Operation manual
Wood chip boiler
Eco-HK 20-60

HARGASSNER
HEIZTECHNIK DER ZUKUNFT

Follow and store this manual

HARGASSNER Ges mbH
A 4952 Weng OÖ
Tel.: +43/7723/5274-0
Fax.: +43/7723/5274-5
office@hargassner.at
www.hargassner.at

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Contents

Dear customer!

You've chosen an innovative wood biomass boiler from Hargasssner. The boiler from Hargassner Ges mbH is a state of the art product and manufactured to the latest production standards. We are very pleased about your decision and guarantee that you've chosen a reliable quality product.

However, as important as the products' high performance is, a professional installation, commissioning and service is just as crucial. Supportive are attached hydraulic schematics, and connections- and installation drawings. To ensure a long service life, exactly read and follow this operation manual. High costs for reparation and long downtimes may be prevented.

Keep this manual within easy reach.

The operating manual is intended to help:

- become familiar with the boiler
- and to use it for its intended purpose

This operation manual contains important information in order to operate the boiler

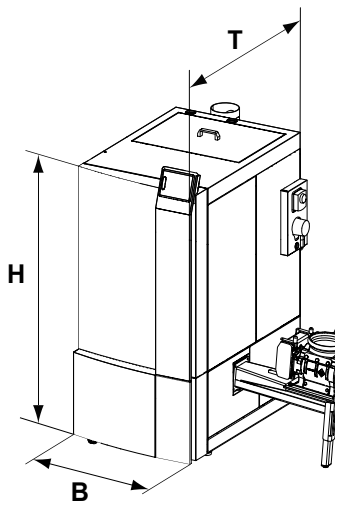
- safely
- appropriately
- efficiently
- and economically

Guidelines within this manual will:

- Prevent hazards
- Reduce breakdowns and wear
- Increase the reliability and service life of the boiler

Chapter I: Technical Data

1 Dimensions



Dimensions in (...) valid for Eco-HK 40-60

Designation	Description	Value	Unit
B	Total width	660 (745)	mm
F	Total depth	1220 (1310)	mm
H	Total height incl. control panel	1455 1550	mm
	Total weight	490 (640)	kg

2 Intended purpose

The automatic wood biomass boiler is designed to heat up water only. Only fuels permitted by Hargassner Ges mbH may be burned in this boiler. Only use the boiler in technically perfect working order. Rectify errors immediately.
The appropriate operation also covers observation of all items of this operation manual and the carrying out of inspection- and maintenance works.

3 Annual space heating emissions

Carbon monoxide	< 500 mg/m³
Nitrogen oxide	< 200 mg/m³
Gaseous organic compounds	< 20 mg/m³
Dust	< 40 mg/m³

Annual emissions for room heating at 10 % residual oxygen in dry flue gas

4 Fuel quality

Only use fuels that comply with **EN ISO 17225**.

W A R N I N G

☞ Only use released and permitted fuels
☞ Always consult Hargassner when using new fuels, have feasibility evaluated by Hargassner.

4.1 Woodchips (A1 - B1)

For proper extraction of the fuel storage room and to ensure perfect combustion, use **A1-B1** class wood chips according to **EN ISO 17225- 4:2014** only.

- Max. water content M35
- Sizes P16S - P31S

4.2 Wood pellets (A1)

Ensure quality standards, when wood pellets are ordered and delivered.
Quality criteria:

- Least possible dust content
- Hard, shiny surface
- 100% natural wood, no additives, etc.
- Wood pellet class **A1** defined in **EN ISO 17225-2:2014** and **EN ISO 20023**

Calorific value	Density	Diameter	Length	Fine material rate
> 4.6 kWh/kg	600 - 750 kg/m³	6 ±1 mm	3.15-40 mm	< 1 %

4.3 Miscanthus (E)

For non-woody fuels like Miscanthus, also ensure quality standards.
Quality criteria:

- Lowest possible dust-/foreign objects rate
- No additives, etc.
- Fuel verified acc. to **ÖNORM EN 17225-1**
- Particles 10 - 200 mm

4.4 Inadmissible fuels

- Fuel with water content >35%
  ☞ The formation of condensate causes more corrosion in the boiler.
- Paper, cardboard
- Chip boards, impregnated timber
- Black coal, brown coal or lignite
- Waste
- Plastics

5 Boiler room design

Boiler rooms must designed in accordance with local regulations.
⇨ See installation manual "Execution of boiler room"

- Keep the boiler's air openings free
- Never store flammable materials in the boiler room
- Execute the boiler room in frost-proof condition
- Ensure fireproof, level and solid floor and ceiling construction
- In accordance with regulations, have the main heating switch installed by an electrician (depending on building regulations)
- Fire extinguisher

6 Design of the fuel storage room

Fuel store design is dependent on planning regulations where the Vertical Filling System is to be installed.

- No electrical installation or devices inside the storage room
- All lines to be installed concealed
- Watch for sound insulation at the wall opening for the extraction auger (transmission of structure-borne sound)
- Protection against moisture, water and dust

D A N G E R

Burns due to the explosive combustion of dust (sawdust)

- No motors in the fuel storage room, except in agricultural buildings
- No other source of ignition (e.g. light) in the storage room
- No electrical equipment (e.g. light switch) in the storage room
- No welding works in dusty environment

7 Execution of heat circuits

Proper design of the heat circuits is essential for optimum boiler operation
⇨ See enclosed hydraulic schemes
Accumulators, pumps and mixers for heat circuits must be designed according to current standards by the installer.

8 Back-end protection

If the temperature of the heating-water return to the boiler is below the value preset in the parameters, some heating-water flow is added.
Back-end protection is mandatory when operating the boiler.
⇨ See installation manual "Back-end protection“

9 Flue pipe - chimney connections

Description	Unit	Eco-HK 20	Eco-HK 30	Eco-HK 35	Eco-HK 40	Eco-HK 50	Eco-HK 60
Nominal heating output	KW	20	32	35	40	49	60
Flue gas temperature	°C	140	150	160	140	150	160
CO2	%	14					
Mass flow rate	kg/sec	0.0117	0.0174	0.0203	0.0232	0.0283	0.0344
Req. delivery pressure	Pa	2					
Max. flue draught	Pa	10					
Diameter of flue pipe connection	mm	150					

10 Electrical connection

⇨ See enclosed electrical manual

Dimensions in (...) valid for Eco-HK 40-60

Electrical energy	Characteristics	Unit
Voltage	400	V ± 5 %
Frequency	50	Hz ± 5 %
Prefuse	13	A
Power consumption[a]	100 (170)	W

a. Calculated in accordance with the EN 303-5 testing requirements without the pumps and fuel extraction system

- The electrical connection has to be executed according to the enclosed electrical manual through a licensed and authorised electrician
- Attach a lockable main power switch outside of the boiler room (acc. to building regulations)
- Max. prefuse **13 A** (C characteristic)
- It is absolutely imperative that the intrinsically safe cables are **permanently installed**
  - Use suitable mechanical fixing material
- Establish in-phase connection **L** and **N** (see electrical manual)
- Connect potential equalisation
- Use highly flexible cables (e.g. **H05VV-F**)

Chapter II: Safety regulations

1 General safety regulations

1.1 Obligation to instruct, external personnel, children

D A N G E R

Risk of death, injuries, damage from improper operation

- Observe safety instructions on the boiler and in the manual
- Read the operation manual before commissioning the boiler
  ☞ In the cladding door is a storage compartment

Incorrect actions by unauthorised individuals

- Only let qualified and experienced staff work on the boiler
- Decide who is responsible for managing the boiler
- Keep external, unauthorised and untrained people away from the boiler and the fuel storage room
- Do not disclose control entry codes
- Observe legal minimum age of staff
- Place prohibition sign on boiler room door and fuel storage door

Work on the boiler's electrical parts must only be carried out by an electrician and in accordance with the electrical engineering regulations.

Work on hydraulic systems must be carried out only by personnel with specialised knowledge and experience in hydraulics!

1.2 Special measures prior commissioning by the operator

- Licensing requirements for safe operation and accident prevention regulations must be observed!
- Do execute verifications prior commissioning.
  ⇨ See "Inspections prior starting up the boiler" on page 14.

1.3 Key issuing

D A N G E R

Unauthorised commissioning!

Commissioning through Hargassner authorised staff only

- Prevent unauthorised commissioning
  ☞ Block main power switch and keep keys safe

2 Remaining risks

The following residual risks must be particularly taken into account when the boiler is operated properly and in accordance with its intended purpose:

D A N G E R

Burns due to hot surfaces and boiler components

- Switch off the boiler and let it cool down before carrying out any maintenance or servicing work
- Do not reach into the boiler during operation
- Wear heat resistant safety gloves
  ☞ The ash in the ash container stores heat
- Put ash in closed, non-flammable vessels only
  ☞ Do not empty hot ash into dustbin

Scalds from sprinkling, hot water

- Check all hoses, lines and connections periodically for leakages, wear and tear or any other damage
  ☞ Rectify damage immediately
- Before performing any maintenance work on the water circulation system, depressurise the boiler
- Check that all valves are in the correct position

D A N G E R

Burns due to the explosive combustion of dust (sawdust)

- No motors in the fuel storage room (acc. to country-specific regulations)
  ☞ Except agricultural buildings
- No other ignition sources (light) in fuel storage room
- No electrical equipment (switches) in fuel storage room
- No welding works in dusty environment

D A N G E R

Burns from explosive combustion of residual gases (CO) in the combustion chamber

- Open combustion door carefully
  ☞ Slightly in the beginning
  ☞ Hold back body and face from the combustion door
- Do not open the combustion door during or immediately after a power blackout
  ☞ The risk of deflagration increases significantly after uncontrolled boiler conditions (e.g. power loss)
- Do not open combustion door during heating operation

D A N G E R

Risk of injury due to moving parts

- Refrain from accessing augers or motors while boiler is in use
- Do not work on the boiler while persons are in the danger zone
  ☞ Secure / lock fuel storage room
- Only clean the augers and remove blockages using suitable tools and when the main power switch is turned off and locked
- The spring blades of the fuel extraction system are retracted under the cover disc and are under tension when the fuel storage room is completely full
  ☞ These springs may shoot up suddenly
- Watch out for the spring blade position when entering the fuel storage room
- Remove fuel bridges with rods or shovels only
- Wear safety shoes
- Observe fuel storage room sticker

D A N G E R

Electric shock from contact with live terminals

- Observe information signs
- Before starting work, check that no voltage is present using a voltmeter

D A N G E R

Poisoning and danger of suffocation from flue gases in the boiler room / building

- Check boiler doors and seals for leaks
- Burning creosote-treated wood (paint, varnish, impregnation) results in toxic ash
  ☞ Avoid skin and eye contact

W A R N I N G

Risk of injury due to unexpected operating conditions

- Limit switches or motors are not monitored in manual operation
  ☞ Reverse operation of augers max. 2 [Sec.]
- Manual operation is only allowed to be executed by trained staff

3 Measures in case of danger

3.1 Fire in the boiler room

❒ Switch off main switch before fighting any fires
↳ Disconnect main power supply
❒ Switch-off the boiler and unplug the unit from the mains

3.2 After a power failure

Do not open the boiler's doors or reach into it during a power failure.
☞ Danger of deflagration
☞ Danger of crushing by the augers
After the electrical supply is switched on again, the control starts in **Heat up** mode and monitors the flue gas temperature
↳ As the flue gas temperature increases, the boiler will heat up and regulate the transfer of heat according to the preset parameters

3.3 Leak in heating water system (no water)

If the water pressure is too low, not enough heat is being transferred from the boiler to the heat circuits, HWT and accumulator.
↳ Danger of boiler overheating
❒ Stop heating up the boiler
❒ Fix leakiness
❒ Fill / refill water circulation system
❒ Check water pressure

3.4 Leak in the boiler (smoke escaping)

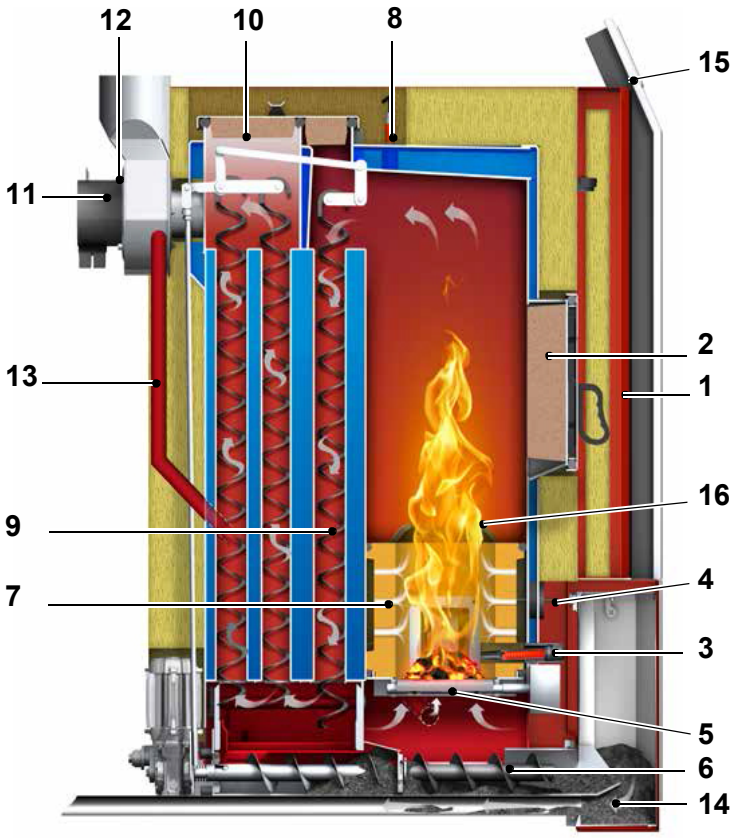
❒ Stop heating up the boiler
❒ Check the seals of the doors and cleaning covers, and have them replaced

3.5 Auger blockage(s)

Do not touch the blocked augers
☞ Danger of crushing from sudden release of blockage
❒ Briefly run the blocked auger backwards in Manual operation (max. 2 seconds)
↳ Danger of fuel being compressed in the auger
❒ Only clean the augers and remove blockages using suitable tools and when the main power switch is turned off and locked

Chapter III: Operation

1 Overview of boiler components



Pos.	Description
1	Boiler door
2	Combustion door
3	Ignition
4	Firebed monitoring
5	Double rotary step grate
6	Ash-auger
7	Refractory
8	Lambda sensor
9	Turbulators
10	Cleaning lid
11	Exhaust fan
12	Flue gas sensor
13	Recirculation
14	Ashbox (Suction cleaning optionally)
15	Control unit
16	Flame concentration jet

The boiler consists of the combustion chamber and the heat exchanger and controls the combustion air with air flaps and the induced draft fan.
The lambda sensor consistently monitors the flue gases.
The turbulators clean the heat exchanger through a rod. The boiler cleans itself at regular intervals using the de-ash system. The ash extraction auger transports the fly ash, as well as the grate ash into the ash box. Optionally a suction system into a 300 Litre ash bin is available for the ash.
The ignition of the pellets takes place through 2 high-efficient automatic ignitions (300 W).

1.1 Function

- Fuel transport from the storage room
- Transport of the fuel into the combustion chamber
- Ignition and combustion of the fuel
- Control of heat transfer to the water based system
- Cleaning of the boiler and the ash extraction into the box
- Evacuation of the flue gases

1.1.1 Operating modes

- Automatic operation
- HWS operation
- Manual operation
- Off (Frost protection and residual heat use activated)
- Firing Off

2 Prior to commissioning

D A N G E R

Death, injuries or damage due to missing, defective or bypassed safety devices or boiler parts

- Check safety devices and boiler parts carefully for proper and intended function
- Safety devices should not be modified or bypassed
- In case of malfunction or defect, perform immediate repair measures
- Place, position and function of all safety devices must be known

D A N G E R

Commissioning by untrained or unauthorised personnel

Risks due to unforeseeable operating conditions

- The switch-on / first start-up must be carried out by **Hargassner Ges mbH** or **specially trained staff**

W A R N I N G

Danger of crushing from moving parts in the vicinity of the fuel extraction system, ash extraction system and combustion grate

- Make sure that no persons are in the danger zone
- Do not reach into any reachable mechanical parts
- Do not stand on the boiler
- Do not leave any foreign parts (tools, etc.) in the boiler

2.1 Checks prior commissioning

- Safety on-site and plumbing and electrical installations
- Installing the boiler
- Check all necessary components
  - Check correct assembly, function, rotation of all motors, etc.
  - for correct placement of combustion chamber lining

2.2 Start commissioning

Once the boiler has been installed properly and all the required safety devices have been checked, the boiler can be commissioned in accordance with the commissioning checklist in the inspection book.

A T T E N T I O N

The boiler must be commissioned by an engineer with a Hargassner commissioning certificate. The completed commissioning checklist must be sent back to Hargassner Ges mbH with the commission number within 30 days of the commissioning, **otherwise the warranty becomes void**. A copy remains in the commissioning book on-site.

2.3 Customer instructions

- Explain cleaning and maintenance intervals
- Explain inspections prior to any fuel refill
- Explain how to operate and troubleshooting

2.4 Starting the boiler for the first time

The boiler can be started for the first time once commissioned.

❒ Switch the boiler to manual operation

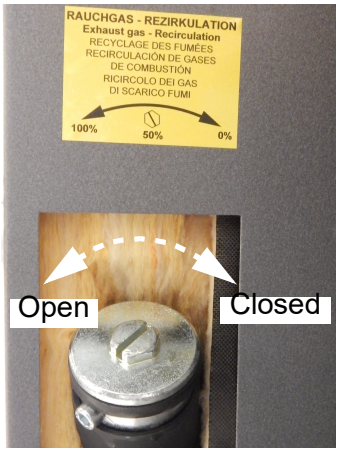
☞ Use the no. 10 parameter to fill the empty combustion chamber in manual mode

↳ Prevents an error due to missing fuel

❒ Switch to **Auto** or **HWT**

↳ Boiler starts automatically when hot water is needed

2.5 Recirculation setting



☞ The default recirculation setting is **50%**

❒ When using agro-fuels that produce clinker, e.g corn cobs or miscanthus, etc. - set recirculation to **100%**

❒ If you are using wood pellets, set recirculation to **100%**

❒ If clinker occurs, the setting is continuously adjustable

☞ Set in small steps so that a thermal state of inertia of the changed temperature can be reached

2.6 Inspections prior starting up the boiler

❒ Check water pressure in boiler circuits, heat circuits, HWT and accumulator circuits

❒ Pay attention to the display for notifications (error messages and boiler status)

❒ Rectify any errors

❒ Check and lock fuel storage room

2.7 Filling the fuel storage room

A T T E N T I O N

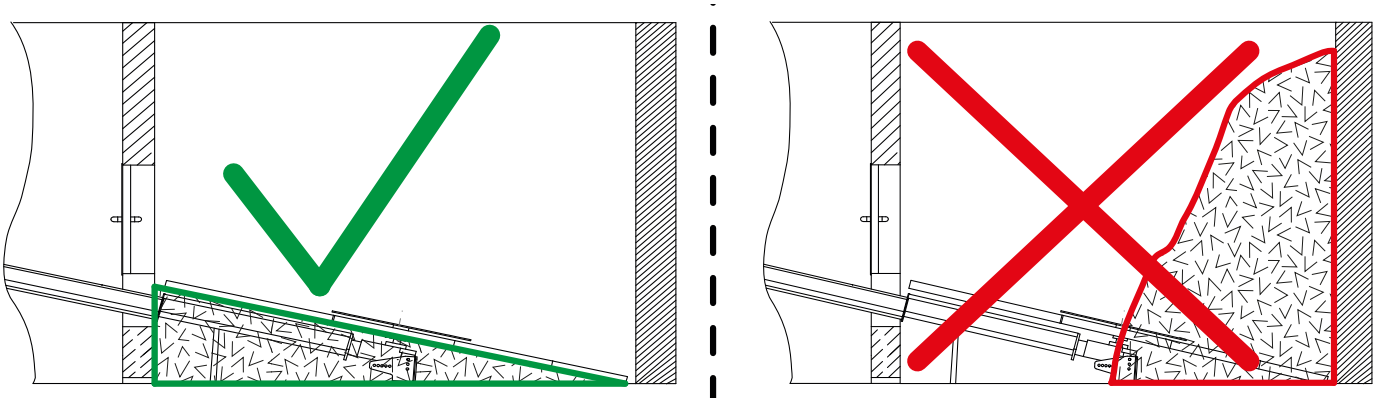
Always have the boiler fuel extraction system switched on before and while filling the fuel storage room with fuel.

☞ So that the spring arms can move during the filling under the cover disc

Protect fuel against moisture

When filling the fuel storage room for the first time, only use a small amount of fuel to start with and spread it out (so it reaches under the spring blades).

☞ Provide "Sloping floor" with dry fuel (see info cover disc)



3 Control panel

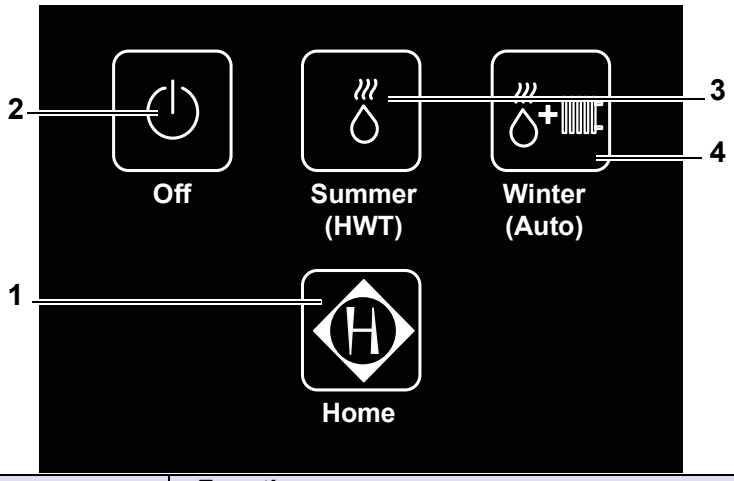
D A N G E R

Wrong operation of the control unit

Risk of injury, damage to the boiler from unpredictable operating modes

- Only trained staff should operate the control unit
- Access to all functions of the control unit is protected by codes
  - ☞ Service settings and installer settings
  - ☞ Codes must not be passed on to unauthorised staff

3.1 Home view



Pos.	Description	Function
1	Standard menu	Switching from **Home** to the **Standard menu** ⇨ See "Standard menu view" on page 18.
2	Operating mode **Off**	Quick select button for operating mode **Off** ⇨ See "Operating modes" on page 19.
3	Operating mode **Summer**	Quick select button for operating mode **Summer** (HWT mode)
4	Operating mode **Winter**	Quick select button for operating mode **Winter** (Automatic mode)

☞ After the time set in the **No. 02 Display settings** setup parameter has elapsed, the control unit automatically switches to the Home view

3.2 Touch screen

The control panel is designed as a touch screen.

☞ It is operated using finger pressure on the display.

❒ Scroll through the menu with 

❒ To return to the previous menu, press  **Standard**

❒ To return to the Standard menu, press  **Standard** (you may have to press 2x)

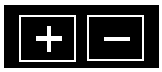
☞ Possible from every menu

❒ Activate the operating mode by pressing the 

Function selection button

❒ Activate the input field by pressing it

↳ Values are displayed in **red**.

❒ Change the active values: 

↳ Values flash **red**

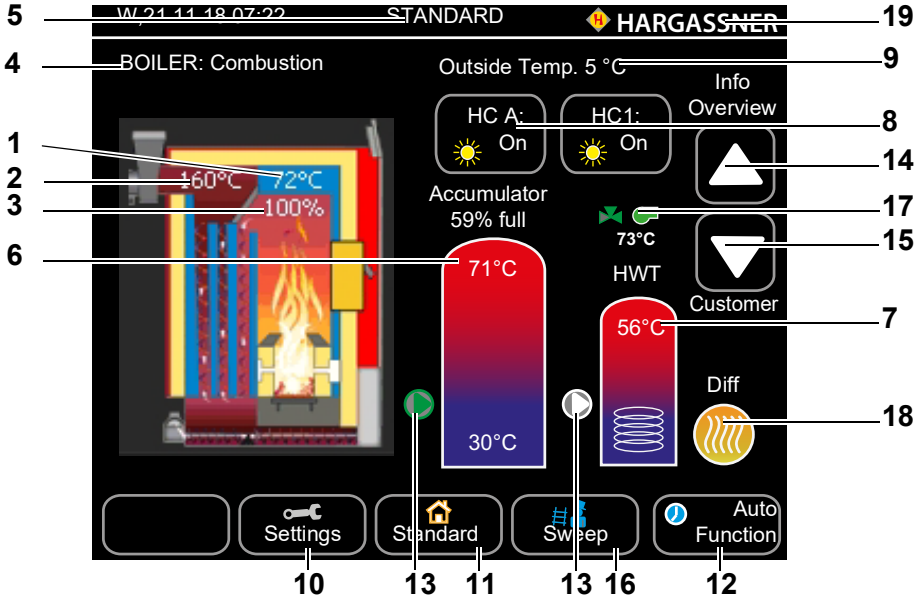
↳ Buttons flash **green**

❒ To enter or save any changes, press 

❒ You can jump straight to the customer settings by pressing on the respective graphic in the Standard menu

☞ Shortcuts are provided for the boiler, accumulator, HWT, external heat boiler and heat circuits

3.3 Standard menu view



Pos.	Description	Function
1	Boiler temperature	Display of the current boiler temperature
2	Boiler-flue gas temperature	Display of the current flue gas temperature
3	Boiler output	Display of the current boiler temperature
4	Status display of the boiler	⇨ See "Boiler's status indicators" on page 20.
5	Status display of the control unit Display of the current menu name	• Description of the active menu • Error (flashes red) / warnings (yellow) • Current position in menu tree • **Locked in x days -** dongle error
6	Temperature display in accumulator (if available) Display accumulator filling level in %	Current temperatures (top, mid, bottom) of accumulator sensors currently filled heat capacity
7	HWT temperature indicator	Display of the current water temperature in the HWT
8	Status display of heat circuits	• Off Heat circuits switched off • Sun - Heat circuits in day mode • Moon - Heat circuits in reduced mode • Frost - Heat circuits in frost protection mode
9	Display of outside temperature	Outside temperature measured at outside sensor
10	Settings	Switches to the menus for customer, installer and service settings and to the control unit's setup.
11	Standard	Displays the standard menu. You can switch directly to the Standard menu from any menu. After 10 minutes of no activity, the display switches back to the **Standard** display menu
12	Function	Choose operation mode of the boiler. ⇨ See "Operating modes" on page 19.
13	Pump	Operation mode of pump: Green: Pump is running. White: Pump has stopped.
14	Info	• Switching to the Info menu
15	Customer	• Switching to the customer settings
16	Chimney sweep	By pressing the Sweep button, a special Boiler status programme is started to measure the flue gas consistency
17	External heat boiler	Status display of external boiler (if available) green: released; white: locked
18	Differential controller	Pressing on the symbol will take you to the differential controller info page
19	Hargassner logo	Press on the logo to display the boiler data

4 Operating modes

- **Automatic (Auto):** The standard mode in which the heating system is operated according to the pre-set temperature and on/off times.

- **Hot water (HWT):** The heating system is only used to ensure the hot water supply, not to heat any floor heating system or radiators.
  - ☞ No control of heat circuits (except for frost protection function)
  - ☞ Pumps **Off** and mixers **Closed**

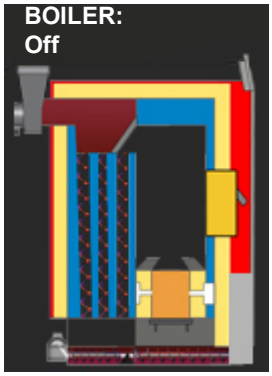
- **Switch off (Off):** The heating system is switched off - with the exception of the frost protection function. The touch screen still shows all current information.
  - ☞ No control of heat circuits (except for frost protection function)
  - ☞ Pumps **Off** and mixers **Closed**

- **Manual operation (Manual):** Allows various actions to be carried out manually, such as manual activation of individual pumps and mixers. Also shows additional information and values.
  The Standard menu view is kept in the Automatic, hot water and OFF operating modes.

- **Test mode button:** The button for the chimney sweep to manually switch the boiler **On** or **Off** during emission tests
  The following options are available:
  - ☞ **Full load:** If an accumulator is connected, press this button to have the control unit automatically change to full load measurement.
  - ☞ **Empty accumulator:** Press this button to switch off all programmed control functions of the boiler. The boiler operates at full load, assumes very low outside temperatures and tries to transport as much as possible heat into the heating system. All regulating devices like thermostatic head valves and automatic control valves have to be opened manually to ensure that the required amount of heat is transferred. This function ends automatically after 2 hours. If the test mode button is pressed and no accumulator is connected, the control unit offers two options: **full load measurement** or **part load measurement**. All programmed control functions of the boiler are switched off in part load measurement. The boiler controls up to 100% (full load) combustion. After 15 min. full load - the heat output is reduced to 50% (part load). After 5 min. part load, the **"Test mode start measuring"** message is displayed.

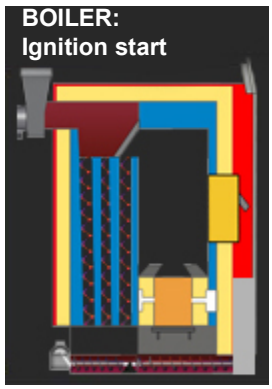
- **Heater OFF:** Button for switching heater off. Heater can be switched off immediately or at a preset time.
  - ☞ Control of the heat circuits with pumps and mixer continues; only firing is switched off.

5 Boiler's status indicators



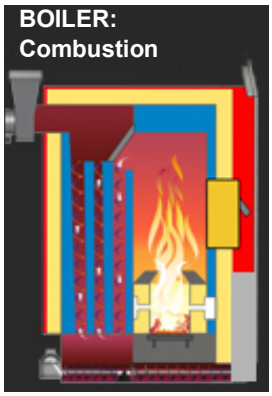
The boiler control uses the temperatures and flue gas values to detect the status of the boiler.

Off
The boiler switches off if there is no demand from the heat circuits or HWTs or if the accumulator takes care of the demand.



Ignition start
Fuel is transported into the combustion chamber and the boiler monitors if autonomous ignition occurs due to residual embers.

Ignition
The electric ignition starts and the fuel is ignited.

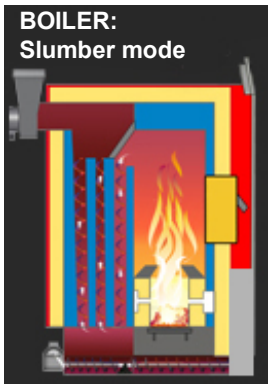


Combustion
The boiler controls exhaust fan output (air volume) according to the heat demand and required boiler temperature, and the optimum fuel amount according to the lambda sensor signal.

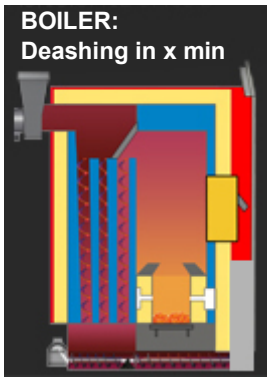
- ☞ Combustion output range from 30 - 100 %

Burnout
The boiler controls the burnout depending on the O2 content and the set minimum and maximum burnout time (service settings).

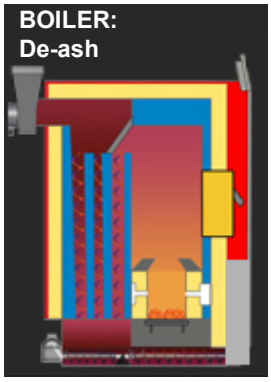
- ☞ Primary air to 100 %
- ☞ Exhaust fan to 100 %



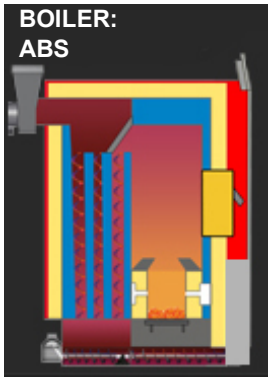
Slumber mode
If the heat demand drops below the minimum boiler output, the status changes to Slumber mode



Deashing in x min
if the maximum combustion time is exceeded, no more fuel is added and the boiler burns out.



De-ash
- **Partial deashing:** The ash grate makes a full rotation until it stops at its original position. The turbulators clean the heat exchanger tubes. The ash falls onto the ash auger and is transported and compressed in the ash box. The boiler returns to the required status afterwards.
- **Complete deashing:** All rotary grates are opened completely and the turbulators clean the heat exchanger tubes. The ash falls onto the ash auger and is transported and compressed in the ash box. The boiler returns to the required status afterwards.



ABS Automatic blockage protection
Exhaust fan, ash auger, cleaning device and ash auger system are started (duration 10 seconds). The touch screen displays **ATTENTION ABS function is starting**.

☞ During the **ABS** state, do not switch off the system, do not open the boiler's doors or reach into the boiler.

6 Info menu

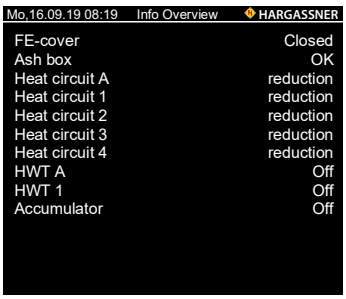
❒ Press 

in the **Standard** menu

❒ Use these arrow to scroll through the menu: 
Target: Adjustment value / set value
Is: current value (position)

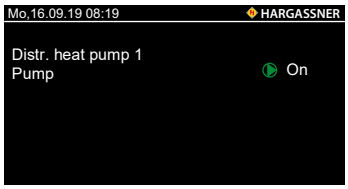
❒ In the respective Info menu, press the  symbol to go straight to the settings

6.1 Overview



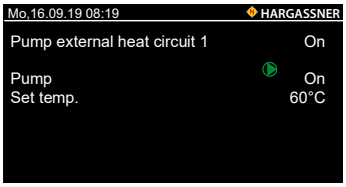
Shows an overview of heat circuits, HWT and any other components of the individual biomass boiler.

6.2 District line pump



If a heat circuit has a district line, the status of the district line pump is shown on this page (green = **On**, white = **Off**).

6.3 External heat circuit

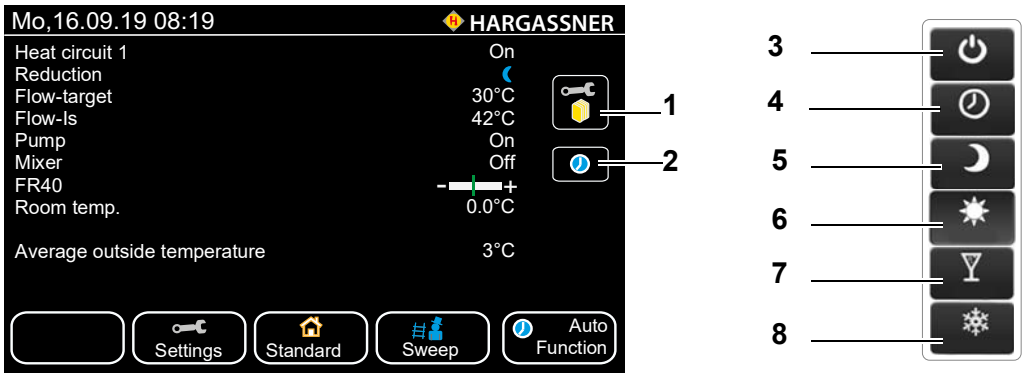


If an external heat circuit is available, a corresponding info page is shown at this point.

6.4 Heat circuit

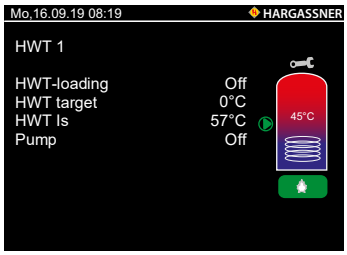
Shows the status of the heat circuits. One heat circuit is displayed per page. If there are several heat circuits, several info pages are available in the menu. If the mixer pump is running, this is indicated as text and by a green arrow icon.

❒ Use the button next to the heat circuit **(1)** to call up the configuration pages
❒ The first heat circuit page can be accessed directly via the heat circuit button in the Standard menu
☞ If a FR25, FR35 or FR40 is used, it is shown in an additional line
❒ Select the heating mode with the heating mode button **(2)**



Pos.	Description	Function
1	Heat circuit configuration	The button next to the corresponding heat circuit is used to jump to the setting options in the configuration pages
2	Heating mode configuration	The button is used to enter the pop-up menu for selecting the heating mode
3	Off	The heat circuit is switched off (except for the frost protection function)
4	Automatic	Heat circuit runs according to the timer programme's settings
5	Permanent reduction	The room temperature is continuously being reduced to the preset room temperature (setback mode).
6	Permanent heating	The room temperature is continuously being heated to the preset room temperature (heating mode).
7	1x heating	The heat circuit heats the room temperature to the set value (heating mode) and switches back to the automatic timer programme during the next heating cycle (or after 24 hours at the latest)
8	1x reduction	The heat circuit reduces the room temperature to the set value (setback mode) and switches back to the automatic timer programme during the next heating cycle (or after 24 hours at the latest).

6.5 HWT



Info page about the HWT status

- HWT-loading
- Set temperature
- Actual temperature
- HWT fill level display 

- Pump status

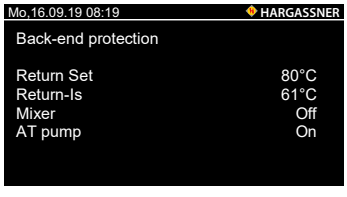
If more HWT are parametrised, more info pages are also available. The circular arrow button next to the HWT graphic shows whether the HWT pump is currently running or not (green = on, white = off).

☞ Use the HWT icon to access the HWT setting options in the configuration pages

- Button **One-time charge** 

☞ Press the button to recharge the HWT once to its set temperature

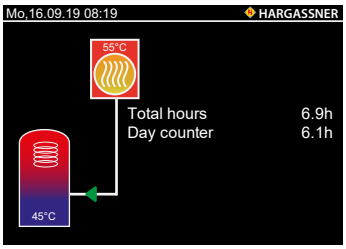
6.6 Back-end protection



Info page about the current status of the back-end protection

- Return Set
- Return-Is
- Mixer
- AT pump

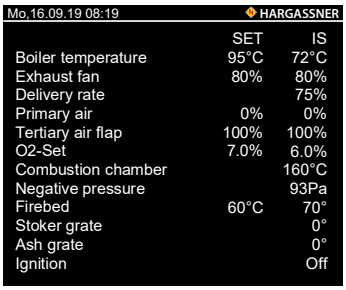
6.7 Differential controller



Info page about the current status of the differential controller

- Operating hours of the differential controllers
- Total / day
- Current heat source temperature
- Current temperature at differential sensor (S2)

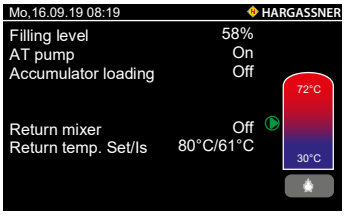
6.8 Boiler



Info page about the current set / actual values of the boiler

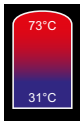
- Current status of the boiler
- Water temperature in the boiler
- Induced draft fan speed in % of maximum speed
- Currently necessary fuel rate
- Primary air flap position in % of maximum
- Tertiary air flap position in % of maximum
- Flue gas oxygen value in % - measured on the lambda sensor
- Current temperature in the combustion chamber (post combustion chamber)
- Negative pressure in Pascal - measured at the neg. press. box
- Firebed level sensor position (Tongue)
- Ignition active / not active
- Stoker grate 1 / 2 position
- Ash grate / middle grate position

6.9 Accumulator



Info page about the current actual values of the accumulator

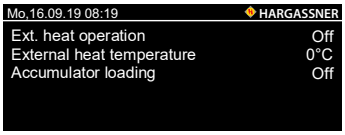
- Accumulator fill level display
  - ☞ Filling level: 80% = **red**
  - ☞ Filling level: 30% = **blue**
  - ☞ Filling level between 30 and 80% = **blue / red**



  - ☞ Return temperature Set / Is = Temperature of boiler return
- Button **One-time charge** 

☞ Press the button to recharge the accumulator once to its set temperature

6.10 External heat



Info page about the current values of the external heat

- External heat operation indicator (**On / Off**)
- Current external heat sensor temperature
- External heat valve indicator (**On / Off**)
- External heat pump **On / Off**

6.11 History

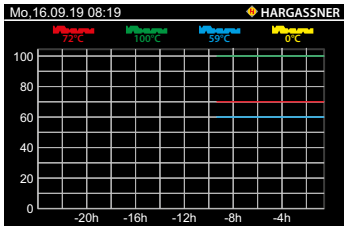
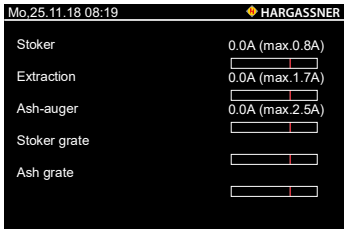


Diagram of the last 24 hours

- Boiler temperature
- HWT temperature
- Power
- Accumulator filling level

☞ The timeline can be set for activated service settings

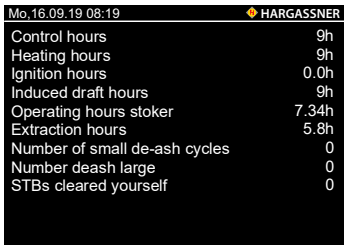
6.12 Electricity



List of current electricity consumption

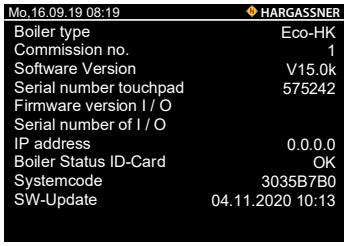
- Stoker
- Extraction
- Ash-auger
- Stoker grate
- Ash grate

6.13 Meter



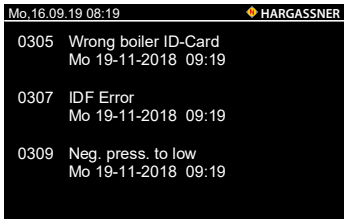
Overview about current operation hours

6.14 Serial number



Overview of the relevant boiler data

6.15 Fault



Overview of current errors

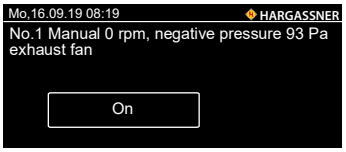
☞ Once the fault is rectified, the error message is no longer shown

7 Manual operation

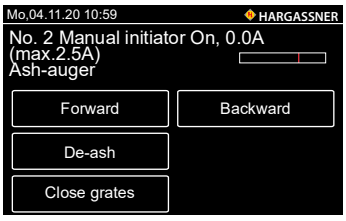
	W A R N I N G
	**Risk of injury due to unexpected operating conditions** • Limit switches or motors are not monitored in manual operation ☞ Reverse operation of augers max. 2 [Sec.] • Manual operation is only allowed to be executed by trained staff

Manual operation is used to:
- check all electrical functions
- manually operate or check the drives after an error

❒ To activate the function, press or press and hold the button
❒ To deactivate the function, press again or release the button
☞ To activate continuous operation (max. 2 minutes), double-click the button when the service settings are activated
Only the selected function is activated. All other functions are inactive

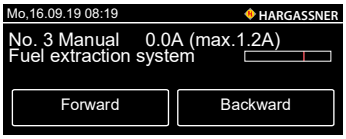


No. 1 Function check of exhaust fan
- Speed reached: ca. 3,500 rpm



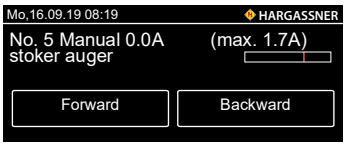
No. 2 Function and rotation check of ash extraction motor
- Forward
- Backward
- De-ash
- Close grates

☞ Press Backward button only **briefly**



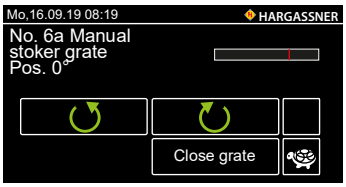
No. 3 Function and rotation check of storage room extraction motor
- Manual Forward and Backward of the motor to clear any blockages

☞ Press Backward button only **briefly**
☞ For double agitator, the additional parameter **No. 3a** is shown

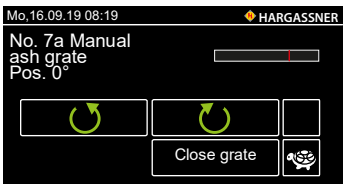


No. 5 Function and rotation check of stoker auger motor
- Manual Forward and Backward to fill the stoker auger

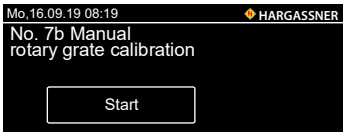
☞ Press Backward button only **briefly**
☞ For double rotary valve, the additional display No. 5a is shown



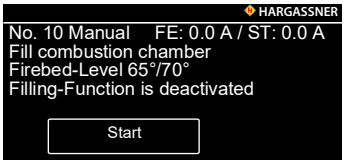
No. 6a Function and rotation check on stoker grate motor
- Manual Forward or Backward of the motor
- Close grate



No. 7a Function and rotation check on ash grate motor
- Manual Forward or Backward of the motor
- Close grate

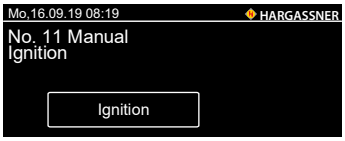


No. 7b Calibration of all rotary grates
- Manual Forward or Backward of the motors



No. 10 Pre-filling the empty augers (especially when restarting)

☞ Prevents an error due to too long absence of fuel



No. 11 Function check of ignition

☞ After a maximum of 1 minute, the coil should be hot

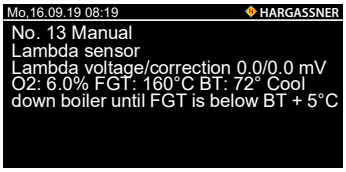
☞ After 3 minutes the ignition coil switches off

No. 12 Function and position check of the primary air flap (TARGET/ACTUAL)

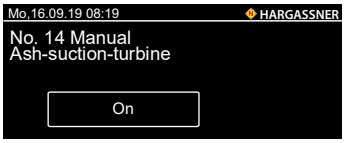
☞ 100% - **Open**; 0% - **Closed**

❒ Position at both extremes **0%** and **100%**

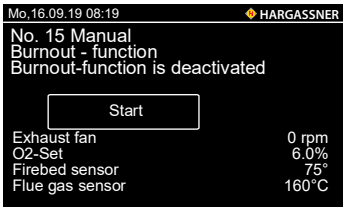
↳ Press **Open** or **Close** and monitor the actual value as it changes



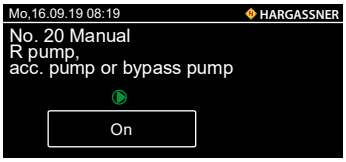
No. 13 Lambda sensor



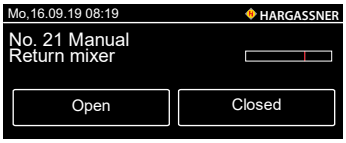
No. 14 Function test on the ash suction turbine (optional)



No. 15 Automatic burnout function in case of error



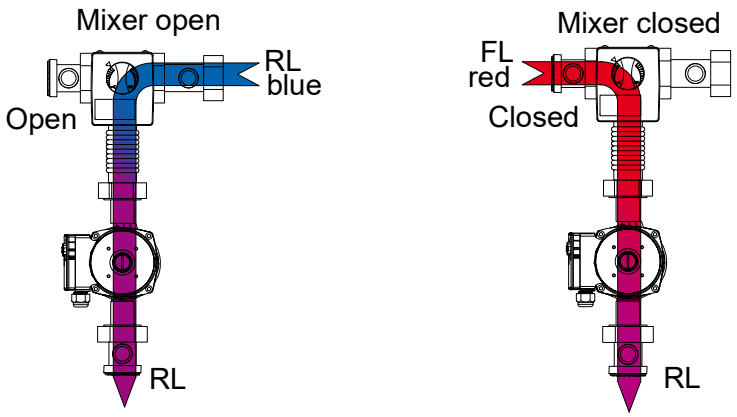
No. 20 Function check or manual operation of the parametrised pump



No. 21 Function and rotation check of return mixer

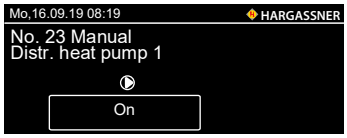
- The mixer is **Closed** when the boiler circuit is closed
- The mixer is **Open** when the return is open

☞ During operation, the return temperature increases when the mixer **Closes** and the return temperature decreases when the mixer **Opens**

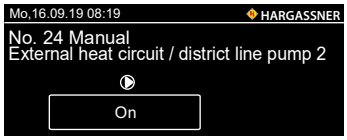


No. 22 Function check of the heat circuit valve, accumulator or external heat valve

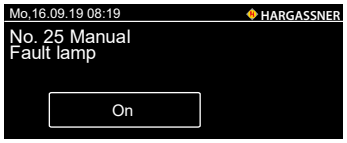
☞ As per parametrisation (accumulator or external heating)



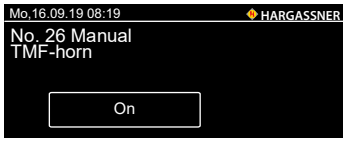
No. 23 Function check or manual operation of district line pump 1



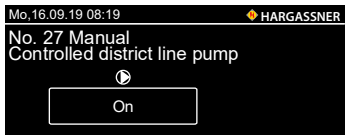
No. 24 Function check or manual operation of external heat circuit pump 2 or district line pump 2



No. 25 Function check or manual operation of the fault lamp

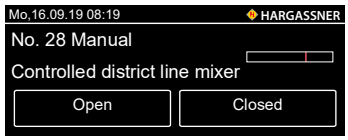


No. 26 Function check or manual operation of the signal horn



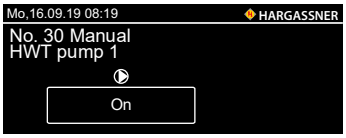
No. 27 Function check or manual operation of the pump for the controlled district line

☞ Only when **CDL** is connected



No. 28 Function and rotation check of the mixer for the controlled district line

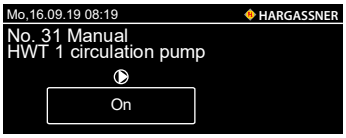
☞ Only when **CDL** is connected



No. 30 Function check or manual operation of HWT loading pump 1

☞ Only at connected **HKM 0**

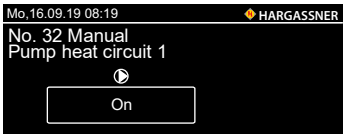
☞ Nos. 40, 44, 50 and 60 for HWT pumps A, B, 2 and 3 only when **HC A**, **HC B** and **HKM 1** and **HKM 2** are connected



No. 31 Function check or manual operation of HWT circulation pump 1

☞ Only at connected **HKM 0**

☞ Nos. 41, 45, 51 and 61 for circulation pump HWTs A, B, 2 and 3 only possible when **HC A**, **HC B**, **HKM 1** and **HKM 2** are connected

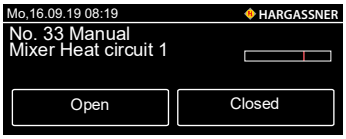


No. 32 Function check or manual operation of heat circuit pump 1

No. 34 Function check or manual operation of heat circuit pump 2

☞ Only at connected **HKM 0**

☞ Nos. 42, 46, 52, 54, 62 and 64 for heat circuit pumps A, B, 3, 4, 5 and 6 only possible when **HC A**, **HC B**, **HKM 1** and **HKM 2** are connected

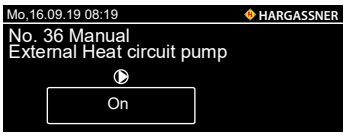


No. 33 Function and rotation check of mixer - heat circuit 1

No. 35 Function and rotation check of mixer - heat circuit 2

☞ Only at connected **HKM 0**

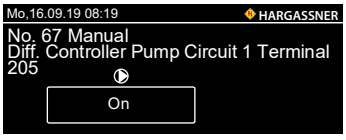
☞ Nos. 43, 47, 53, 55, 63 and 65 for mixer heat circuits A, B, 3, 4, 5 and 6 only possible when **HC A**, **HC B**, **HKM 1** and **HKM 2** are connected



No. 36 Function check or manual operation of the external heat circuit pump 1

☞ Only at connected **HKM 0**

☞ No. 56 and 66 for external heat circ. pump 2 and 3 only when **HKM 1** and **HKM 2** are connected

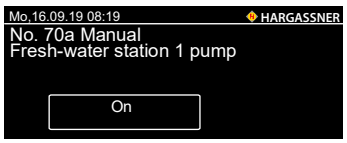


Nos. 67 and 67a Function check or manual operation of the differential control pumps

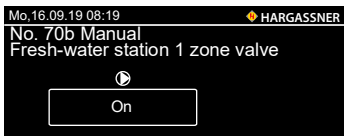
☞ Only when a differential controller is connected

No. 67b for pump heat source, No. 67c for valve / return mixer

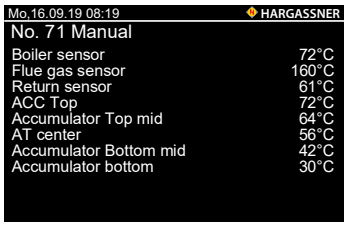
No. 68 for differential controller 2, No. 68b for pump heat source and No. 68c for valve / return mixer



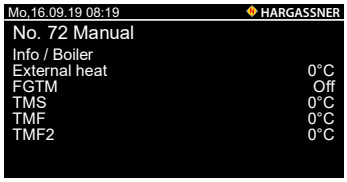
No. 70a Display of fresh-water station of circulation pump
Only when fresh water supply switched on



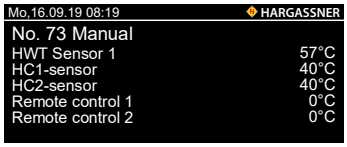
No. 70a Indicator for zone valve fresh-water station
☞ Only when fresh water supply switched on

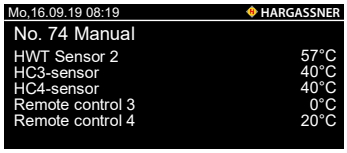


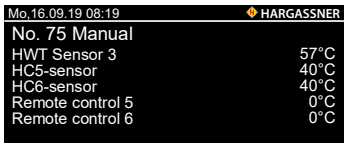
No. 71 - 74 Display of the current sensor values
☞ According to parametrised heating system



Display of the current sensor values
☞ According to parametrised heating system

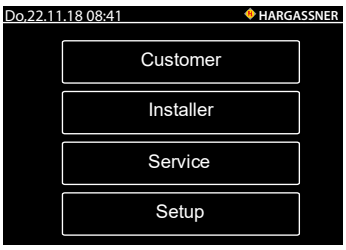






☞ Depending on the parametrised heating system, other parameters can follow

8 Settings menu



Press the **Set** button on the standard menu to access the settings menu:

- Customer
- Installer
- Service
- Setup

8.1 Customer

This button will take you to the configuration screens, which can also be accessed from the standard menu.
See "Customer settings" on page 33.

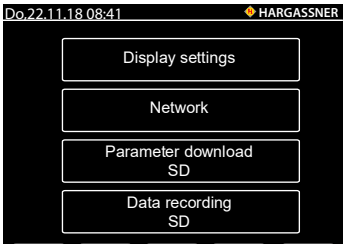
8.2 Installer

Extended settings of the boiler. Only available for the registered installer and Hargassner service personnel. The parametrisation depends on the heating system configuration.
Code: 33
See "Installer settings" on page 39.

8.3 Service

Enables trained service personnel to change parameters. The parametrisation depends on the heating system configuration.
Note: Installer and service settings are protected by a code. Only service personnel may change them, as the parameters may impair the functionality of the heating system if poorly selected.

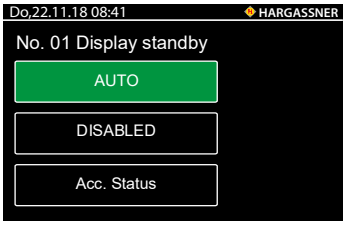
8.4 Setup



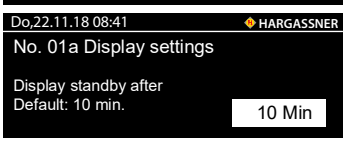
The following setting options are available:

- Display settings
- Network settings
- Parameter download (SD)
- Data recording (SD)

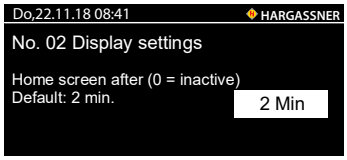
8.4.1 Display settings



No. 01 Display standby
☞ Activates or deactivates the standby mode

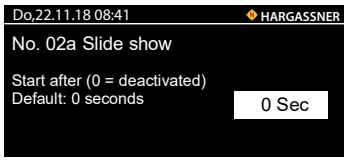


No. 01a Display settings
☞ Display switches to standby mode after preset time



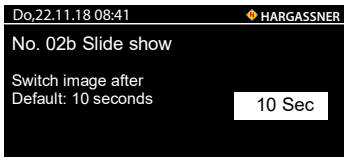
No. 02 Display settings

☞ Display switches to HOME view after a set time



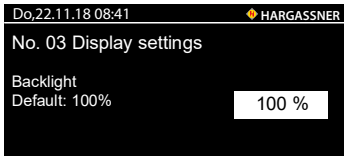
No. 02a Slide show starts

☞ Display switches to slide show after a set time



No. 02b Slide show switches image

☞ The slide show image changes after a set time



No. 03 Display settings

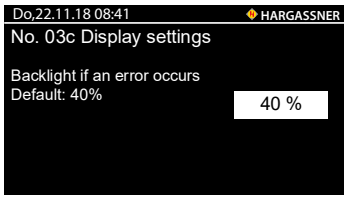
☞ Set display backlight (10% - 100%)

No. 03a Display lock code

☞ Select whether you want to enter a code to lock the display

No. 03b Display lock code

☞ Enter 4-digit lock code

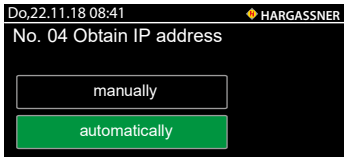


No. 03c Display settings

Specifies the screen brightness when a message/error is displayed.

☞ Set screen brightness (10 - 100%)

8.4.2 Network settings

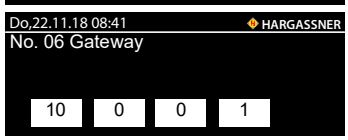


No. 04 Obtain IP address

☞ Select whether you want to generate the IP address manually or automatically

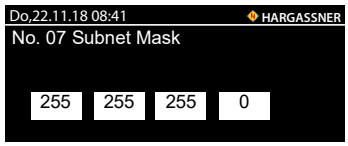
No. 05 IP address

☞ Manual entry of the IP address



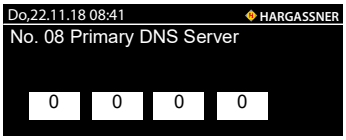
No. 06 Gateway

☞ Manual entry of the gateway



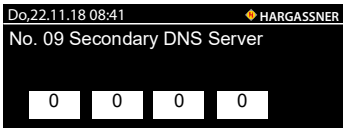
No. 07 Subnet mask gateway

☞ Manual entry of the Subnet Mask



No. 08 Primary DNS Server

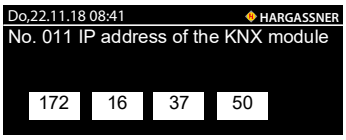
☞ Manual entry of the Primary DNS Server



No. 09 Secondary DNS Server

☞ Manual entry of the Secondary DNS Server

No. 010 Display of the Name of Device



No. 011 IP address of the KNX module

8.4.3 GSM phone number settings

Nos. 020 - 022 GSM phone number

Specifies the phone numbers errors and information messages are to be sent to.

☞ Up to three phone numbers can be entered

8.4.4 Parameter download (SD)

☞ Save the set parameters to SD-Card inserted

☞ Press **Save parameters**

8.4.5 Data recording (SD)

☞ Additional saving of current boiler data on the SD card

☞ To finish the protocol - press **Stop SD Logging**

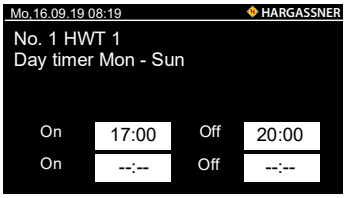
9 Customer settings

- ❒ In the standard menu, press the **Set** button and then press the **Customer** button
- ❒ Select the desired setting value with the arrow button
- ❒ Select the values by touching the fields highlighted in white
  - ↳ The font colour of the parameters changes to **red**
- ❒ Press the **+** and **-** buttons to set the values, the display flashes
  - ☞ Press and hold the **+** or **-** buttons for quick adjustment
- ❒ Confirm the set value with the green checkmark

9.1 HWT control

☞ The day timer is set to week timer and the number of blocks is changed in the installer settings (parameter D9 + D10)

9.1.1 Day timer

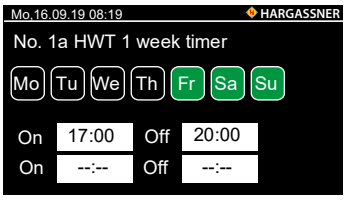


No. 1 HWT 1 day timer Mon-Sun

☞ Setting the loading times of the boiler using the day timer

☞ Outside the set times, the HWT will be reloaded automatically if the temperature drops below B 3, 33, 13, 23 and 43 (40°C)

9.1.2 Week timer



Nos. 1a - 1g HWT 1 week timer

Setting the loading times of the boiler using the week timer

☞ Selected day = **green**

9.1.3 Set temperature

No. 2 HWT 1 set temperature

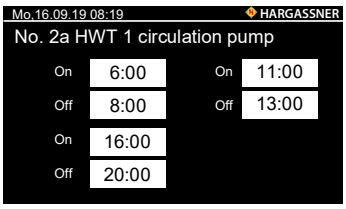
☞ No. 2_HT HWT 1 set temperature

☞ Temperature setting range 10 - 84 °C for numbers without the HT label
Temperature setting range 10 - 95 °C for numbers with the HT label

Setting the HWT set temperature

☞ HWT loading is done only during the set **loading times**

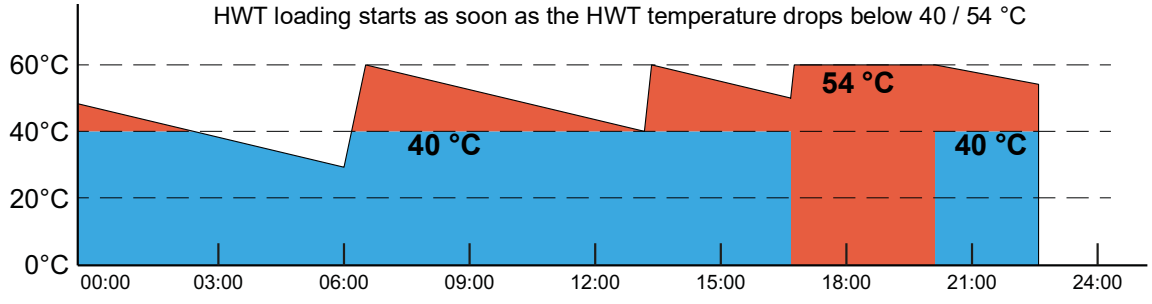
9.1.4 Circulation pump



No. 2a HWT 1 circulation pump

☞ Setting the switching times of the circulation pump (if available)

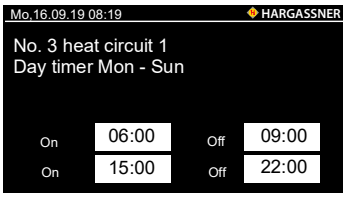
HWT temperatures according to factory settings



9.2 Control of heat circuits

☞ Changing from the day timer to the week timer and setting the number of blocks can be done in the installer settings (parameters D9 and D10)

9.2.1 Day timer

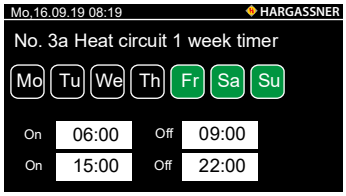


No. 3 heat circuit 1 day timer Mon-Sun

☞ Setting the heating times using timer

☞ The selected times are the same for all weekdays

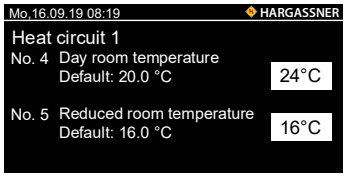
9.2.2 Week timer



Nos. 3a - 3g Heat circuit 1 week timer

☞ Setting the heating times using the week timer

9.2.3 Room temperature



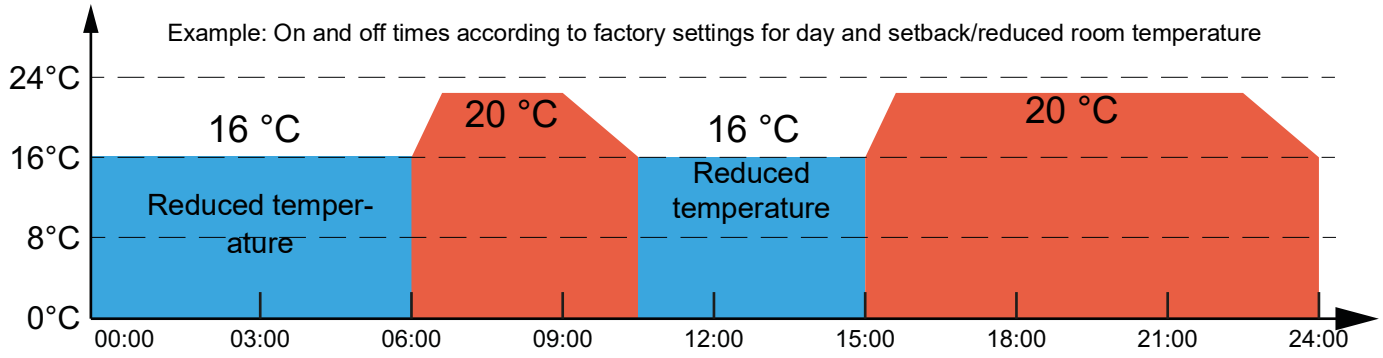
No. 4 Heat circuit 1 day room temperature

No. 5 Heat circuit 1 Reduced room temperature

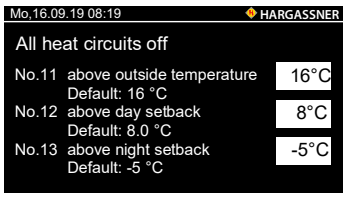
☞ Set the desired room temperature

☞ Range of the day room temp.: 14 °C - 26 °C

☞ Range of the setback/reduced room temperature: 8 °C - 24 °C



9.2.4 Outside temperature shut-down



Setting the temperatures for the outside temperature shut-down

☞ Three possible thresholds depending on the heating programme and time

- **No. 11 All heat circuits off above outside temperature:**

☞ Range: 0 - 50 °C

☞ If the average outside temperature exceeds the set value, the heat circuits will be switched off (summer shut-down).

- **No. 12 All heat circuits off during day setback:**

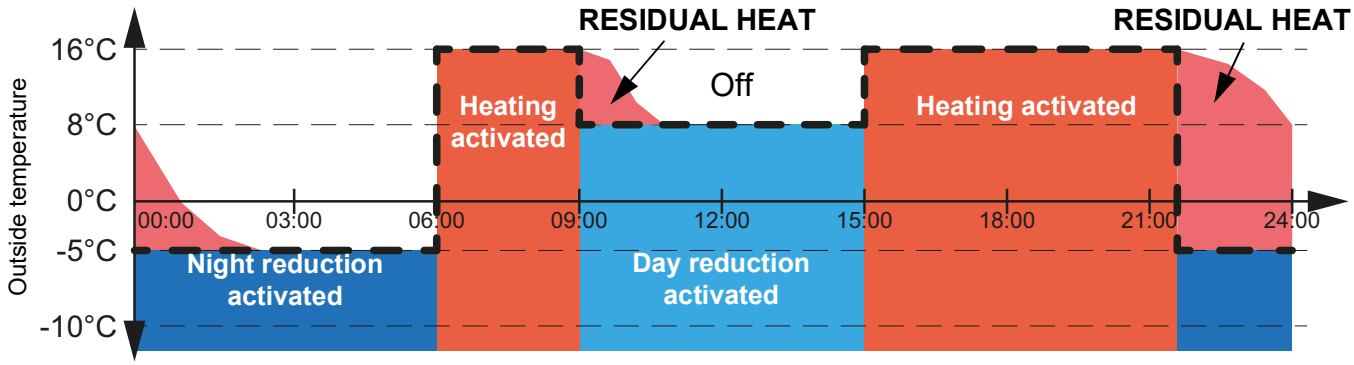
☞ Range: -40 - 50 °C

☞ If the average outside temperature exceeds the set value in day reduction mode, the heat circuits will be switched off.

- **No. 13 All heat circuits off during night setback:**

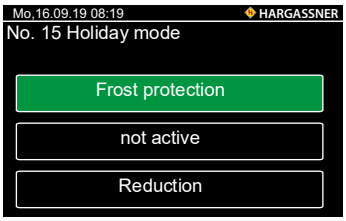
☞ Range: -40 - 50 °C

☞ If the average outside temperature exceeds the set value during the night reduction time, the heat circuits will be switched off.



9.3 General settings

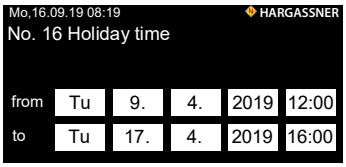
9.3.1 Holiday mode



No. 15 Holiday mode

- Setting the holiday mode function

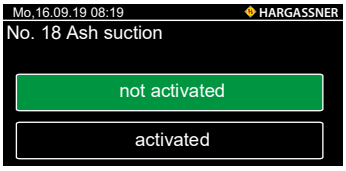
☞ Only activated if parameter D11 is set to **Yes** in the installer settings



No. 16 Holiday time

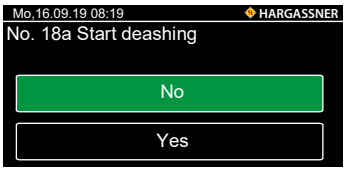
- Setting the holiday time during which holiday mode is activated

9.3.2 Starting deashing



No. 18 Ash suction

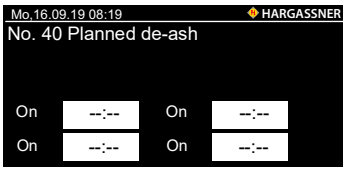
☞ Only activated if parameter D50 is set to **Available** in the installer settings



No. 18a Start deashing

Press the **Yes** button to start the de-ashing and cleaning process

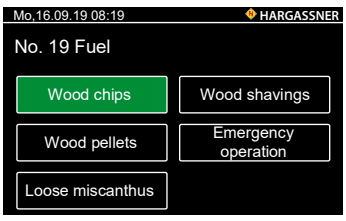
☞ De-ash only possible when the boiler's operating mode is **On**



No. 40 Planned de-ash

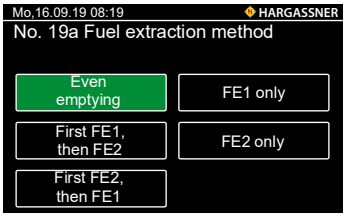
The boiler will perform a de-ash at the set time if the CMB (combustion) runtime meter displays a reading above 0 for the period since the last de-ash.

9.3.3 Fuel



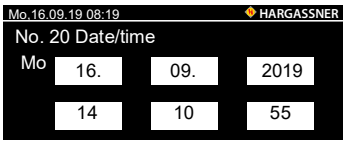
No. 19 Fuel

- Selecting the fuel
  - Wood chips
  - Wood pellets
  - Miscanthus loose
  - Wood shavings
  - Wood log



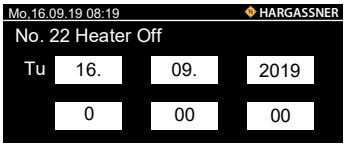
No. 19a Fuel extraction method
Specifies the order to be followed if there are two fuel extraction augers.

9.3.4 Date / Time



No. 20 Date/time
☞ Setting the date and time

9.3.5 Firing Off



No. 22 Heater **Off**
☞ Setting the date and time for when firing is to be switched off (e.g. when the chimney sweep is expected)

9.4 Parameter list Customer settings

9.4.1 Extension module 0

Menu	Description	Factory	Modbus address
1	HWT 1 day timer Mo-Su	ON 17:00 OFF 20:00	2001
1a-g	HWT 1 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2005 - 2035 (intervals of 5)
2 2_HT	HWT 1 set temperature	60 °C	2040
2a	Circulation pump HWS 1	ON 06:00 11:00 16:00 OFF 08:00 13:00 22:00	2045
3	Heat circuit 1 day timer Mo-Su	ON 06:00 15:00 OFF 09:00 22:00	2049
3a-g	Heat circuit 1 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 06:00 15:00 OFF 09:00 22:00	2053 - 2083 (intervals of 5)
4	Heat circuit 1 Day room temperature	20.0 °C	2088
5	Heat circuit 1 Reduced room temperature	16.0 °C	2090
6	Heat circuit 2 day timer Mon - Sun	ON 06:00 15:00 OFF 09:00 22:00	2092
6a-g	Heat circuit 2 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 06:00 15:00 OFF 09:00 22:00	2096 - 2126 (intervals of 5)
7	Heat circuit 2 Day room temperature	20.0 °C	2131
8	Heat circuit 2 Reduced room temperature	16.0 °C	2133

9.4.2 Heat circuit board HC A

Menu	Description	Factory	Modbus address
HP1	HWT A daily Mon-Sun	ON 17:00 OFF 20:00	2140
HP 1a-g	HWT A weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2145 - 2175
HP 2 HP 2_HT	HWT A set temperature	60 °C	2180

Menu	Description	Factory	Modbus address
HP 2a	Circulation pump HWT A	ON 06:00 11:00 OFF 08:00 13:00	2181
HP 3	Heat circuit A daily Mon-Sun	ON 06:00 15:00 OFF 09:00 22:00	2190
HP 3a-g	Heat circuit A weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 06:00 15:00 OFF 09:00 22:00	2195 - 2225
HP 4	Heat circuit A Day room temperature	20.0 °C	2230
HP 5	Heat circuit A Reduced room temperature	16.0 °C	2232

9.4.3 Extension module HKM 1

Menu	Description	Factory	Modbus address
H 1	HWT 2 day timer Mon - Sun	ON 17:00 OFF 20:00	2234
H 1a-g	HWT 2 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2240 - 2270
H 2 H 2_HT	HWT 2 set temperature	60°C	2275
H 2a	HWT 2 circulation pump	ON 06:00 11:00 OFF 08:00 13:00	2276
H 3	Heat circuit 3 day timer Mo-Su	ON 06:00 15:00 OFF 09:00 22:00	2280
H 3a-g	Heat circuit 3 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2285 - 2315
H 4	Heat circuit 3 Day room temperature	20°	2320
H 5	Heat circuit 3 Reduced room temperature	16°	2322
H 6	Heat circuit 4 day timer Mo-Su	ON 06:00 15:00 OFF 09:00 22:00	2325
H 6a-g	Heat circuit 4 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2330 - 2360
H 7	Heat circuit 4 Day room temperature	20°	2365
H 8	Heat circuit 4 Reduced room temperature	16°	2367

9.4.4 Extension module HKM 2

Menu	Description	Factory	Modbus address
H 11	HWT 3 day timer Mo-Su	ON 17:00 OFF 20:00	2369
H 11a-g	HWT 3 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2375 - 2405
H 12 H12_HT	HWT 3 set temperature	60 °C	2410
H 12a	HWT 3 circulation pump	ON 06:00 11:00 OFF 08:00 13:00	2411
H13	Heat circuit 5 day timer Mon - Sun	ON 06:00 15:00 OFF 09:00 22:00	2416
H 13a-g	Heat circuit 5 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	2421 - 2451
H 14	Heat circuit 5 Day room temperature	20 °C	2456
H 15	Heat circuit 5 Reduced room temperature	16.0 °C	2458
H 16	Heat circuit 6 day timer Mon - Sun	ON 06:00 15:00 OFF 09:00 22:00	2460
H 16a-g	Heat circuit 6 weekly Mo/Tu/We/Th/Fr/Sa/Su	ON 06:00 15:00 OFF 09:00 22:00	2465 - 2495
H 17	Heat circuit 6 Day room temperature	20.0°C	2500
H 18	Heat circuit 6 Reduced room temperature	16.0°C	2502

9.4.5 Heat circuit board HKB

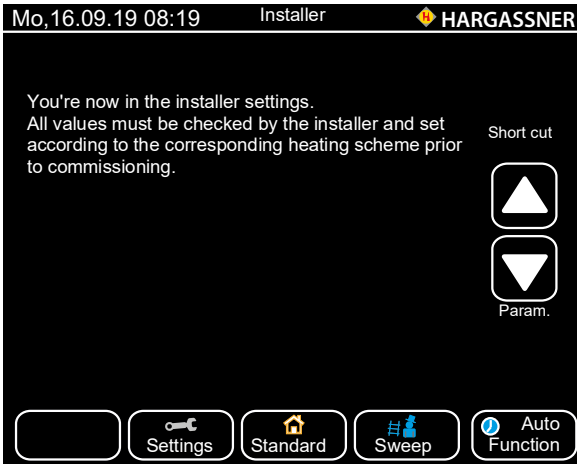
Menu	Description	Factory	Modbus address
H21	HWT B day timer Mon - Sun	ON 17:00 OFF 20:00	
H 21a-g	HWT B week timer Mo/Tu/We/Th/Fr/Sa/Su	ON 17:00 OFF 20:00	
H 22 H22_HT	Set temperature HWT B	60 °C	
H 22a	Circulation pump HWT B	ON 06:00 11:00 OFF 08:00 13:00	
H 23	Heat circuit B day timer Mon - Sun	ON 06:00 15:00 OFF 09:00 22:00	
H 23a-g	Heat circuit B week timer Mo/Tu/We/Th/Fr/Sa/Su	ON 06:00 15:00 OFF 09:00 22:00	
H 24	Heat circuit B Day room temperature	20.0 °C	
H 25	Heat circuit B Reduced room temperature	16.0 °C	

If **Outside temperature shut-down separated** is chosen (installer parameter no. D12), different temperatures can be set for each heat circuit.

Menu	Description	Factory	Modbus address
No. 11	Heating off at outside temperature over	6°	2504
No. 11a-i	Heat circuit 1 - B and external heat circuit off above outside temperature	6°	2505 - 2512
No. 12	All heat circuits off at day setback temperature over	8°	2513
No. 12a-h	Heat circuit 1 - B off during day setback	8°	2514 - 2520
No. 13	All heat circuits off during night setback outside temperature over	-5°	2521
No. 13a-h	Heat circuit 1 - B off during night setback	-5°	2522 - 2528
No. 15	Holiday mode	not active	2530
No. 15a-h	Holiday mode heat circuit 1 - B	not active	2540 - 2600
No. 16	Holiday time	from...	---
No. 16a-h	Holiday time heat circuit 1 - B	from...	
No. 17	Holiday time	to...	
No. 17a-h	Holiday time heat circuit 1 - B	to...	---
No. 18	Ash suction	not active	2610
No. 18a	De-ash Start	No	
No. 19	Fuel	Wood chips	
No. 19a	Fuel extraction method	even	
No. 20	Date / Time		---
No. 21	Release - Remote service	not released	2613
No. 21a	Automatic deactivation of release	1 h	2614
No. 22	Firing Off	from... - to...	
No. 40	Planned de-ash	ON 00:00 00:00	

10 Installer settings

❒ In the standard menu, press the **Setup** button and then press the **Installer** button
❒ Release by entering the code: 33



❒ Use the arrow key to select the desired setting values
☞  Takes you straight to the parameter groups
☞  Selects all parameters
❒ Select the values by touching the fields highlighted in white
↳ The font colour of the parameters changes to red
❒ Press the **+** and **-** buttons to set your desired values - the display flashes
☞ Press and hold the **+** and **-** buttons for to adjust the values quickly
❒ Confirm the set value with the green checkmark

10.1 Parametrising the heat circuits and HWT

Extension module 0 (HKM0)
- Heat circuit 1 (No. A1 - No. A10)
- Heat circuit 2 (No. A11 - No. A20)
- HWT 1 (No. B1 - No. B9b)

Extension module 1 (HKM1)
- Heat circuit 3 (No. A21 - No. A30)
- Heat circuit 4 (No. A31 - No. A40)
- HWT 2 (No. B11 - No. B19b)

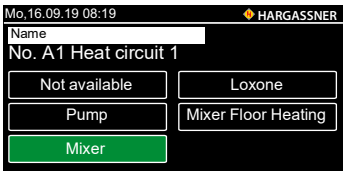
Extension module 2 (HKM2)
- Heat circuit 5 (No. A41 - No. A50)
- Heat circuit 6 (No. A51 - No. A60)
- HWT 3 (No. B21 - No. B29b)

Heat circuit board A (HC A)
- Heat circuit A (No. A61 - No. A70)
- HWT A (No. B31 - No. B39b)

Heat circuit board B (HC B)
- Heat circuit B (no. A71 - no. A80)
- HWT A (No. B41 - No. B49b)

☞ The parameters of the heat circuits, HWTs, extension modules and the heat circuit board are only displayed when hardware is connected.

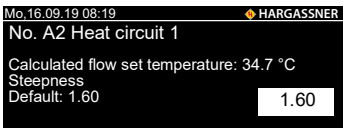
10.2 Parameter A - Heat circuits



Nos. A1 and A11 Heat circuit **1** and **2** when extension module **0** is used
Nos. A21 and A31 Heat circuit **3** and **4** when extension module **1** is used
Nos. A41 and A51 Heat circuit **5** and **6** when extension module **2** is used
No. A61: Heat circuit **A** when heat circuit board **A** is used
No. A71: Heat circuit **B** when heat circuit board **B** is used
5 options:

- Heat circuit not available
- Heat circuit with pump
- Heat circuit with pump and mixer motor for radiator heat circuit
- Heat circuit control by Loxone
  - ☞ Parameter A10 emergency operation set temperature if a Loxone connection error occurs
- Heat circuit with pump and mixer motor for floor heat circuits

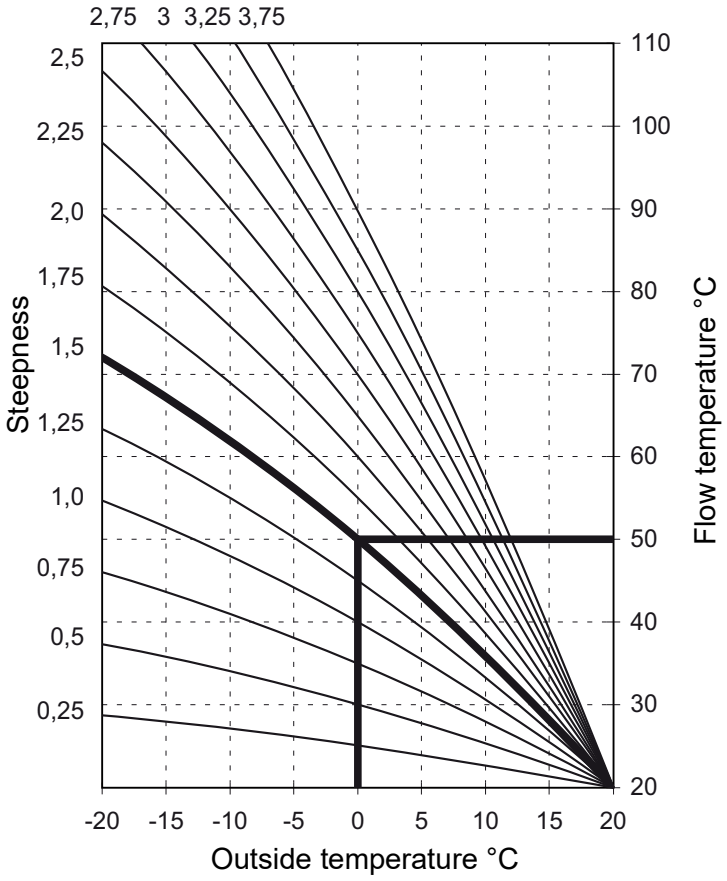
☞ If No. A1 is set to **not available**, then No. A2 to No. A6 are not displayed
❒ Press **Name** to name each heat circuit separately, (e.g. Living room).



Nos. A2, A12, A22, A32, A42, A52, A62 and A72 Steepness Heat circuit **1 - B**
Nos. A2a, A12a, A22a, A32a, A42a, A52a, A62a and A72a Steepness FLH Heat circuit **1 - B**
Describes the relationship between flow and outside temperatures (see heating curve)

- Range: 0.2 - 3.5
- Recommended settings:
  - Floor heating: 0.3 - 1.0
  - Radiator heating: 1.2 - 2.0
  - Convector heating: 1.5 - 2.0

☞ Change in small steps only and for a longer period



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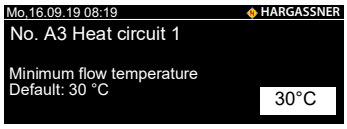
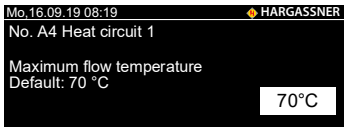


Nos. A3, A3a, A13, A13a, A23, A23a, A33, A33a, A43, A43a, A53, A53a, A63, A63a, A73 and A73a Minimum limit for flow temperature of heat circuit **1 - B**

☞ This flow temperature won't be underrun in heating or reduction mode

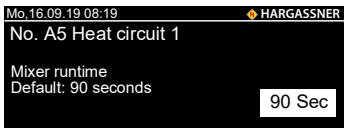
☞ Range: 1 - 80 °C



Nos. A4, A4a, A14, A14a, A24, A24a, A34, A34a, A44, A44a, A54, A54a, A64, A64a, A74 and A74a Maximum limit for flow temperature of heat circuit **1 - B**

☞ This flow temperature won't be overrun in heating or reduction mode

☞ **Floor heating:** Integrate an additional electromechanical thermostat which interrupts the power supply to the relevant heat circuit pump

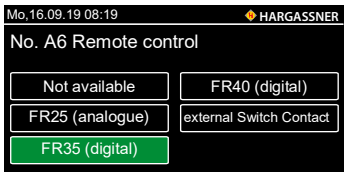


Nos. A5, A15, A25, A35, A45, A55, A65 and A75 Used to enter the actual mixer runtime for heat circuit **1 - B**

☞ For the actual mixer runtime, see the type plate

☞ Duration from closed to open condition

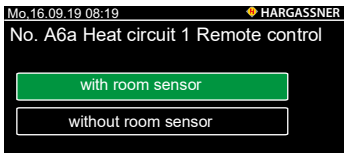
☞ Range: 10 - 300 Sec.



Nos. A6, A16, A26, A36, A46, A56, A66 and A76 Heat circuit **1 - B** remote control

☞ 5 options:

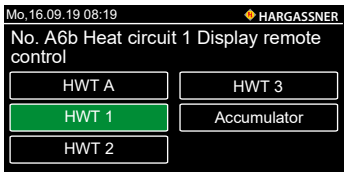
- Not available
- Heat circuit with analogue remote control FR25
- Heat circuit with digital remote control FR35
- Heat circuit with digital remote control FR40
- External switch contact



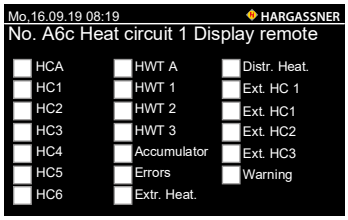
Nos. A6a / b / c, A16a / b / c, A16a / b / c, A26a / b / c, A36a / b / c, A46a / b / c, A56a / b / c, A66a / b / c and A76a / b / c Heat circuit **1 - B** remote control

The remote control can be installed with or without a room sensor

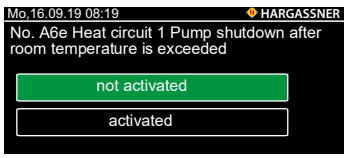
- Heat circuit with analogue remote control **FR25 without room sensor**
  - No automatic adjustment of the room temperature
  - Wire FR25 at **terminals 1 and 3**
- Heat circuit with analogue remote control **FR25 with room sensor**
  - Automatic adjustment of the room temperature
  - Wire FR25 at **terminals 1 and 2**



- Heat circuit with digital remote control **FR35** or **FR40**
- If **FR35** is set, parameters **A6b**, **A16b**, **A26b**, **A36b**, **A46b**, **A56b**, **A66b** and **A76b** will appear

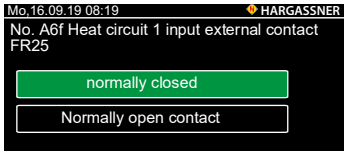


- If **FR40** is set, detail parameters **A6c**, **A16c**, **A26c**, **A36c**, **A46c**, **A56c**, **A66c** and **A76c** will appear



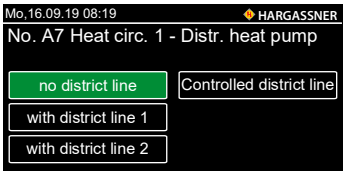
Nos. A6e, A16e, A26e, A36e, A46e, A56e, A66e and A76e Heat circuit **1 - B** pump shutdown after the room temperature is exceeded

- **Not activated**: Standard heat circuit control
- **Activated**: If the room temperature (set temperature) is exceeded by the set value (No. M6 service parameter), the heat circuit pump switches **Off** and the mixer is **Closed**
  - ☞ Pump and mixer switch **On** again when the room temperature drops below the set room temperature by the preset value (service parameter M6a).



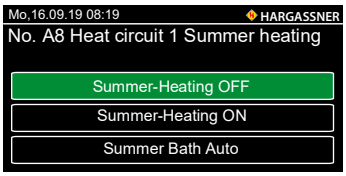
Nos. 6f, 16f, 26f, 36f, 46f, 56f, 66f and 76f Heat circuit **1 - B** input external contact FR25

☞ Used to specify whether the external contact FR25 is a normally closed contact or a normally open contact



Nos. A7, A17, A27, A37, A47, A57, A67 and A77 Used to enable the district line pump when heat circuit pump **1 - B** are running

☞ Used to specify whether the district line pump is enabled at the same time as heat circuit pump **1 - B**

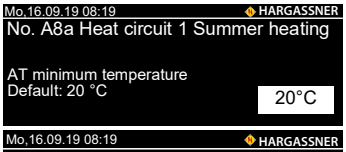


Nos. A8, A18, A28, A38, A48, A58, A68 and A78 Activation of the summer bath heating for heat circuits **1 - B**

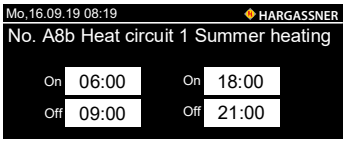
☞ Heat circuit will be switched on (depending on timer settings) if accumulator is on temperature

☞ Is only activated in menu **HWT**

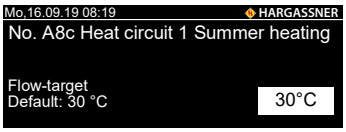
☞ If **On** is selected, parameters **A8a - A8c**, **A18a - A18c**, **A28a - A28c**, **A38a - A38c**, **A48a - A48c**, **A58a - A58c**, **A68a - A68c** and **A78a - A78c** will appear



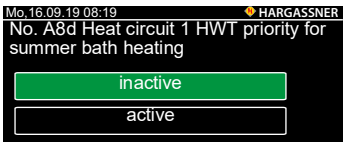
Nos. A8a, A18a, A28a, A38a, A48a, A58a, A68a and A78a Used to enter the accumulator minimum temperature for heat circuits **1 - B**



Nos. A8b, A18b, A28b, A38b, A48b, A58b, A68b and A78b Used to enter the switch-on and switch-off times for heat circuits **1 - B**

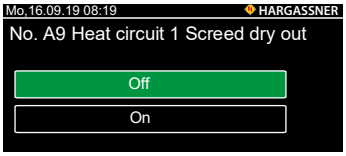


Nos. A8c, A18c, A28c, A38c, A48c, A58c, A68c and A78c Used to enter the flow set temperatures for heat circuits **1 - B**



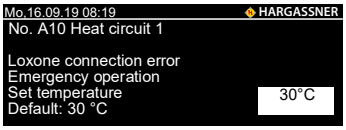
Nos. A8d, A18d, A28d, A38d, A48d, A58d, A68d and A78d Heat circuits **1 - B** HWT priority for summer bath heating

☞ Used to specify whether HWT priority operation is activated for heat circuits **1 - B** during summer bath heating



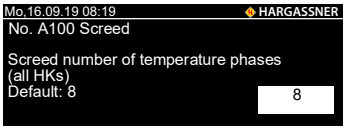
Nos. A9, A19, A29, A39, A49, A59, A69 and A79 Used to activate the screed dry-out programme for heat circuits **1 - B**

☞ It **On** is selected, parameters **A9a - A9f**, **A19a - A19f**, **A29a - A29f**, **A39a - A39f**, **A49a - A49f**, **A59a - A59f**, **A69a - A69f and A79a - A79f** will appear

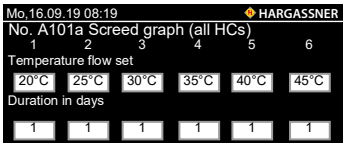


Nos. A10, A20, A30, A40, A50, A60, A70 and A80 Heat circuits **1 - B** Emergency operation set temperature

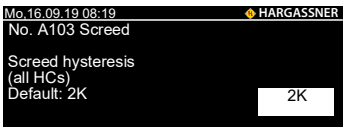
☞ Used to specify the temperature to be supplied to heat circuits **1 - B** if the connection to the Loxone server is interrupted



No. A100 Used to specify the number of temperature phases for the screed programme's heating curve



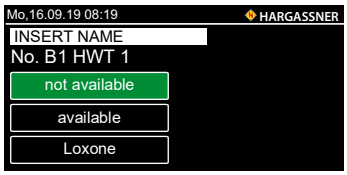
Nos. A101 a - r and A102 a - r Used to specify the flow temperatures for all the screed heat circuits



No. A103 Screed hysteresis

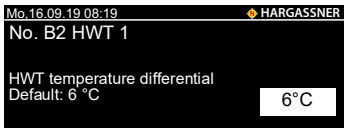
☞ If the flow temperature drops below the set temperature by the values specified in A101 a - r and A102 a - r, the timer for the screed programme will be stopped and won't continue until the set values have been reached again

10.3 Parameter B - HWT



- Nos. B1, B11, B21, B31 and B41 HWTs **1 - B** (extension modules **0 - 2** and heat circuit boards **A - B**) set on **Available**
  - ☞ Control of HWTs 1 - B
- HWTs **1 - B** (extension modules **0 - 2** and heat circuit boards **A - B**) set on **Loxone**
  - ☞ HWTs **1 - B** are controlled by the Loxone controller
- Parameter no. B1, B11, B21, B31 or B41 set on **Not available**
  - ☞ If no. B1, B11, B21, B31 or B41 is set on **Not available** , no. B2 - no. B6, no. B12 - no. B16, no. B22 - no. B26, no. B32 - no. B36 and no. B42 - no. B46 are not displayed

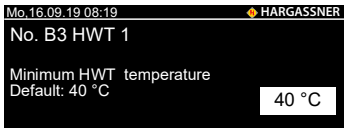
❒ Press on **Name** to name each HWT separately



Nos. B2, B12, B22, B32 and B42 HWTs **1 - B** hysteresis

☞ Value at which the HWT is switched on below the set minimum temperature

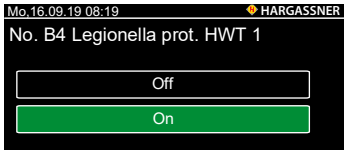
☞ Range: 1 - 40 °C



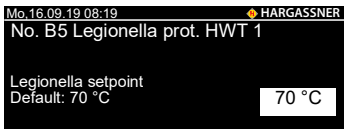
Nos. B3, B13, B23, B33 and B43 Minimum limit for HWT temperature

☞ If the HWT temperature drops below the preset value, HWT loading starts within the set time (installer setting no. B90) regardless of the HWT time programme (customer setting no. 1).

- Range: 1 - 80 °C

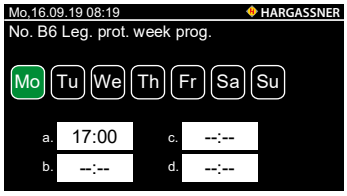


Nos. B4, B14, B24, B34 and B44 Used to activate the Legionella protection programme



Nos. B5, B15, B25, B35 and B45 HWT set temperature for Legionella protection

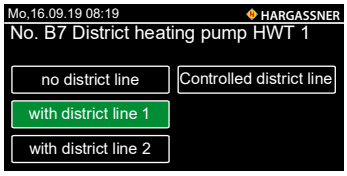
☞ Temperatures of 70 °C or above for more than 3 minutes will kill all legionella in the HWT



Nos. B6, B16, B26, B36 and B46 Legionella protection weekly programme

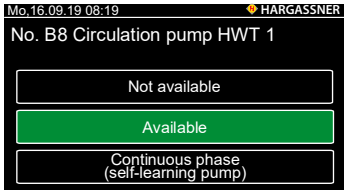
☞ Green = active

☞ Start legionella protection during HWT loading only



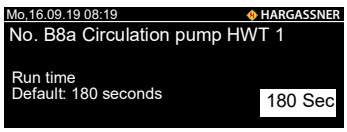
Nos. B7, B17, B27, B37 and B47 HWTs **1 - B** district line pump

☞ Activate the district line pump when HWT pumps **1 - B** are running



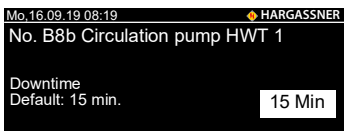
Nos. B8, B18, B28, B38 and B48 HWTs **1 - B** circulation pump

☞ The circulation pump can be set for each HWT parametrised on the controller

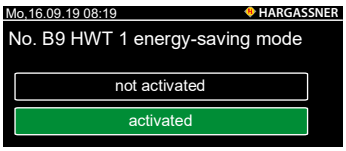


Nos. B8a, B18a, B28a, B38a and B48a Runtime circulation pump HWT

☞ The run time depends on the length of the heating pipes and on the heat loss (insulation) in the line

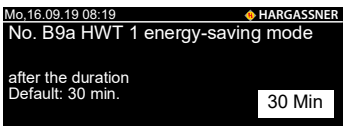


Nos. B8b, B18b, B28b, B38b and B48b Downtime circulation pump HWT



Nos. B9, B19, B29, B39 and B49 Energy-saving mode

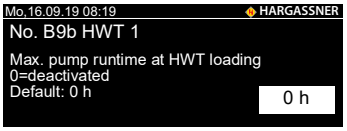
- **Not activated**: The HWT is loaded in accordance with the settings in the customer parameters
- **Activated**: The HWT is loaded regardless of the loading times if the following criteria are met for the set length of time (**No. B9a**) before setback/reduction:
  - HWT has nearly reached its minimum temperature
  - Outside temperature is higher than the temperature for day setback
  - Boiler is in lower partial-load operation (minimum output + 10%)



Nos. B9a, B19a, B29a, B39a and B49a Switch-on time energy-saving mode

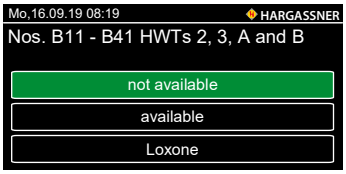
☞ The HWT is loaded when the following criteria have been met for 30 minutes **before** reduction:

- Outside temperature above 16 °C (customer setting no. 5)
- HWT temperature below 50 °C (installer setting no. B3 (40 °C) + 10 °C)
- Boiler heat output below 60% (service setting no. K1 50% + 10%)



Nos. B9b, B19b, B29b, B39b and B49b Maximum pump runtime when HWT is loading

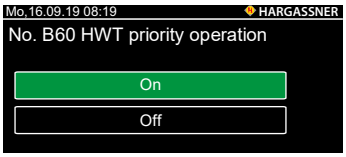
☞ Factory: 0 h (=deactivated)



No. B11-B49: Additional HWT

B11 - B19: When using an extension module **1**
B21 - B29: When using an extension module **2**
B31 - B39: When using a heat circuit board **A**
B41 - B49: When using a heat circuit board **B**

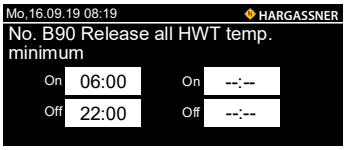
☞ Setting options: See installer settings **B1 - B9**



No. B60 HWT priority operation for quick HWT loading

☞ For heat circuits with pumps, the heat circuit pumps are switched off throughout HTW priority operation. No heat is transferred from the boiler to the heat circuits

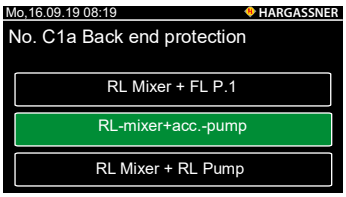
☞ For heat circuits with mixers and pumps, the heat circuit flow temperatures are reduced throughout priority operation



No. B90 HWT loading outside the loading times

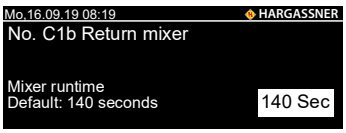
☞ When the HWT temperature drops below the minimum HWT temperature (installer setting **B3**)

10.4 Parameter C - Accumulator



No. C1a Back end protection

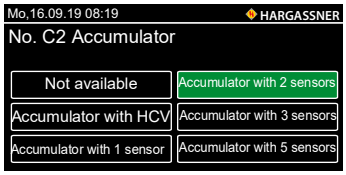
- Return mixer with district heating pump 1
- Return mixer with accumulator loading pump
- Return mixer with return pump (low loss header)



No. C1b Mixer runtime

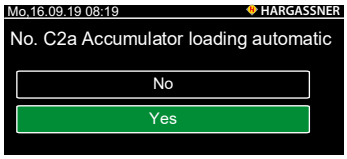
☞ Specifying the actual mixer run time

☞ Range: 10 - 300 sec.



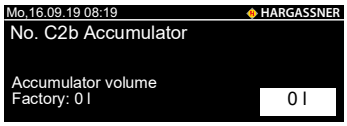
No. C2 Accumulator

- Not available
- Accumulator with heat circuit valve
  - ☞ For low-temperature heat circuits, (e.g. floor or wall circuits)
- Accumulator with 1 sensor
  - ☞ For a hydraulic scheme with accumulator unloading control
- Accumulator with 2 sensors
  - ☞ For a hydraulic scheme with loading and unloading control
- Accumulator with 3 or 5 sensors
  - ☞ For an accumulator diagram with loading (partial-load operation) and unloading control



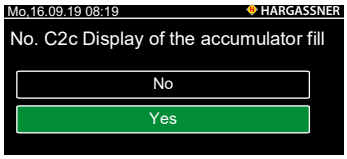
No. C2a Accumulator loading automatic

☞ Specify whether the accumulator should be loaded automatically



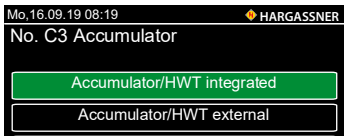
No. C2b Accumulator volume

☞ Set the accumulator volume in litres



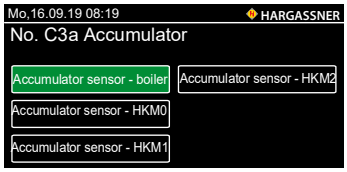
No. C2c Display of the accumulator fill level

☞ Specify whether the accumulator fill level should be displayed



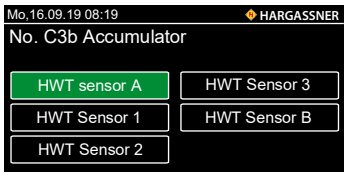
No. C3 Accumulator

- Accumulator/HWT integrated
  - ☞ Accumulator tank with HWT integrated (domestic hot water coil or external domestic hot water heat exchanger)
- AT / HWT externally (external HWT)
  - ☞ For on-site differential control between accumulator and HWT, set to **AT (HWT internal)**



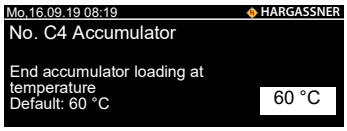
No. C3a Accumulator sensor selection

- Acc. in the boiler room: Select **AT sensor-boiler**
- Acc. next door (HKM): Select **Accumulator sensor - HKM 0-2**



No. C3b HWT sensor selection

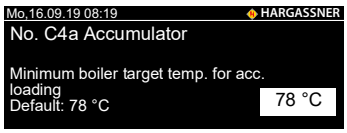
☞ Only for **Accumulator / HWT internal** installer setting C3)



No. C4 End AT loading (measured on accumulator sensor below)

☞ Only displayed when installer setting **C2** is set with **2, 3** or **5 sensors**

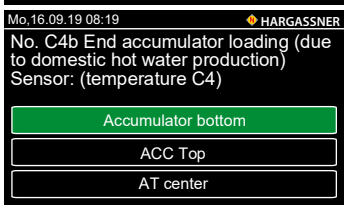
☞ If heat is requested, the accumulator is loaded to its set temperature **C4** = 60 °C (bottom accumulator sensor)



Nos. C4a and C4a_HT Accumulator

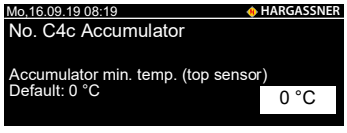
☞ Used to specify the boiler set temperature when accumulator loading is activated

☞ Only displayed when installer setting **C2** is set with **2, 3** or **5 sensors**



No. C4b End AT loading when temperature (parameter C4) has been reached on the selected sensor

☞ Only displayed when installer setting **C2** is set with **2, 3** or **5 sensors**

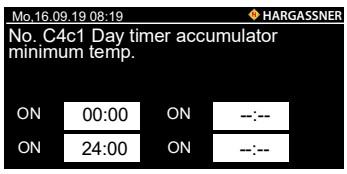


No. C4c AT minimum temperature

Lower accumulator limit temperature

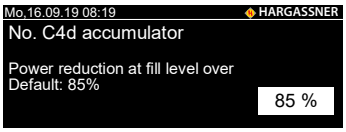
☞ When the accumulator temp is below the set value (accumulator sensor top), AT loading starts

☞ C4c must beat least 10°C lower than C4a



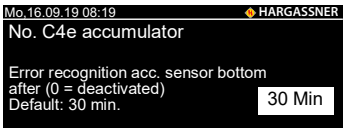
No. C4c1 Day timer for accumulator minimum temperature

☞ Used to specify the period in which the accumulator temperature in C4c is monitored



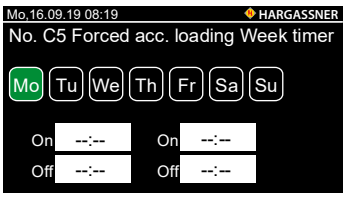
No. C4d Accumulator power reduction

☞ When the preset accumulator filling level is reached, the boiler's power is reduced



No. C4e Accumulator error recognition

☞ A warning is issued when the mixer is completely open for the preset time and the temperature at the bottom accumulator sensor is 11 °C below that of the return sensor



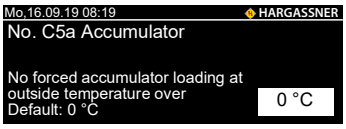
No. C5 Accumulator

☞ Setting the time for accumulator forced loading

☞ Displays only if parameter **C2** is set to **AT with 2 sensors** or **AT with 3 sensors**

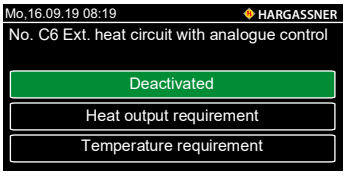
☞ Accumulator forced loading at the set time and activated set temperature

☞ E.g. for peak loads in the morning (e.g. 4:00 - 10:00)



No. C5a Accumulator forced loading

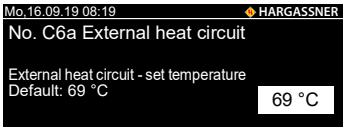
☞ No accumulator forced loading when the set outside temperature is exceeded



No. C6 External heat circuit with analogue control

☞ Setting whether the external heat circuit is controlled in an analogue way

- Deactivated
- Heat output requirement
- Temperature requirement

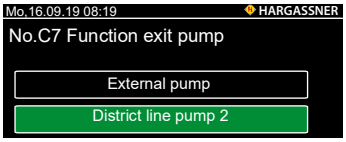


Nos. C6a and C6a_HT External heat circuit

☞ Adjusting the boiler set temperature for an activated external heat circuit

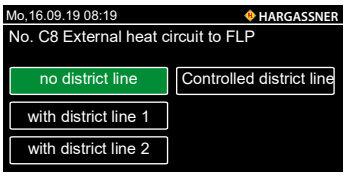
☞ If the value is changed and parameter **C7** is set to **External pump**, service parameter **L5** = 50 °C must be adjusted as well

☞ L5 ca. 5 - 10 °C less than **C6a**



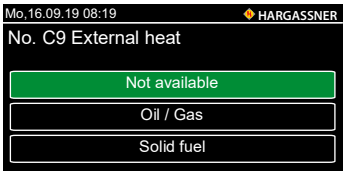
No.C7 Function exit pump

- Pump external heat circuit
  - ☞ Boiler is heated to the temperature set in parameter **C6a**
  - ☞ External heat circuit pump is switched on at release temperature (service setting **L5**)
- District line pump
  - ☞ District line runs when a heat circuit or HWT pump parametrised for **district line** is switched on



No. C8 External heat circuit to FLP

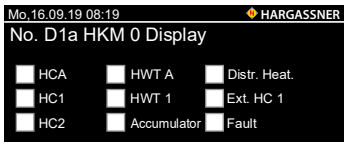
☞ District heating pump runs if one of the referred pumps run



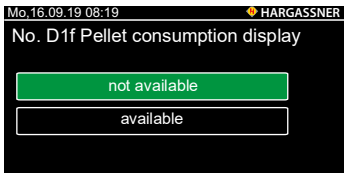
No. C9 External heat

- Not available
- Oil/gas boiler
- Solid fuel boiler

10.5 Parameter D - General

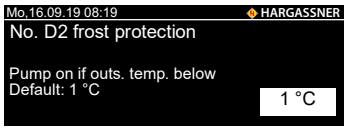


No. D1a Selection regarding display options at connected HKM 0
- Parameter No. D1b at connected HKM 1
- Parameter No. D1c at connected HKM 2



No. D1f Pellet consumption display

☞ Used to specify whether the fuel storage level and consumption calculations are available



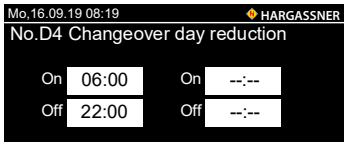
No. D2 frost protection

☞ Heat circuit pumps are switched on when the value drops below the set value

☞ Heat circuits with mixers are adjusted to the **D3** parameter temperature

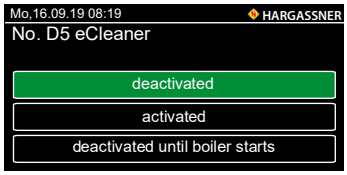
No. D3 frost protection

☞ Flow temperature when parameter **D2** is not reached



No.D4 Changeover day reduction

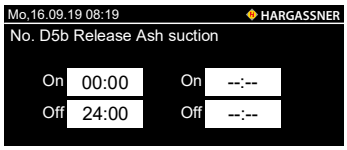
☞ Switchover point at which time the outside-temperature reduction logic changes from night to day settings (customer settings 12 and 13)



No. D5 eCleaner

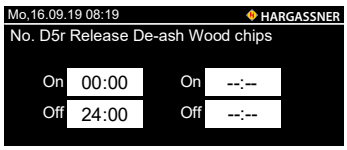
☞ Used to specify whether the eCleaner is enabled

No. D5a Ash suction
- Not available
- With ash bin
- Without ash bin



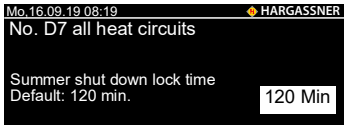
No. D5b Release Ash suction

☞ The fully automatic ash suction process is only performed within the set time.



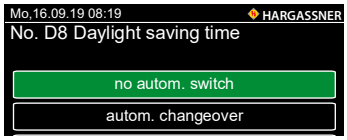
No. D5r Release De-ash Wood chips

☞ The de-ash is performed within the set time



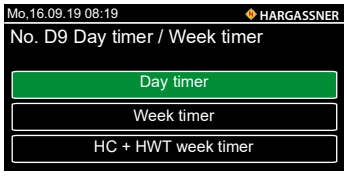
No. D7 Summer shut down lock time/ All heat circuits
Duration of the switch-off delay for summer switch-off

☞ If the outdoor temperature rises above 16 °C for the duration of the set time (customer setting no. 11), the boiler switches off



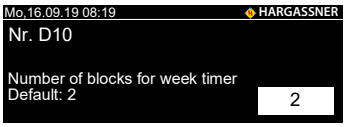
No. D8 Daylight saving time

☞ Automatic changeover from summer to winter time



No. D9 Day timer / Week timer

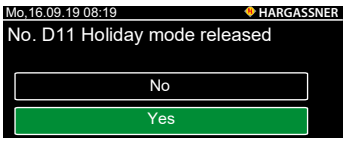
☞ Display day or week timer in the customer settings
- Day timer: Heat circuits and HWT on day timer
- Week timer: Heat circuits on week timer, HWT on day timer
- HC+HWT week timer: Heat circuits and HWT on week timer



No. D10 Number of blocks for week timer

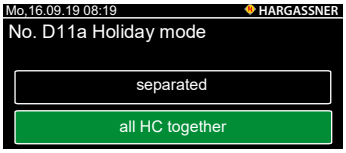
☞ Display in the customer settings

☞ Range: 1 - 7



No. D11 Holiday mode released

☞ Holiday mode released in the customer settings

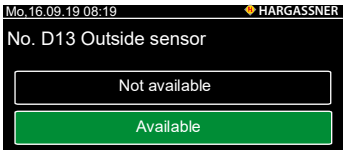


No. D11a Holiday mode

☞ Used to specify whether one common switch-off time can be set for all the heat circuits or whether each heat circuit has to be given its own switch-off time

No.D12 Outs. temp. shut down

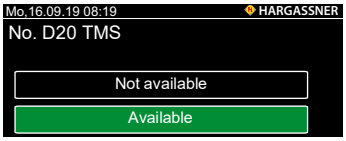
☞ Used to specify whether the outside temperature switch-off will be the same for all the heat circuits or set individually for each heat circuit. If "Separated" is selected, the outside temperature switch-off can be set individually for each heat circuit. If "All HCs together" is selected, the values specified in customer parameter 12 will apply to all the heat circuits



No. D13 Outside sensor

☞ Set whether an outside sensor is available

☞ Set to **not available** for active, external heat circuits

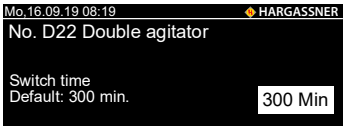


No. D20 Temperature monitor stoker auger

☞ Used to specify whether a stoker temperature monitor is available

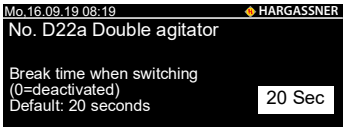
No. D21 Temperature monitor in the fuel storage room

☞ Used to specify whether a temperature monitor is available in the fuel storage room



No. D22 Double agitator switch time

☞ Setting the switch time between the agitator actions

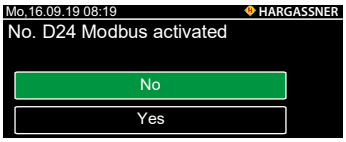


No. D22a Double agitator break time

☞ Setting the break between the switch times

No. D23 Info / Trend

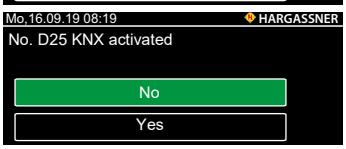
☞ Specify whether the graphical representation of records in the **Info / History** menu field should be shown



No. D24 Modbus activated

☞ Specify whether a Modbus is available.

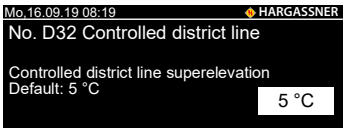
☞ Only visible when a Modbus ID card is inserted



No. D25 KNX activated

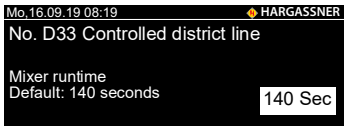
☞ Specify whether a KNX building controller is available

☞ Only visible when a KNX ID card is inserted



No. D32 Controlled district line

☞ Used to specify the heat source superelevation for when the controlled district line pump is switched on



No. D33 Controlled district line mixer runtime

☞ Mixer run time from the closed to the open status

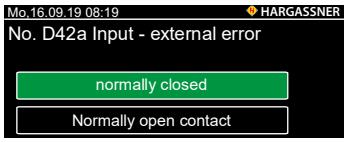
☞ Range: 10 - 300 sec

No. D41 Text1 external error

☞ External error (terminal 72/73) text that is issued on the screen

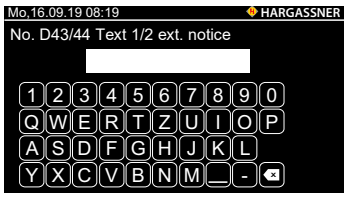
No. D42 Text2 external error

☞ External error (terminal 72/73) text that is issued on the screen



No. D42a Input - external error

☞ Set whether the external input is normally closed or normally open

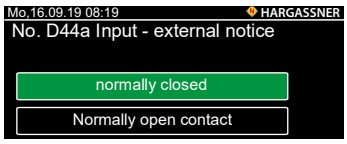


No. D43 Text 1 external notice

☞ External message (terminal 66/67) text that is issued on the screen

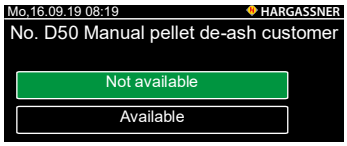
No. D44 Text 2 external notice

☞ External message (terminal 66/67) text that is issued on the screen



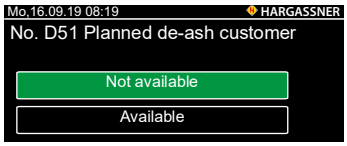
No. D44a Input - external notice

☞ Set whether the external input is normally closed or normally open



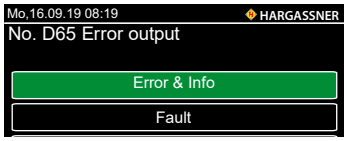
No. D50 Manual pellet de-ash customer

☞ Used to specify whether the customer can start the de-ash by hand



No. D51 Planned de-ash customer

☞ Used to specify whether the customer can set a scheduled de-ash

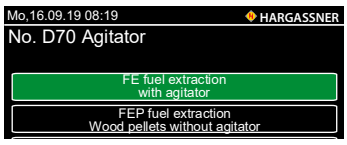


No. D65 Error output

☞ Used to specify whether the error output will emit a signal with messages and errors or just with errors (**terminal 97**)

No. D66 Heat circuit / hot water tank on standard screen

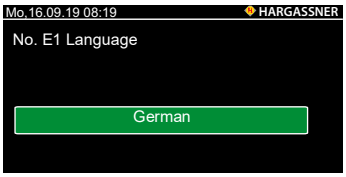
☞ Used to specify whether the heat circuit / hot water tank is displayed on the standard screen



No. D70 Agitator

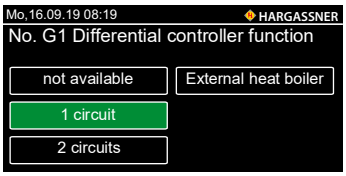
☞ Used to specify whether a fuel extraction system is available with or without an agitator

10.6 Parameter E - languages



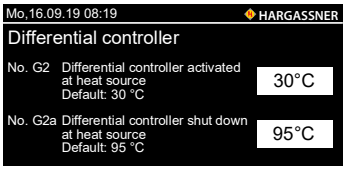
No. E1 Language

10.7 Parameter G - differential control



No. G1 Differential controller function

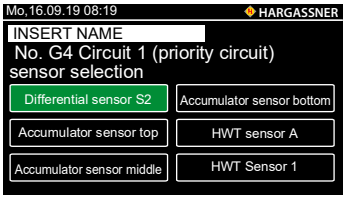
- Not available
- 1 circuit
- 2 circuits
- External heat boiler



No. G2 / G2a Differential controller active / Differential controller switch-off

No. G2b Differential controller activated at external heat boiler

☞ Set at which temperature (sensor S1) the differential control should become active

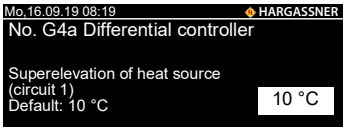


No. G4 Circuit 1 (priority circuit) sensor selection

☞ Set which sensor should be used for differential control

- Differential sensor S2
- Accumulator sensor top / mid. / bott.
- HWT sensor A
- HWT Sensor 1

❒ Press on **Name** to give the circuit its own name

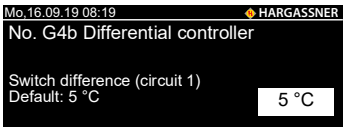


No. G4a Differential controller superelevation

☞ Set at which temperature the differential control should become active

☞ Circuit 1 is activated when the sensor temperature (S1) is higher than the temperature at the parametrised sensor (installer setting G4) by the preset value.

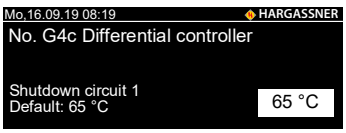
☞ Range: 1 - 50 °C



No. G4b Differential controller Switch difference

☞ Indicate what the differential temperature between the two sensors being used has to be. If it has dropped below, circuit 1 is activated.

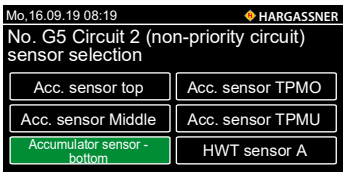
☞ Range: 1 - 50 °C



No. G4c Differential controller Shut down

☞ Set from which temperature the differential controller should be deactivated

☞ Range: 10 - 95 °C

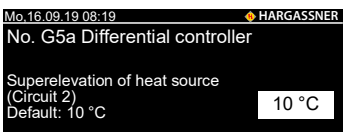


No. G5 Circuit 2 (non-priority circuit) sensor selection

☞ Only activated if G1 has been set on two circuits

☞ Set which sensor should be used for differential control

- Accumulator sensor top / mid. / bott.
- Accumulator sensor middle top (TPMO) / middle bottom (TPMU)
- HWT sensor A

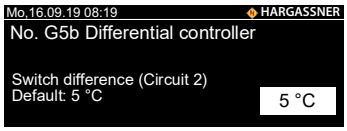


No. G5a Differential controller Superelevation

☞ Set at which temperature the differential control should become active

☞ Circuit 2 is activated when the sensor temperature (S1) is higher than the temperature at the parametrised sensor (installer setting G5) by the preset value.

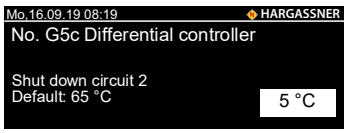
☞ Range: 1 - 50 °C



No. G5b Differential controller Switch difference

☞ Indicate what the differential temperature between the two sensors being used has to be. If it has dropped below, circuit 2 is activated.

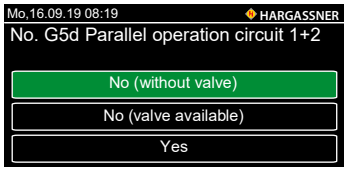
☞ Range: 1 - 50 °C



No. G5c Differential controller Shut down

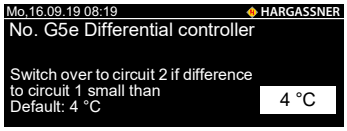
☞ Set from which temperature the differential controller should be deactivated

☞ Range: 10 - 95 °C



No. G5d Parallel operation circuit 1+2

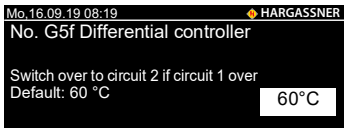
- No (without valve)
- No (valve available)
- Yes



No. G5e Differential controller switch-over circuit 2

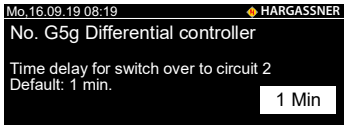
☞ Set from which temperature difference (circuit 1) on the lower-level circuit 2 is switched over

☞ Range: 1 - 20 °C



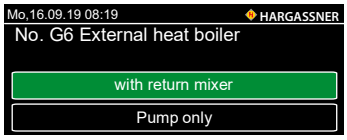
No. G5f Differential controller switch-over circuit 2

☞ Set from which temperature (circuit 1) on the lower-level circuit 2 is switched over



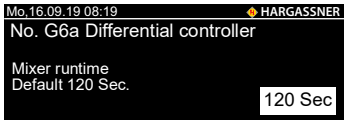
No. G5g Differential controller Time delay for switch-over

☞ Setting the time delay for switch-over



No. G6 External heat boiler

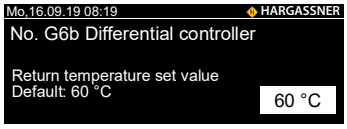
☞ Specify whether differential control of the external heat boiler should be carried out using the mixer or the pump



No. G6a Differential controller Mixer run time

☞ Set the external heat boiler's mixer run time

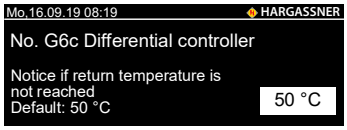
☞ Range: 10 - 300 Sec.



No. G6b Differential controller Return temperature

☞ Set the external heat boiler's return temperature

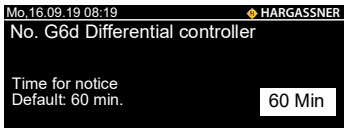
☞ Observe manufacturer's instructions



No. G6b Differential controller notice return temperature

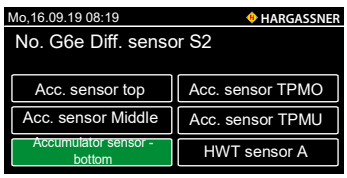
☞ Specify which temperature the external heat boiler's return temperature has to drop below for a notice to be issued

☞ Observe manufacturer's instructions



No. G6d Differential controller time for notice

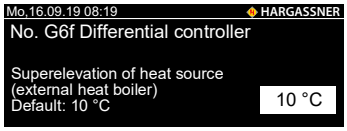
☞ Set how long the return temperature of the external heat boiler has to be below the set value for a notice to be issued



No. G6e Differential sensor S2 External heat boiler

☞ Set which sensor should be used for differential control

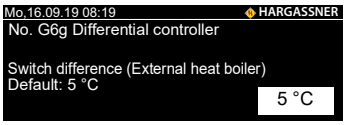
- Accumulator sensor top / mid. / bott.
- Accumulator sensor middle top (TPMO) / middle bottom (TPMU)
- HWT sensor A



No. G6f Differential controller Superelevation Heat source

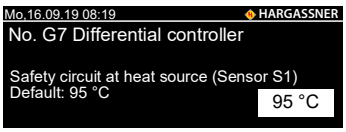
☞ Set from which temperature superelevation the differential controller is to become active

☞ Range: 1 - 50 °C



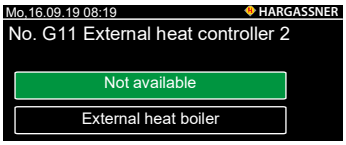
No. G6g Differential controller Switch difference

- ☞ Set from which temperature difference between the two sensors being used must be switched
- ☞ Range: 1 - 50 °C



No. G7 Differential controller Safety circuit

- ☞ If the preset temperature is reached at the parametrised sensor, all the outputs on the differential controller board will be switched off
- ☞ Range: 80 - 105 °C
- ☞ If 95 °C is exceeded at a sensor (excluding S1), then differential control will be deactivated to prevent damage to the pumps



No. G11 External heat controller 2

- ☞ Only activated if parameter G1 has been set on **two circuits**
- ☞ If the setting **External heat boiler** is selected, parameters G12 - G17 follow.

HARGASSNER Heating technology for *Biomass* A 4952 Weng OÖ Tel.: +43/7723/5274-0 Fax: +43/7723/5274-5 office@hargassner.at

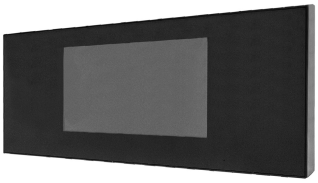
11 Optional remote controls

Using a remote control makes it easy to adjust the room temperature and also the heating and reduction settings. The heating temperatures and times can be set and changed with the FR35 and FR40 digital remote controls. One remote control can be parametrised for each heat circuit and can be parametrised with or without room temperature.

- 1 heat circuit on the extension control board (**HC A** digital remote controls only)
- 2 heat circuits per extension module (**HKM 0 - 2**)
- 2 heat circuits per heat circuit controller (**HKR** 0 - 15)

11.1 Digital remote control FR40

With the FR40, all the heat circuit functions available on the boiler can be set from wherever the remote control is in the user's living space.



Operation modes:

Off

The heat circuit is switched off (except for frost protection).

AUTOMATIC

The heat circuit is operated according to set times.

PERMANENT REDUCTION (in automatic mode)

The heat circuit is in permanent reduced mode.

PERMANENT HEATING (in automatic mode)

The heat circuit is in permanent heating mode.

1x HEATING (heating on a single occasion)

The heat circuit switches to permanent heating mode on a single occasion and automatically reverts to automatic mode at the next preset heating time.

1x REDUCTION (reduction on a single occasion)

The heat circuit switches to permanent reduced mode on a single occasion and automatically reverts to automatic mode at the next preset heating time.

Fine adjustment of room temperature:

Increase of up to 3 °C

Decrease of up to 3 °C

11.2 Digital remote control FR35

The remote control is also available in a wireless version.
The following selection options are available on the remote control only when the boiler is in **Automatic** mode:

- Selection of the heat circuit's operating mode
- Selection of modes at remote control

Operation modes:

Off

The heat circuit is switched off (except for frost protection).

AUTOMATIC

The heat circuit is operated according to set times.

PERMANENT REDUCTION (in automatic mode)

The heat circuit is in permanent reduced mode.

PERMANENT HEATING (in automatic mode)

The heat circuit is in permanent heating mode.

1x HEATING (heating on a single occasion)

The heat circuit switches to permanent heating mode on a single occasion and automatically reverts to automatic mode at the next preset heating time.

1x REDUCTION (reduction on a single occasion)

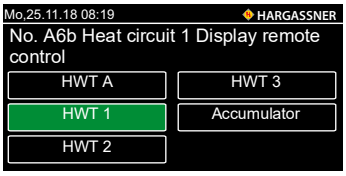
The heat circuit switches to permanent reduced mode on a single occasion and automatically reverts to automatic mode at the next preset heating time.

Fine adjustment of room temperature:

/ Increase / decrease of 2 or 3 °C

Fault lamp:

Lights up if an error occurs on the boiler



Display-Parameters:

Select which temperature should be shown on the remote control (FR35).

- HWT temperature 1 - A
- Accumulator fill level

11.3 Analogue remote control FR25 (only on HKM- or HKR heat circuits)

The following selection options are available on the remote control only when the boiler is in Automatic mode:

Selection of the heat circuit's operating mode with the rocker switch

The heat circuit switches to permanent reduced mode.

The heat circuit switches to day / week mode.

The heat circuit switches to permanent heating mode.

Fine adjusting the room temperature with the rotary knob

Increase/reduction of up to 3 °C.

Fault lamp:

Lights up if an error occurs on the boiler.

Chapter IV: Cleaning



D A N G E R

Risk of injury due to moving parts

- Refrain from accessing augers or motors while boiler is in use
- Do not perform any work on the boiler when any person is in the danger zone
  ☞ Secure / lock fuel storage room
- Only clean the augers and remove blockages using suitable tools and when the main power switch is turned off and locked
- The spring blades of the fuel extraction system are retracted under the cover disc and are under tension when the fuel storage room is completely full
  ☞ The spring blades may release and shoot up suddenly
- Watch out for the spring blade positions when entering the fuel storage room
- Remove fuel bridges with rods or shovels only
- Wear safety shoes
- Observe fuel storage room sticker

D A N G E R

Electric shock from contact with live terminals

- Observe information signs
- Check that there is no voltage before beginning any work



D A N G E R

Risk of injury from grasping into a danger zone due to re-commissioning

- Before carrying out any work on the boiler and its equipment, turn off the main power switch and prevent it from being turned on again by securing it with a padlock. Keep the key with you for the duration of your work. Only hand out the key for the lock to the person in charge
- After triggering the main power switch, do not carelessly reach into the danger zone
- Rectify error
- When re-commissioning check that no person is in any danger zone

D A N G E R

Risk of burning from inflammable materials

- Do not spray any inflammable sprays on hot surfaces (e.g. lubricating moving parts in the combustion chamber)
  - ☞ Spray drops can cause explosive fire
- Do not use any inflammable lubricants
- Let boiler (combustion chamber) cool down

Risk of fire in the vacuum cleaner

- Let ash cool down prior vacuum-cleaning

A T T E N T I O N

Formation of dust and smoke due to boiler leakages

- Clean sealing surfaces with industrial alcohol and a dry and soft (scratch-free) cloth only
- Make sure the cleansing material is evaporated before commissioning

Dirt and boiler breakdown due to escaping ash

- Empty and clean according to the maintenance instructions
- Ash may escape when the ash container is overfilled
- Ash container must be positioned correctly and locked on both sides

☞ Small cracks may occur in the refractory in regular operation.
These are stress cracks that form an expansion joint.
This cracking is important and does not lead to any functional impairment.
There is therefore no guarantee claim.

☞ The specified cleaning and maintenance intervals are absolutely necessary for safe and clean operation of the boiler.
State regulations and the responsible chimney sweep's inspection and sweeping intervals dictated by these regulations must be observed.

1 Maintenance contract

If you sign a maintenance contract with Hargassner Ges mbH, the annual cleaning and maintenance takes place during the annual service performed by personnel authorised by Hargassner.
Depending on your country's regulations, a service must be carried out by the manufacturer at regular intervals. This service must be carried out by the manufacturer or by trained and authorised individuals.

☞ In order to perform optimally, the boiler must be cleaned extensively
  ☞ At least once a year
  ☞ After a set number of operating hours in the event of an error
☞ The cleaning intervals will change or shorten depending on the composition of the fuel and if low-grade material is used

2 Weekly/monthly cleaning

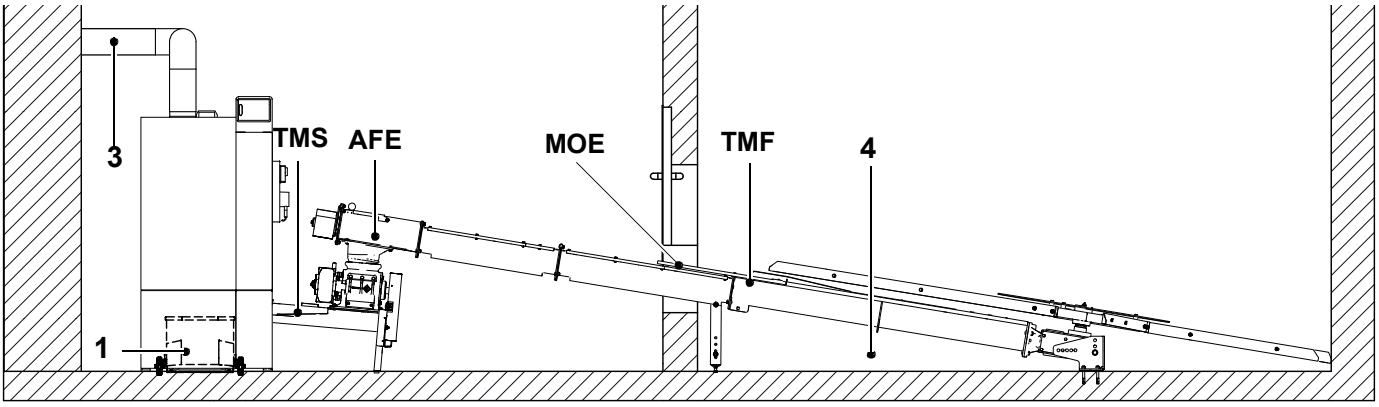
2.1 Weekly intervals

❒ Carry out a visual check of the entire boiler, including the fuel storage chamber, once a week.
↳ Rectify identified defects immediately
❒ Empty ash box **(1)** if required

	N O T E
☞	**Disposal of the created ash** ☞ Dispose ash according to country-specific regulations ☞ If natural wood is used as a fuel, the ash is a high-quality mineral fertilizer ☞ **Attention:** watch out for ember pockets

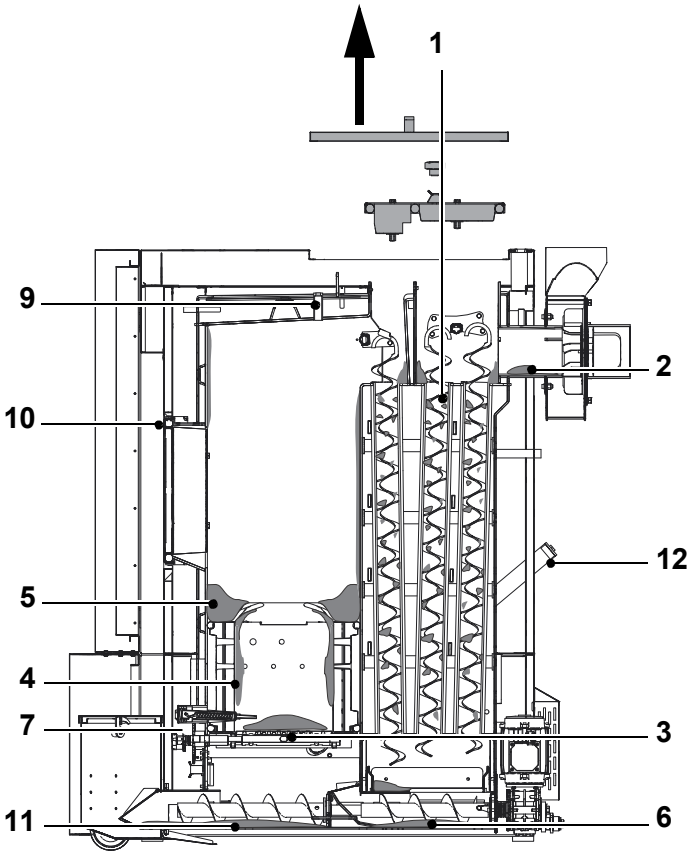
2.2 Monthly intervals

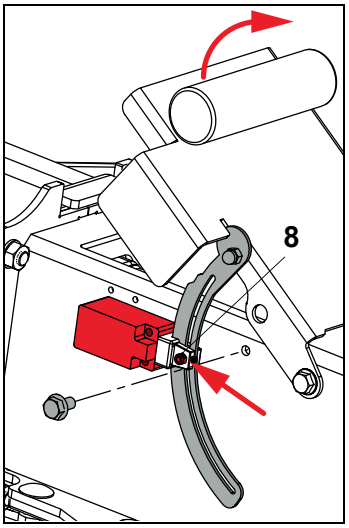
⇨ See "Monthly checks" in the commissioning book
❒ Check the safety equipment **(2)** (TRVB H118)
☞ This may be waived if an annual inspection is performed by the manufacturer
⇨ See "Maintenance contract" on page 56.
❒ Check the flue pipe **(3)**
❒ Ensuring proper condition of the boiler room
❒ Readiness of portable fire extinguishers
❒ Ensuring proper storage of ash
❒ Remove debris under the agitator **(4)**
☞ After each emptying of the fuel storage room



Pos.	Tasks of maintenance	Intensity
1	Clean and empty ash box (optionally ash suction)	as required
2	Check safety devices (Main switch, safety valve TMS, MOE / AFE, TMF)	Once a month (waived if a maintenance contract has been signed)
3	Check and clean flue pipe (more often at excessive contamination)	1x month
4	Remove debris and larger wood pieces	after each emptying

3 Annual cleaning



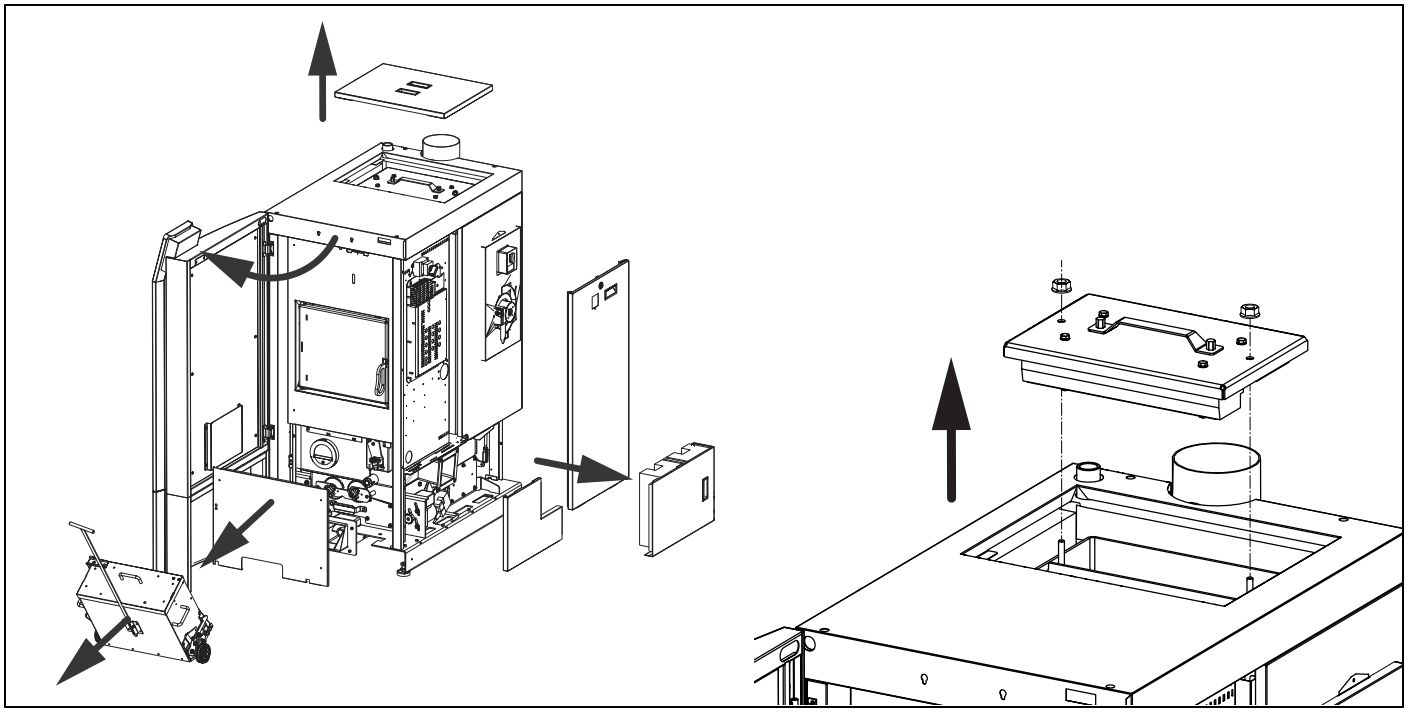


Pos.	Tasks of maintenance	Pos.	Tasks of maintenance
1	Pull out turbulators, tap off and clean the turbulator space	8	Grease rivet at position switch
2	Clean exhaust fan and flue pipe with vacuum cleaner	9	Clean the lambda sensor and combustion chamber sensor.
3	Clean rust holes	10	Check sealings
4	Clean combustion chamber with ash cleaner	11	Remove ash under the grate (especially from by the ash grate)
5	Remove and clean flame concentration plate	12	Vacuum recirculation
6	Remove maintenance opening and clean fly ash space	13	Check the safety devices (main switch, TMS, MOE/AFE, TMF and warning device).
7	Clean ignition		
Frequency: at least once annually and no later than after 4000 full-load hrs, 8000 partial-load hrs or after a message has appeared on the control panel			

☞ Boiler monitoring and cleaning intervals are based on the operation hours and fuel quality.
Observe country-specific regulations and the inspection and sweeping intervals dictated by these.

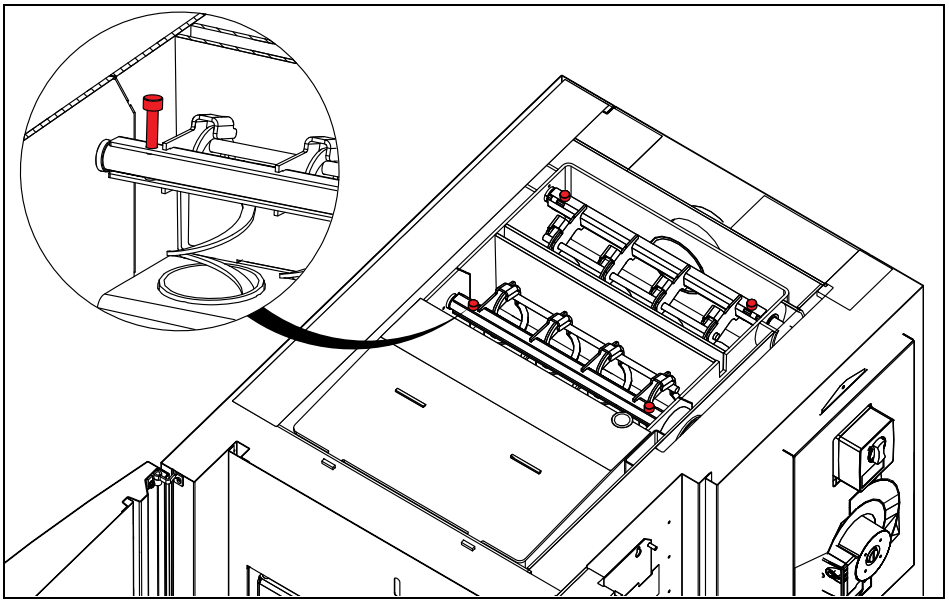
3.1 Preparation for cleaning

- ❒ Switch off boiler at the control (BCE) (**Off** operating mode)
- ❒ Let boiler cool down
- ❒ Disconnect the boiler from the power supply (**Off** main switch)



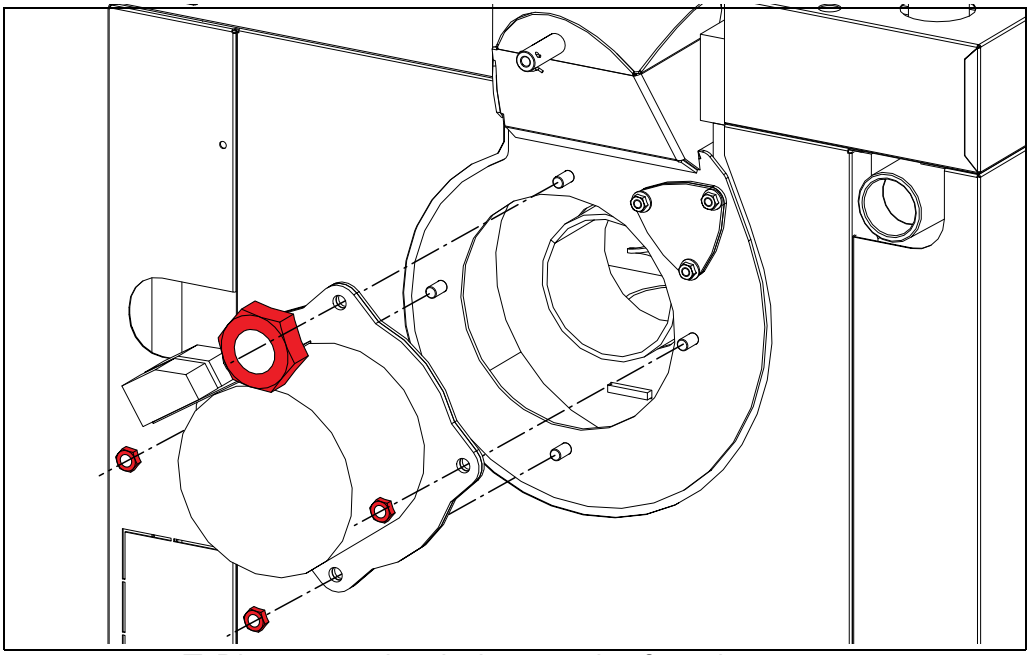
- ❒ Remove cover lid and maintenance lid
  - ☞ Clean maintenance lid over the heat exchanger
- ❒ Open the cover door and remove the ash box
- ❒ Dismount lower front wall
  - ❒ Remove 4 screws
  - ❒ Disconnect ash box switch
  - ❒ Pull covers forwards
- ❒ Remove the cover of the control box
- ❒ Remove lower lateral covers
  - ❒ Loosen screw at the back cover of the fly ash space
  - ❒ Pull cover backwards and remove
  - ❒ Remove insulation
  - ❒ Lift cover from the stoker and remove

3.2 Cleaning the turbulators and the turbulator chamber



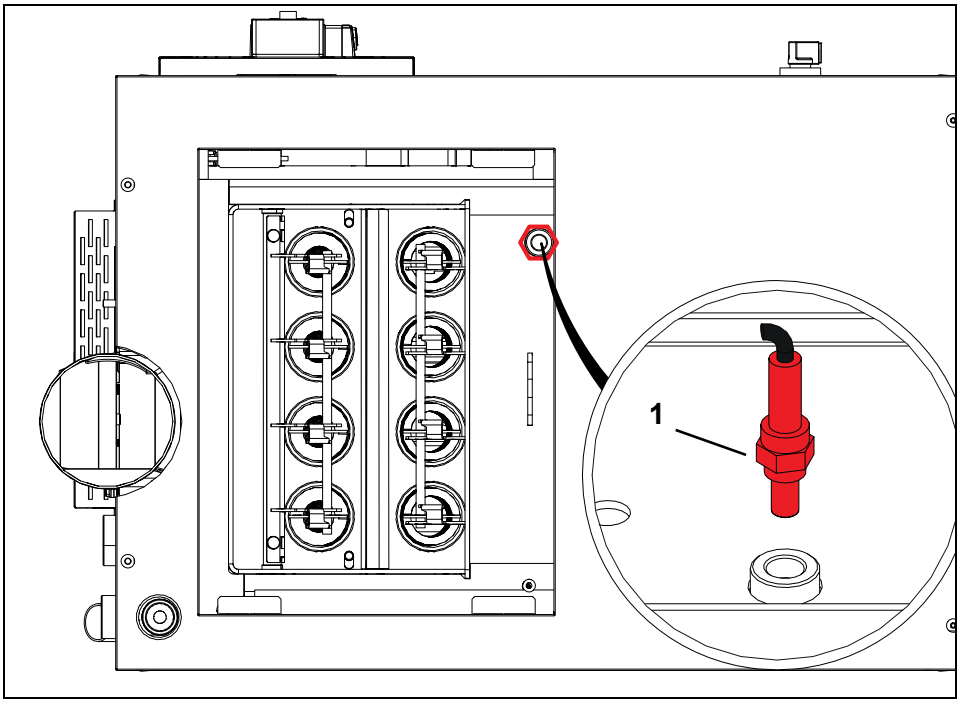
- ❒ Loosen the turbulators' fixing points
- ❒ Tap turbulators and remove upwards

3.3 Cleaning the flue pipe



- ❒ Disconnect electrical connection from the motor
- ❒ Loosen copper nuts and remove exhaust fan backwards
  - ☞ The ring sealing on the induced draft fan housing protects the induced draft fan from sticking to the housing
  - ↳ If the fan sealing gets stuck, replace both it and the ring sealing
- ❒ Clean flue pipe, housing and impeller of the exhaust fan
  - ☞ Don't damage the impeller (don't use compressed air)
- ❒ Clean recirculation junction of the housing
  - ☞ Clean with vacuum cleaner

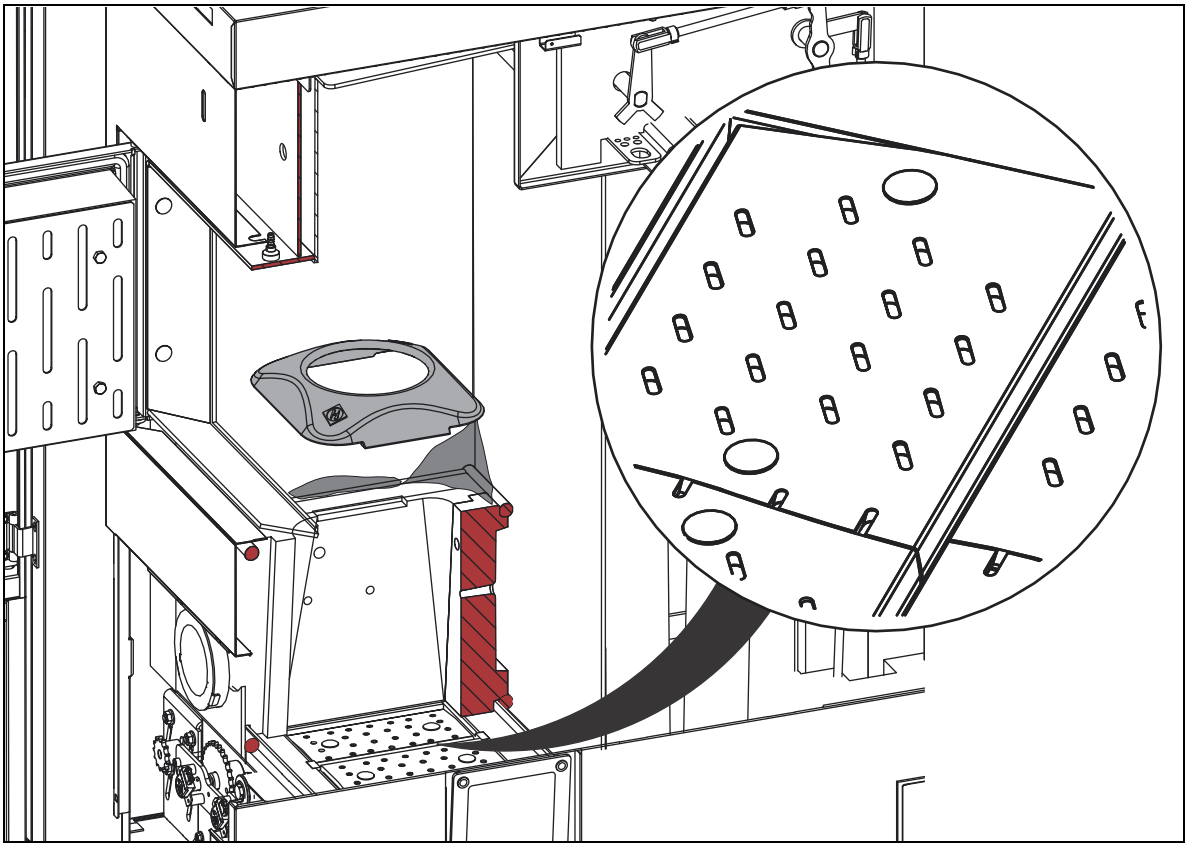
3.4 Cleaning the lambda sensor and the combustion chamber sensor



- ❒ Disconnect and unscrew the lambda sensor **(1)**
- ❒ Place sensor head down
- ❒ and remove dirt with a soft cloth
  - ☞ Debris falls down

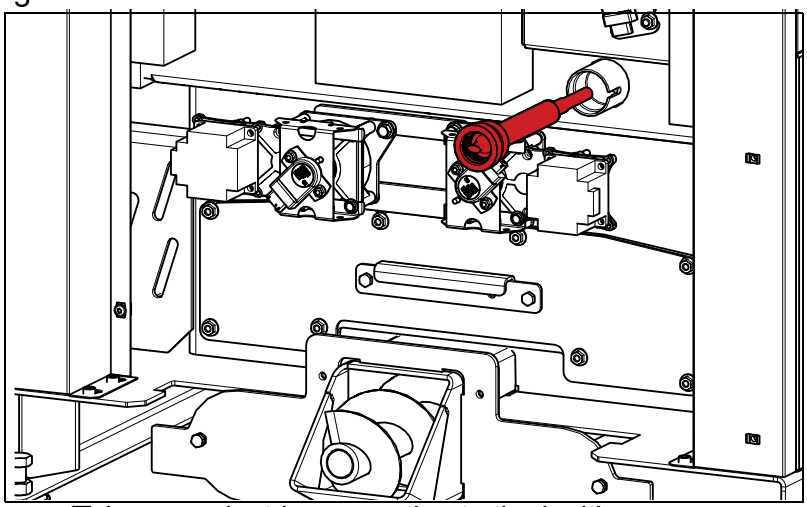
	N O T E
☞	• Do NOT "tap" the sensor! • Do not blow off with compressed air • Do not touch the sensor with sharp items and do not use any chemicals for cleaning (brake cleaning fluid, etc.)

3.5 Cleaning the combustion chamber and post-combustion chamber



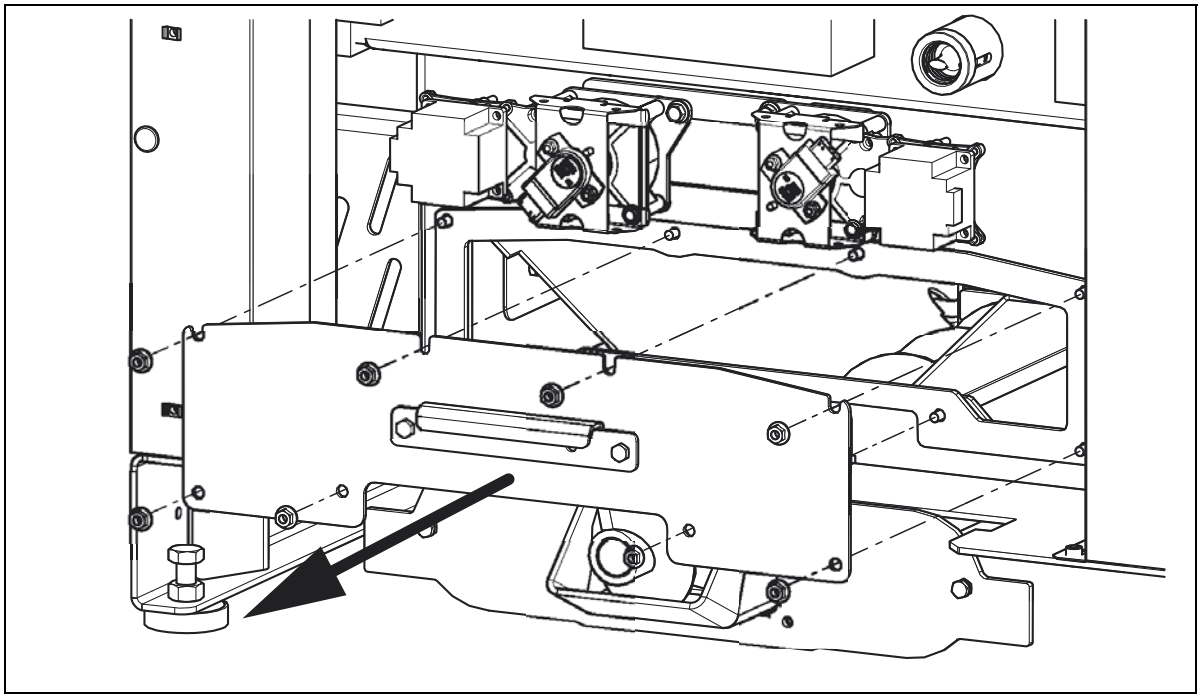
- ❒ Open combustion chamber door
- ❒ Remove flame concentration plate from combustion chamber
- ❒ Clean flame concentration plate in the combustion chamber
- ❒ Clean the combustion chamber and post-combustion chamber with a cleaning stick
- ❒ Clean the rotating grates and ensure the holes are free of any dirt

3.5.1 Cleaning the ignition

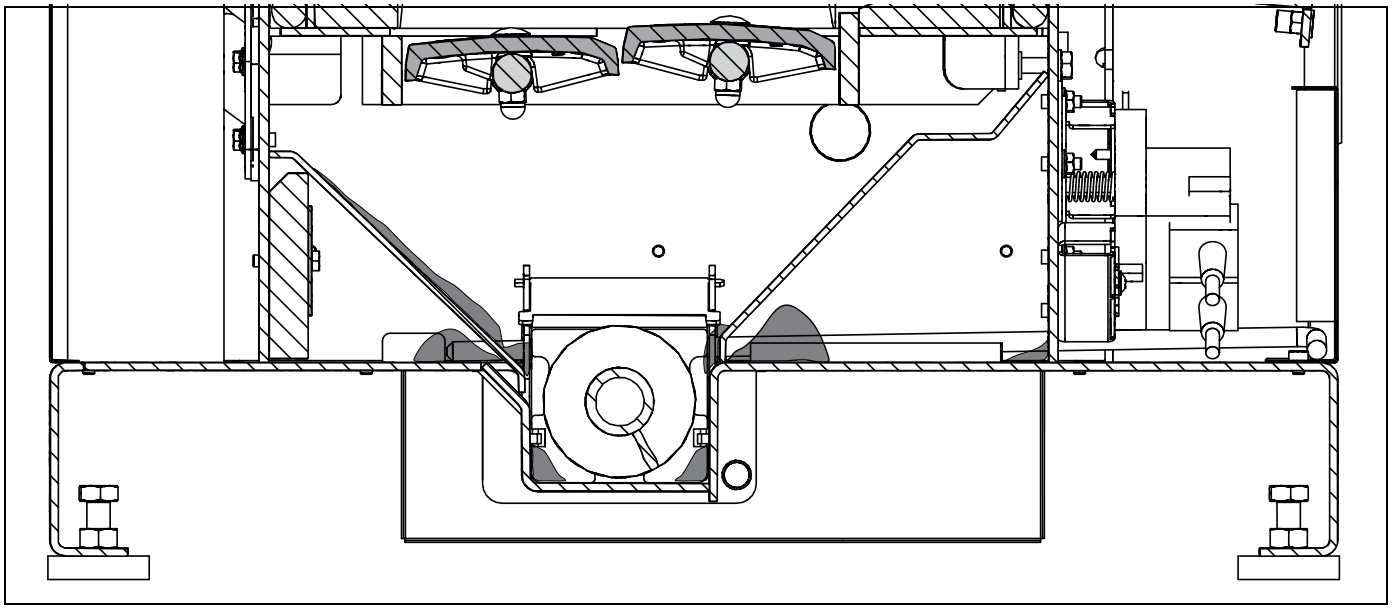


- ❒ Loosen electric connection to the ignition
- ❒ Unscrew the ignition
- ❒ Clean ignition and ignition sleeve (on the boiler) with vacuum cleaner
- ☞ Mount ignition hand-tight only

3.6 Cleaning the ash area

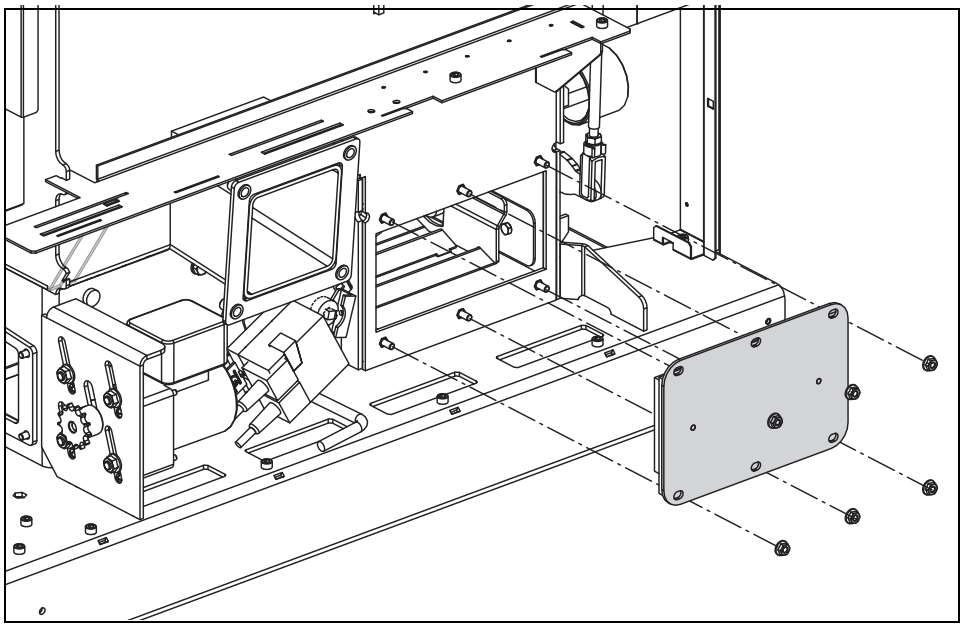


❒ Loosen the service cover's fastenings and remove it

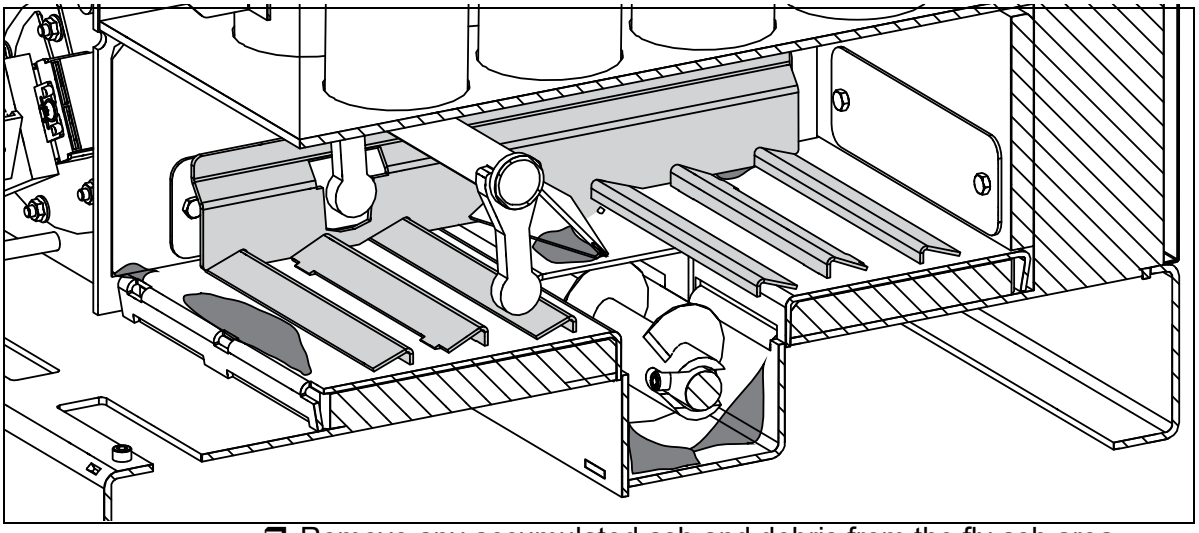


❒ Remove any accumulated ash and debris from the ash area
☞ Especially from under the ash grate

3.7 Cleaning the fly ash area

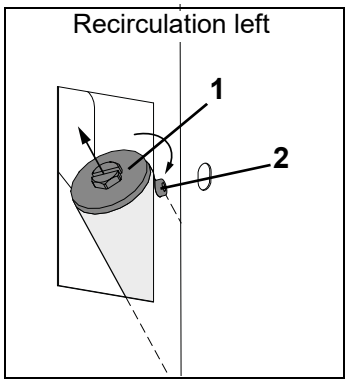


❒ Loosen the fastenings of the fly ash area's cover and remove it

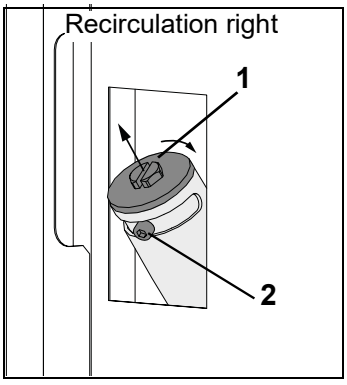


❒ Remove any accumulated ash and debris from the fly ash area

3.8 Cleaning the recirculation



❒ Mark recirculation settings
❒ Turn the recirculation slider **(1)** until the screw **(2)** can be loosened
❒ Unscrew completely
❒ Pull the recirculation slider out of the tube
❒ Clean slider of recirculation and tube with vacuum cleaner



4 Disposal information

4.1 Disposal of created ash

❒ Ash must be disposed of according to your national waste management regulations (Austria: AWG Waste Management Act)
  ☞ If natural wood is used as a fuel, the ash can be used as a high-quality mineral fertilizer
☞ **Attention:** watch out for ember pockets

4.2 Disposal of wear and spare parts

❒ Wear and spare parts must be disposed of according to your national waste management regulations (Austria: AWG Waste Management Act)
  ☞ Only use spare parts from or approved by Hargassner

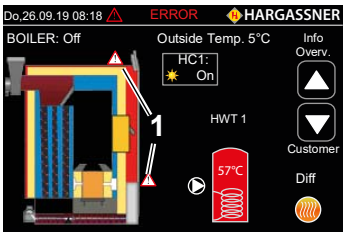
4.3 Disposal of system components

❒ Ensure environmentally compatible disposal in accordance with country-specific regulations (Austria: AWG Waste Management Act)
❒ Recyclable materials must be cleaned and sorted before being passed on for recycling
  • Boiler
  • Fuel extraction
  • Insulation material
  • Electrical and electronic parts
  • Plastics

Chapter V: Troubleshooting

	ATTENTION
	**Injuries or damage to the boiler due to deviations from regular operation** • Contact the installer/Hargassner immediately in case of higher power consumption, higher temperatures, more vigorous motor vibrations, unusual noises or smells, the release of safety devices, etc. • Perform mandatory maintenance and inspection tasks regularly

1 Information and error display



Information and error messages are displayed on the touchscreen.

☞ A warning triangle appears in the standard menu at the position where the error occurs **(1)**

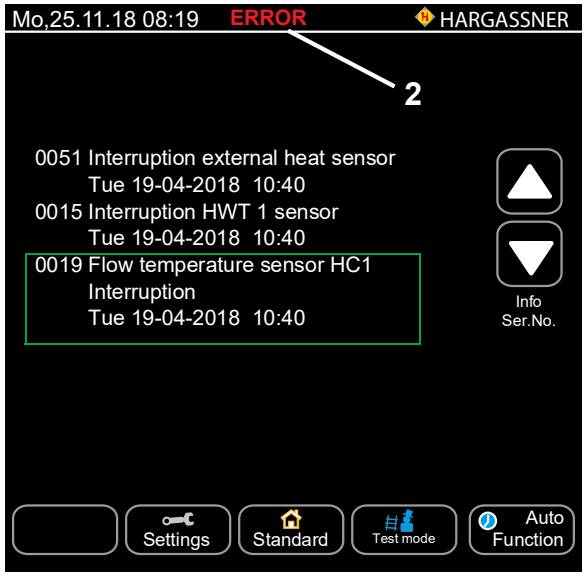
☞ Yellow triangle = information

☞ Red triangle = error

The following instructions to rectify errors are intended for the direct user of this boiler

If it is not possible to rectify the error through the operator, the installer / Hargassner must be informed

2 Retrieving the error list



❒ If error messages occur, press **Error (2)**

☞ Display of error list (latest errors)

3 Acknowledging and rectifying an error

❒ After rectifying the error, press the  button

4 List of information and error messages

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
No display	Green lights H7 board do not light	Fuse F13 defective, or L1 missing, or connection from control board to the operating unit defective or missing	Replace fuse F13 (see control board sticker); check power supply L1, or cable from control board to operating unit;
1	Attention: Overtemperature STB triggered	Over temperature on the boiler or STB-supply defective or overheated at manual heating, air in the heating system or pump(s) defective	Allow the boiler to cool down, remove the protective cap from the STB (on the front of the boiler) and press the button; have an electrician check the STB power supply; check the pumps; contact the service department and replace the control board;
2	Overcurrent stoker auger	Gagger in auger channel or rotary valve, knife of rotary valve defective or blockage in the auger	Remove debris, use parameter No. 4 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call service department
3	Overcurrent extraction auger	Gagger in the extraction channel or auger blockage	Remove debris, use parameter No.3 , No. 3a for FE2 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call service department
5	Overcurrent connection auger	Gagger in the extraction channel or auger blockage	Remove debris, use parameter No. 5 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call service department
6	Thermal protection stoker auger	Overload of motor through debris or electronic motor protection set incor-rectly	Remove debris, use "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; check rotary valve for stiffness; call electrician or service department and change control board;
7	Thermo-protec. extraction auger	Overload of motor through debris or electronic motor protection set incor-rectly	Remove debris, use parameter No. 3 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call electrician or service department and change control board;
8	Thermo-protec. ash auger	Overload of motor through debris or electronic motor protection set incor-rectly	Remove debris, use parameter No. 2 in "Manual" mode and retract the auger with the forward or reverse button; or replace worn auger parts; check electronic motor protection; this error may also be a result of a sluggish heat exchanger cleaning system or automatic ash extraction; contact an electrician or service department and replace control board;
9	Thermo-protec. connection auger	Overload of motor through debris or electronic motor protection set incor-rectly	Remove debris, use parameter No. 5 in "Manual" mode and drive auger forward or backward, (Check motor current on display); replace eventually worn out auger parts; check electronic motor protection; call electrician or service department and change control board;
10	Flue gas temp. sensor connected incorrectly	Sensor connected incorrectly (only at commissioning) or control board defective	Have the sensor's connection polarity checked by an electrician; replace the flue gas sensor or the board;
11	Interruption flue gas sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and terminal points; replace sensor or main board;
12	Boiler sensor short circuit	Short circuit in the sensor or in supply line	Have the cables and/or sensors checked by an electrician;
13	Interruption boiler sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and contacts; replace the defective sensor with another sensor, if there's a different error, replace the sensor. If the same error is shown, replace the control board.
14	Short circuit HWT 1 sensor	Short circuit in the sensor or in supply line	Connect the sensor; check the supply line and terminal points and/or check the parameter settings in the installer level; have the sensor or supply line checked by an electrician; Tip: Replace the sensor shown as defective with another sensor; if another error occurs, the sensor is defective and needs to be replaced; if the same error occurs, extension module HKM0 has to be changed; contact the service department;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
15	Interruption HWT 1 sensor	Sensor not connected or connection interrupted	Connect the sensor; check the supply line and terminal points and/or check the parameter settings in the installer level; have the sensor or supply line checked by an electrician; Tip: Replace the sensor shown as defective with another sensor; if another error occurs, the sensor is defective and needs to be replaced; if the same error occurs, extension module HKM0 has to be changed; contact the service department;
16	Outside sensor short circuit	Short circuit in the sensor or in supply line	
17	Interruption outside temperature sensor	Sensor not connected or connection interrupted	
18	Short circuit flow temp. sensor HC1	Short circuit in the sensor or in supply line	
19	Sensor flow temperature HC1 interruption	Sensor not connected or connection interrupted	
20	Short circuit flow sensor HC2	Short circuit in the sensor or in supply line	
21	Sensor flow temperature HC2 interruption	Sensor not connected or connection interrupted	
22	Short circuit remote control sensor HC1	Short circuit in the sensor or in supply line of FR25	In the event of a short circuit: check the terminal points; the resistance value of the remote control must be in the "Auto" position between 3340 Ohm and 3626 Ohm (room temperature between 5 °C and 25 °C); in the event of an interruption: connect the remote control; check the supply line and terminal points and/or the settings for parameter No. A6 (or A16, A26, A36, A46, A56 or A66) in the installer settings; otherwise, replace the remote control or the HKM0 extension module; contact service department;
23	Interruption remote control sensor HC1	FR25 sensor not connected or connection interrupted	
24	Short circuit remote control sensor HC2	Short circuit in the sensor or in supply line of FR25	
25	Interruption remote control sensor HC2	FR25 sensor not connected or connection interrupted	
26	Ignition time exceeded	The flue gas temp. did not rise by the set value (P41) within the ignition attempt time (P1), or the O2 did not drop below the value (P42) for the period set (P43) within the time (P1); no fuel or fuel too wet; too much ash/ clinker in the combustion chamber; flue gas sensor not in the flue pipe; ignition defective	Check the installation of the flue gas sensor and the terminal points; check the fuel; if the desired negative pressure value has not been reached, check that all service openings are sealed properly and that the exhaust fan is working; test the ignition in manual mode (No. 11); clean the ignition tube; check the ash extraction system in manual mode (No. 2); check firebed sensor is working (when the boiler is cold, lift the firebed sensor manually by approx. 90° and compare it to the "Boiler info" indicator); have the cables, terminal points and plugs checked by an electrician;
27	Flue gas temperature under-run	During combustion the flue gas temperature drops under the set value (K14) for the set duration of (K15)	Check installation of flue gas sensor; too wet fuel; too much ash or clinker in the combustion chamber; check proper function of the agitator, stoker auger and de-ash in manual mode (No.3, No.4, No.5), clean combustion chamber;
28	Allowed O2-stop time over-run	Contact error of the lambda sensor or lambda sensor defective	The lambda sensor is very dirty (clean it) and then perform a function check in manual mode No. 13; have the terminal points and plugs checked by an electrician; replace the lambda sensor; the boiler can be temporarily run at a reduced level without the lambda sensor until the sensor is replaced; to enable this, unplug the sensor and clear the error;
30	Low battery. Please replace!	Batteries powering date/time memory are close to being empty	Exchange battery of the control unit;
34	Accumulator sensor top - short circuit	Short circuit in the sensor or in supply line	See nos. 0014 to 0021; Position and parametrisation of the sensors on the boiler or on HKM 0 - 2 possible;
35	Interruption accumulator sensor top position	Interruption in the sensor or in supply line	
36	Accumulator sensor bottom - short circuit	Short circuit in the sensor or in supply line	
37	Interruption accumulator sensor bottom position	Interruption in the sensor or in supply line	
38	Accumulator middle sensor short circuit	Short circuit in the sensor or in supply line	
39	Interruption to accumulator middle sensor	Interruption in the sensor or in supply line	
40	Accumulator top middle sensor short circuit	Short circuit in the sensor or in supply line	See Nos. 0014 to 0021; Position and parametrisation of the sensors on the AS additional board (5 accumulator sensors);
41	Interruption accumulator sensor - top middle position	Interruption in the sensor or in supply line	
42	Accumulator bottom middle sensor short circuit	Short circuit in the sensor or in supply line	
43	Interruption to accumulator bottom middle sensor	Interruption in the sensor or in supply line	

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
44	Maximum filling time exceeded	No pellet transport	Check if pellet bridging has occurred in the fuel storage room; check the transport of pellets from the storage room; remove any foreign bodies; free the auger by moving it forwards or backwards in manual mode (No. 3, No. 3a for FE2) (check the motor current indicator); replace any worn auger flighting;
45	Back end protection temperature not reached	Back end protection pump set incorrectly or mixer defective. The first two times a warning occurs, the third time the boiler switches off. Error must be rectified	Check that the return sensor position is correct; set the pump correctly; replace the pump or use a bigger pump; check that the return mixer is working (if available); contact the installer; Attention: This will shorten the length of the boiler's service life!
46	Return sensor - short circuit	Short circuit in the sensor or in supply line	See No. 0014 to No. 0021
47	Return temperature sensor interruption	Interruption sensor or in cable or sensor not available	
49	Overcurrent at power converter	Power converter overloaded; power consumption of drive motors too high	Check all motors are running smoothly; ensure stoker unit, ash extraction system, fuel extraction system, etc. are running smoothly
52	Short circuit external sensor	Short circuit in the sensor or in supply line	See No. 0014 to No. 0021
53	Interruption external sensor	Interruption in the sensor or in supply line	
62	GSM module not connected	No connection between GSM module and control unit	Check data cable; check LED on GSM module; check on/off switch on GSM module (must not be set to OFF); replace GSM module;
65	GSM module sending error	GSM module was not able to send SMS due to insufficient credit on the SIM ard or no connection to the net provider.	Check credit amount on SIM card and charge if necessary or activate SIM-card; Check GSM signal with mobile phone from the same provider and eventually re-position or extend antenna; (Cable available)
67	Parameter error. Load factory settings	Internal error in the parameter memory	Check parameters and make adjustments where necessary; change the boiler control unit if the error persists despite the changes;
70	Pellet storage volume low	Warning limit exceeded (customer settings No.30)	Check storage volume and refill. After the refill, enter the new storage volume on the No. 30 consumption display;
90	Boiler IO not connected	Bus-cable-connection or board defective	Replace bus cable connections, control unit, main board; contact service department;
91	Max. control board temp. exceeded.	Control board temperature is too high; board is dirty or is no longer cooling down Ambient temperature in the boiler room is too high (must not exceed 40 °C)	Temporarily open the control cabinet cover to cool down the board; remove dust from the board, cool the boiler room down accordingly; contact service department;
94	Attention, boiler is set to "OFF". No frost control	Operation mode "OFF" is being activated and the outside temperature is dropping below the temperature set.	Change the operation mode to "AUTO".
99	Boiler over temperature	Over temperature on the boiler or STB-supply defective or overheated at manual heating, air in the heating system or pump(s) defective	Allow the boiler to cool down, remove the protective cap from the STB (on the front of the boiler) and press the button; have an electrician check the STB power supply; check the pumps; contact the service department and replace the control board;
100	Extension module CAN 1 not connected	No connection (CAN1 - blue bus) to extension module 1	Set the extension module's address switch to "1"; check HKM's connection and bus wiring; replace extension module 1;
103	Short circuit HWT 2 sensor	Short circuit in the sensor or in supply line	See nos. 0014 to 0021 on extension module HKM 1
104	Interruption HWT 2 sensor	Interruption in the sensor or in supply line	
107	Short circuit flow sensor HC3	Short circuit in the sensor or in supply line	
108	Sensor flow temperature HC3 interruption	Interruption in the sensor or in supply line	
109	Short circuit flow sensor HC4	Short circuit in the sensor or in supply line	
110	Sensor flow temperature HC4 interruption	Interruption in the sensor or in supply line	
111	Short circuit remote control sensor HC3	Short circuit in the remote control FR25 or in supply line	See nos. 0022 to 0025 on extension module HKM 1
112	Interruption remote control sensor HC3	Interruption in the remote control FR25 or in supply line	
113	Short circuit remote control sensor HC4	Short circuit in the remote control FR25 or in supply line	
114	Interruption remote control sensor HC4	Interruption in the remote control FR25 or in supply line	

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
120	Extension module CAN 2 not connected	No connection (CAN1 - blue bus) to extension module 2	Set the extension module's address switch to "2"; check HKM 2 connection and bus wiring; replace extension module 2;
125	Short circuit HWT 3 sensor	Short circuit in the sensor or in supply line	See nos. 0014 to 0021 on extension module HKM 2
126	Interruption HWT 3 sensor	Interruption in the sensor or in supply line	
127	Short circuit flow sensor HC5	Short circuit in the sensor or in supply line	
128	Sensor flow temperature HC5 interruption	Interruption in the sensor or in supply line	
129	Short circuit flow sensor HC6	Short circuit in the sensor or in supply line	
130	Sensor flow temperature HC6 interruption	Interruption in the sensor or in supply line	
131	Short circuit remote control sensor HC5	Short circuit in the remote control FR25 or in supply line	See nos. 0022 to 0025 on extension module HKM 2
132	Interruption remote control sensor HC5	Interruption in the remote control FR25 or in supply line	
133	Short circuit remote control sensor HC6	Short circuit in the remote control FR25 or in supply line	
134	Interruption remote control sensor HC6	Interruption in the remote control FR25 or in supply line	
135	Distr. line board CAN "A" not connected	no connection (CAN1 - blue bus) to I/O 36 board "A“ (installed on boiler or HKM 0-2)	Set the control board address switch to "A"; check connection and bus wiring; replace control board;
136	Short circuit flow temp. sensor HCA	Short circuit in the sensor or in supply line	See nos. 0014 to 0021 on heat circuit board A
137	Sensor flow temperature HCA interruption	Interruption in the sensor or in supply line	
138	Short circuit HWT A sensor	Short circuit in the sensor or in supply line	
139	Interruption HWT A sensor	Interruption in the sensor or in supply line	
140	Extension module CAN 0 not connected	no connection (CAN1 - blue bus) to extension module 0	Set the extension module's address switch to "0"; check HKM's connection and bus wiring; replace extension module 0;
141	Sensor flow temperature controlled distr. line short circuit	Short circuit in the sensor or in supply line	See nos. 0014 to 0021 on heat circuit board F
142	Sensor flow temperature controlled distr. line interruption	Interruption in the sensor or in supply line	
143	Distr. line board CAN "F" not connected	no connection to I/O 36 board "F“ (installed on boiler or HKM 0-2)	Set the control board address switch to "F"; check connection and bus wiring; replace control board;
144	Comb. cha. sensor defective or not connected	Short circuit in the sensor or in supply line	See No. 0014 to No. 0021
145	Acc. control board CAN C not connected	no connection to I/O 36 board "C“ (installed on boiler or HKM 0-2)	Set the control board address switch to "C"; check connection and bus wiring; replace control board;
146	Combustion chamber sensor check - implausible signal	Combustion chamber sensor is not connected or defective. Sensor displays room temperature after short circuit and flue gas temperature drops when switched incorrectly. Missing fuel.	Have the cables, the terminal points and plugs checked by an electrician; replace combustion chamber sensor; check the fuel in the stoker
149	No connection to Loxone server	Parameter (Z1I) for set time-out time exceeded; no network connection to the Loxone control;	Check network; check configuration of network settings; check Loxone configuration;
150 - 165	No connection to heat circuit controller HKR 0 - 15	CAN2 (red BUS) BUS communication to HKR interrupted; defective BUS cable; HKR defective; supply voltage missing on HKR; boiler main control board or control panel defective; internal BUS cable defective; terminating resistors set incorrectly	Check the display on the HKR (fuses); LEDs flash during BUS communication; check the terminating resistors; check the voltage and poles on the CAN-BUS plug (approx. 2 V between L and minus (-), or H and minus (-)) -> the BUS cable short-circuited/was interrupted; check the internal BUS cable and boiler main board (voltage 2 V); replace the control panel or HKR; check the HKR address (only during commissioning); see the HKR operating manual;
169	Screed dry-out programme has been deactivated!	Power failure over longer period	After prolonged power failure, the dry-out programme is deactivated automatically (warning on the display); if needed, restart the programme (installer parameter No. A9);
179	Demand greater than the maximum temperature. Check the parameter settings.	Parameter settings incorrect; a demand is greater than the boiler's maximum temperature.	Check the parameter settings.
180	Check the position of the acc. bottom sensor	Sensor not installed correctly (too low or below the return to the boiler); hydraulic problem;	Check the lower accumulator sensor and fast loading valve; check sensor's position against hydraulic schematic and install it correctly; call installer; call service department;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
190	Check combustion - set O2 level not reached	Set O2 level was not reached after the preset time (parameter S30); not enough fuel; grate clogged by clinker; too much ash in the combustion chamber	Calibrate firebed sensor; reduce number of minor de-ashes until major de-ash in parameter Q23; check grates; contact service department
195	Check system configuration urgently	Incorrect parameters and/or incorrect pump settings	Check system configuration urgently (parameters, pump settings, frequent boiler starts with short runtimes, etc.).
196	Burnout was not completed several times, O2 level not reached!	Number of burnouts (parameter Q3c) required by the set burnout time (Q3a) (O2 content is lower than the level set in parameter Q3b) was reached. Fuel is still burning in the combustion chamber; grate clogged by clinker, etc.	Check grate
197	Check pump setting on the boiler	Incorrect parameters; incorrect pump settings; mixer defective; pump defective	Check the boiler configuration urgently (parameters, pump settings, frequent boiler starts with short runtimes, etc.); check the hydraulic components behind the boiler;
200	Ignition Time Exceeded! Check Fuel Storage	The firebed was not reached after 15 minutes + the number of minutes set in parameter P1	Check stoker and the amount of fuel available
210 - 217	Room device FR35 not connected (HC A - HC B)	No connection to digital remote control FR35	Check parameter A6 (or A16, A26, A36, A46, A56, A66 or A76); check BUS wiring; replace digital remote control;see FR35 operating manual;
220 - 227	Room device FR40 not connected (HC A - HC B)	No connection to digital remote control FR40	Check parameter A6 (or A16, A26, A36, A46, A56, A66 or A76); check BUS wiring; replace digital remote control;see FR40 operating manual;
230	Communication error to master boiler (during cascade only)	No connection to master boiler (boiler A)	Check parameter F1: must be set to "Cascade available" at each other boiler; Check parameter F2: each boiler has to have a unique IP-address (no duplicated addresses); Check BUS-wiring; check internal BUS cable between control unit and control board;
231	Slave boiler failed (during cascade only)	No connection to one of the slave boilers (boilers B-F)	Check parameter F6: correct number of slave boilers set; see No. 0230
232	Slave boiler error (during cascade only)	An error has occurred on the following slave boiler	This message will only be shown on the leading boiler (Boiler A). The master boiler and the other slave boilers continue as normal. Confirm message on the leading boiler and rectify the error on the slave boiler.
240 - 247	Connected remote control does not match set parameters (HC A - HC B)	Remote control parametrisation does not match with parametrisation heat circuit remote control	Check the parameter settings for the remote control and heat circuits; see the operating manual for the respective remote control;
248	Control Wiring External Demand	The external demand signal is changing very frequently; external circuitry (switches, thermostat) faulty	Have an electrician check that the external circuitry is working properly. Terminals 80 and 81
256	Switch over unit not in position	AUP does not reach new position; unit returns to starting position. If the Set - Is position of the changeover unit is identi-cally, the error message can be cleared.	Check wiring; clean changeover unit; check the position of the changeover unit after cleaning.
275	ATTENTION! To continue operation, clear the notice. Reason for stop: STB!	STB was triggered	Check the STB.
276	ATTENTION! To continue operation, clear the notice. Reason for stop: Emergency stop!	Emergency stop was triggered	Check the emergency stop.
280	Diff. Contr. CAN D not connected	No connection to I/O 36 board "D"	Set the control board address switch to "D"; check board's connection and bus wiring; replace board;
281	Sensor Heat source (S1) short circuit	Short circuit in the sensor or in supply line	See nos. 0014 to 0021 on differential controller board
282	Sensor Heat source (S1) not connected	Interruption in the sensor or in supply line	
283	Difference sensor (S2) short circuit	Short circuit in the sensor or in supply line	
284	Difference sensor (S2) not connected	Interruption in the sensor or in supply line	
285	Return sensor external heat short circuit	Short circuit in the sensor or in supply line	
286	Return sensor external heat not connected	Interruption in the sensor or in supply line	
287	Return temperature external heat not reached	Error on external heat boiler; sensor positioned incorrectly	Check external heat boiler; check sensor's position against hydraulic diagram and install it correctly;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
290	Difference Control 2 CAN 9 not connected	No connection to I/O 36 board 9	Set the control board's selector switch to 9; check the board's bus wiring and mains connection; replace control board;
291	Sensor Heatsource (S3) Short Circuit	Boiler sensor short-circuited	Check boiler sensor and replace it if necessary
292	Sensor Heatsource (S3) not connected	Interruption in the boiler sensor or in the supply line	Connect boiler sensor
293	Differential Sensor (S4) Short Circuit	Differential sensor short-circuited	Check differential sensor and replace it if necessary
294	Differential Sensor (S4) not connected	Interruption in the differential sensor or in the supply line	Connect differential sensor
295	Return Flow Sensor Ext. Boiler 2 Short Circuit	Return sensor short-circuited	Check return sensor and replace it if necessary
296	Return Flow Sensor Ext. Boiler 2 not connected	Interruption in the return sensor or in the supply line	Connect return sensor
297	Return Flow Temperature Ext. Boiler 2 not reached	Error on external heat boiler 2; sensor positioned incorrectly	Check external heat boiler 2; check sensor's position against hydraulic diagram and install it correctly;
300	Boiler conducts separate grate test	Grate does not reach end position; debris in grate area	Clean grate; remove debris.
301	Grate check	Debris in grate area	Clean grate; remove debris.
305	Boiler ID-Card wrong	Wrong boiler ID-Card	Replace boiler ID-Card; system will run for 30 days with incorrect boiler ID-Card;
306	Boiler ID-Card missing	Boiler ID-Card or connection defective	Check boiler ID-Card and connection and replace one or both if necessary; system will run for 30 days with incorrect boiler ID card;
307	Boiler ID-Card does not match to Software	Incorrect software installed on the system; incorrect microSD card inserted	Check software and microSD card and replace one or both if necessary
309	Ash box full!	Ash box full or stiffness of the ash auger	Empty ash box; heating is continued; control unit tries to drive the ash auger every 10 minutes; if this does not work until next de-ash, an error will follow;
310	Initiator Cleaning and deash Endposition not reached	Cleaning rod and ash extraction do not return to original position after cleaning	Check thermal safety circuit; check smooth running of cleaning device and fly ash damper (initiator function is displayed in manual mode No. 2b), check rubber pads and rod; check function of the initiator (behind the cover next to the control board); (heating can be continued temporarily);
311	Initiator cleaning device and deash stroke not reached	Cleaning rod and ash extraction do not reach the necessary stroke length during cleaning.	Check thermal safety circuit; check smooth running of cleaning device and fly ash damper (initiator function is displayed in manual mode No. 2b), check rubber pads and rod; check function of the initiator (behind the cover next to the control board); (heating can be continued temporarily);
312	IDF Error	The required exhaust fan speed was not reached	Test exhaust fan in manual mode (No.1); check if green and black plug are connected correctly on the fan; Clean the casing and impeller; the motor must be running smoothly; have the terminal points and plugs checked by an electrician; replace the motor;
313	Ash box not positioned	The ash box or the cover is not placed correctly and close enough to the safety switch.	Secure the ash box firmly to the boiler; ash box lid must be closed; have an electrician check the safety switch, cables, terminals and plugs; (heating mode will continue, but the de-ash and ash suction processes will be blocked);
314	Ash box full!	Ash box full or stiffness of the ash auger	Empty ash box, check ash auger for smooth operation (Manual mode No.2); disassemble ash ejector flange, pull blockage rod (behind the cover, below the stoker) and pull out ash auger in front; overfill in the ash room below the grates or fly ash overfill or debris in the ash auger; remove blockages; call service department:
315	Position switch FE-cover open	Lid of the extraction auger not completely closed, cable defective or material jam in the FE	Heating is continued; control tries to empty auger 4 times; if not possible, an error is displayed;
316	Safety switch FE-Cover open	Lid of the extraction auger open or switch not connected	The stop screw has been removed and the cover opened; the safety switch is connected (the switch position is displayed in the info window); have the safety switch, cables, terminal points and plugs checked by an electrician;
317	Position switch Connection-auger-cover open	Lid of the connection extraction auger not completely closed, cable defective or material jam in the auger;	Heating operation to be continued; Control tries 4 times to empty the auger; if not possible Error 368;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
318	Safety switch connection auger cover open	Connection extraction auger cover open or switch not connected	The stop screw has been removed and the cover opened; the safety switch is connected (the switch position is displayed in the info window); have the safety switch, cables, terminal points and plugs checked by an electrician;
319	Safety switch FE1 lid open	Lid of the extraction auger 1 open or switch not connected	
320	Safety switch FE2 lid open	Lid of the extraction auger 2 open or switch not connected	
321	Stoker grate - position not reached	The stoker grate cannot reach the set position (0° position).	Release stoker grate in manual mode (No.6/6a); remove debris from the grate ash space; check grate motor and drive; check position sensor and magnetic transmitter; (heating operation can be continued temporarily with a defective grate; to do this unplug grate motor, set grate manually into horizontal position and confirm error);
322	Ash grate - Position not reached	The ash grate cannot reach the set position (0° position)	Empty ash grate in manual position (No.7); remove debris from the grate ash room; check grate motor; check position sensor and magnetic transmitter; (Heating operation to be temporary continued at defective grate, unplug grate motor, set grate manually into horizontal position and confirm error)
323	Stoker grate sensor - invalid signal	Signal outside the preset voltage range (0.8-4.5V)	Have the cables, terminal points and plugs checked by an electrician; replace the sensor;
324	Ash grate sensor - invalid signal	Signal outside the preset voltage range (0.8-4.5V)	Have the cables, terminal points and plugs checked by an electrician; replace the sensor;
325	Position switch RA-cover open	The primary air flap cannot reach the set position or will not move	Test primary air flap in manual mode (No.12); Through pressing the release, the primary air flap can be moved manually and may be checked to smooth operation. (behind the cover and below the stoker); (heating mode can be continued temporarily at a reduced level with a defective primary air flap; to enable this, manually set to approx. 30%); have the cables, terminal points and plugs checked by an electrician; replace the flap motor;
326	Primary air flap defective or not connected	Primary air flap is not connected or defective	(Heating mode can be continued temporarily at a reduced level with a defective primary air flap; to enable this, manually set to approx. 30%); have the cables, terminal points and plugs checked by an electrician; replace the flap motor;
327	Firebed sensor wrong signal	Position sensor ash grate is not connected or defective	(Heating mode can be continued temporarily at a reduced level; to enable this, unplug the sensor and clear the error); have the cables, terminal points and plugs checked by an electrician; replace the sensor;
328	Emergency-Stop triggered	Emergency stop operated or plug with bridge removed	Unlock emergency stop or re-insert plug with bridge - terminal (76/77)
329	Negative pressure sensor not connected or defective	The negative pressure sensor is not connected or defective	(Heating mode can be continued temporarily at a reduced level; to enable this, unplug the sensor and clear the error); have the cables, terminal points and plugs checked by an electrician; replace the sensor;
330	Safety bridge relay defective	Main board defective	Replace main board; contact service department;
331	Safety switch storage room open	Emergency stop operated or plug with bridge removed	Unlock emergency lock or re-insert plug with bridge;
332	ATTENTION! To continue operation, clear the notice. Reason for stop: fuel storage room switch activated	Fuel storage room switch activated	Check the fuel storage room.
333	De-ash carried out in ash box. Empty ash box	Automatic de-ash has been carried out. Ash box full	Empty ash box
335	Fuel storage room 2 - Temperature too high	Fuel storage room 2 - Temperature too high	If the warning device is triggered, the fuel storage room must be checked for various temperature increases and, if necessary, further measures must be taken (call the fire brigade); if the error is due to a defective main board, heating mode can be continued temporarily without TMF; (set parameter D21/D21a to "Not available" => ATTENTION: no warning if the temperature in the fuel storage room exceeds its limit!);
336	Temp. in fuel storage exceeded	Temperature in fuel storage room exceeded	
337	Temp. in stoker auger exceeded	The temperature on the stoker auger is high, because the flue connection is minimised or a burn back occurred	Check boiler, flue pipe and exhaust fan for dust or ash and clean; if burn back, check the tightness of the rotary valve; remove the tube from the negative pressure box and blow in direction of the boiler.

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
338	Interruption TMFR 2 sensor	Interruption or short circuit in the sensor or in supply line	See nos. 0014 to 0021 Heating can be continued temporarily without TMF; (Set parameter D21/D21a to "Not available" => ATTENTION: no warning if overtemperature occurs in the fuel storage room!);
339	Short circuit TMFR 2 sensor		
340	Sensor TMFR interruption		
341	Sensor TMFR short circuit		
342	Sensor TMS interruption		
343	Sensor TMS short circuit		
344	Neg. press. to low	The speed-controlled exhaust fan does not reach the desired negative pressure in the boiler	All boiler openings must be closed (maintenance openings, combustion door); check negative pressure box, exhaust fan and flue pipe; blow through negative pressure tube and boiler tube; Check terminal points, cables and plugs;
349	Lambda sensor not connected or defective	Contact error of the lambda sensor or lambda sensor defective	The lambda sensor is very dirty (clean it) and then perform a function check in manual mode No. 13; have the terminal points and plugs checked by an electrician; replace the lambda sensor; the boiler can be temporarily run at a reduced level without the lambda sensor until the sensor is replaced; to enable this, unplug the sensor and clear the error;
350	Ash bin full	The sensor in the ash bin reports "Full" or not connected	Empty the ash bin; clean the sensor; if no sensor is available, set parameter **D5a** to "Without ash bin"; have an electrician check the cables, terminal points and plugs;
351	Switch off ash suction	Manual switch-off during ash suction	Message disappears after ash suction process has finished;
352	Delivery rate too low! Check Fuel Storage	The fuel delivery rate is too low	Fuel storage low, refill; Check spring blades on agitator; bridging of fuel; wrong fuel set (parameter 19)
353	Refill fuel!	Fuel storage room is empty or firebed sensor is no longer moving	Fuel storage is empty, refill; check fuel extraction and stoker auger in manual mode (No.3 and No.4); check ease of movement of firebed sensor tongue; remove debris; check correct installation of sensor, magnetic transmitter and connection shaft to tongue;
354	Calibrate combustion sensor	Wrong boiler type (L/R) set or sensor defective;	Check parameter Z1a; recalibrate firebed sensor with parameter MANUAL No. 9; replace sensor;
355	Tertiary air flap doesn't work	The tertiary air flap cannot reach the set position or will not move	Test the tertiary air flap in manual mode (No. 12a); by pressing the release, the tertiary air flap can be moved manually and checked to see if it is operating smoothly; (heating mode can be continued temporarily at a reduced level with a defective tertiary air flap; to do this, manually set to approx. 100%); have the cables, terminal points and plugs checked by an electrician; replace the flap motor;
356	Tertiary air flap not connected or defective	Tertiary air flap is not connected or defective	(Heating mode can be continued temporarily at a reduced level with a defective tertiary air flap; to enable this, manually set to approx. 100%); have the cables, terminal points and plugs checked by an electrician; replace the flap motor;
357	Ash bin full	The sensor in the ash bin reports "Full" or not connected	Empty the ash bin; clean the sensor; have an electrician check the cables, terminal points and plugs;
360	Over current agitator auger 1	Parameter **No. 19a Fuel extraction type** is set to "Equal emptying"; bulky object in the auger channel	See No. 003; heating can be continued; set parameter **No. 19a** to the functioning fuel extraction system (only FE1 or only FE2);
361	Over current agitator auger 2		
362	Thermal protection agitator auger 1	Parameter **No. 19a Fuel extraction type** is set to "Equal emptying"; motor possibly overloaded due to debris or electric motor protection set incorrectly	See No. 007; heating can be continued; set parameter **No. 19a** to the functioning fuel extraction system (only FE1 or only FE2);
363	Thermal protection agitator auger 2		
364	Position switch RA1-lid partly opened	Lid of the extraction auger 1 not completely closed, cable defective or material jam in the FE1	Heating operation to be continued; Control tries 4 times to empty the auger; if not possible Error 367
365	Position switch RA2-lid partly opened	Lid of the extraction auger 2 not completely closed, cable defective or material jam in the FE2	Heating operation to be continued; control system will try four times to drive the auger; if this is not possible, error 368 will follow;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
366	Fuel jam FE-lid	Lid of the extraction auger not completely closed, cable defective or material jam in the FE	Clear the fuel jam and remove any foreign bodies; ensure the lid is completely closed; have an electrician check the safety switch, cables, terminal points and plugs;
367	Material jam RA-lid 1	Lid of the extraction auger 1 not completely closed, cable defective or material jam in the FE1	
368	Material jam RA-lid 2	Lid of the extraction auger 2 not completely closed, cable defective or material jam in the FE2	
369	Material jam RA-lid 1	Lid of the extraction auger 1 not completely closed, cable defective or material jam in the FE1	
370	Material jam RA-lid 2	Lid of the extraction auger 2 not completely closed, cable defective or material jam in the FE2	
371	Over current agitator auger 1	Parameter **No. 19a Fuel extraction type** is set to "Only FE 1/2"; bulky object in the auger channel	See No. 003; heating can be continued; set parameter **No. 19a** to the functioning fuel extraction system (only FE1 or only FE2);
372	Over current agitator auger 2		
373	Thermal protection agitator auger 1	Parameter **No. 19a Fuel extraction type** is set to "Only FE 1/2"; motor possibly overloaded due to debris or electric motor protection set incorrectly	See No. 007; heating can be continued; set parameter **No. 19a** to the functioning fuel extraction system (only FE1 or only FE2);
374	Thermal protection agitator auger 2		
375	Both room extraction systems defective (see warnings for details)	Both fuel extraction systems overloaded or on thermal protection;	See No. 003 or No. 007; if the problem cannot be rectified, switch parameter **No. 19** to wood log emergency operation; call service department;
380	Maintenance due! According factory specifications!	Number of full-load hours, heating hours and boiler starts reached for the maintenance required according to factory specifications	Perform maintenance; reset maintenance counter once maintenance is complete;
381	Suction turbine runtime 0h. Replace the carbon brushes at 500h and reset the meter.	Suction turbine runtime exceeded	Replace the carbon brushes and reset the meter.
401	Ensure that the safety bridge has been removed	Manual bypass of safety devices for maintenance purposes has not been removed	Please remove bridge (Clamp 64/65) after service. ATTENTION: If not, safety functions are NOT ACTIVATED
410	No fuel in FE1 Extraction currently from FE2	Fuel empty at FE1;	Refill fuel on FE1; control switches to fuel supply via FE2;
411	No fuel in FE2 Extraction currently from FE1	Fuel empty at FE2;	Refill fuel on FE2; control switches to fuel supply via FE1;
412	No fuel	Fuel empty for FE1 and FE2;	Refill fuel;
413	No fuel in FE1 Extraction switched to FE2	Fuel empty at FE1;	Refill fuel on FE1; control switches to fuel supply via FE2;
414	No fuel in FE2 Extraction switched to FE1	Fuel empty at FE2;	Refill fuel on FE2; control switches to fuel supply via FE1;
415	No fuel in FE1	Fuel empty at FE1;	Refill fuel at FE1;
416	No fuel in FE2	Fuel empty at FE2;	Refill fuel at FE2;
420	Therm. prot. rotary valve	Overload of motor through debris or motor protection set incorrectly	See No. 007
421	Overcurrent rotary valve	Debris in the rotary valve	See No. 003
440	Heat circuit board CAN B not connected	No connection to heat circuit board B	Set the address switch on the board to position "B"; check the board's bus wiring and power supply; replace the board;
441	HCB flow temperature sensor short-circuited	HCB flow sensor short-circuited	Check temperature sensor and replace it if necessary
442	HCB flow temperature sensor interruption	Cable break in line to HCB sensor; HCB sensor not connected	Check HCB sensor and replace it if necessary
443	Hot-water tank B sensor short-circuited	HWT B temperature sensor short-circuited	Check temperature sensor and replace it if necessary
444	Hot-water tank B interruption	Cable break in line to HWT B sensor; HWT sensor B not connected	Check hot-water tank B sensor and replace it if necessary
480 - 483	Accumulator temperature for domestic hot water 1 - 4 below required temperature	Boiler not in operation or not ready for operation	Check boiler is working properly
488	Sensor Flow FWS Short Circuit	Fresh-water station flow sensor short-circuited	Check FWS flow sensor and replace it if necessary

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
489	Sensor Flow FWS Interruption	Cable break in line to fresh-water station flow sensor; fresh-water station sensor not connected	Check FWS flow sensor and replace it if necessary
490	FWS 1 Temperature Sensor Interruption	Cable break in line to fresh-water station 1 temperature sensor; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
492	FWS 1 Temperature Sensor Short Circuit	FWS 1 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
493	FWS 2 Temperature Sensor Interruption	Cable break in line to fresh-water station 2 temperature sensor; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
494	FWS 2 Temperature Sensor Short Circuit	FWS 2 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
495	FWS 3 Temperature Sensor Interruption	Cable break in line to fresh-water station 1 temperature sensor; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
496	FWS 3 Temperature Sensor Short Circuit	FWS 3 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
497	FWS 4 Temperature Sensor Interruption	Cable break in line to fresh-water station 1 temperature sensor; fresh-water station sensor not connected	Check FWS temperature sensor and replace it if necessary
498	FWS 4 Temperature Sensor Short Circuit	FWS 4 temperature sensor short-circuited	Check temperature sensor and replace it if necessary
500	Stoker auger locked, empty rotary valve / stoker channel	Gagger in the auger channel or auger blockage (Error No. 2 - Occurred 3-times within a time limit)	Control blocks the boiler for 15 min.; remove debris, free auger in manual mode (No.4); If the error (No. 2) occurs again - within 2 minutes - the boiler is blocked permanently (Error No. 501)
501	Stoker auger locked, empty rotary valve / stoker channel; call service department	Gagger in the auger channel or auger blockage (Error No. 500 occurred, rectified and again error No. 2 - within 2 minutes)	The control unit has blocked the boiler permanently; remove any foreign bodies and contact the service department;
502	Overcurrent ash auger system (**AFS**)	Gagger in the extraction channel or auger blockage	Remove debris, use parameter No. 2a in "Manual" mode and drive auger forward or backward, (Check motor current on display); call electrician or service department and change control board;
503	Ash auger system (**AFS**) thermal protection	Overload of motor through debris or electronic motor protection set incorrectly	
504	Ash auger system motor not connected or fuse three-phase AC module defective	Motor cable supply or fuse F1 ,F2 or F3 on three-phase module defective	Check the fuses and replace them if necessary; check the motor cable; connect the motor displayed as defective to another slot on the main board; if the same error occurs, replace the DRM board; if another error occurs (depending on the slot on the main board), change the motor or the supply line; contact the service department;
505	Ash suction in customer level deactivated	Ash suction has been deactivated during suctioning	After error rectification, which has led to the manual switch-off, reset parameter **No. 18 Ash suction** to activated.
535	Interruption water pressure sensor	Sensor not connected or connection interrupted	Connect sensor; check cable and contacts; replace sensor or board;
536	Short circuit water pressure sensor	Short circuit in the sensor or in supply line	Have the cable and/or sensor checked by an electrician;
537	Water-Pressure under level	Water pressure is below the set minimum; heating system is leaking; heating system not bled correctly	Check heating system for leaks; bleed heating system correctly and top it up; call installer;
538	Water-Pressure above level	Water pressure has exceeded max. water pressure level; pressure too high during filling; water filling level exceeded; expansion vessel defective	Check filling device; drain water; check expansion vessel;
540	IO-X10-104 Control Board 0 not connected	No connection to IO-X10-104 extension control board 0	Set the control board address switch to "0"; check connection and bus wiring; replace control board;
541	Sensor board 1 not connected	No connection to IO-X10-104 extension control board 1	Set the control board address switch to "1"; check connection and bus wiring; replace control board;
542	IO-X10-104 Control Board 2 not connected	No connection to IO-X10-104 extension control board 2	Set the control board address switch to "2"; check connection and bus wiring; replace control board;
543	IO-X10-104 Control Board 3 not connected	No connection to IO-X10-104 extension control board 3	Set the control board address switch to "3"; check connection and bus wiring; replace control board;
544	IO-X10-104 Control Board 4 not connected	No connection to IO-X10-104 extension control board 4	Set the control board address switch to "4"; check connection and bus wiring; replace control board;
545	IO-X10-104 Control Board 5 not connected	No connection to IO-X10-104 extension control board 5	Set the control board address switch to "5"; check connection and bus wiring; replace control board;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
546	IO-X10-104 Control Board 6 not connected	No connection to IO-X10-104 extension control board 6	Set the control board address switch to "6"; check connection and bus wiring; replace control board;
547	IO-X10-104 Control Board 7 not connected	No connection to IO-X10-104 extension control board 7	Set the control board address switch to "7"; check connection and bus wiring; replace control board;
550	Sensor Air Temp Short Circuit	Short circuit in the sensor or in supply line	Have the cable and/or sensor checked by an electrician;
551	Sensor Air Temp Interruption	Sensor not connected or connection interrupted	Connect sensor; check cable and terminal points, check sensor and replace it if necessary
552	Sensor Exhaust Short Circuit	Short circuit in the sensor or in supply line	Have the cable and/or sensor checked by an electrician;
553	Sensor Exhaust Air Interruption	Sensor not connected or connection interrupted	Connect sensor; check cable and terminal points, check sensor and replace it if necessary
560	Fan failure	External error (fan failure)	Restart the boiler; if the same error occurs, contact the service department
600	I/O eCleaner 0 not connected	No connection to driver board; driver board defective	Check the BUS cable connection; set the address selection switch to 0; replace the defective driver board
610	eCleaner emergency stop activated	Safety switch contact opened	Check the top casing is fitted securely; check the safety switch for defects
611	Check eCleaner. High voltage not reached	During combustion: the high-voltage increase is too small During the manual-mode **test**: the residual temperature of the flue gas is too high	During combustion: contact the customer service team. During the manual-mode **test**: allow the boiler to cool down
612	Check high-voltage line and electrode	Connection from the high-voltage cascade to the electrode interrupted	Check the connection of the high-voltage cable to the high-voltage cascade and the electrode.
613	eCleaner board over temperature	Maximum board temperature exceeded; board is dirty or is no longer cooling down	Temporarily open the control cabinet cover to cool down the board (ambient temperature up to 40 °C); remove dust from the board; call the service department
615	eCleaner adapter overcurrent	High-voltage cable defective; electrode bent - earth fault	Check the cable and replace it if necessary; check the electrode
616	eCleaner adapter not connected / defective	Adapter or driver board defective	Replace the adapter or driver board.
617	Clean eCleaner	Too many flashovers in a short space of time	Clean the particle filter.
618	Early flashover: clean eCleaner and/or check electrode	Particle filter dirty; electrode bent	Clean the particle filter; check the electrode
902	Fault memory initialised	No problem; this is for documentation purposes only	No action required; if this message appears frequently, contact the electrician (lots of power failures, poor terminal points in the mains power supply; check the connections between the control unit and the board, as well as all the cable connections);
903	Restart (Power ON)		
910	Writing to the dongle failed	Data can no longer be written to the microSD card - defective	Replace the microSD card.
5210	Stoker auger - Hardware-check failed	Stoker auger neutral line not connected	Connect neutral line to motor star point or at the control board (implicitly use 5-pole cable!); change the plug of the as defective shown motor (on the control board) with another motor plug, if another error occurs, replace the motor or the supply, if the same error occurs - call service department (temporary emergency operation possible, see "no hardware test" at the end of troubleshooting)
5220	Extraction system - Hardware-check failed	Fuel extraction system FE1 neutral line not connected	
5230	Ash auger - Hardware-check failed	Ash auger neutral line not connected	
5240	Hardware test connection auger failed	Connection auger Neutral line not connected	
5250	Hardware test agitator FE2 failed	Fuel extraction FE2 Neutral line not connected	
5260	Double rotary valve - hardware test failed	Double rotary valve Neutral line not connected	
5310	Stoker auger motor not connected or fuse F4, F5 or F6 defective	Motor cable supply or fuse F4,F5 or F6 defective	Check fuses and, if necessary, replace them (see labels) or check motor cable; replace the plug of the motor shown as defective with another plug; if another error occurs, the motor or the supply line must be replaced; if the same error occurs, the control board must be replaced; contact service department;
5320	Motor fuel extraction not connected or fuse F1, F2, F3 defective	Parameter **No. 19a Fuel extraction type** is set to "Equal emptying"; motor cable or fuse F1, F2 or F3 defective	
5321	Motor fuel extraction not connected or fuse F1, F2, F3 defective	Parameter **No. 19a Fuel extraction type** is set to "Only FE 1/2"; motor cable or fuse F1, F2 or F3 defective	

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
5330	Motor connection auger not connected or fuse F7, F8, F9 defective	Motor cable supply or fuse F7,F8 or F9 defective	Check fuses and, if necessary, replace them (see labels) or check motor cable; replace the plug of the motor shown as defective with another plug; if another error occurs, the motor or the supply line must be replaced; if the same error occurs, the control board must be replaced; contact service department;
5335	Motor connection auger 2 not connected or fuse F7, F8, F9 defective	Motor cable supply or fuse F7,F8 or F9 defective	
5340	Motor ash auger not connected or fuse F10, F11 or F12 defective.	Motor cable supply or fuse F10,F11 or F12 defective	
5350	Motor agitator FE2 not connected or fuse F7,F8,F9 defective	If parameter **No. 19a Room extraction type** is set to "equal emptying"; motor cable or fuse F7, F8 or F9 defective	
5351	Motor agitator FE2 not connected or fuse F7,F8,F9 defective	"Only FE 1/2" when setting parameter **No. 19a Room extraction type**; motor cable or fuse F7, F8 or F9 defective	
5360	Motor double rotary valve not connected, or fuse F7,F8,F9 defective	Motor cable supply or fuse F7,F8 or F9 defective	Check fuses and, if necessary, replace them (see labels) or check motor cable; replace the plug of the motor shown as defective with another plug; if another error occurs, the motor or the supply line must be replaced; if the same error occurs, the control board must be replaced; contact service department;
5410	Exhaust fan not connected (on pulse package control only)	Cables, plugs or exhaust fan defective	Connect exhaust fan correctly (113/PE/N); Check plug for proper fit; call service department (temporary emergency operation possible, see "no hardware test" at the end of troubleshooting);
5420	Ignition heaters not connected	Cables, plugs or ignition defective	Connect ignitions correctly (Main board 118/PE/N/119); Check plug for proper fit; call service department;
5430	Inlet grate not connected	Cables, plugs or grate motor defective	Connect grate motor correctly; check plugs for proper fit; check cables and terminal points; call service department;
5440	Ash grate not connected	Cables, plugs or grate motor defective	
5630 - 5634	Fuses F15 - F 18 defective	Fuse defective	check fuses and replace if needed (see stickers)
6100	Supply phase sequence incorrectly RESTART REQUIRED	The phases L1, L2 and L3 are in the wrong order	Call electrician and connect phase sequence correctly; then check correct rotation of stoker, extraction and ash auger(s) in manual mode!
6200	Supply phase sequence incorrectly RESTART REQUIRED	Low voltage or failure L2/L3 Fuse in meter box defective.	Have the supply line and fuse checked by an electrician; contact the service department; replace the board;
6301	STB triggered or not connected	After restart of the control, hardware test was not performed; sensor or switch not connected;	Restart required; see No.001
6313	Ash box not positioned		Restart required; see No.313
6316	FE-cover open		Restart required; see No.316
6318	Connection auger - lid open		Restart required; see No.318
6320	FE2-lid open		Restart required; see No.320
6328	Emergency-Stop triggered		Restart required; see No.328
6329	External error	External device is reporting an error to the control unit (terminal no. 72/73);	Check external device
6330	External notice	External device is sending a notice to the control unit (terminal no. 66/67);	Check external device;
6331	Safety switch storage room open	Hardware test not successful	Restart required; release the safety switch;
7003	ECO extension board defective or not connected	No connection to extension control board or board defective	Check BUS-wiring and power supply; replace board; call service department
7005	Rotary grate shaft sensor - stoker grate 1 not available	Line interruption, sensor not connected or defective	Connect the sensor; have the plugs and wiring checked by an electrician; replace the sensor or board; contact the service department;
7006	Turnable Crate Sensor Ash-Crate not available	Line interruption, sensor not connected or defective	Connect the sensor; have the plugs and wiring checked by an electrician; replace the sensor or board; contact the service department;
7008	Rotary grate shaft sensor stoker grate 1 short circuit	Short circuit in rotary grate shaft sensor - stoker grate 1	Check sensor and replace it if necessary
7009	Rotary grate shaft sensor ash grate short circuit	Short circuit in rotary grate shaft sensor - ash grate 1	Check sensor and replace it if necessary
7010	Board agitator over current	Motor blocked or debris;	Remove debris, check electronic motor protection; call electrician or service department;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
7011	Agitator motor not connected or fuse 3-phase module defective	Motor cable supply or fuse F1 ,F2 or F3 on three-phase module defective	Check the fuses and replace them if necessary; check the motor cable; connect the motor displayed as defective to another slot on the main board; if the same error occurs, replace the DRM board; if another error occurs (depending on the slot on the main board), change the motor or the supply line; contact the service department;
7012	DRM agitator board CAN 0 not connected	No connection to DRM board	Set the board address switch to "0"; check mains connection and bus wiring; replace DRM board;
7013	DRM agitator board CAN 0 supply phase sequence wrong or neutral line defective	Phases L1, L2 and L3 are in the wrong order;	Call an electrician; put phase sequence in the right order, then make sure you check the motor's direction of rotation in manual mode;
7014	Failure Control External Demand	External device is reporting an error to the control unit (terminal no. 72/73);	Check external device;
7015	Thermal protection agitator	Motor overloaded due to a foreign body or the electronic motor protection being set incorrectly;	Remove debris; check electronic motor protection; call electrician or service department;
7020	DRM AHF board CAN 2 not connected	No connection to DRM board	Set the board selector switch to **2**; check the bus wiring and mains connection; replace the DRM board;
7021	DRM AHF board CAN 2 power supply phase sequence wrong or neutral line defective	Phases L1, L2 and L3 are in the wrong order;	Call an electrician; put the phase sequence in the right order; make sure you check the motor's direction of rotation in manual mode.
7022	Firmware update DRM CAN 2 required! V1.0.0 or higher required	An application that is controlled via the DRM board requires an update.	Perform firmware update
7030 - 7037	Check correct function of HC A - B mixers and pumps, or heat circuit blocked off	The heat circuit's preset temperature has not been reached for more than 60 min;	Check mixers and pumps are working correctly in manual mode; "open" manually blocked off heat circuits; call installer or service department;
7040 - 7047	Check HC A and B mixers are working correctly, or heat circuit blocked off	HC set temperature is constantly exceeded over a period of 60 min;	Check mixers are working correctly in manual mode; "open" manually blocked off heat circuits; call installer or service department;
7050 - 7057	HC A - B over temperature - check mixers and sensors	Maximum HC flow temperature exceeded;	Switch off the HC pump until the flow temperature drops below the maximum; check the mixers and sensors are working correctly; contact the installer or service department;
7060	Board distribution box overcurrent	Bulky object in distribution box or distribution box blockage	Remove debris, empty distribution box in manual mode and check electronic motor protection; call an electrician or the department.
7061	Motor distribution box not connected or fuse DRM CAN 1 defective	Motor cable supply or fuses on three-phase current board defective	Check the fuses and replace them if necessary; check the motor cable; connect the motor displayed as defective to another slot on the main board; if the same error occurs, replace the DRM board; if another error occurs (depending on the slot on the main board), change the motor or the supply line; contact the service department;
7062	DRM board for distribution box CAN 1 not connected	no connection to DRM-board	Check the board's bus wiring and mains connection; replace control board.
7063	DRM board for distribution box CAN 1, power supply phase sequence wrong or neutral line defective	phases L1/L2/L3 are interchanged	Call an electrician; put phase sequence in the right order and then make sure you check the distribution box's direction of rotation in manual mode!
7065	Thermal protection distribution box	Motor overloaded due to a foreign body or the electronic motor protection being set incorrectly	Remove the foreign body and free the distribution box by moving it forwards or backwards in manual mode; check the electronic motor protection; contact an electrician or the service department and replace the board;
7066	No material in distribution box; check transport	Not enough extraction output to the distribution box	Check extraction to the distribution box; remove any blockages and rectify any malfunctions or drive faults
7067	Failure Control External Demand	Motor circuit breaker or safety functions were connected to the terminals and have tripped	Reactivate motor circuit breaker; establish emergency operation cable jumper at terminal 304/305
7068	Check sensor distribution box	Sensor dirty or malfunctioning	Clean or replace sensor; call service department.
7100 - 7104	Max. HWT loading time exceeded, HWT loading slow! Check sensor position; check flow; contact a plumber.	HWT pump exceeds the maximum runtime set in parameter B9a, 19a, 29a, 39a or 49a. The sensor is not measuring the temperature or the pump flow is insufficient.	Call a plumber; check sensor position; check flow
7150	DRM-module CAN 6 not connected	No connection to DRM board	Check the bus wiring and mains connection; replace the board;

No.	Information message	Cause / Problem	Solution (press ENTER once the notice has been cleared)
7151	Vertical connection auger not connected or fuse DRM CAN 6 defective	Motor cable or fuse defective	Check the relevant fuse and, if necessary, replace it (see labels) or check the motor cable; replace the plug of the motor shown as defective with another motor plug. If another error occurs, replace the motor or the supply line; if the same error occurs, replace the board; contact the service department;
7152	Vertical motor connection auger 2 not connected or fuse DRM CAN 6 defective	Motor cable or fuse defective	
7153	Vertical connection auger overcurrent DRM CAN 6	Bulky object in the connection auger or auger blockage	Remove the foreign body and free the auger by moving it forwards or backwards in manual mode; check the electronic motor protection; contact an electrician or the service department;
7154	Firmware update DRM CAN 6 required	An application that is controlled via the DRM board requires an update.	Perform firmware update
7155	Three-phase current module CAN 6 supply phase sequence wrong or neutral line defective	The phases L1, L2 and L3 are in the wrong order	Call an electrician; put the phase sequence in the right order, then make sure you check the motors' and augers' direction of rotation in manual mode!
7156	Thermal protection vertical connection auger	Motor overloaded due to a foreign body or the electronic motor protection set incorrectly	Remove the foreign body and free the auger by moving it forwards or backwards in manual mode; replace any worn auger flighting; check the electronic motor protection; contact an electrician or the service department; replace the board;
7157	Position switch vertical connection auger cover open (warning)	Lid of the connection auger not completely closed, cable defective or material jam in the auger;	Heating mode will continue; the control unit will try four times to empty the auger; if this is not possible, error 7158 will be displayed
7158	Safety switch vertical connection auger cover open	Connection extraction auger cover open or switch not connected	The stop screw has been removed and the cover opened; the safety switch is connected (the switch position is displayed in the info window); have the safety switch, cables, terminal points and plugs checked by an electrician;
9000 / 9001	Firmware I/O board	The control unit has detected old firmware for the main board following a software update	Update of firmware through service department;
9005	Wrong sensor signal at rotary grate	Sensor dirty or malfunctioning	Clean or replace sensor; call service department.
9998	Please check all the set motor currents	Issued after a software update	Check the motor currents to the motors for which parameters have been set (FE, ST, ...).
9999	Check boiler type	Preset boiler type does not correspond with ID card;	Check boiler type setting; call service department

4.1 Temporary emergency operation (Restart without HW-test)

If the error is clearly a result of a defective main board, i.e. the connected component functions correctly, control can be run in **temporary emergency operation** (until the service department arrives) without a hardware test of the component in question.

- ❒ Ignore the hardware test as soon as the error message appears or
- ❒ Switch to **Manual** operating mode on the control panel
- ❒ Switch to the respective manual parameter
- ❒ Confirm **Without HW test**
- ☞ Boiler operates with max. 60% heating output

Appendix

	N O T E
	**Please be advised that we are not responsible for damages or malfunctions resulting from non-observance of the manual.**

1 Copyright notice

This manual should be kept confidential. The manual is intended solely to be used by authorised persons.
The transfer to third parties is prohibited and is liable to compensation. All rights reserved, also translations.
No part of this manual may be reproduced or processed using electronic systems, duplicated or distributed without permission of Hargassner Ges mbH.

1.1 Special measures prior commissioning through the operator

Licensing requirements for safe operation and accident prevention regulations must be observed!
Work on hydraulic systems must be carried out only by personnel with specialised knowledge and experience in hydraulics.

1.2 Liability

The **wood biomass boiler** is built and tested in accordance with the latest state of the art and recognised safety regulations and is therefore safe to operate. However, improper use may cause lethal hazards for the operator or third parties or may damage the unit and other property.

The **wood biomass boiler** must only be used in a technically perfect condition and in accordance with its intended use with safety and danger in mind. Especially errors tending to affect the safety shall be cleared immediately.

Liability for the function of the **wood biomass boiler** shall be borne by the owner or user insofar as the device has been used by Hargassner Ges mbH without the necessary knowledge, has been improperly used, serviced or repaired or has been handled in a manner that does not conform to proper use.
In the interest of the continuous development and improvement of our products, we reserve all rights to make technical changes to the information contained in our printed material.
These kinds of changes, errors and misprints do not constitute grounds for any claims for damages.
Only original Hargassner spare parts and accessories must be used.
In addition to the guidelines in this operation manual, please follow general guidelines for safety and accident prevention. The manufacturer, Hargassner Ges mbH , shall not be liable for direct or consequential damage resulting from failure to observe the technical instructions, guidelines and recommendations. The vast experience of **Hargassner Ges mbH**, latest production technology and highest quality standards guarantee the reliability of this boiler system. **Hargassner Ges mbH** is **not** liable for the safe function of the **wood biomass boiler**in case it is **not** handled or used according to its intended use.

The customer has NO warranty claims:

- if heating fuel is missing wrong or of poor quality
- if damages occur through incorrect assembly, misuse or lack of maintenance
- if the installation manual and operation manual is NOT observed
- for defects that do not affect the performance of the system. E.g.: Paint defects,....
- for damages arising from force majeure like fire, flooding, lightning stroke, electrical surge, power loss, ...
- if a non-licensed installer or non-licensed plumber installs the product
- for damage caused by air pollution, heavy dust, aggressive vapours, oxygen corrosion (non diffusion-tight plastic tubing), installation in inappropriate rooms (laundry room, hobby room, ...) or continued use despite the occurrence of a defect

For the correct reparation, maintenance and service, or any other error not mentioned in this manual, **Hargassner Ges mbH** has to be contacted prior any works on the plant.
Warranty and liability of the general terms and conditions of **Hargassner Ges mbH** are not to be extended because of hints pointed out in this manual.
The **safety instructions** in this manual must be observed. Only use Hargassner spare parts or equivalent spare parts that have been approved by **Hargassner Ges mbH**. Constant technical innovations mean that we reserve the right to modify the design of our products and services without notice.
If you have any queries, please be sure to quote the **serial number** of the **wood biomass boiler**.

We hope you will be satisfied with your **wood biomass boiler** from Hargassner.

Declaration of Conformity

HARGASSNER
HEIZTECHNIK DER ZUKUNFT

Manufacturer:	**HARGASSNER Ges mbH** **Anton Hargassner Strasse 1** **A - 4952 Weng** **AUSTRIA** The manufacturer is also the party authorised to put together the accompanying technical documents.
Type of machine:	**Boiler for solid fuels with automatic loading**
Type:	**WOOD CHIP BOILERS** **Eco-HK 20-60** **Also available with a fuel extraction system** ECO-RA, RAC
Standard:	**from 03.06.2013**
The manufacturer hereby declares that the products mentioned above comply with the regulations laid down in the following European directives: Directives:	• Machinery Directive 2006/42/EC • Low Voltage Directive 2014/35/EU • EMC Directive 2014/30/EU • Ecodesign Directive (EU) 2015/1189
Conformity with the guidelines is verified through the manufacturer's compliance with the relevant requirements, which are laid down in the following standards among other places: Standards:	• EN 303-5:2012 Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW • EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction • ÖNORM EN 12828:2014 Heating systems in buildings - Design for water-based heating systems
Place, date:	Weng, 18.04.2016
Name: Signature: Function:	Dr Johann Gruber ..... Head of Development

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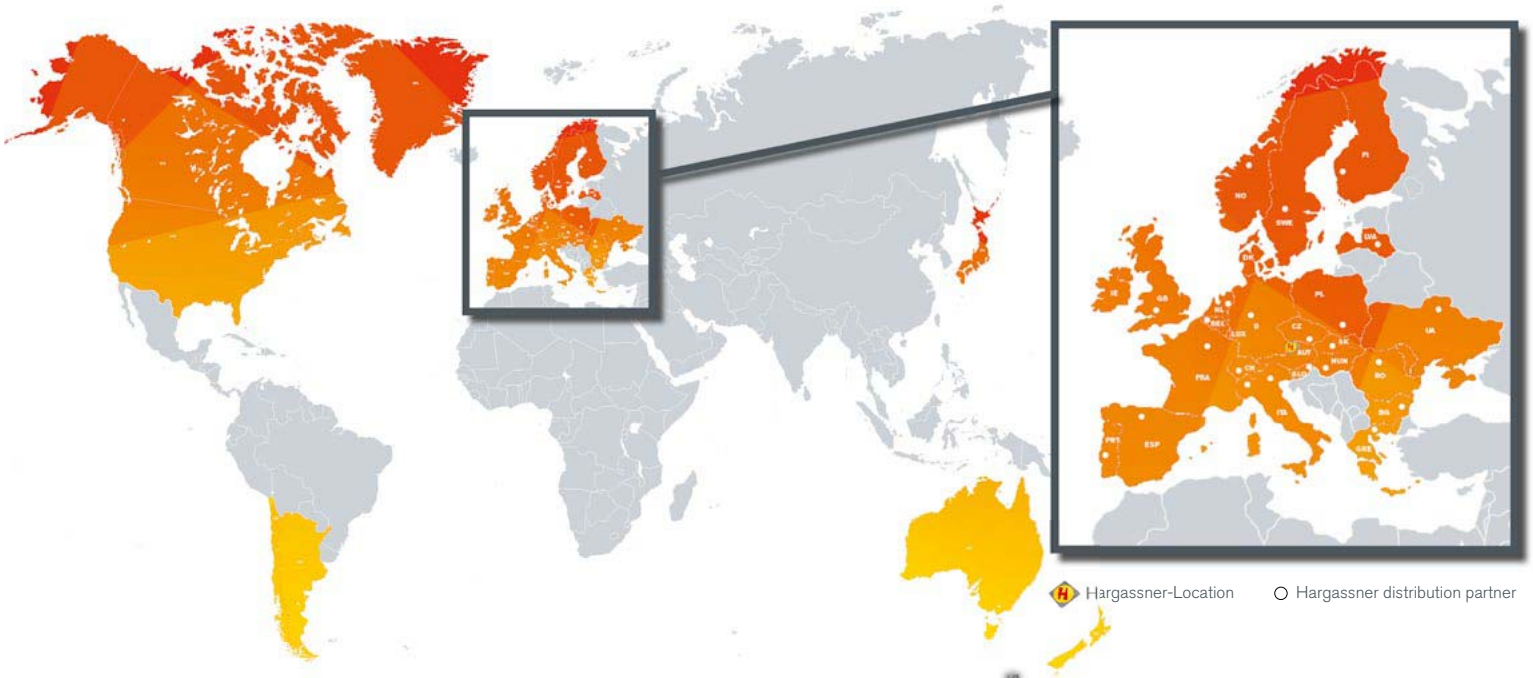
Your expert for **PELLET-** | **WOOD LOG-** | **WOOD CHIP-**HEATING



hargassner.com

AUSTRIA
HARGASSNER Ges mbH
Anton Hargassner Strasse 1
A-4952 Weng
Tel. +43 (0) 77 23 / 52 74
Fax +43 (0) 77 23 / 52 74 - 5
office@hargassner.at

GERMANY
HARGASSNER DE GmbH
Heraklithstraße 10a
D-84359 Simbach/Inn
Tel. +43 (0) 77 23 / 52 74
Fax +43 (0) 77 23 / 52 74 - 5