C.H. SELECT	1.1.1.1 - STATE	1.1.1.1.1 - State overview
		1.1.1.2 - SETTINGS	1.1.1.2.1 - Comfortable temp.
			1.1.1.2.2 - Programme
			1.1.1.2.3 - Economical temp.
		1.1.1.3 - TIME PROG.	1.1.1.3.1 - Setting the boilers running schedule.
		1.1.1.4 - SERVICE	- Password
			1.1.1.4.1 - Comf. MAX pump temp.
			1.1.1.4.2 - Econ. MAX pump temp.
			1.1.1.4.3 - MIN Tch pump
			1.1.1.4.4 - Source
			1.1.1.4.5 - Temperature MAX
			1.1.1.4.6 - Mixer time
			1.1.1.4.7 - Hot water priority
			1.1.1.4.8 - Pump test
			1.1.1.4.9 - Mixer test
			1.1.1.4.10 - Circ. name
			1.1.1.4.11 - CH temp for -20 °C 70 °C
			1.1.1.4.12 - CH temp for 0 °C 50 °C
			1.1.1.4.13 - CH temp for 10 °C 40 °C
			1.1.1.4.14 - CH temp. corr. factor
			1.1.1.4.15 - STATE
			1.1.1.4.16 - Manual Tch
			1.1.1.4.17 - Room temp. sensor
			1.1.1.4.18 - CH temp. sensor
			1.1.1.4.19 - Permanent pump

Hot water

1.2 - Hot Water*	1.2.1 - Choose HW circuite	1.2.1.1 - STATE	1.2.1.1.1 - Overview state. C.H. 1
		1.2.1.2 - Settings	1.2.1.2.1 - Comfortable temp.
			1.2.1.2.2 - Programme
			1.2.1.2.3 - HOT WATER
			1.2.1.2.4 - Hysteresis
			1.2.1.2.5 - Economical temp.
		1.2.1.3 - TIME PROG.	1.2.1.3.1 - Setting the boilers running schedule.
		1.2.1.4 - SERVICE	- Password
			1.2.1.4.1 - Source delta
			1.2.1.4.2 - Source
			1.2.1.4.3 - Temperature MAX
			1.2.1.4.4 - Delta MIN temp.
			1.2.1.4.5 - Pump test
			1.2.1.4.6 - Circ. name

*This is an accessory and must be activated to work.

Accumulator

1.3 - Buffer*	1.3.1 - BUFFER 1	1.3.1.1 - STATE	1.3.1.1.1 - Overview
		1.3.1.2 - Settings	1.3.1.2.1 - Upper set temperaure
			1.3.1.2.2 - Lower set temperaure
			1.3.1.2.3 - Programme
		1.3.1.3 - TIME PROG.	1.3.1.3.1 - TIME PROG.
		1.3.1.4 - SERVICE	- Password
			1.3.1.4.1 - Minimal pump temp.
			1.3.1.4.2 - Auto upper temp.

*This is an accessory and must be activated to work.

Boiler

1.4 - Boiler	1.4.1 - STATE	1.4.1.1 - Boiler overview
	1.4.2 - Settings	1.4.2.1 - Boiler temp. set
	1.4.3 - SERVICE	- Password
		1.4.3.1 - Minimal pump temp.
		1.4.3.2 - STATE
		1.4.3.3 - Hysteresis
		1.4.3.4 - MIN return temp.
		1.4.3.5 - RETURN mixer time
		1.4.3.6 - Boiler pump test
		1.4.3.7 - Return mixer test
		1.4.3.8 - Heat Ex. clean begin t.
		1.4.3.9 - Heat Ex. clean end time
		1.4.3.10 - HeatEx. clean. out.test

Settings

1.5 - Settings	1.5.1 - TIME AND DATE	1.5.1.1 - Setting time and date	
	1.5.2 - LANGUAGE	1.5.2.1 - Language selection	
	1.5.3 - GENERAL SETTINGS	1.5.3.1 -Alarm buzzer	1.5.3.1.1 - Alarm buzzer setting
	1.5.4 - SERVICE	- Password	
		1.5.4.1 - MODULES CONFIGURATION	1.5.4.1.1 - Modul 0
			1.5.4.2.1 - Modul 1
			1.5.4.3.1 - Modul 2
			1.5.4.4.1 - Modul 3
			1.5.4.5.1 - Modul 4
			1.5.4.6.1 - Modul 5
			1.5.4.7.1 - Modul 6
			1.5.4.8.1 - Modul 7
			1.5.4.9.1 - Modul Lambda
		1.5.4.2 - SYSTEM CONFIGURATION	1.5.4.2.1 - Number of CH circuits
			1.5.4.2.2 - Number of HW circuits
			1.5.4.2.3 - Number of buffers
			1.5.4.2.4 - Outside temp. sensor
			1.5.4.2.5 - Return temp. sensor
			1.5.4.2.6 - SOLAR
		1.5.4.3 - RESTORE FACTORY SETTINGS	1.5.4.3.1 - Save changes? YES/NO

Burner

1.6 - BURNER	1.6.1 - STATE	1.6.1.1 - Burner overview
	1.6.2 - Settings	1.6.2.1 - Feed fuel now
		1.6.2.2 - Burner on
		1.6.2.3 - Fuel type
	1.6.1 - SERVICE	- Password
		1.6.1.1 - Air MIN (30%)
		1.6.1.2 - Air MAX (100%)
		1.6.1.3 - Feeding MAX (100%)
		1.6.1.4 - Power MIN (FL2)
		1.6.1.5 - Power MAX (FL2)
		1.6.1.6 - Modulation type
		1.6.1.7 - Photo threshold
		1.6.1.8 - Igniter test
		1.6.1.9 - Heater feeder test
		1.6.1.10 - Storage feeder test
		1.6.1.11 - Blower test
		1.6.1.12 - Test fuel mass
		1.6.1.13 - Fuel calorific value
		1.6.1.14 - Lambda control
		1.6.1.15 - Oxygen MIN (30%)
		1.6.1.16 - Oxygen MAX (100%)
		1.6.1.17 - Fuel pre-dose
		1.6.1.18 - Cleaning period
		1.6.1.19 - Cleaning cycles
		1.6.1.20 - Exhaust fan
		1.6.1.21 - Grid cleaning test
		1.6.1.22 - Grid silent cleaning

Alarms

1.7 - Alarms	1.7.1 - Alarm list (shows the latest alarms)

Solar heating

1.8 - SOLAR*	1.8.1 - STATE	1.8.1.1 - Solar overview
	1.8.2 - Settings	1.8.2.1 - Turn on delta
		1.8.2.2 - Turn off delta
	1.8.3 - SERVICE	- Password required if not already given.
		1.8.3.1 - Schematic
		1.8.3.2 - Flow (l/min)
		1.8.3.3 - Fluid specific heat
		1.8.3.4 - MAX HW temp
		1.8.3.5 - Solar alarm temp MAX
		1.8.3.6 - Solar alarm temp min
		1.8.3.7 - Solar pump test

*This is an accessory and must be activated to work.

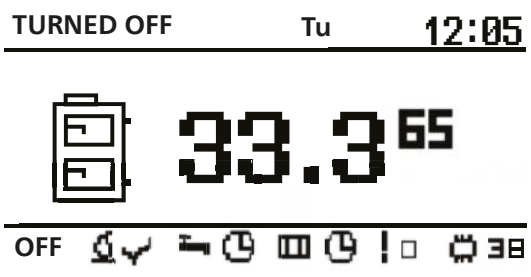
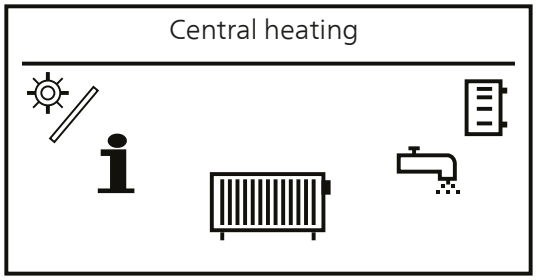
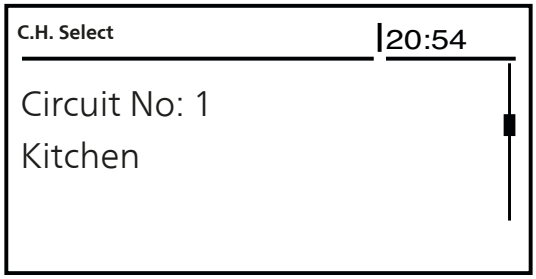
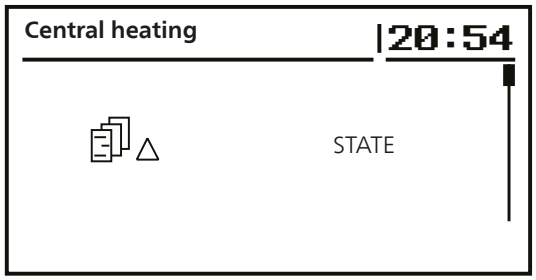
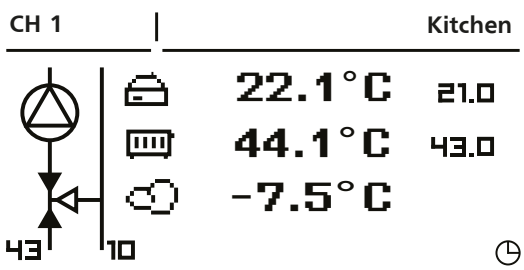
Information

1.9 - INFO	1.9.1 - Overview with information about the control computer

Extended menus

Central heating

To set or check the values for the heating system go to the Heating menu.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the Heating menu, press Enter to access the menu and then select which section you wish to set or check.	
4. Scroll using the Up or Down arrows until the correct section is displayed in the menu. **5.** Press the Enter button to access the menu for the selected section.	
6. You come to a menu where you can select different options using the Up and Down arrow. **7.** Make your selection using Enter, in this case *Operating mode*.	
8. Here you can see: ■ which section you have selected to check, both by number and by name. ■ measured and set values for the room/section. ■ measured and set values for the radiators in the room. ■ measured outdoor temperature. ■ when the valve last operated. ■ preset temperature of the heat source. ■ valve mode. ■ indication of whether the pump is operating or not.	

Heating settings

Function	Description
Comfort temperature	Allows possibility of setting the desired temperature in a room.
Program	1. Temporary - follows set time intervals. 2. Continuous - always maintains the set comfort temperature, regardless of the set time intervals. 3. OFF - 4. Economic - ensures that the most economic temperature is maintained in the room.
Economy temperature	Set room temperature outside the heating period.

Service settings heating

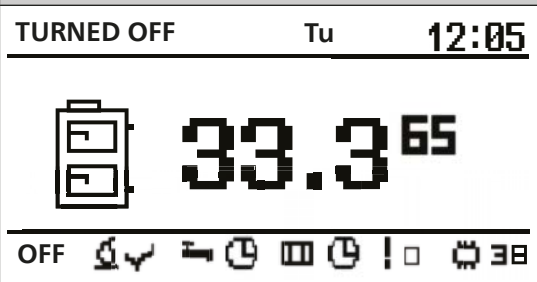
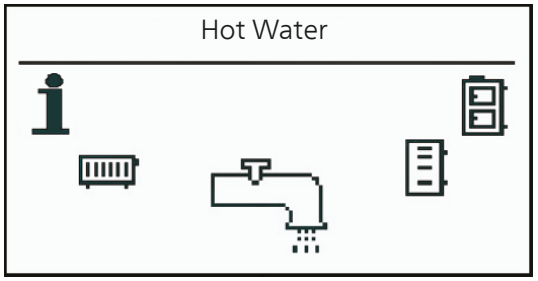
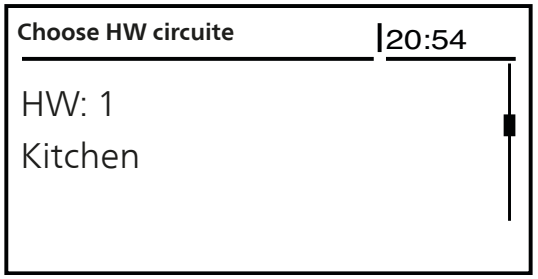
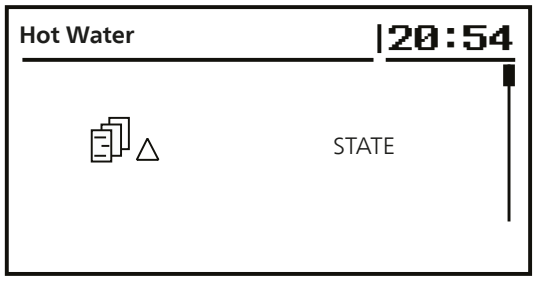
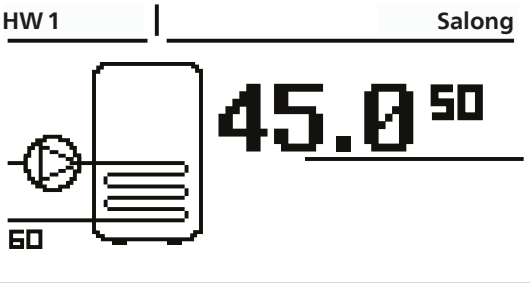
Function	Description
Comf. max pump temp.	Max outer temperature where the circulation pump can operate within the comfort temperature range.
Econ. max pump temp.	Max outer temperature where the circulation pump can operate within the economic temperature range.
Min. flow line temp.	Calculated minimum temperature within which the heating circulation pump can work.
Heat source	Defines the energy source for the heating installation.
Temperature max	Calculated max temperature for the heating installation.
Mixing time	Whole mixing valve opening time.
HW prioritisation	Setting of prioritisation for hot water for each separate circuit. When the hot water is prioritised the circulation pump for heating is not run.
Pump test	Starts the circulation pump regardless of other settings.
Mixing test	Starts the mixing valve servo motor regardless of other settings.
Circuit name	States the name of the heating circuit.
Flow temperature -20 °C 80 °C	
Flow temperature -0 °C 80 °C	
Flow temperature 10 °C 80 °C	

Function	Description
Heating curve offset 10 °C	Correction of the set heating temperature in relation to the set room temperature for each °C.
Operating mode	Manual or weather
Manual flow line	60 °C
Room sensor	no.
Flow line sensor	Yes/No
Permanent pump	Yes/No

For setting schedule see page 43.

Hot water

To set or check the values for the hot water system go to the Hot water menu.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the Hot water menu, press Enter to access the menu and then select which section you wish to set or check.	
4. Scroll using the Up or Down arrows until the correct section is displayed in the menu. **5.** Press the Enter button to access the menu for the selected section.	
6. You come to a menu where you can select different options using the Up and Down arrow. **7.** Make your selection using Enter, in this case *Operating mode*.	
8. Here you can now see: ■ which section you have selected to check. Both by name and number. ■ set value for the hot water. ■ measured value for the hot water. ■ source for preset temperatures. ■ indication of whether the pump is operating or not.	

Hot water settings

Function	Description
Comfort temperature	Gives you possibility to set desired hot water temperature during heating period.
Program	1. Temporary - follows set time intervals. 2. Continuous - always maintains the set comfort temperature, regardless of the set time intervals. 3. OFF - 4. Economy - ensures that the most economic temperature is maintained in the room.
Heating	Regardless of the settings you can use this setting to heat hot water to a comfortable temperature once and then return to the preset values.
Hysteresis	Set how much the temperature of the hot water can diverge from the set temperature.
Economy temperature	Set the hot water temperature outside the heating period.

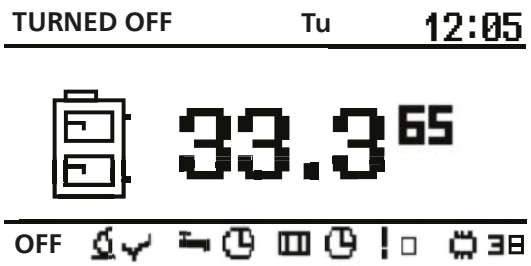
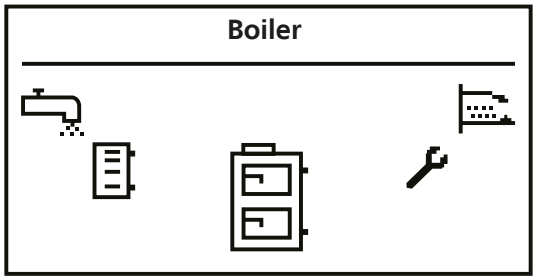
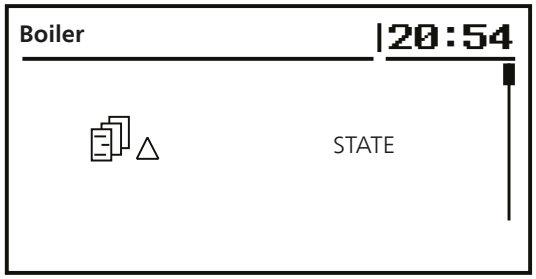
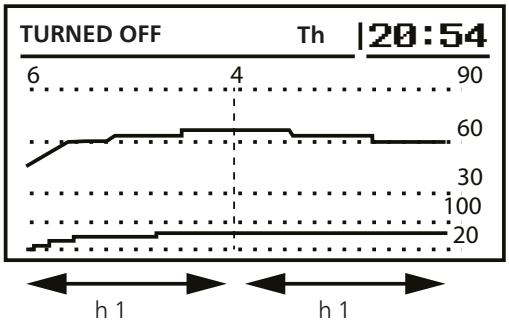
Service settings hot water

Function	Description
Charge difference (Delta Δ)	Raising the boiler temperature in relation to the set hot water temperature during heating.
Heat source	Defines the heat source for the hot water.
Temperature max	Max temperature for hot water.
Temperature diff. min. (Delta Δ)	Minimum temperature difference between the heat source and the hot water when the pumps can still be used.
Pump test	Starts the circulation pump regardless of other settings.
Circ. name	States the name of the hot water circuit.

For setting schedule see page 43.

Boiler

To check the values of how the boiler has operated over the last 24 hours.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the boiler menu, press Enter to access the menu and then select which values you wish to check.	
4. You come to a menu where you can select different options using the Up and Down arrow. **5.** Make your selection using Enter, in this case *Operating mode*.	
6. Here you can now see: ■ state. ■ number of hours since the boiler last updated the information. ■ time. ■ boiler temperature over the last two hours. ■ burner output in %. ■ average output.	

Boiler settings

Function	Description
Boiler temperature	Heating medium temperature in the boiler which is maintained at a constant level by the regulator. This menu is only active in continuous state.

Service settings boiler

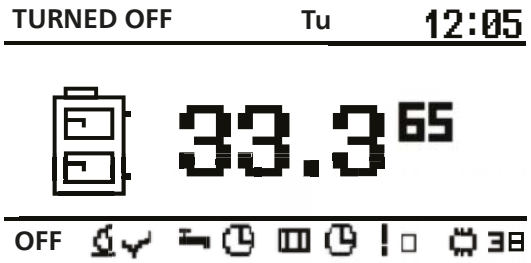
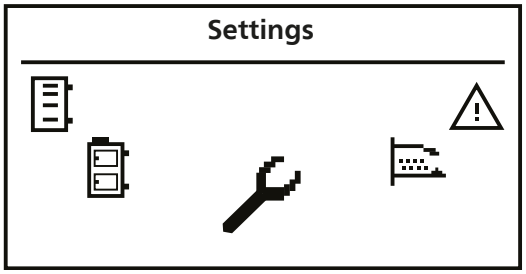
Function	Description
Minimum pump temp.	Minimum temperature before the regulator starts the circulation pump.
Operating status	1. **Auto** - the temperature is checked/regulated automatically. 2. **Continuous** - the temperature is maintained at a constant level.
Hysteresis	The boiler temperature must fall by this value for the burner to start.
Minimum return temp.	
Return mixing time	Determines the time of how long the return mixer must be fully open.
Boiler pump test	Starts the boiler circulation pump, regardless of other settings.
Return mixing test	Starts the return mixer servo motor, regardless of other settings.
HWX cleaning start t. 15	Setting for what times the heat exchanger is to be cleaned.
HWX cleaning stop t. XX	
Test Cleaning HWX	Test operation of the heat exchanger cleaning.

For schedule setting see page Set time.

Settings

To check and set:

- date and time.
- language.
- if there is an audible signal on the alarm or not.
- if new accessories should be connected.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the settings menu, press Enter to access the menu to select which values you wish to set or check.	

Service settings

Module configuration

This menu is used to make settings in CAN.

NOTE

Before settings are made in the control computer, the dipswitch must be set to the correct position for the new accessory, see Connecting modules on page 44.

In the menu, mark the modules that are used in this particular system.

Module	Description
Module 0	Three heat circuits numbered 2, 3 and 4. External temperature sensor.
Module 1	Three heat circuits numbered 5, 6 and 7.
Module 2	Three heat circuits numbered 8, 9 and 10.
Module 3	Three heat circuits numbered 11, 12 and 13.
Module 4	Three heat circuits numbered 14, 15 and 16.
Module 5	Accumulator tank Solar heating Hot water circuit 2. Temperature sensor for return water. Outside sensor.
Module 6	Main module for the boiler.
Module 7	Extra boiler module
Lambda module	Module for lambda sensor.

System configuration

This menu is used to make settings in the hydraulic sections of the heating system.

The setting possibilities are restricted by the which modules are marked in the CAN settings and are used in this particular system.

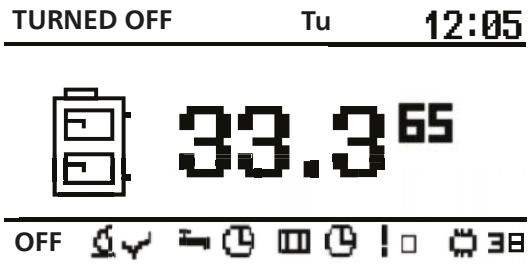
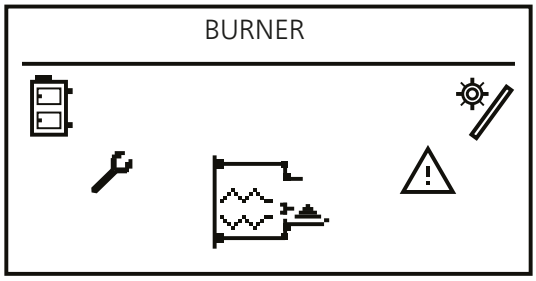
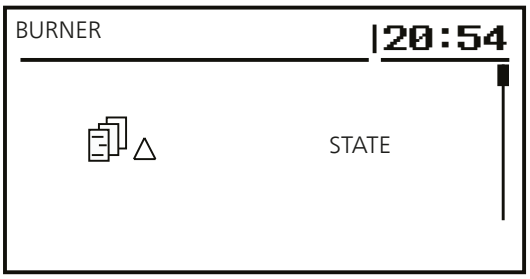
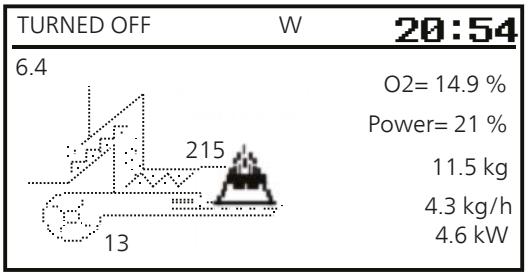
Module	Description
Number of heating circuits	Determines how many heating circuits are connected to the system.
Number of hot water circuits	Determines how many hot water circuits are connected to the system.
Number ac.tanks	Determines how many buffer tanks are connected to the system.
Outside temperature sensor	Determines if the system has an external temperature sensor or not. (module 0)
Return sensor	Determines if the system has a return temperature sensor or not. (module 5)
Solar heating	Determines if the system has solar panels or not.

Reset factory settings

This function is used to reset the control computer settings to the factory settings.

Burner

To set or check the values for the burner go to the burner menu.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the burner menu, press Enter to access the menu and then select which values you wish to check.	
4. You come to a menu where you can select different options using the Up and Down arrow. **5.** Make your selection using Enter, in this case *Operating mode*.	
6. Here you can now see: ■ the burner state. ■ weekday and time. ■ the burner temperature. ■ present burner effect in %. ■ total fuel consumption. ■ present fuel consumption. ■ present burner effect in kW. ■ oxygen content in the flue gases. ■ brightness of flames. ■ fan output. ■ time to fill the fuel reservoir.	

Burner settings

Function	Description
Feed fuel	Activate continuous fuel feed here, regardless of other settings.
Burner on	Gives permission to the control computer to start the burner.
Fuel type	Determines what type of fuel is used.

Service settings burner

Function	Description
Air volume min.	Minimum amount of air when controlling when the burner runs at 30 % output or in power 1.
Air volume max.	Maximum amount of air during control when the burner runs at 100 % output or in power 2.
Feed max.	Maximum time for fuel feed during control when the burner runs at 100 % output or in power 2, every 20 seconds.
Output min. (FL2)	Burner minimum output during control or in power 1.
Output max. (FL2)	Burner maximum output during control or in power 2.
Modulation type	Burner working method during controlled output (Fuzzy Logic 2) or step controlled in ± 2 °C.
Photocell stepval.	The light level in the burner where the control computer detects a flame.
Firing up test*	Test run the ignition function.
Burner feed test*	Test run feeding fuel to the burner.
Test pellet screw*	Test run the pellet screw from the pellet hopper to the burner.
Test fan*	Test run the burner fan.
Test fuel mass	Test run what weight of fuel is supplied from the pellet hopper during continuous operation for 1 hour.
Fuel calorific value	Calorific value of burnt fuel (kWh/kg).
Lambda control	The lambda sensor determines if the control computer must change any control values in relation to the amount of oxygen in the flue gas.
Oxygen level min.	Set value for oxygen content of the smoke gas minimum 30 % burner output.
Oxygen level max.	Set value for oxygen content of the smoke gas minimum 100 % burner output.
Start dose	Time span for fuel feed during the firing up sequence.
Sweeping period	Time interval between burner cleaning.
Sweeping cycles	Number of times that grid cleaning is to be carried out.
Exhaust fan power	Setting burner output.
Grid cleaning test	Test operation of grid cleaning.
Grid silent cleaner	Grid cleaning only occurs in conjunction with cleaning the heat exchanger. (Boiler/Service).

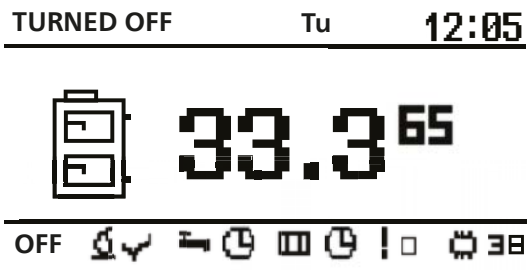
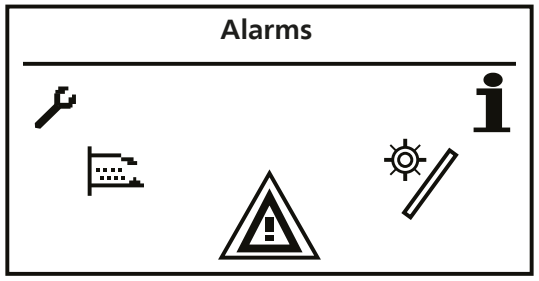
* Units in the burner menu can only be test run when the control computer is in OFF mode.

** Exhaust fan must be connected to an additional module (module 7).

For setting schedule see page 43.

Alarm

This menu contains the last 20 alarms that occurred when the control computer was active.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you get to the alarm menu, press Enter to open the menu. **4.** Use the Up and Down arrows to select the values you want to check and acknowledge. **5.** Click Enter to acknowledge an alarm.	

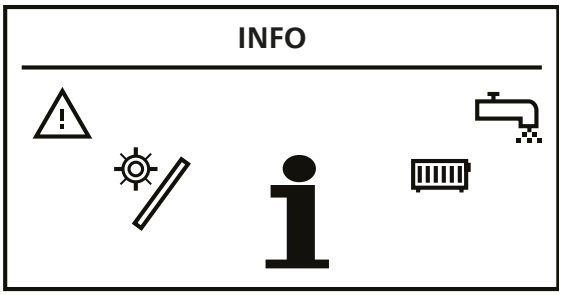
Alarm list

Main codes		
Alarm code	**Explanation**	**Possible cause**
1	Processor overheated.	Recurring overheating of the boiler. Boiler door opened during operation. For low chimney draught. Incorrect setting of combustion air for minimum and maximum power.
2	No flame or fuel.	Fuel finished. The flame has gone out for some reason.
3	Safety breaker for burner.	Max temperature for burner has been reached. Boiler door opened during operation. Burner not in position. For low chimney draught. Incorrect setting of combustion air amount.
4	Short circuit in the boiler sensor.	Damage to the boiler sensor. Damage to the bridging.
5	Open circuit in the boiler sensor.	Damage to the boiler sensor. Damage to the bridging.
6	Short circuit in the burner sensor.	Damage to the burner sensor. Damage to the bridging.
7	Open circuit in the burner sensor.	Damage to the burner sensor. Damage to the bridging.
8	Overheating the boiler.	The boiler temperature has exceeded the highest permitted value.
9	Processor reset.	Damage to the control computer. Power failure.
10	Temperature limiter	--
11	Communication with module 0.	--

Main codes		
Alarm code	**Explanation**	**Possible cause**
12	Communication with module 1.	--
13	Communication with module 2.	--
14	Communication with module 3.	--
15	Communication with module 4.	--
16	Communication with module 5.	--
17	Communication with module 6.	--
18	Communication with module 7.	--
19	Short circuit in the hot water sensor.	--
20	Open circuit in the hot water sensor.	--
21	Short circuit in the room heating sensor.	--
22	Open circuit in the room heating sensor.	--
23	Extinguishing fault.	--
24	Communication with lambda module.	--
25	Over heating solar panels.	--
26	Frost damage solar panels.	--

Info

This menu contains general information that can be useful, such as what program version is installed on the control computer.



Set time

The control computer is equipped with a calendar and clock in order to allow programming of the heating system.

The control computer is equipped with a backup battery for power cuts. Battery (CR2032) must be replaced every other year.

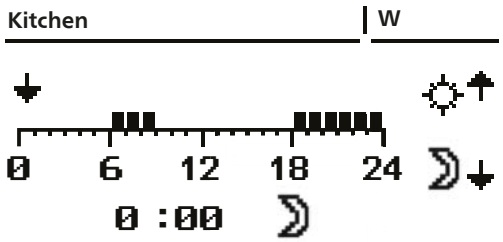
Programming occurs in the different menus (hot water, heating etc.).

Programming example

NOTE

The comfort and economy temperatures are programmed in the setting menu and can differ from the set values for the different circuits.

In order for scheduling to operate correctly, one must also schedule the comfort and economy temperatures in the setting menu.



1. In the start menu, press Enter.
2. Scroll to the desired menu using the Up or Down arrow (Central heating).
3. Press Enter to open the menu.
4. Scroll to "Select heating" using the Up and Down arrows.
5. Press Enter to open the menu.
6. Scroll to the desired circuit using the Up or Down arrow (Kitchen).
7. Press Enter to open the menu.
8. Scroll to "Set time" using the Up and Down arrows.
9. Press Enter to open the menu.
10. The names of the weekdays now flash.
11. Select the weekday you wish to program using the Up and Down arrows.
12. Press Enter to confirm the selection.
13. The indication for the programmed time will now flash.
14. If you press the Up arrow it can add to / retain that the heat will be run + the marker scrolls forward a step.
15. If you press the Down arrow it can delete that the heat will be run + the marker is scrolled forward a step.
16. When the day is programmed as you wish, press Enter.
17. When you have approved or denied the changes the name of the week day starts to flash again.
18. Use the Up and Down arrow to find the next day you wish to program.
19. Follow points 6 to 18 until you have programmed all the days that you want.
20. When the last day that you want to program starts to flash again you have completed the programming.

Accessories

Connecting modules

All connected accessories must go via an extra module. To connect all accessories available for Pellux 100, seven extra modules are required.

Modules 0 - 4 are used for different heating coils.

Different accessories are connected to module 5, e.g. solar heating, accumulator, return water temp. and external hot water pump.

Module 6 is a standard module that is always installed in the boiler to manage direct connection of different functions for example, CAN-bus, hot water etc.

The Lambda module is preconfigured and only for Lambda control.

The different accessories are connected to respective module and then connected to a CAN-bus, which is connected to the control computer via module 6.

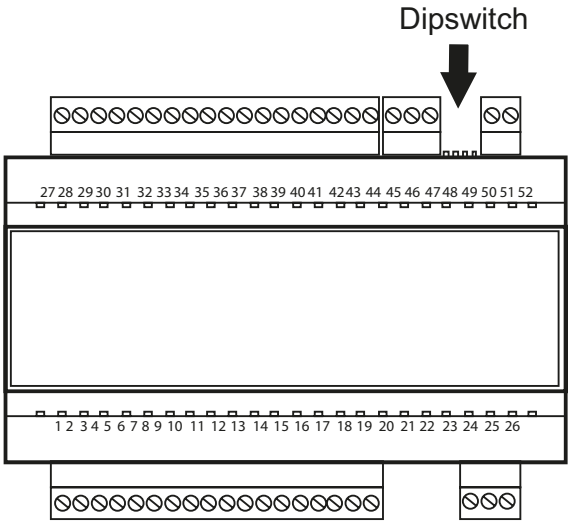
Modules 0 - 5 are in an external cabinet close to Pellux100. The Lambda module is in the boiler level with module 6.

NOTE

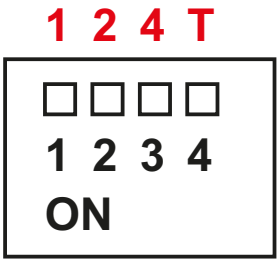
Only the Lambda module may be placed in the boiler, all other modules must be placed in a separate cabinet.

When a module for an accessory is connected, the dipswitch must be set (not applicable to the Lambda module) so that the control computer can control the new accessory or use its information to control another part of the boiler.

The dipswitch setting gives the module a unique address.



The switches are numbered 1 to 4. Switches 1, 2 and 3 are used to give the module a unique number. Switch 4 is for termination.
Switch 1 has a value of 1, switch 2 has a value of 2 and switch 3 has a value of 4, which means, to give a module an address corresponding to module 5, set switches 1 and 3 to on and switch 2 to off. See table below.



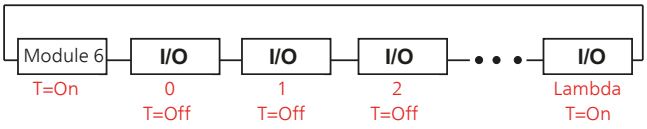
Dipswitch number (value)			Module number
1 (1)	2 (2)	3 (4)	
OFF	OFF	OFF	Module 0
ON	OFF	OFF	Module 1
OFF	ON	OFF	Module 2
ON	ON	OFF	Module 3
OFF	OFF	ON	Module 4
ON	OFF	ON	Module 5
OFF	ON	ON	Module 6 (standard module)
ON	ON	ON	Lambda module

NOTE

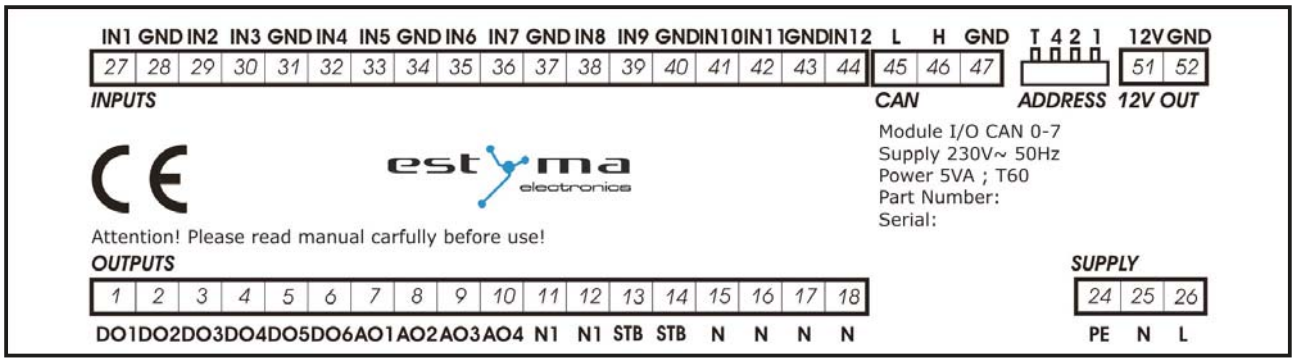
It is important to set the last module as a termination module otherwise there is a risk of echoes in the CAN bus, which can mean incorrect control of the boiler.

Switch number 4 is used to set the termination.

The system must have a termination at each end, one on the standard module (module 6) and one on the module positioned furthest away from module 6. Switch 4 must only be in the On position on module 6 and on the module that is connected furthest away from module 6. The Lambda module has a termination jumper and does not have a switch.



Connection to the different modules



Modules 0 - 4 are connected in the same way but cover different channels/circuits.

Module 0 lowest circuit no. 2, between circuit no. 3 and highest circuit no. 4.

Module 1 lowest circuit no. 5, between circuit no. 6 and highest circuit no. 7.

Module 2 lowest circuit no. 8, between circuit no. 9 and highest circuit no. 10.

Module 3 lowest circuit no. 11, between circuit no. 12 and highest circuit no. 13.

Module 4 lowest circuit no. 14, between circuit no. 15 and highest circuit no. 16.

No.	Input signal	No.	Output signal
27	IN1 - Heating temperature sensor. Circuit with lowest no.	1	DO1 - Opens mixing circuit with lowest no.
28	Earth.	2	DO2 - Closes mixing circuit with lowest no.
29	IN2 - Room temperature sensor. Circuit with lowest no.	3	DO3 - Opens mixing circuit with intermediate no.
30	IN3 - Heating temperature sensor. Circuit with intermediate no.	4	DO4 - Closes mixing circuit with intermediate no.
31	Earth.	5	DO5 - Opens mixing circuit with highest no.
32	IN4 - Room temperature sensor. Circuit with intermediate no.	6	DO6 - Closes mixing circuit with highest no.
33	IN5 - Heating temperature sensor. Circuit with highest no.	7	AO1 - Pump circuit with lowest no.
34	Earth.	8	AO2 - Pump circuit with intermediate no.
35	IN6 - Room temperature sensor. Circuit with highest no.	9	AO3 - Pump circuit with highest no.
36	IN7 - not connected.	10	AO4 - not connected
37	Earth.		
38	IN8 - not connected.		
39	IN9 - not connected.		
40	Earth.		
41	IN10 - not connected.		
42	IN11 - Outdoor sensor common to all modules connected to module 0.		
43	Earth.		
44	IN12 - not connected.		

Module 5 is used to connect an extra hot water circuit, a solar heating system and/or an accumulator tank.

No.	Input signal	No.	Output signal
27	IN1 - Hot water temperature sensor.	1	DO1 - opens mixing return.
28	Earth.	2	DO2 - closes mixing return.
29	IN2 - Temperature sensor upper section accumulator tank.	3	DO3 - not connected.
30	IN3 - Temperature sensor lower section accumulator tank.	4	DO4 - not connected.
31	Earth.	5	DO5 - Solar mixer L.
32	IN4 - Return temperature sensor boiler.	6	DO6 -Solar mixer R.
33	IN5 - not connected.	7	AO1 - Hot water circulation pump circuit 2.
34	Earth.	8	AO2 - Boiler pump (to accumulator).
35	IN6 - Solar sensor T1.	9	AO3 - not connected.
36	IN7 - Solar sensor T2.	10	AO4 - Solar out 1.
37	Earth.		
38	IN8 - Solar sensor T3.		
39	IN9 - Solar sensor T4.		
40	Earth.		
41	IN10 - not connected.		
42	IN11 - not connected.		
43	Earth.		
44	IN12 - not connected.		

The Lambda module is preconfigured and the Lambda probe is "plug and play".

Accessory activation

When the different accessories have been connected they must be activated in the control computer so that it can control them.

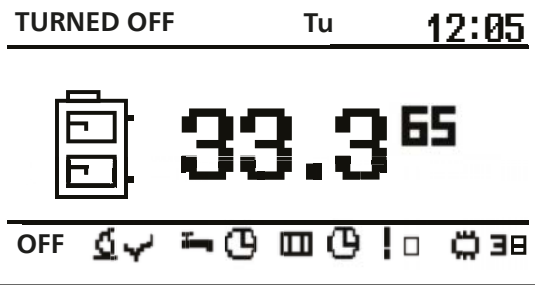
Accumulator tank

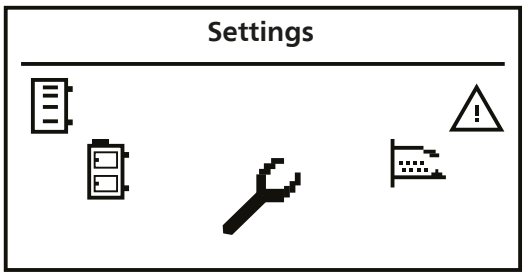
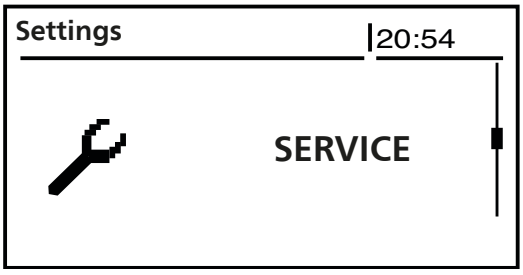
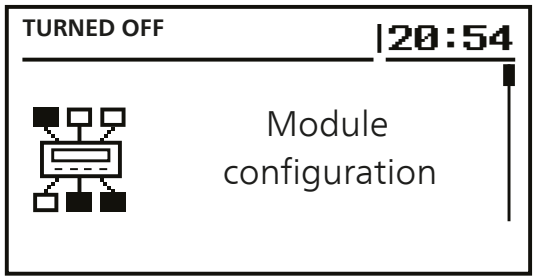
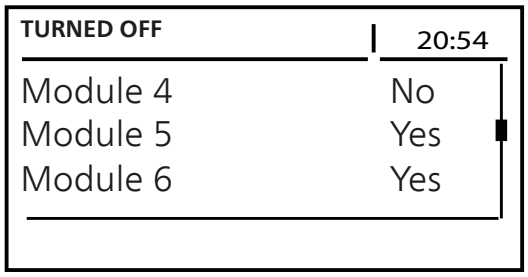
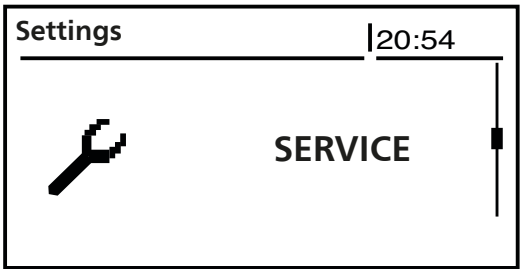
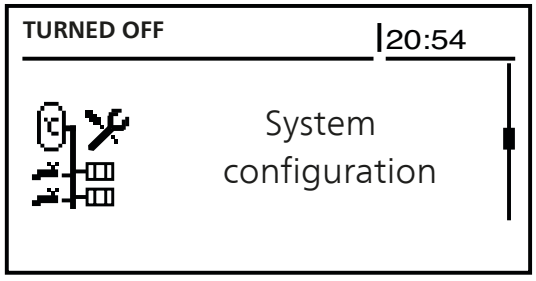
NOTE

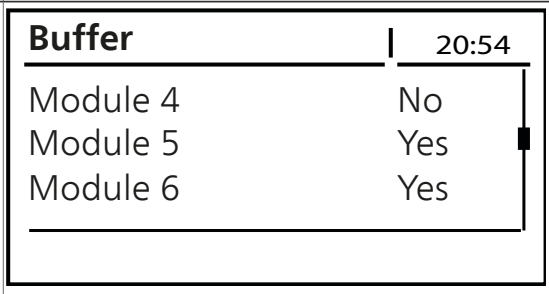
Accumulator is an accessory!

If an accumulator is connected to the heating system, it can be controlled via the heat pump control computer.

Activating the accumulator tank

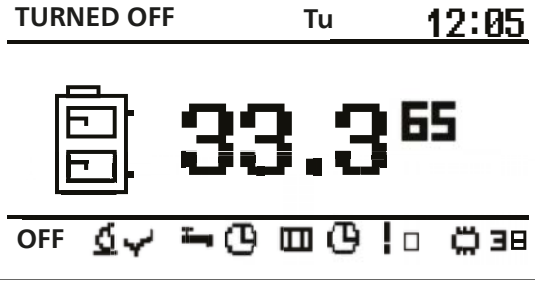
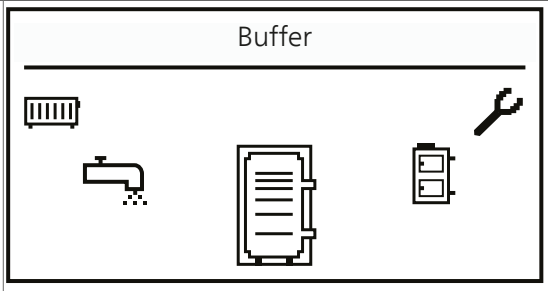
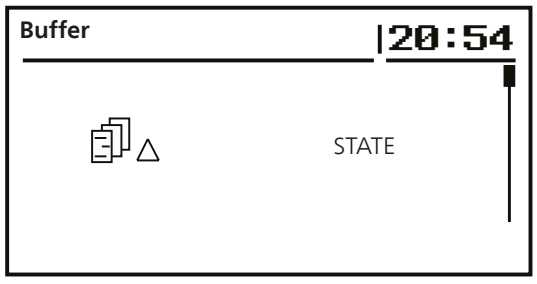
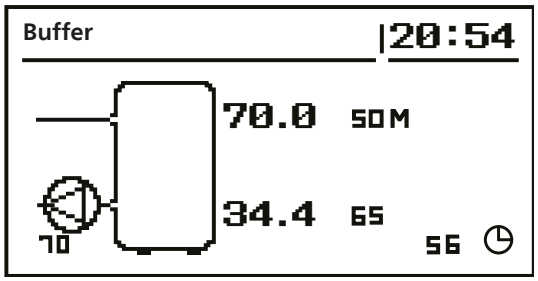
Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	

Step	Menu
3. When you come to the *Settings* menu, click Enter to open that menu. **4.** Scroll to the *Service* menu using the Up or Down arrow.	
5. Open the Enter menu, see instructions on page 23 for logging in.	
7. Select the Control menu	
8. Find module 5 using the Up or Down arrow and set it to Yes.	
9. Return to the settings menu's service section.	
10. Find the system settings menu using the Up and Down arrows and open it using Enter.	

Step	Menu
11. Find the accumulator module and set it to Yes.	
12. The accumulator is now active and is controlled by the control computer.	

Setting and checking the accumulator values

To set or check the values for the buffer tank go the Buffer tank menu.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the Buffer tank menu, press Enter to access the menu and then select which values you wish to check.	
4. You come to a menu where you can select different options using the Up and Down arrow. **5.** Select what you require using Enter, in this case State.	
6. Here you can now see: ■ the name of the menu. ■ time. ■ measured and set values for the temperature in the upper part of the buffer tank. ■ measured and set values for the temperature in the lower part of the buffer tank. ■ setting for how the buffer tank should work. ■ measured value of the return water from the buffer tank. ■ preset temperature of the heat source. ■ indication of whether the pump is operating or not.	

Buffer tank settings

Function	Description
Set temperature top	Heating starts if the temperature at the top of the buffer tank is below the preset temperature.
Set temperature bottom	Heating stops if the temperature at the bottom of the buffer tank exceeds the preset temperature.
Program	1. Temporary - follows set time intervals. 2. Continuous - always maintains the set comfort temperature, regardless of the set time intervals. 3. OFF - 4. Economic - ensures that the most economic temperature is maintained in the room.

Service settings buffer tank

NOTE

Service settings heating are only intended for use by trained technicians. Incorrect settings can damage the installation.

Function	Description
Pump minimum temperature	Minimum temperature at the top of the buffer tank at which the circulation pump can still work.
Automatic sensing top temperature	Check if the upper buffer tank temperature is set manually or automatically. Automatic settings are dependent on the demand from other units that require hot water from the buffer tank.

For setting schedule see page 43.

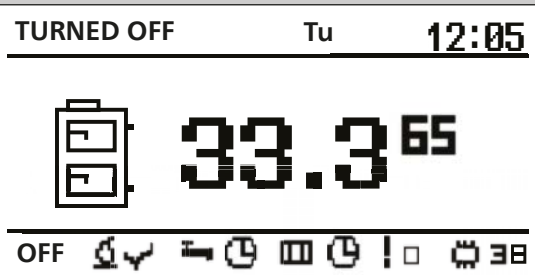
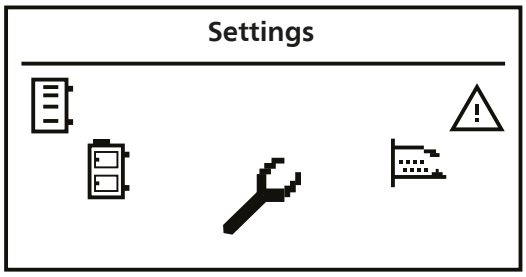
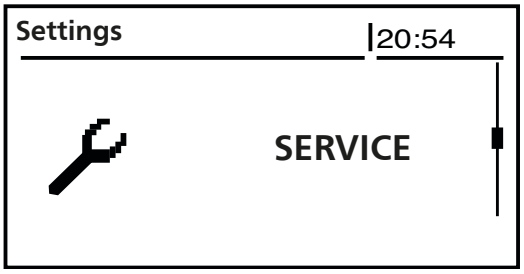
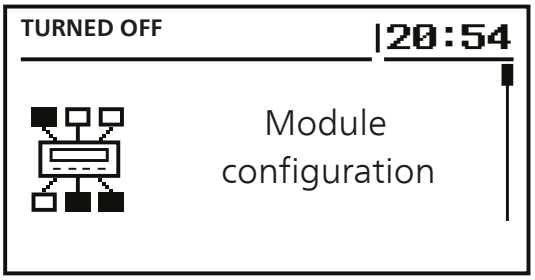
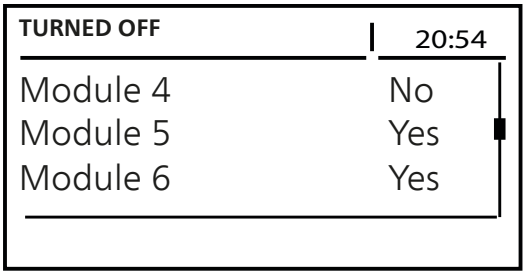
Solar heating

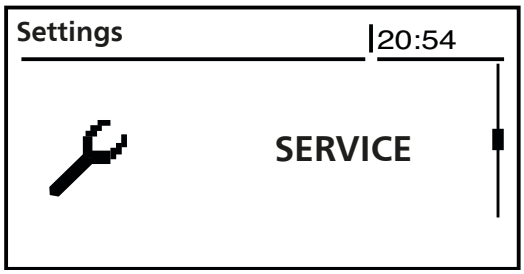
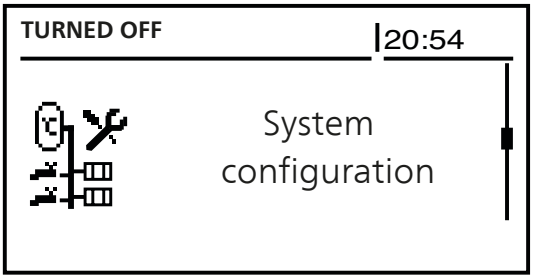
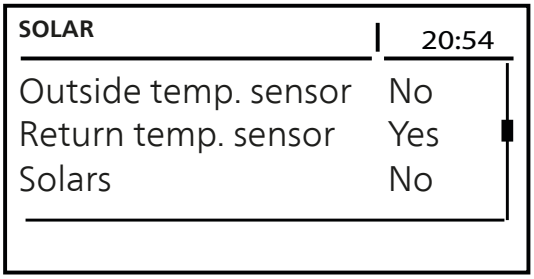
NOTE

Solar heating is an accessory!

If solar panels are connected to the heating system they can be controlled from the boiler's control computer.

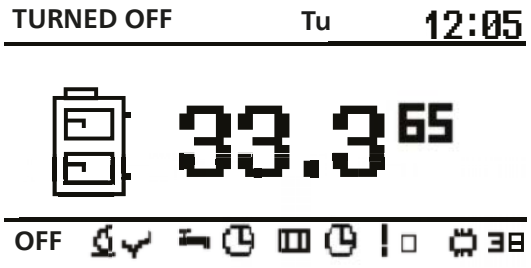
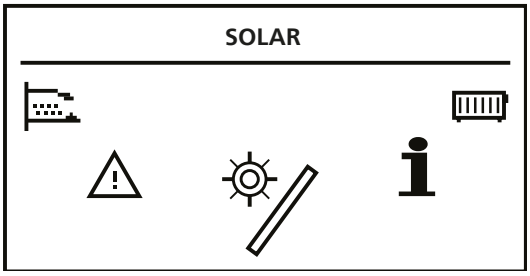
Activating solar heating

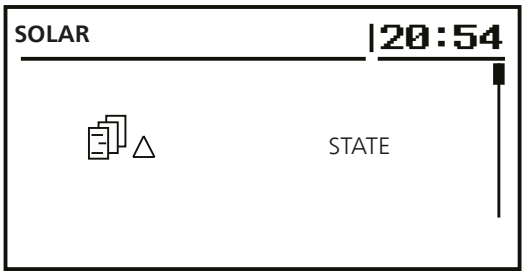
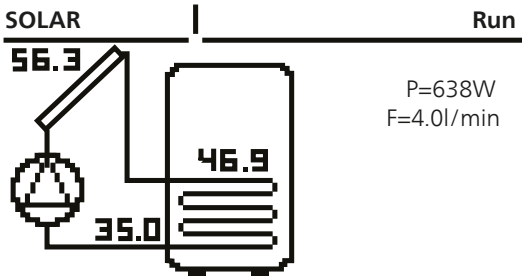
Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the setting menu click Enter to open the menu. **4.** Scroll to the Service menu using the Up or Down arrow.	
5. Open the Enter menu, see instructions on page 23 for logging in.	
7. Select the Control menu.	
8. Find module 5 using the Up or Down arrow and set it to Yes.	

Step	Menu
8. Go back to the setting menu service section.	
9. Find the system setting menu using the Up or Down arrow and open it by pressing Enter.	
10. Find Solar panel and set it to Yes.	
11. Solar heating is now active and controlled by the control computer.	

Solar heating menu

To set or check the values for solar heating go to the solar heating menu.

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the solar panels menu, press Enter to access the menu and then select which section you wish to set or check.	

Step	Menu
4. You come to a menu where you can select different options using the Up and Down arrow. **5.** Select what you require using Enter, in this case State.	
6. Here you can now see: ■ the name of the menu. ■ whether the solar panels are in operation or not. ■ output currently supplied by the solar panels. ■ flow rate in the solar panels l/min. ■ solar panels temperature T1. ■ solar panels temperature T2. ■ solar panels temperature T3. ■ indication of whether the pump is operating or not.	

Solar heating settings

Function	Description
Delta Δ start	The temperature difference between the solar heating and the heated water that is required to start the circulation pump in the solar panel system.
Delta Δ stop	The temperature difference between the solar heating and the heated water that is required to stop the circulation pump in the solar panel system.

Service settings solar heating

NOTE

Service settings heating are only intended for use by trained technicians. Incorrect settings can damage the installation.

Function	Description
Organisation diagram	Determines type of solar panel system.
Flow (l/min)	Heating medium flow in the solar heating system when the circulation pump is in operation. The value is required to calculate the output of the solar heating system.
Heating medium temperature	Correct heating for applied heating medium fluid given in kJ/(kg * °C).
Max temperature for hot water	
Temp. alarm for heat exchanger max temp.	Max temperature for heat exchanger. When the max temperature is exceeded processes are started to protect the heat exchanger and an alarm is activated.
Temp. alarm for heat exchanger min temp.	Min temperature for heat exchanger. When the min temperature is not reached processes are started to protect the heat exchanger and an alarm is activated.
Test solar panel pump	Starts the solar heating circulation pump, regardless of other settings.

lambda sensor

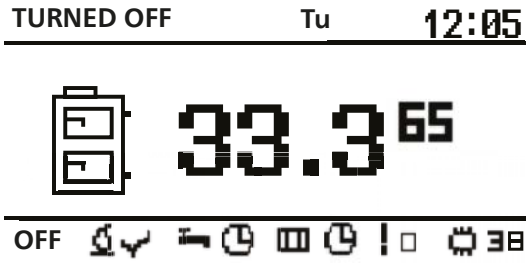
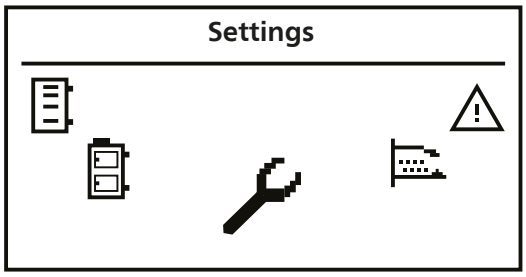
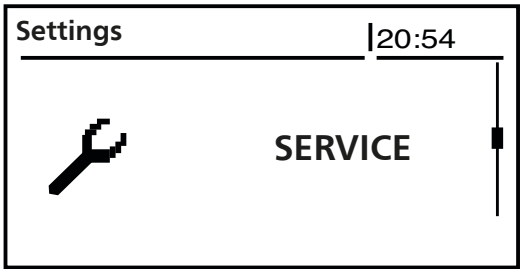
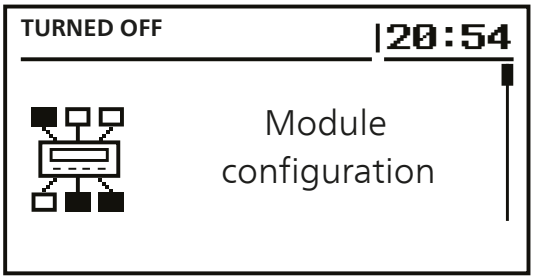
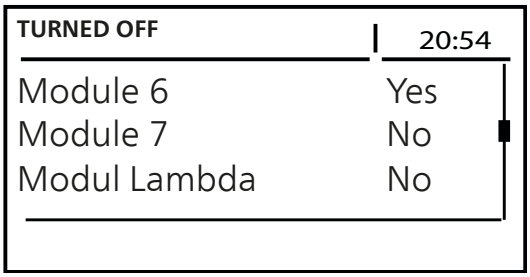
NOTE

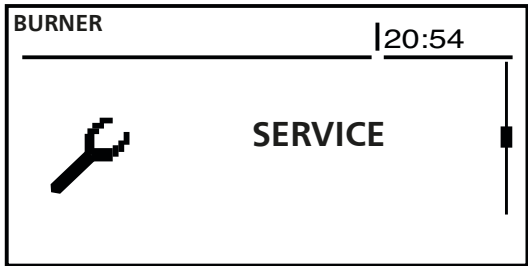
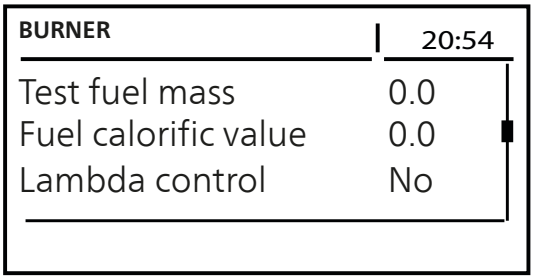
Lambda probe is an accessory!

If a Lambda probe is connected to the heating system, it can be controlled via the boiler control computer.

After installation of a lambda probe, the control computer must be set to manage it.

lambda sensor activation

Step	Menu
1. In the start menu, press Enter to open the extended menu. **2.** Scroll using the Up or Down arrows.	
3. When you come to the setting menu click Enter to open the menu. **4.** Scroll to the *Service* menu using the Up or Down arrow.	
5. Open the Enter menu, see instructions on page 23 for logging in.	
6. Select *Module configuration* menu	
7. Find *Lambda module* menu using the Up or Down arrow and set it to Yes.	

Step	Menu
8. Go to the burner's *Service* menu.	
9. Find *Lambda control* menu using the Up or Down arrow and set it to Yes.	
10. The lambda sensor is now active and controls the control computer.	

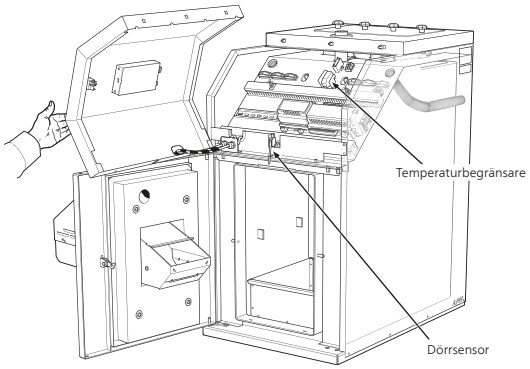
Resetting temperature limiter

Resetting the boiler temperature limiter

⚠ WARNING!

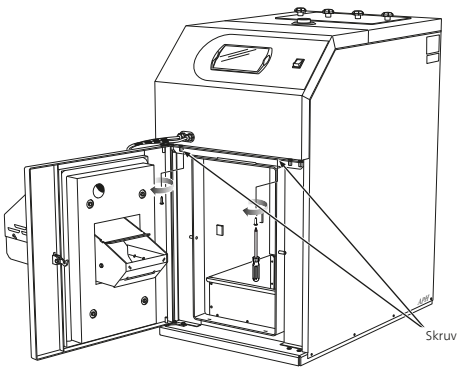
This work may only be carried out by authorised personnel!

1. The temperature limiter and door sensor are accessible behind the front cover. Normal mode of the door sensor is up.

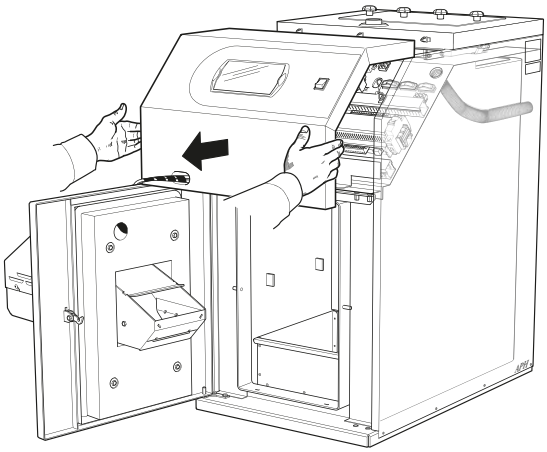


2. Disconnect the power supply to the boiler.

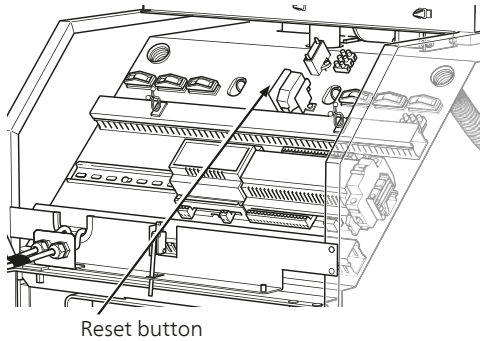
3. Open the boiler door and unscrew the two screws holding the front panel in position.



4. The front panel is held in place by catches. Pull the panel towards you and take care not to damage the cables connected to it.



5. Press in the button on the left side of the temperature limiter seen from the front.



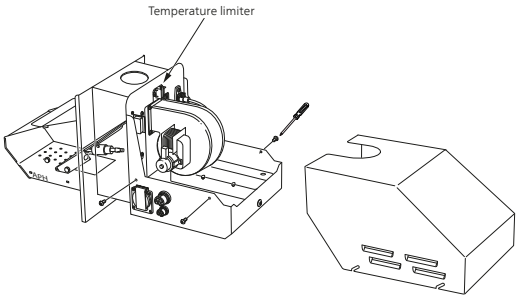
6. Reinstall the front panel.
7. Shut the boiler door. The door is equipped with a switch (door sensor) that means that the boiler cannot be started if the door is open.
8. Connect the power supply again.
9. Start the control computer.

Resetting the burner temperature limiter

⚠ WARNING!

This work may only be carried out by authorised personnel!

The temperature limiter is accessible behind the protective panel.



1. Disconnect the power supply to the boiler.
2. Remove the 4 screws holding the protective panel in position.
3. Press in the metal catch on the temperature limiter.
4. Reinstall the protective panels.
5. Connect the power supply again.
6. Start the control computer.

Sweeping

⚠ WARNING!

The current to the boiler must be switched off during service and maintenance of the boiler and burner!

The boiler must be swept and emptied of ash regularly.

Sweeping description

First ensure that the current to the boiler is OFF and that the boiler has cooled down!

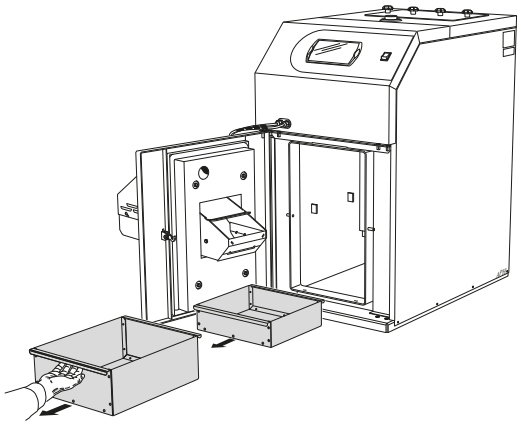
Before the sweep visits, the hatch for the draft limiter must be locked by turning the locking screw a quarter turn to the side of the hatch. This is to prevent soot from entering the boiler room when the chimney is swept. After sweeping, the hatch must be relocked.

PELLUX 100 swept by pulling through the channels in the boiler's convection section with the supplied soot brush and vacuuming the hearth.

The turbulators must be removed before the ducts are swept, see *Remove the turbulators* page 58.

After completed cleaning, the turbulators are installed and the soot hatch is reinstalled.

The soot that is released during sweeping is partially collected in the ash box, partially in the soot box which must be emptied. Open the boiler door, first unscrew the ash and then the soot box and empty them. Reinstall them in the relevant location. Take care to slide in the ash box as far as possible.



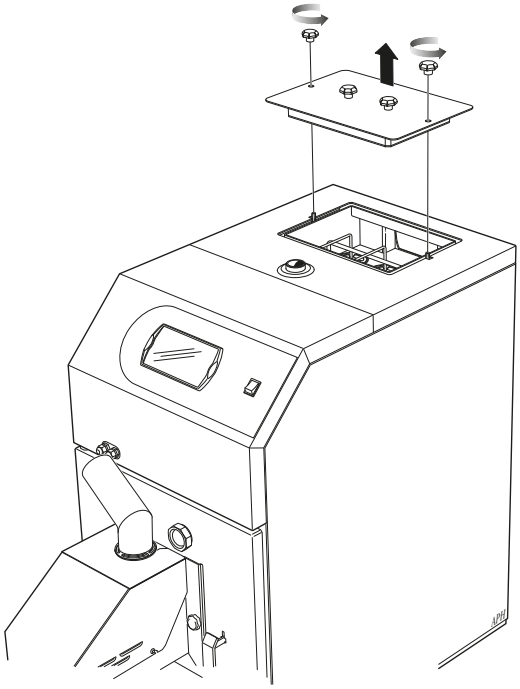
NOTE

Ash can still contain glowing embers after a long period of time. Therefore, always use a non-inflammable container and protective gloves when emptying ash and soot.

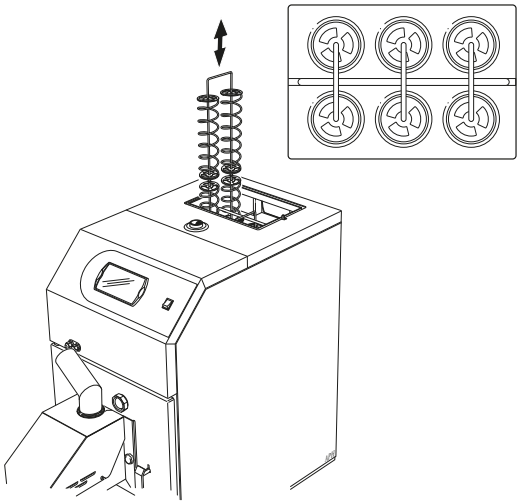
Remove the turbulators

⚠ WARNING!

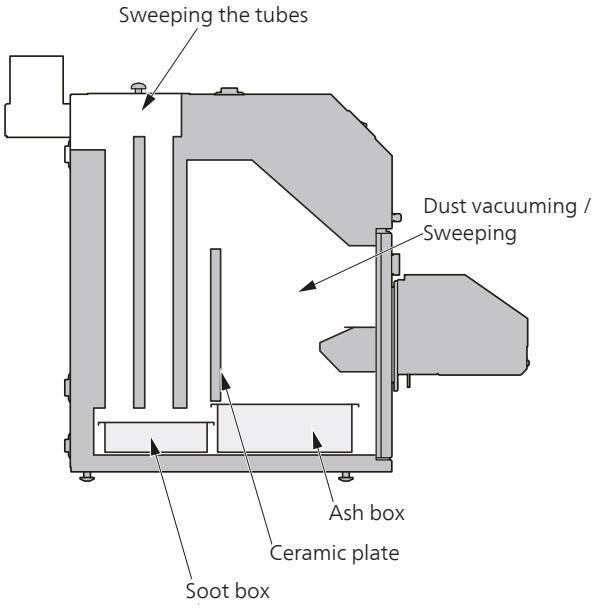
The current to the boiler must be switched off during service and maintenance of the boiler and burner!



1. Open the soot hatches by slackening off the outer knobs.
2. Pull the lever under the turbulator pairs until it is in its uppermost position. The turbulators can be removed in their pairs.



Dust vacuuming



The image shows the areas that can be swept in a PELLUX

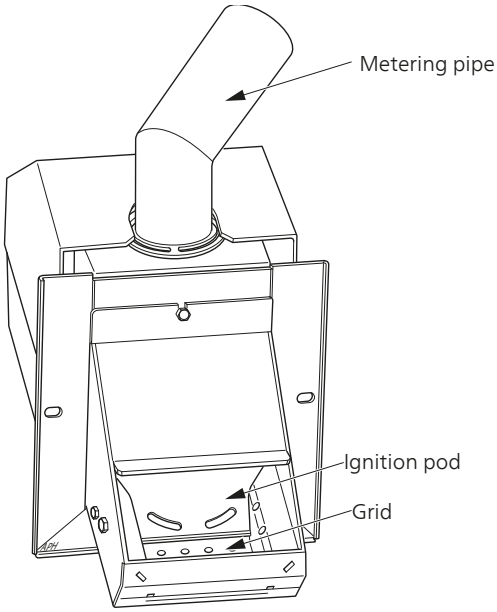
TIP

The ceramic plate can be removed or folded to one side for better access!

Burner cleaning

To clean the burner manually:

1. Switch off the burner and wait until the control computer display reads OFF.
2. Cut the power supply to the burner and wait until it is has cooled.
3. Clean the fireproof hose and feed pipe to the burner.
4. Scrape the ignition pod and grid clean. Clean the holes in the grid as well.
5. Remove the ash from the burner and boiler.



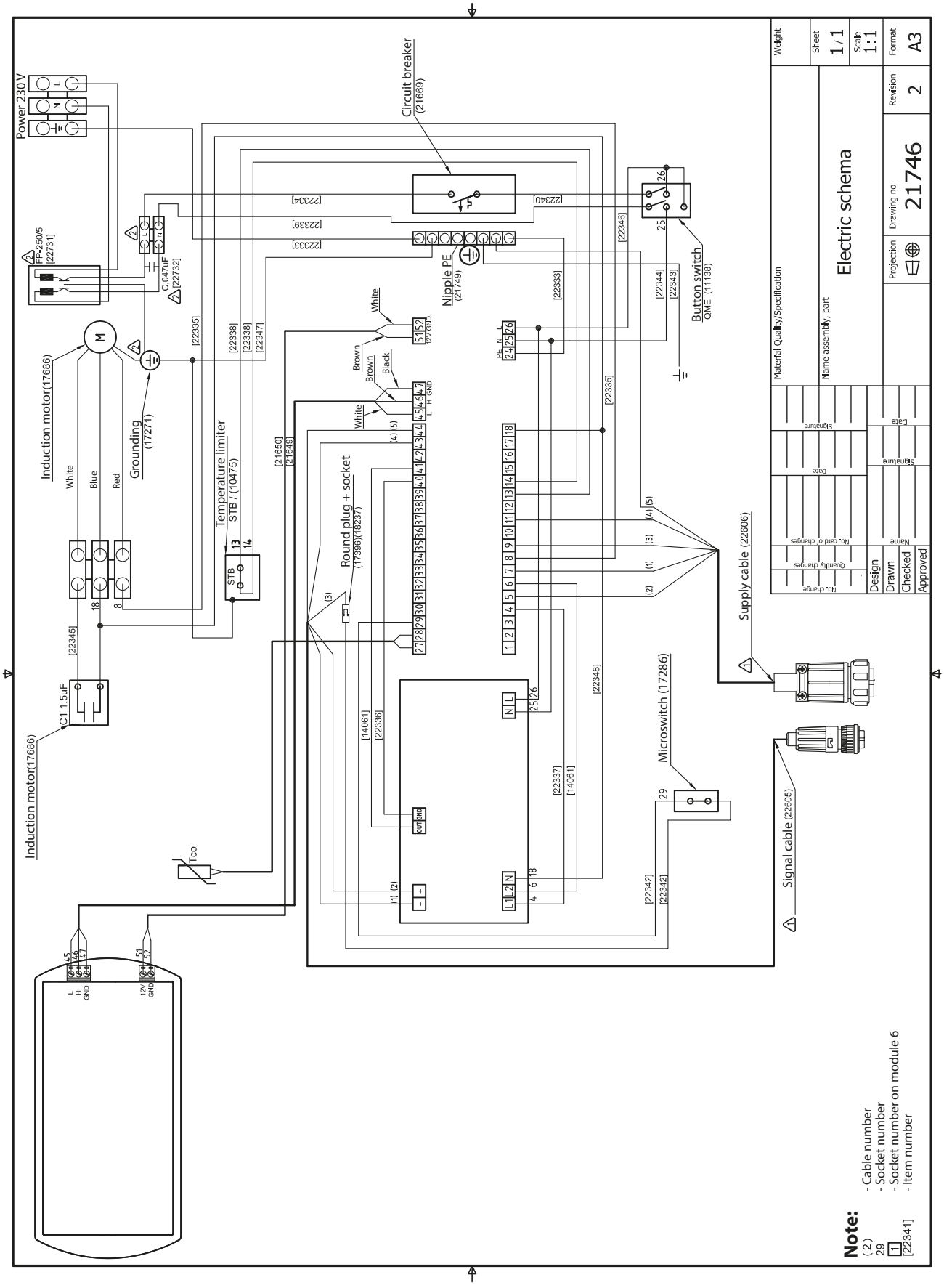
Annual maintenance

For safety and for optimum function, the boiler must be serviced annually by authorised personnel.

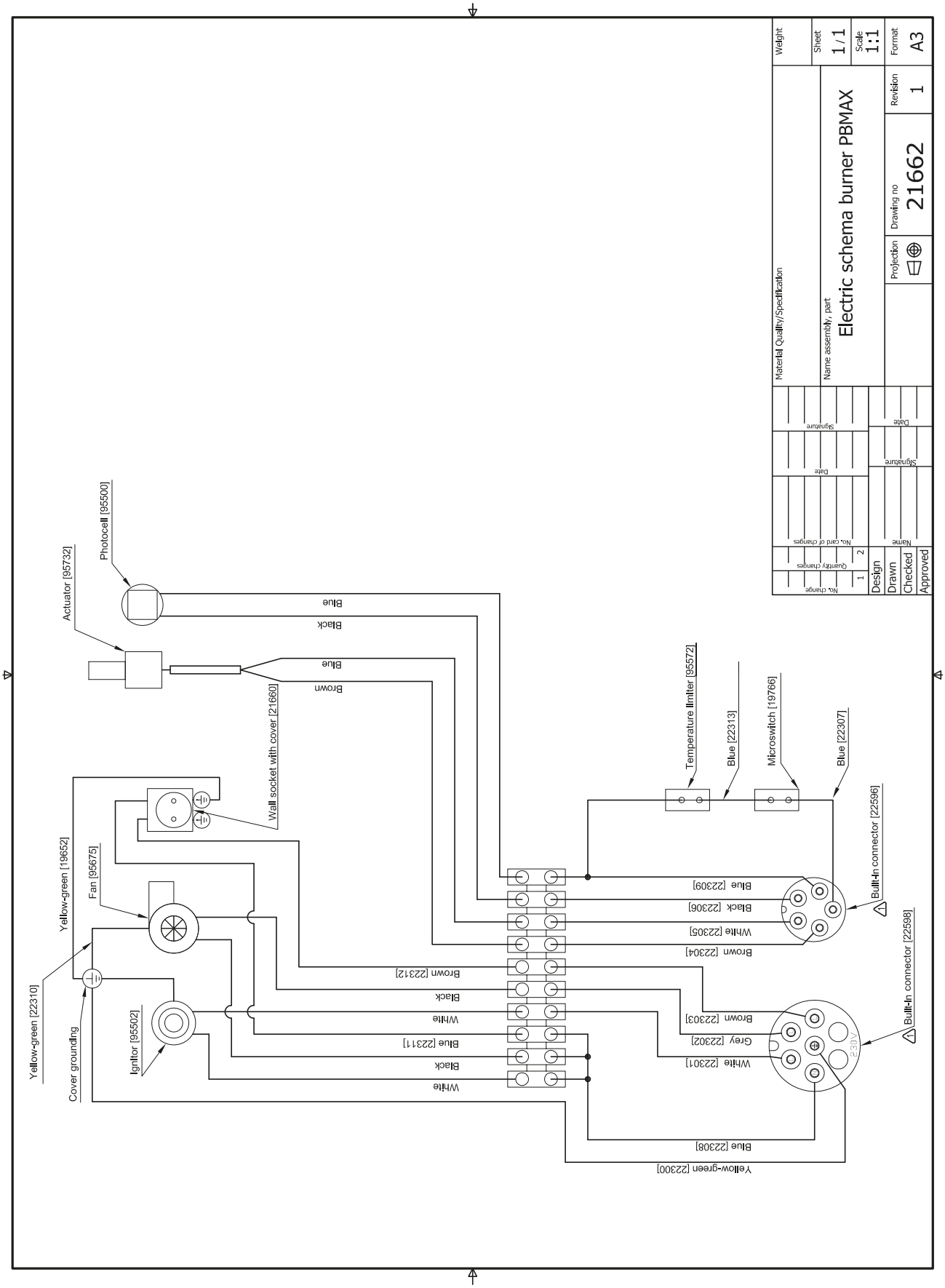
1. Extinguish the boiler and allow it to cool.
2. Disconnect the power supply.
3. Remove the grid.
4. Remove the photocell and clean it using a lint free cloth and a fine abrasive cream (for example toothpaste).
5. Clean the fan blades carefully using compressed air.
6. Unscrew the sides of the grid and ignition pod, remove the cables to the ignition element.
7. Clean the area behind the ignition pod and grid.
8. Reinstall the components again.
9. Clean the pellet hopper and any dust from the pellet screw.
10. Check the condition of the fireproof hose between the burner and the pellet hopper.
11. Start the fuel feed to fill the pellet screw and the fireproof hose with fuel as far as the burner.
12. Set the burner.

Electrical circuit diagram

Boiler

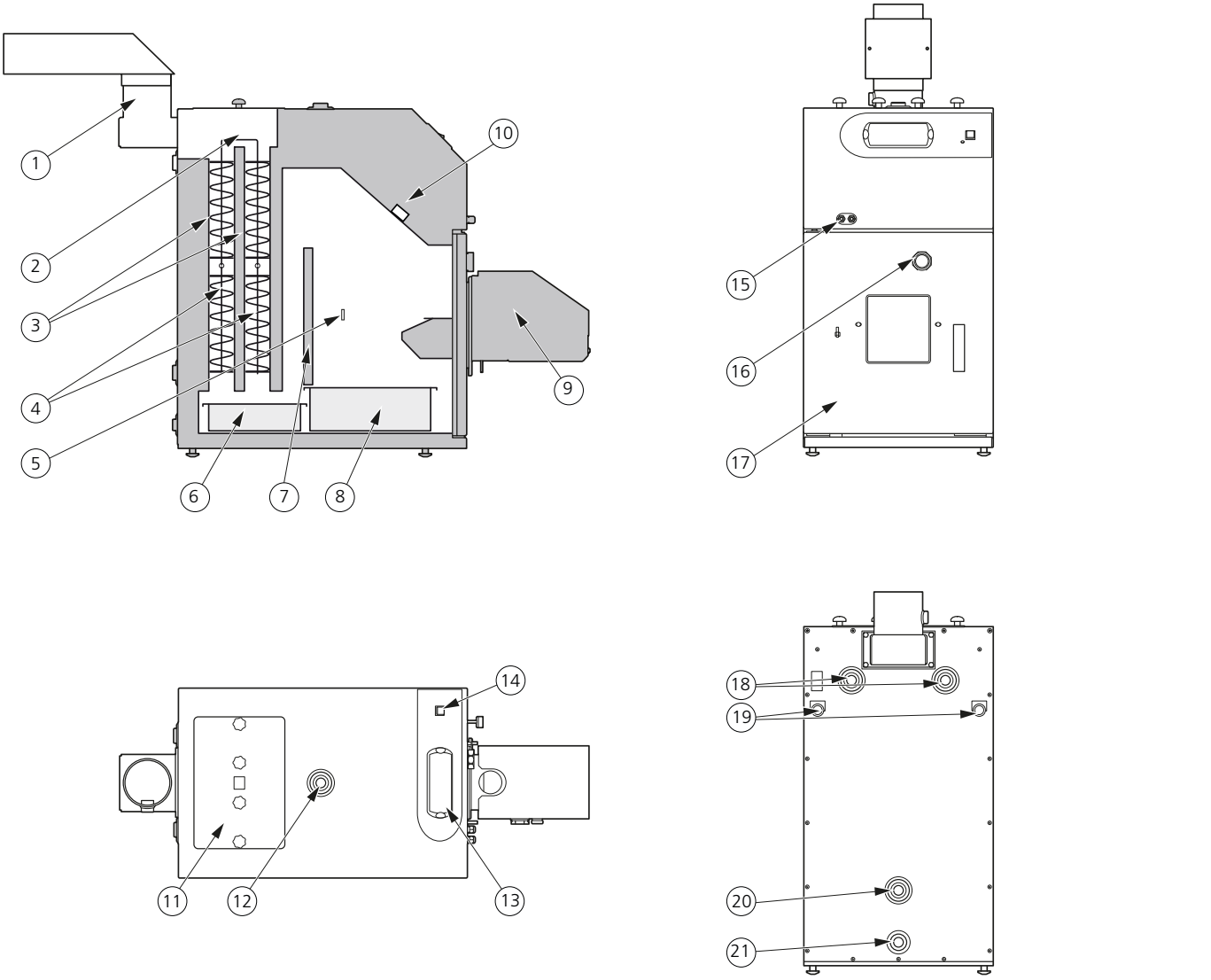


Burner


Electric schema burner PBMAX
21662
Material Quality/Specification
Name assembly, part
Weight
Sheet 1/1
Scale 1:1
Format A3
Revision 1
Drawing no
Projection
No. change
Quantity changes 1 2
No. card of changes
Design
Drawn
Checked
Approved
Name
Signature
Date
Photocell [95500]
Actuator [95732]
Wall socket with cover [21660]
Yellow-green [19652]
Fan [95675]
Yellow-green [22310]
Cover grounding
Ignitor [95502]
Temperature limiter [95572]
Blue [22313]
Microswitch [19766]
Blue [22307]
Built-in connector [22596]
Built-in connector [22598]
230V
Blue
Black
Brown
Blue
Brown [22312]
Black
White
Blue [22311]
Black
White
Blue [22309]
Black [22306]
White [22305]
Brown [22304]
Brown [22303]
Grey [22302]
White [22301]
Blue [22308]
Yellow-green [22300]

Component positions

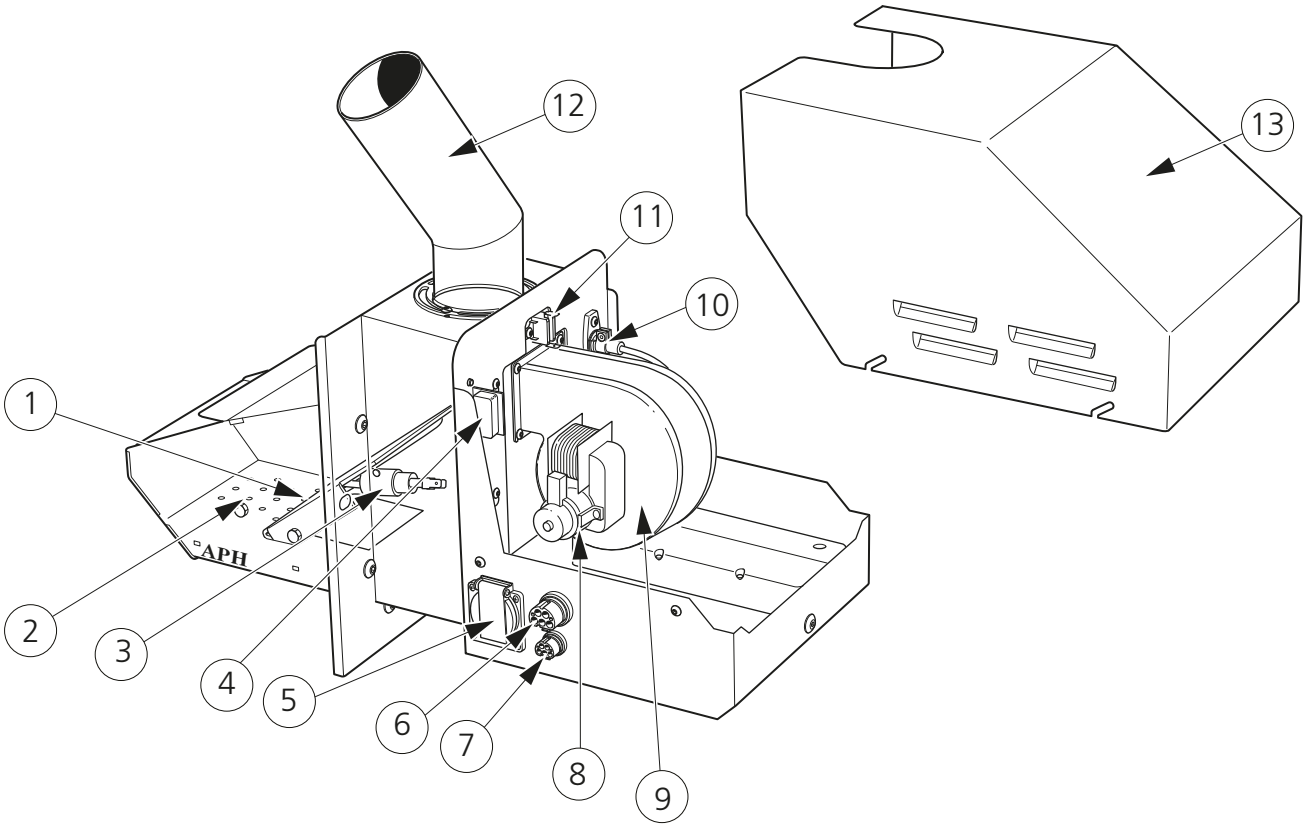
Boiler



List of components boiler

1 Flue pipe connection, Ø133 mm ext.
2 Sweeping mechanism
3 Air channels (smoke gas)
4 Smoke gas turbulators
5 Hearth
6 Soot box
7 Ceramic insert
8 Ash box
9 Burner
10 10 A miniature circuit breaker (MCB)
11 Soot hatch
12 Expansion connection or supply line (G25)
13 Control computer
14 Main switch
15 Lead-in for electrical cable to burner
16 Inspection glass to check burner flame
17 Hatch for combustion chamber with ash box
18 Flow line (G25)
19 Lead-in channel Ø26 mm.
20 Return line (G25)
21 Drain connection (G15)

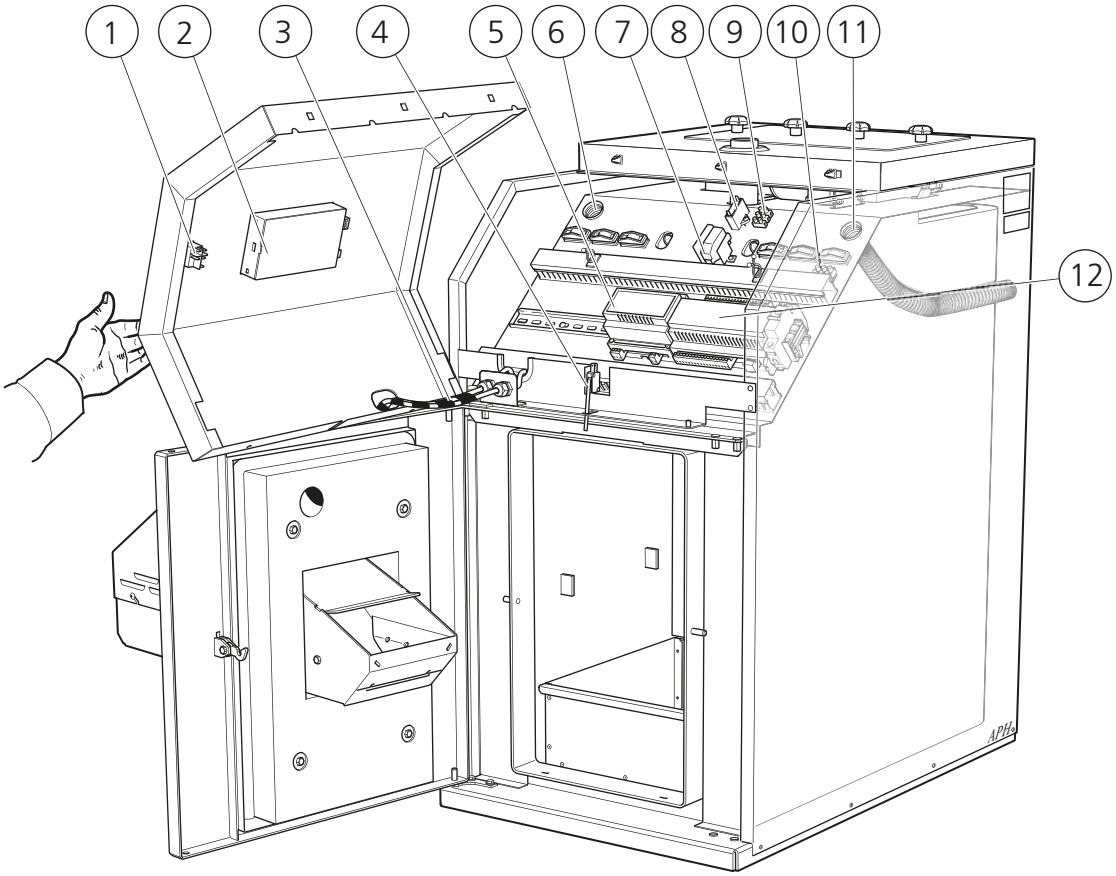
Burner



List of components burner

1	Ignition pod
2	Grid
3	Glow coil
4	Door frame switch
5	Connection, power supply pellet screw
6	Connection, power supply
7	Connection, control computer
8	Fan motor
9	Fan
10	Photocell
11	Temperature limiter
12	Feed pipe
13	Cover

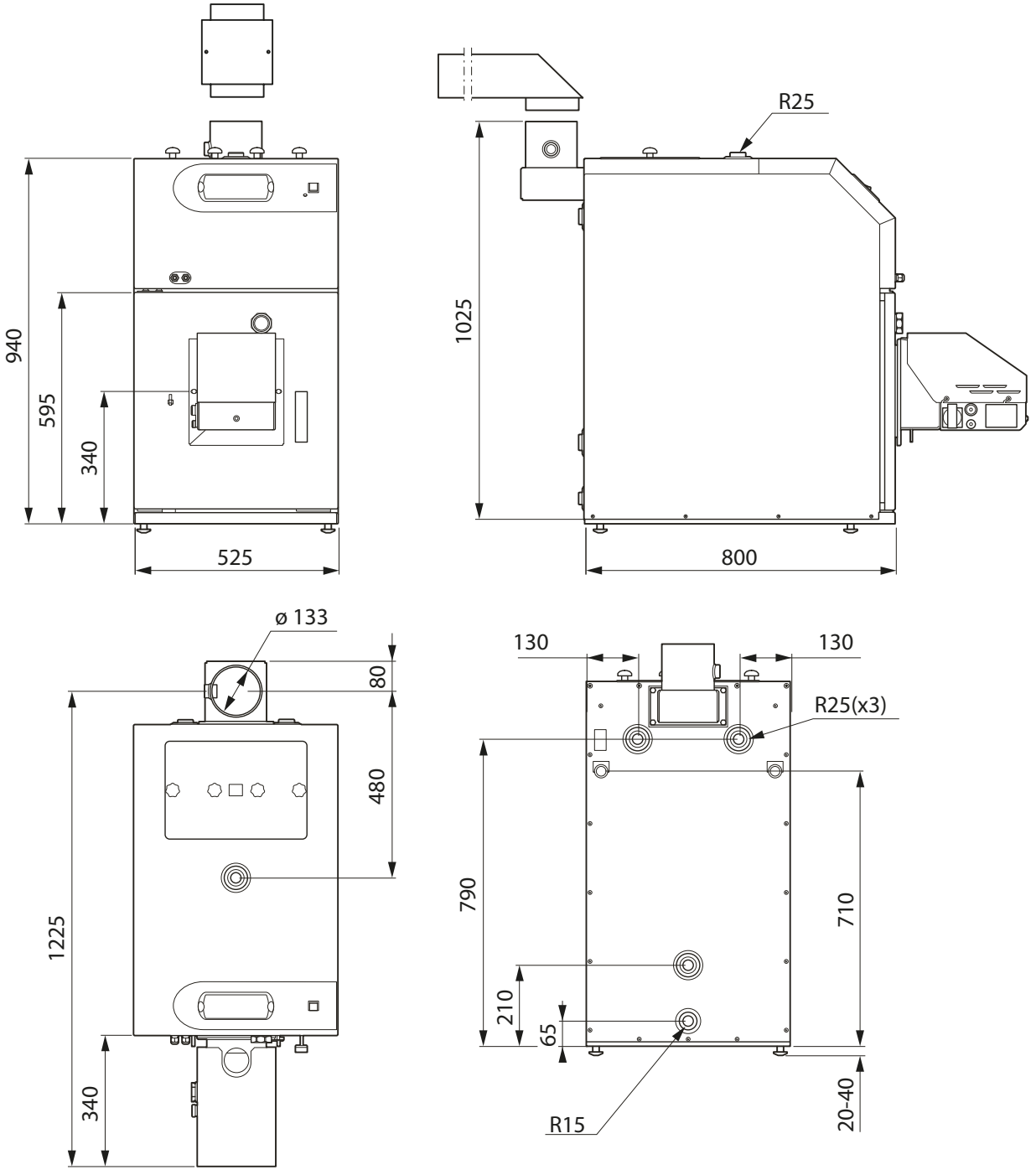
Electrical components



Electrical component list

1. Main switch boiler
2. Control computer
3. Current and control cable to burner
4. Door sensor
5. Motor control module
6. Cable gland
7. Temperature limiter boiler
8. Capacitor
9. Connection terminal for sweeping motor
10. Connection terminal main current
11. Cable gland
12. CAN-bus module

Dimensions and location coordinates



Technical specifications

CE IP 21

Boiler class according to EN 303-5	Class 3
Height without base	942 mm (increases 24 – 39 mm)
Required ceiling height	1100 mm
Width	526 mm
Depth	800 mm
Weight	220 kg
Volume total	60 litres
Supply voltage	230 V NAC 50 Hz
Fuse	10 A
Base power requirement	1100 W
Current consumption control unit	11 W
Enclosure class	IP 21
Max permitted pressure in the boiler	0.25MPa (2.5 bar)
Cut-off pressure in the boiler	0.25MPa (2.5 bar)
Max available output pellet operation	20 kW
Output range pellet operation	6 -20 kW
Nominal heating output pellet mode	18.7kW
Combustion period pellet mode at Q_N	4.15kg/timme
Hearth, volume	60 litres
Ash box, volume	13 litres
Water volume	60 litres
Capacity for charging chamber (grille installed)	22 litres
Draught requirement	15 -25 Pa
Flue diameter	150 mm
Exhaust temp. at nominal & minimal heating output	130 °C
Exhaust mass flow at nominal heating output	Qn 0.01375kg/sek.
Exhaust mass flow at minimum heating output	Qm 0.01027kg/sek.
Resistance water side at 20 K	250Pa (2.5 mbar)
Resistance water side at 10 K	880Pa (8.8 mbar)
Max work temp.	85 °C
Setting range, temp. control	50 - 80 °C
Minimum temp. return line	60 °C
Pellet store capacity and opening dimension.	300 l, 469 x 553 mm (Part no. 634533)
Pellet store capacity and opening dimension.	500 litres 469 x 1000 mm (Part no. 634532)
Fuel type	Wood pellets
Size	6 - 10 mm
Moisture	<10%

Enclosed kit

1 Installation and Maintenance Instructions
2 Wing nut M8
1 Draft limiter with gasket kit
1 Angled flue pipe (vertical flue pipe supplied by special order)
1 Adapter for angle flue
1 Soot brush with shaft
1 Tapping valve
1 Outdoor temperature sensor
1 Plug (R6) 1/8"
1 Plug 3/8"

Accessories

Pellet store and Pellet auger
300 L Part no. 634 533
500 L Part no. 634 532
Room thermostat
Part no. 067 215
Solar control
Part no. 067 301
Lambda system
Part no. 022 144
Temperature sensor 0.6 m.
Part no. 067 213
Extra shunt group
Part no. 067 315
Pellet screw 1.5 m.
Part no. 618 905
Pellet screw 2.5 m.
Part no 618 906

Vertical flue pipe
For vertical chimney connections this unit is used for the vertical flue pipe instead of the supplied angled flue pipe.
Upper connection:
Ø int 159 mm
Ø ext 168 mm
Lower connector:
Ø int 139 mm
Part no. 08 91 59
Round flue pipe extension
Flue:
Ø int 125 mm
Ø ext 133 mm
Collar:
Ø int 139 mm
Length without collar: 750 mm
Part no. 08 98 50
Flue extension for angled pipe
Dim ext.: 180 x 123 mm
Length: 750 mm
Part no 08 97 32

Item register

331139

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