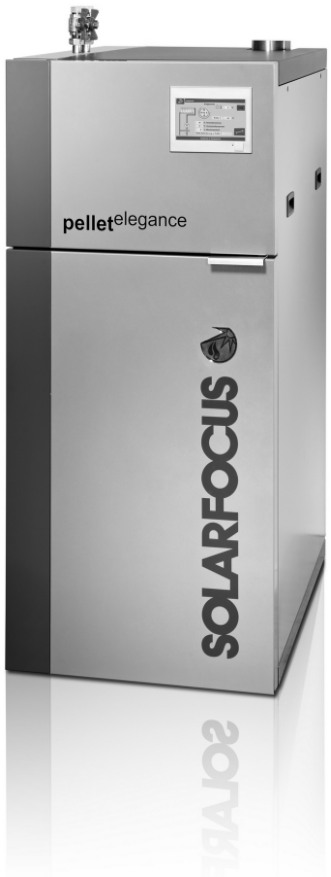
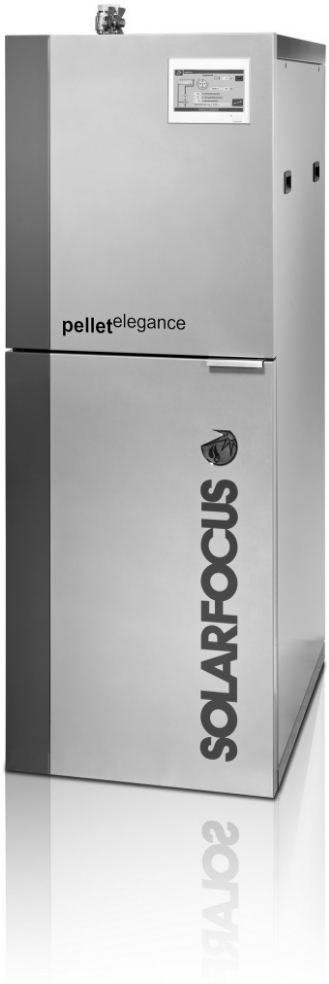
pellet^elegance 10/15



pellet^elegance 20/24



Pellet boiler **pellet**elegance

Operation manual for the system operator

Read carefully before operating.

DR-0030-EN / v28-202109

Content

1 About this manual

Dear customer,

To ensure reliable and efficient operation of your boiler, the following points are extremely important:

- Professional planning and installation of the heating system.
- Training of customers in starting up the heating boiler.
- Regular maintenance by the operator.
- Regular maintenance by qualified personnel.
- Compliance with the specifications and information in this manual.

Software version for control

The manual describes the software version 19.040 of the **eco**manager-*touch* control; *Main screen of the control* > 13

Language

The language of the original manual is German. Versions of this manual in all other languages are translations of the original.

Storage

Keep the manual for the entire service life of the product and ready to hand. The manual must be passed on to the new owner when the product is dismantled/reused. If the manual is lost or destroyed, request a new copy from the manufacturer.

Instructions and warnings

The instructions used in this manual are highlighted with symbols and signal words. The signal word indicates the level and nature of the danger.

ⓘ Indicates information for correct handling of the product.

! **ATTENTION** - Failure to comply with this instruction could result in damage to property.

⚠ **DANGER** - Failure to comply with this instruction poses a danger to people.

Manufacturer

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- Email: service@solarfocus.at

2 Safety information

Qualification of personnel

- The work procedures described in this manual must only be carried out by qualified specialist personnel.
- Work on electrical components must only be performed by trained electricians and in accordance with the relevant rules and directives.

Installation and commissioning

- System may only be installed and put into operation by certified qualified personnel (SOLARFOCUS service technician or SOLARFOCUS service partner.

Keep unauthorized persons and children away

- Danger of burns due to hot lines and hot components, risk of injury from mechanically moving parts. Keep unauthorised persons away, do not leave children unattended, and control access to the boiler room and fuel storage room.

Safety devices

- Never disengage the safety equipment of the heating system under any circumstances. In case of failure, arrange for immediate repair.

Maintenance and repair

- Perform maintenance activities at the specified intervals. No or incorrect maintenance leads to inefficient operation, higher failure risk of the boiler and increased potential for hazards.

  Recommendation: Conclude maintenance contract
- Have repairs done by qualified personnel only. Improper repairs can lead to risks for the user and impaired operation.
- Store hot ashes only in metal containers. Never put hot or warm ash in the dustbin. This poses a huge fire risk.
- For repairs use only original spare parts or parts approved by the manufacturer (e.g. standard parts).

Damage to the system

- If the electrical insulation (cables, plugs, switches) becomes damaged, switch off the power supply and have the insulation repaired.
- In the case of visible damage (e.g. thermal deformation, mechanical damage) the operation of the system must not be continued. The system may only be operated if it is in perfect technical condition.

3 Warranty, guarantee, liability

Warrantyclaims are valid as part of a boiler maintenance agreement.

3.1 Technical requirements for warranty and guarantee claims

The following technical requirements must be observed as a precondition for a warranty and guarantee claim.

Further information on the individual points can be found in the boiler's installation manual.

Regular maintenance and cleaning

- The boiler and the heating system components must be maintained and checked regularly.
- This is the prerequisite
  - for permanently reliable functioning of the boiler,
  - for energy-saving and environmentally friendly operation of the boiler,
  - for a long boiler service life.
- Option/recommendation: Conclude maintenance contract.
- *Documentation* is crucial: When maintenance is performed by qualified personnel, the activities carried out/measures taken are documented in the maintenance log. It is advisable to keep a system book, especially when foregoing maintenance by qualified personnel (for documenting/as proof of one's own activities).

Fuel

- The fuel used must meet the specifications.
- Non-approved fuel may lead to inefficient combustion and cause damage to the boiler.

Specifications for the heating system's fill-up/-make-up water

- **Check pH value: this must be in the range of 8.2 to 9.5**
- Avoiding scale buildup (=limescale on heat exchanger surfaces):
  - Take the water hardness into account
  - Soften the fill-up water, or better: desalinate it.
- Avoiding water-side corrosion (is triggered by the oxygen in the water):
  - Correct system planning, correct dimensioning, take material combinations into account.
  - Repair leaks immediately.
  - Expansion tank (prevents air suction when the system cools down): Correctly set the pressure, check it regularly.
  - Existing underfloor heating: Take care with old, diffusion-open plastic pipes (separate the system).

Return temperature in the boiler

- A temperature below the dew point (leads to corrosion in the boiler) must be prevented by a sufficiently high return temperature in the boiler.
- In the case of the **pellet** elegance, this is ensured by the return flow boosting which is integrated as standard.

Supply air to the heating boiler

- The supply air in the boiler must not contain any aggressive substances. These substances can cause corrosion in the boiler and chimney.
- Aggressive substances are, for example, chlorine or fluorine compounds (used in cleaning agents, solvents, adhesives, etc.).

3.2 Conditions for claims

For warranty and guarantee claims observe the following points:

- The warranty begins at the time at the time of handover (delivery note, commissioning log).
- The warranty period is calculated from the date of initial commissioning (according to the control's operating hour counter).
- The warranty periods are based on the relevant regulations.
- We must be notified promptly and accurately of any damage incurred, so that the cause can be clarified.
- If the system has defects despite correct installation (in compliance with the technical documentation), we grant a warranty provided that the system has been examined by the plant customer service (commissioning log).
- The guarantee applies to technical, construction-related faults and faults in the manufacture of the system that prevent correct and problem-free usage.
- We are not liable for parts that were not produced by SOLARFOCUS. However, we are prepared to transfer our existing claims against the producer (relating to this defect) to the buyer.

- In fulfilling the warranty/guarantee services, we shall cover only the assembly time and the materials used, but not any travel or accommodation costs necessary for the fitters/engineers or any return transport costs.
- SOLARFOCUS GmbH assumes no liability for any consequential costs of damages.
- The repair and/or warranty replacement shall be carried out on site or in the SOLARFOCUS factory at our discretion.
- The company SOLARFOCUSwill determine whether such work requires a repair or whether the parts are to be replaced free of charge.

3.3 Claims rendered void

The warranty and guarantee claims are rendered void if one of the following points applies:

- Non-compliance with the technical requirements > 4
- Damage during transport.
- Wilful damage.
- Damage due to force majeure (water, fire, etc.).
- Non-observance of information in the planning, installation and operation manual.
- Insufficient energy or water, fault in the hydraulics.
- Incorrect operation, failure to perform maintenance and cleaning as prescribed.
- Commissioning and maintenance carried out by non-certified companies.
- Undocumented commissioning (no commissioning log) and/or maintenance (maintenance log).
- It is almost impossible to produce flawless painted parts; for this reason, slight defects that do not adversely affect proper use shall not be deemed as grounds for complaint.
- No claims can be accepted under the warranty if unauthorised intervention (or action that has not been explicitly approved by us the manufacturer) has been carried out. In addition, the goods must be paid for within the specified payment timeframe.

3.4 Limitation of liability

SOLARFOCUS GmbH assumes no liability for injury or material damage resulting from:

- Failure to observe the instructions in this manual.
- Use of the product for any purpose other than for its intended use.
- Deployment of unqualified personnel.
- Use of non-approved spare parts.
- Technical modification of the product by the system operator.

4 Product information

4.1 Proper use

- The heating boiler **pellet** elegance is intended for heating up water in closed heating systems.
- Only use fuel as specified in the next chapter *Fuel*.

4.2 Fuel

Pellets

Use wood pellets only in accordance with these specifications:

- Pellets according to the ISO 17225-2 standard, class A1.
- Pellets that meet the additional ENplus certification.
- Pellets that meet the additional DINplus certification.

4.3 Product description

- The **pellet** elegance is a boiler for the combustion (gasifier technology) of wood pellets.
- The boiler has an automatic fuel ignition system, automatic fuel supply and automatic heat exchanger cleaning.
- The ash produced is collected in an ash container, which must be emptied at regular intervals.

4.4 Spare parts

For repairs use only original spare parts or parts approved by the manufacturer (e.g. standard parts).

The manufacturer cannot accept any liability for damage caused by spare parts not authorised by the manufacturer.

4.5 Accessories

Lifting aid

– Optional accessories for carrying/moving the boiler.
– Item 6144

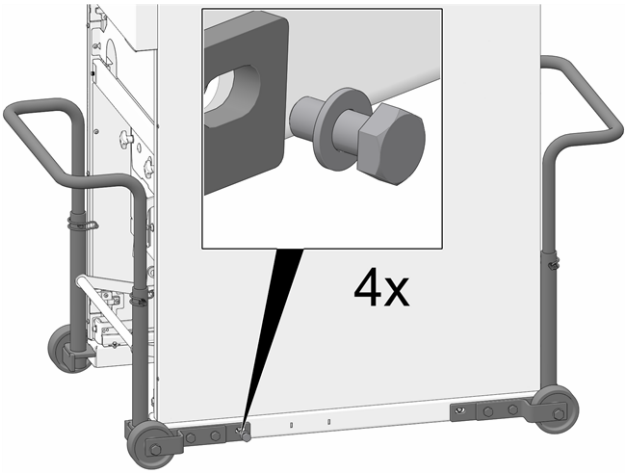


Abb. 2-1: Lifting aid mounted

Extension pack for operation as a room-sealed appliance (RS)

– Optional accessories for operation of the boiler as a room-sealed appliance.
– Item 67250
– Further information can be found in the boiler's installation manual.

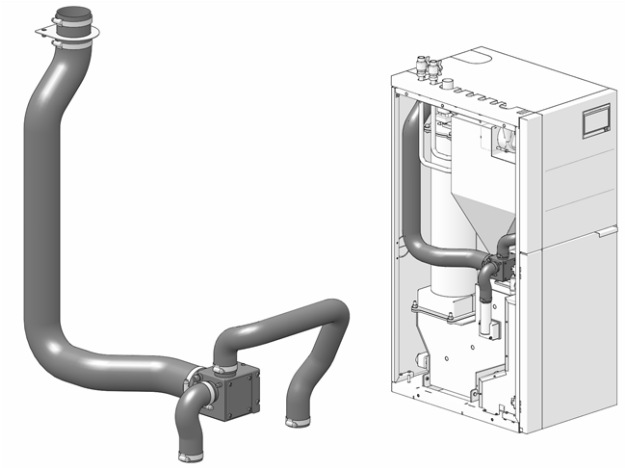
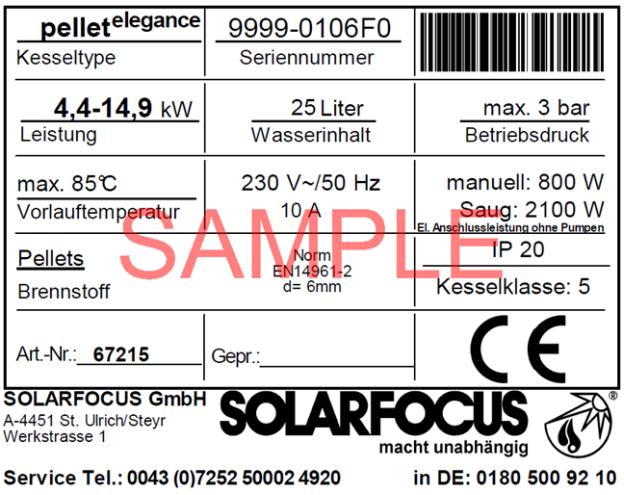


Abb. 2-2_RLU Erweiterung

Extension for flue gas pipe connection

– Optional accessories for extension of the connection to the top of the boiler.
– Further information can be found in the boiler's installation manual.

4.6 Type plate



4.7 CE declaration of conformity

The conformity of the product is declared by the manufacturer in accordance with the Machinery Directive 2006/42/EC; the documents are available for inspection at the manufacturer.

The product corresponds to Directive 2011/65/EU (RoHS 2) and does not use any materials containing asbestos. The product does not contain any PCB or mercury.

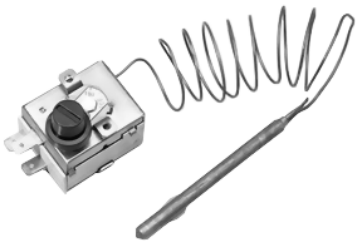
4.8 Safety devices

Heat dissipation

– This function of the boiler control is a safety device that prevents overheating of the boiler.
– Functioning: If the boiler temperature exceeds the *Heat dissipation maximum boiler temperature*[1] parameter, all pumps relating to the connected devices (e.g. heating circuit, DHW tank, buffer tank) will be switched on and the heating circuit mixing valve opened. In this way, energy is drained from the boiler and it may be possible to prevent other safety devices tripping.
– If the boiler temperature falls below the set *Heat dissipation maximum boiler temperature* minus 1°C again, the pumps and mixing valves will be operated in standard mode again.

[1] You can find the parameter in *Service menu* | *System parameters* button | *General settings* button.

Overtemperature reset (OTR)



- The overtemperature reset is a safety device that prevents overheating of the boiler.
- Functioning: The overtemperature reset stops the heating process at a boiler temperature ~95°C (exclusively electrical function; fuel and air supply are interrupted).
- After tripping, the overtemperature reset must be manually released again by unscrewing the black sealing cap *1* and pressing the button as soon as the boiler temperature falls below 60°C.
- If the overtemperature reset trips, this is indicated on the boiler control display.

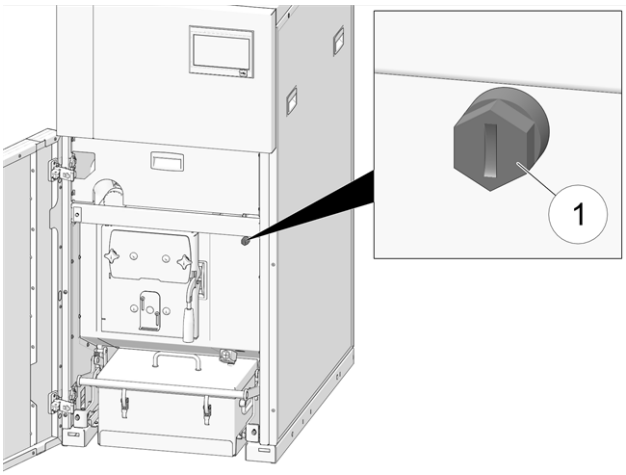


Abb. 2-3: Position of the overtemperature reset

Thermal overload protection

Thermal overload protection is only required for the **pellet** elegance 24.

- The thermal overload protection prevents an uncontrolled increase in temperature and pressure inside the boiler.
- Functioning: At a boiler temperature > 95°C, the valve opens and directs cold water through the safety heat exchanger (which is placed in the water jacket of the boiler). This lowers the boiler temperature.

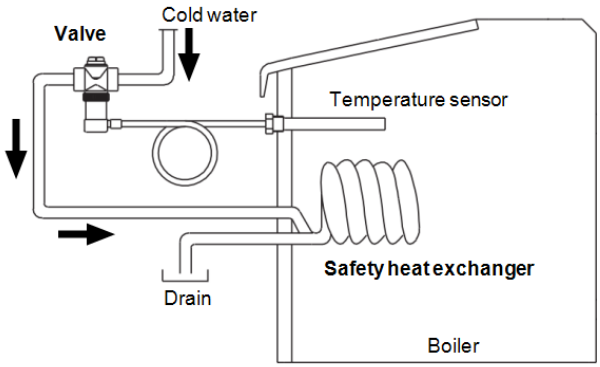


Abb. 2-4: Schematic diagram

Safety valve (to protect against excess pressure in the system)

- The safety valve *1* is a safety device for protecting against overpressure in the water circuit of the heating system.
- Functioning: The valve opens when the system pressure exceeds 3 bar. Water/steam are discharged into an open drain via a blow-off line, which avoids consequential damage to the heating system. The safety valve is closed during normal operation.
- For normative specification see EN 12828.

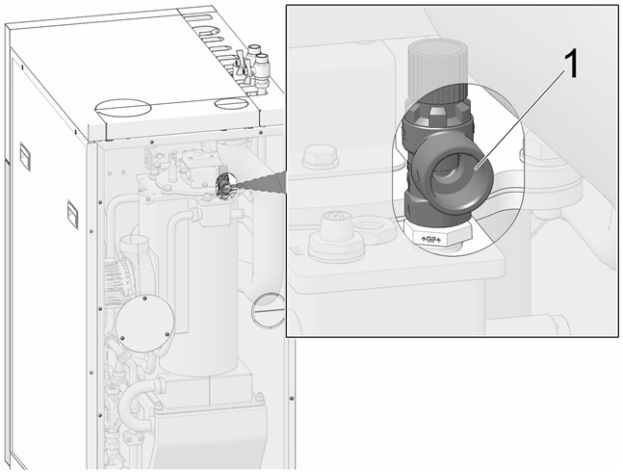


Abb. 2-5

Emergency OFF switch

- The emergency OFF switch is a manually operated safety device. The burner and the fuel supply to the boiler are stopped. Circulation pumps remain in operation to dissipate heat and cool the boiler.
- The switch must be installed outside the boiler room in a safe place that is easy to access.

4.9 Efficient and low-emission operation

Please note the following recommendations from the EU Energy Efficiency Directive:

Use of a buffer tank

As the most complete combustion of wood pellets is possible only when the boiler is in normal operation and as greater losses and higher emissions occur during the warm-up and burn-out phases, the use of a buffer tank is recommended.

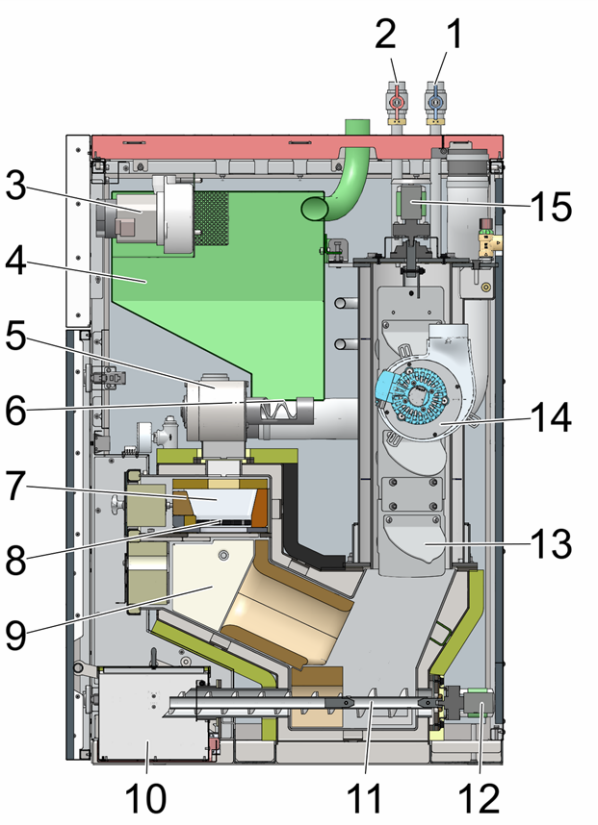
This tank stores the water heated by the boiler, allowing the connected devices (heating circuit, DHW tank, fresh water module, etc.) to access it as required. This ensures sufficiently long, uninterrupted combustion periods for the boiler.

Use of high-efficiency heating pumps

When using external heating pumps (existing heating circuit pumps, etc.), high-efficiency pumps with energy efficiency class A should preferably be used.

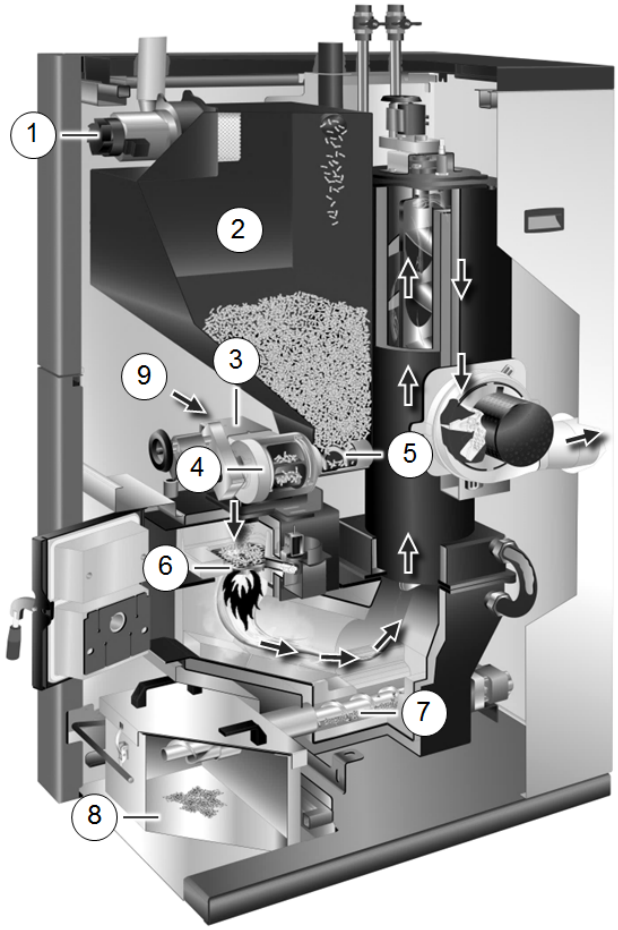
This delivers savings potential of up to 80% in drive energy (compared to conventional heating pumps) with identical feed results.

4.10 Functional components



1 Buffer tank return / DHW tank return
2 Buffer tank flow / DHW tank flow
3 Suction turbine for pellets
4 Intermediate pellet store
5 Rotary valve
6 Pellet auger
7 Filling chamber
8 Stainless steel combustion grate
9 Combustion chamber
10 Ash container
11 Ash extraction auger
12 Ash extraction auger motor
13 Heat exchanger turbulator
14 ID fan
15 Heat exchanger turbulator motor

4.11 Combustion principle



Fuel path

The pellets are sucked by the suction turbine *1* into the intermediate pellet store *2*. The pellet auger *5* and rotary valve *4* transport the pellets to the filling chamber, where they fall onto the stainless steel combustion grate *6*. The pellets are burned using downfiring combustion technology. The ash produced during combustion is transported by the ash extraction auger *7* to the ash container *8*.

Airflow

The air required for combustion is sucked through the primary air duct *3* into the filling chamber, downwards through the stainless steel combustion grate into the combustion chamber, on through the heat exchanger, and leaves the boiler via the ID fan into the flue gas pipe.

Additional air opening in event of power failure *9*.

(fehlender oder ungültiger Codeausschnitt)
(fehlender oder ungültiger Codeausschnitt)
(fehlender oder ungültiger Codeausschnitt)

4.12 Technical specifications

pellet elegance		**10**	**15**	**20**	**24**
Power range	[kW]	2.9 - 9.9	4.4 - 14.9	5.9 - 19.8	7.2 - 24
Energy efficiency class		A+			
Boiler class (acc. to EN 305:5 2012)		5			
Boiler efficiency - full load	[%]	93.80	93.90	94	94.40
Boiler efficiency - partial load	[%]	94	92.42	94.30	94.30
Dimensions					
Width	[cm]	60			
Depth	[cm]	90.5			
Height (H) - incl. adjustable feet, feet screwed in all the way - without hydraulic connections on the top of the boiler	[cm]	130		157	
Minimum room height	[cm]	180		185	
Weight					
Weight	[kg]	288		329	
Water side					
Water content	[l]	25		36	
Thermal overload protection	[”]	not required			External thread 1/2”
Drain	[”]	External thread 1/2”			
Max. permissible operating pressure	[bar]	3			
Electrical connection					
Connection, fuse		230 V AC, 50 Hz, C13 A			
Fuel					
Fuel		Wood pellets acc. to EN17225-2, ENplus-A1			
Capacity of intermediate pellet store	[l]	48		88	
Flue gas side					
Flue gas pipe diameter	[cm]	10		13	
Height to centre of flue gas pipe (D)	[cm]	70		72	
Centre of flue gas pipe - side (A)	[cm]	44		47	
Capacity of ash container	[l]	16.3		16.3	
Flue gas mass flow full load	[g/s]	5.5	8.4	10.5	12.5
Flue gas mass flow partial load	[g/s]	2.5	3	3.5	4.1
Maximum flue gas temperature [1] full load	[°C]	140			
Maximum flue gas temperature [1] partial load	[°C]	100			
Minimum draught requirement [2]	[Pa]	5			
Emissions according to test report					
Flue gas values (in relation to 13% O_2) from test report:testing institute/test report No.		TÜV Austria /14-UW-Wels-EX-425-1	TÜV Austria /14-U-023/ALN	TÜV Austria /14-UW-Wels-EX-425-2	TÜV Austria /14-UW-Wels-EX-425-3
CO full load	[mg/m³]	30	30	30	49
CO partial load	[mg/m³]	168	132	97	97
NOx full load	[mg/m³]	112	112	112	111
NOx partial load	[mg/m³]	111	108	105	105
Org. C full load	[mg/m³]	3	3	3	3
Org. C partial load	[mg/m³]	4	3	3	3
Dust content full load	[mg/m³]	11	13	13	12
Dust content partial load	[mg/m³]	12	13	14	14

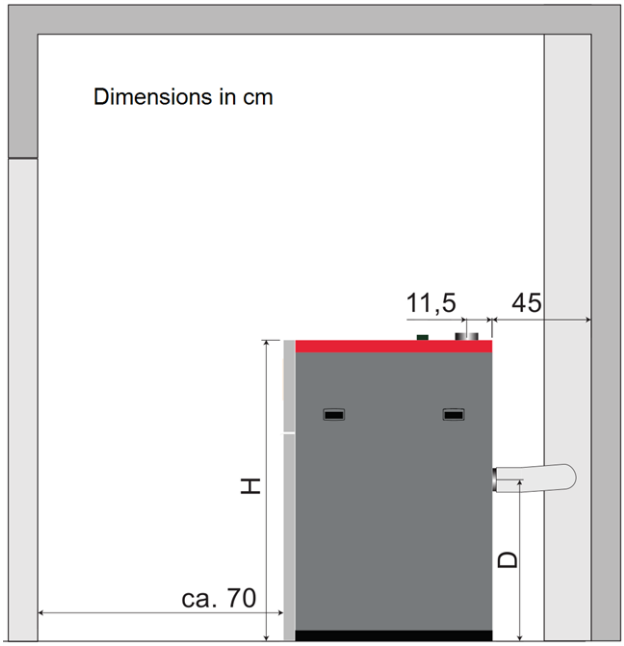
pellet elegance		**10**	**15**	**20**	**24**
Regulation (EU) 2015/1187					
Nominal heating output	[kW]	9.9	14.9	15.5	22
Heating boiler energy efficiency class		A+	A+	A+	A+
Energy efficiency class EEI of boiler and control combined		A+	A+	A+	A++
Energy efficiency index EEI of the heating boiler		114	119	121	122
Energy efficiency index EEI of the boiler and control combined		118	123	125	126
Space heating annual usage etaS	[%]	77	80	82	83
Annual emission values					
CO - carbon monoxide	[mg/m³]	93	103	112	116
NO_X - nitrogen oxide	[mg/m³]	140	143	146	145
C - Total (carbon)	[mg/m³]	4	4	3	3
Dust	[mg/m³]	19	19	20	20

[1] Flue gas temperature can be adjusted electronically

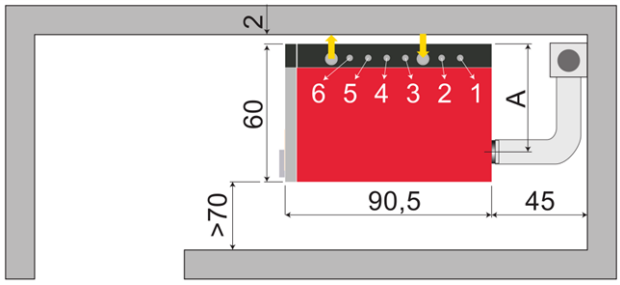
[2] A draught stabiliser must be fitted if the specified draught of 15 Pa is exceeded (Caution: In a boiler with room-sealed operation, use a room-sealed draught stabiliser)

You can find the technical specifications for the **pellet** elegance **with combustion grate** in the boiler's technical report (DR-0142).

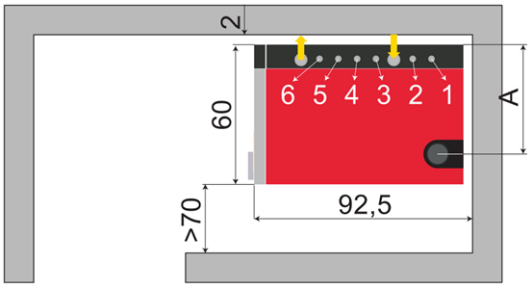
4.13 Dimensions and connections



Flue gas pipe connection aligned backwards



Flue gas pipe connection aligned upwards



1 Buffer tank return / DHW tank return
2 Buffer tank flow / DHW tank flow
↓ Pellet suction
3 Heating circuit 1 return
4 Heating circuit 1 flow
5 Heating circuit 2 return
6 Heating circuit 2 flow
↑ Pellet return air

All hydraulic connections external thread 1" flat sealing.

5 Use and operation

Touch display for operation

If the boiler is supplied with a mains power supply, the **eco**manager-*touch* boiler control starts. The control is started up to show the main screen.

Operate the touch display with your fingers, do not use any hard or pointed objects.

If no inputs are made for 5 minutes (factory setting), the display will switch to standby mode.

Tapping the display again restarts the display with the main screen.

Buffer battery in operating element

A replaceable buffer batter (CR2032) ensures that data (time, settings) are retained in the operating element when the power supply is switched off.

5.1 Main screen of the control

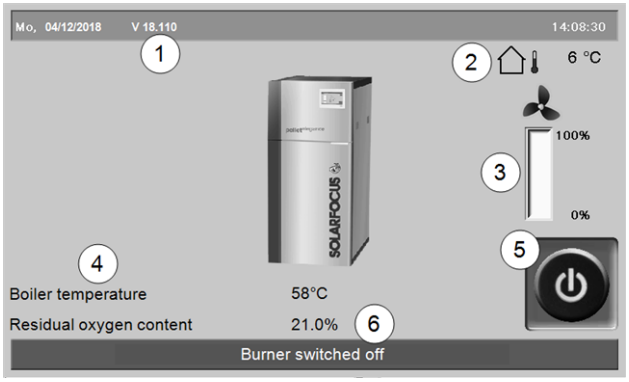
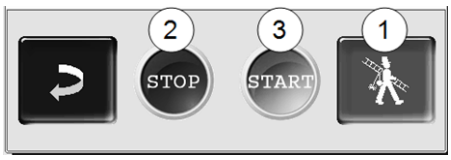


Abb. 2-6: Main screen

1 Software version for control
2 Outside temperature
3 Boiler output (rotational speed of ID fan)
4 Boiler temperature and residual oxygen content in flue gas
5 Boiler operating mode > 13
6 Status line

Tapping the main screen changes to the *Selection menu*> 13

5.2 Boiler operating mode



1 **Chimney sweep function**

This function is used to perform the emission measurements prescribed by law.

► Perform emissions measurement > 38

2 **STOP**

The burner is switched off. No connected devices heating requests are fulfilled.

ATTENTION - The burner must not start! Only the automatic start-up of the heating circuit pump is active to protect against frost.

3 **START**

After pressing the *START* button, the burner is ready for operation, and is able to fulfil heating requests from the connected devices. The burner goes into standby as soon as a heating request is fulfilled, or the time release > 14 is no longer available.

5.3 Selection menu

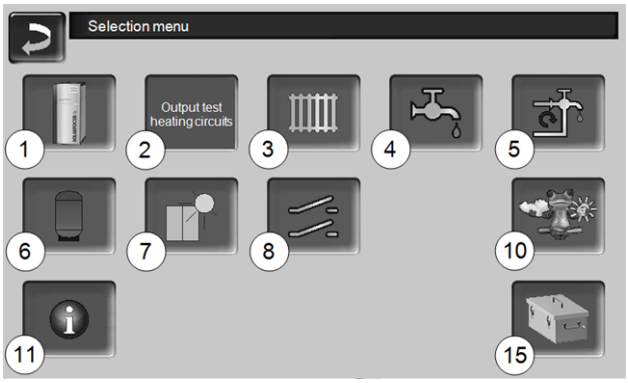


Abb. 2-7: Selection menu

1 Customer menu > 14
2 Output test heating circuit > 14
CAUTION, only to be undertaken by qualified personnel.
3 Heating circuit > 20
4 Domestic hot water heating > 23
5 Circulation control (optional) > 25
6 Buffer tank (optional) > 27
7 Solar system (optional) > 27
8 Temperature difference, charge control (optional) > 28
10 Weatherman function (optional) > 31
11 Information
15 Boiler cleaning > 33

5.3.1 Output test heating circuit

The available electrical outputs can be switched on/off directly using the button. Can be used to test the function of individual components.

> **!** **ATTENTION** - Only to be undertaken by qualified personnel.

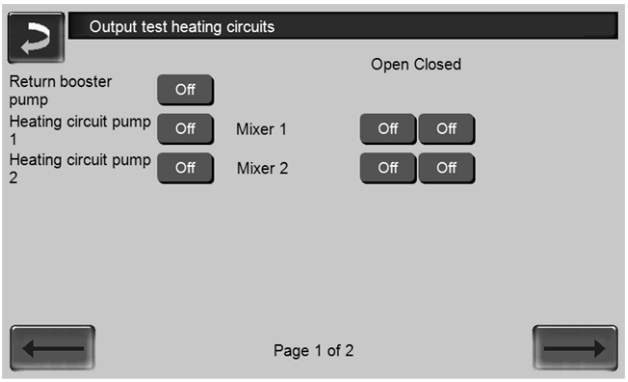


Abb. 2-8

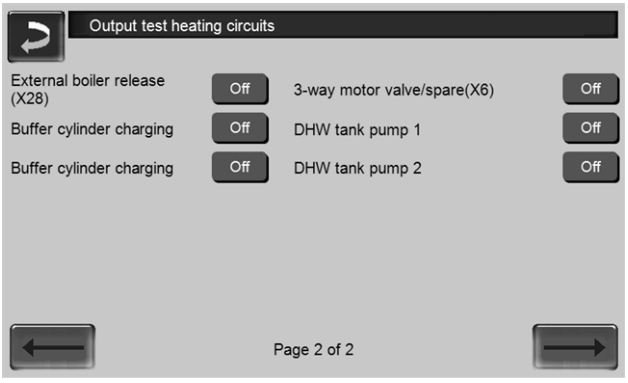


Abb. 2-9

5.4 Customer menu

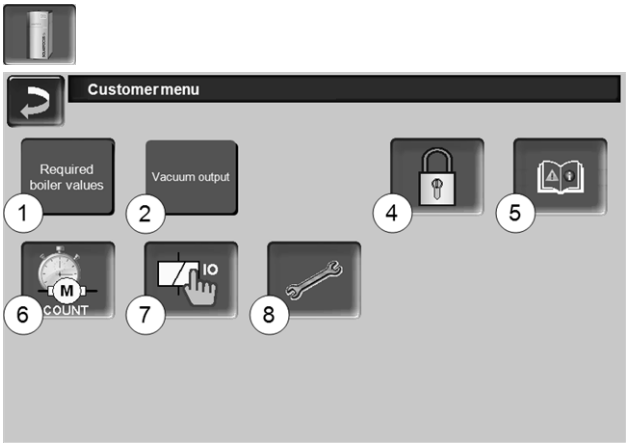


Abb. 2-10

1 Required boiler values > 14
2 Vacuum output > 15
4 User lock > 15
5 Message log [2]: Recording of alarm and notification messages > 16
6 Operating hour counter > 16
7 Output test boiler (CAUTION, only to be undertaken by qualified personnel).
8 Qualified personnel menu > 17

[2] Button is only visible if a message is active.

5.4.1 Required boiler values

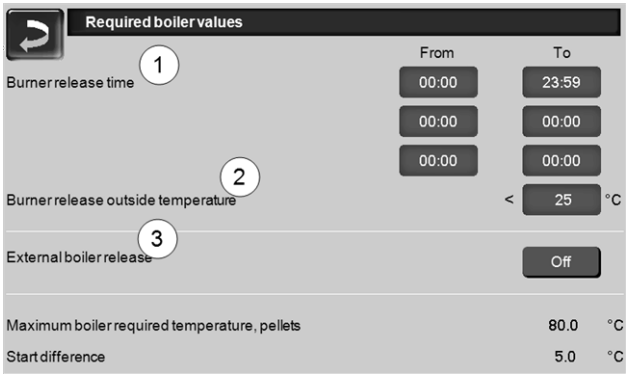


Abb. 2-11: Required boiler values

***Burner release time** 1*

The burner can start within the release times; outside of these times, starting does not take place and/or the burner is stopped. A time release from 00:00 to 23:59 means that no restriction is pending and the burner can start at any time.

> **!** **ATTENTION** - In order to protect against frost, only automatic start-up of the heating circuit pump is active outside the release time.

Domestic hot water heating in summer

If the boiler is used for heating domestic hot water, then the required chimney draught of 5 Pa may not be present in the summer months (or outside the heating period). This may result in smoke escaping in the boiler room.

Reason: High temperature on the chimney stack (greater than 30°C); as a result the cooler air does not rise (~ 20°C air temperature when the burner starts) in the chimney.

Remedy: Set the burner release time from 00:00 to 07:00 or from 21:00 to 23:59.

Burner release outside temperature *2*

The burner may not start if the outside temperature exceeds this value.

External boiler release *3*

On switches the function to standby. I.e. a connected external boiler may only start when it receives the release from the SOLARFOCUS boiler (e.g. on the basis of a lack of fuel, operating fault).

5.4.2 Vacuum output

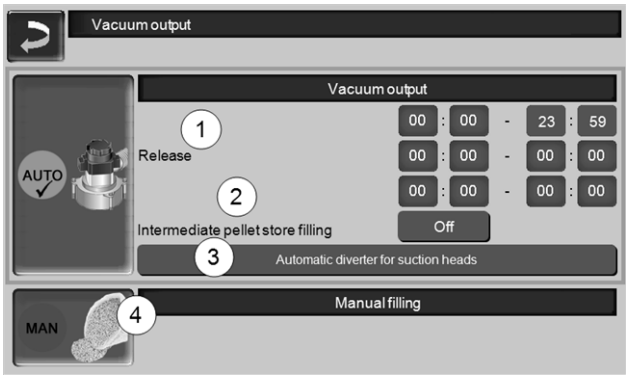


Abb. 2-12: Vacuum output

Release *1*

Within the release times, the pellet suction turbine can start. A release time from 00:00 to 23:59 means that no restriction is pending and suction can start at any time.

Intermediate pellet store filling *2*

Pressing the button starts the suction turbine and the tank is filled once. (i.e. current level and release times are not considered). Prerequisite: the boiler must have the status *Switched off* or *Standby*.

Manual filling *4*

Pressing the button deactivates the automatic vacuum output, i.e. the suction turbine cannot start. (e.g. for manual filling of the intermediate pellet store through the inspection flap).

Automatic diverter for suction heads *3*

Optional, i.e. the button of the same name and the screen are only visible if this item has been bought.

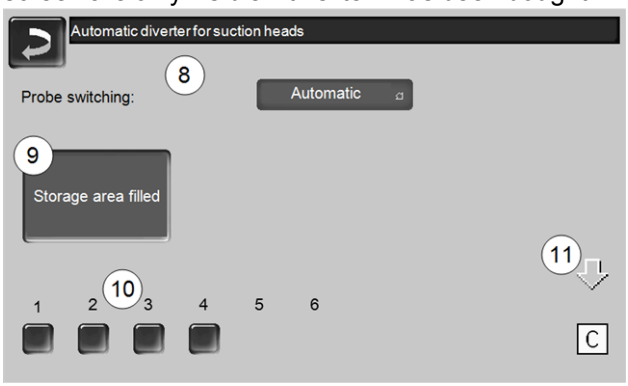


Abb. 2-13

Probe switching *8*

Automatic (recommended setting): After three successful suction procedures at a head, the system switches to the next head. An even reduction of the fill level in the pellet storage area is achieved.
Selectively: The heads are successively sucked empty.
Only probe ….: Suction is only performed at the set head. Switching to the next head must be performed manually at the boiler control.

Storage area filled *9*

- Pressing the button marks all suction heads *10* again as full (e.g. after filling the storage area). Pressing the Status button changes the head status (colour red: Head is empty; colour green: Head is full).
- Red marking means: Head is sucked empty.
- Green marking means: Head is full.
- The arrow *11* above the heads shows the currently used head. Position*C* means that the pellet hose has been sucked empty (happens automatically, lasts a few seconds).

5.4.3 User lock

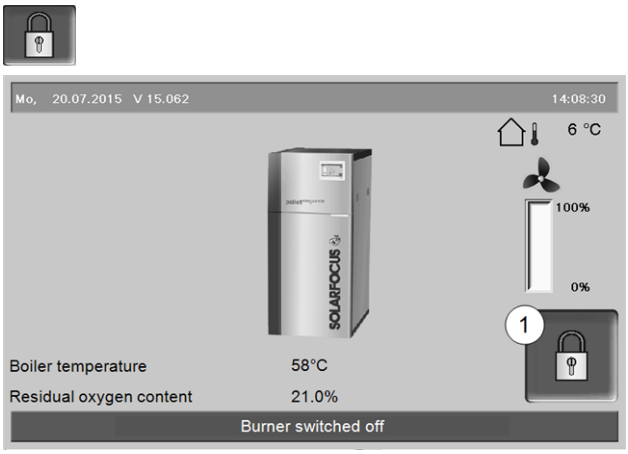


Abb. 2-14

The function serves as protection against unauthorised modification of the control parameters. When the user lock is active, the parameters of the individual screens are displayed but cannot be changed. The active user lock is indicated by the padlock icon *1* on the screens.

User lock screen

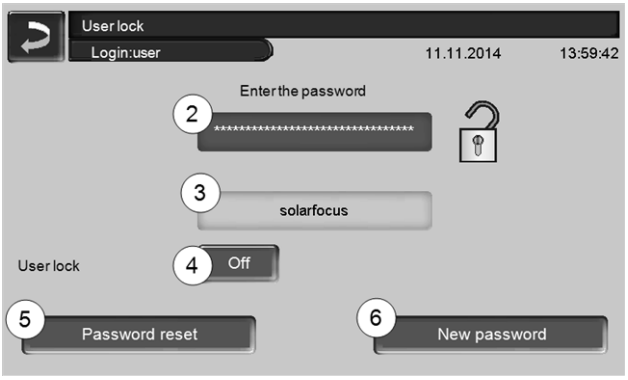


Abb. 2-15

***Enter the password** 2*
To define a new password (maximum 20 characters).

***Password** 3*
The currently valid password is displayed.

***User lock** 4*
Off: The user lock is switched off.
On: Switches on the user lock function. If the display is not touched for one minute, the user lock is active in the screens.

***Password reset** 5*
The current password is reset to the value *solarfocus*.

***Adopt as new password** 6*
Enter a new password in the input field and press the button. Note on screen keyboard: Confirm input with the ↵ button.

5.4.4 Message log

Abb. 2-16

The messages displayed on the control are recorded here, with the time that it began and ended. The message with the highest priority is highlighted in red, acknowledged messages are highlighted in green.

Press the *2* button to quit messages. Button *1* opens the power failure log.

Possible messages > 40

5.4.5 Operating hour counter

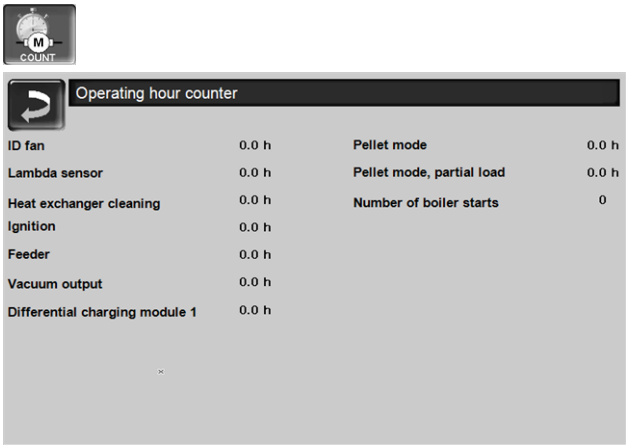


Abb. 2-17

5.4.6 Qualified personnel menu

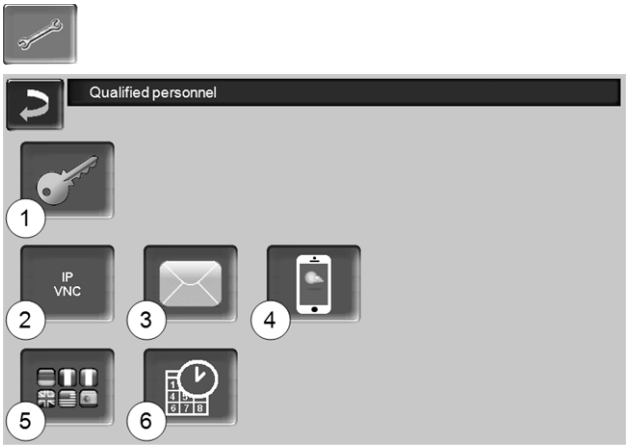


Abb. 2-18

1 Service menu > 17
2 IP VNC (for remote access) > 17
3 Sending emails > 18
4 mySOLARFOCUS-App > 28
5 Language selection > 19
6 Date and time > 19

5.4.6.1 Service menu

In the *Service menu* there are technical (factory predefined) settings for an optimum combustion process in the boiler. These can only be accessed by qualified personnel (code input required).

5.4.6.2 IP VNC (for remote access)

The **eco**manager-*touch* control allows access to the control screens from a PC or mobile device (e.g. smartphone). To do so, the *VNC* (Virtual Network Computing) software is used. The control has an integrated VNC server, while the *VNC Viewer*, which is available free of charge on the Internet, is required for remote access.

A cable connection is required on site for connecting the control to the router. Use the Ethernet socket (type RJ45) on the rear of the control panel (Touch display).

Installation and configuration of this function must be performed by the customer (i.e. not included in the commissioning, service and support activities).

The following points are helpful for setting up a PC/-router to control the VNC server, which requires knowledge of networking technology.

IP configuration

► To access the *IP-VNC* icon, select the following in the control
– *Selection menu* screen
– *Customer menu* screen
– Qualified personnel button
► Enter the data for your router. Recommended process:
– Select *DHCP ON*.
↳ The IP address is determined.
– Select the *DHCP OFF + Adopt* button.

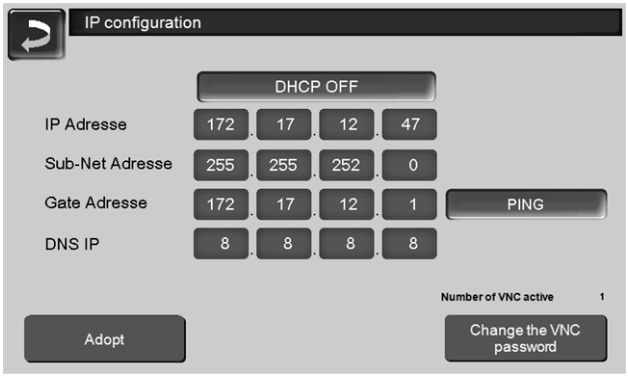


Abb. 2-19

– The IP address must be unique in each Ethernet network and is dependent on the other network components (PC, modem/router, etc.).
– Recommendation: Set a fixed IP address (=*DHCP OFF*), i.e. the control has a constant IP address.

Version 1: Install VNC viewer for access from a local PC (PC in the home network)

► Download the free VNC Viewer from the Internet, install it on the PC and start the application.
► Enter the previously defined IP address of the control.
– As soon as the VNC Viewer is able to access the control, a password must be entered.
– The password predefined by the manufacturer is *solarfocus*
– After login, the screen view of the control can be seen.

Change the VNC password

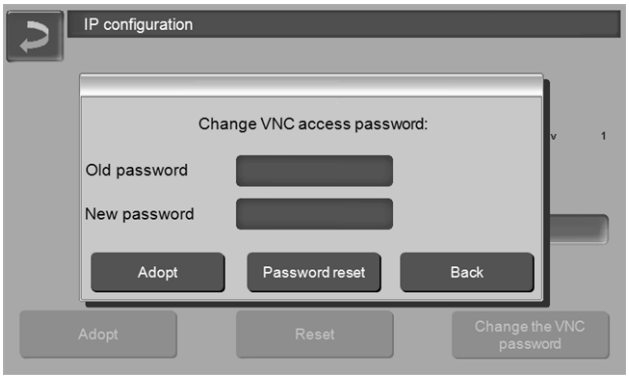


Abb. 2-20

- ► Press the *Change VNC password* button on the *IP setup* view.
- ► To change it, first enter the old password, then the new password, then press the *Adopt* button.
- ► The new password must be used to log on after restarting the VNC Viewer on the local PC.
- ► Press the *Reset password* button to reset the password to the default password *solarfocus*.

Version 2: VNC viewer for access from an external PC (PC outside the home network)

- – The user's local router does not always have the same IP address on the Internet (it is allocated by an *Internet Service Provider – ISP*).
- – Nevertheless, Dynamic Domain Name Systems, also referred to as *DynDNS* or *DDNS*, allows access to the router.
- – These systems allow a unique host name to be assigned on the Internet; the unique name is then also entered in the router. If the router is then assigned a different address by the ISP, it enters the updated IP address as the defined host name on the DynDNS server. The router and therefore the home network can then be reached using this host name.
- – To create a connection with the control, a **port diversion** is required from the external port of the router[1] to the IP address and to VNC port 5900 of the control.

[1] Port 5921 is recommended

Avoid any **port forwarding** from external port 5900 of the router to IP address and VNC port 5900 of the control.

5.4.6.3 Sending emails

Function: The boiler control **eco**manager-*touch* automatically sends status emails and alarm e-mails (to stored addresses) if required.

Status email: An automatic email (e.g. sent daily) provides information on the current boiler status.

Alarm email: a message is sent when a fault occurs.

Installation and configuration of this function must be performed by the customer (i.e. not included in the commissioning, service and support activities).

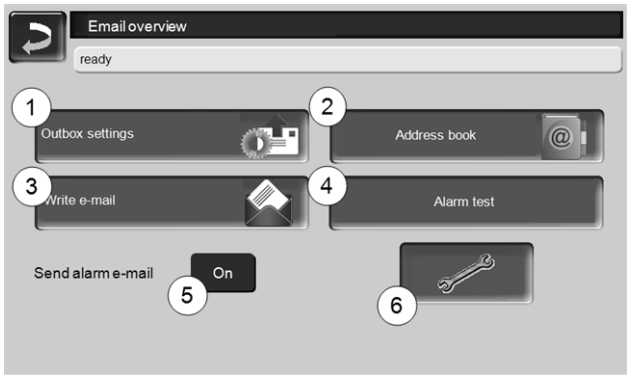


Abb. 2-21

***Outgoing mail server** 1*

Enter the access data for the e-mail server you use.

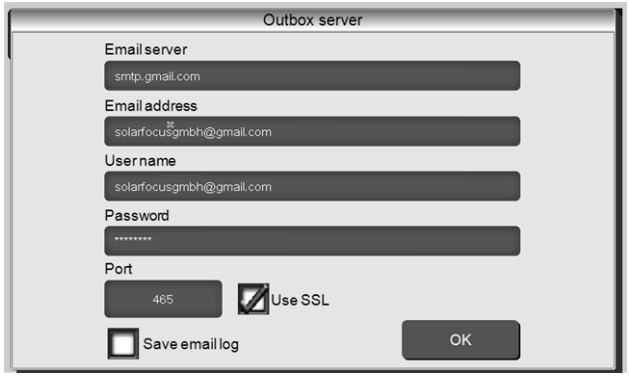


Abb. 2-22

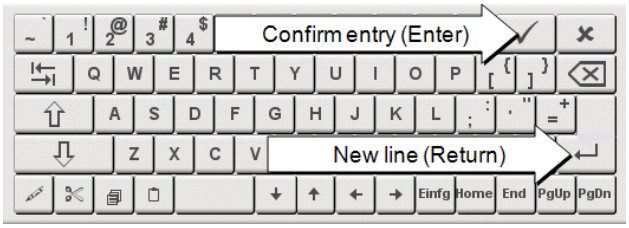
Use SSL: Select if the e-mail server uses a TLS/SSL encryption protocol.

***Address book** 2*

A maximum of 10 contacts can be added. If there are several addresses for a contact, these should be comma-separated.

***Write e-mail** 3*

Used to manually send emails. The recipient's address can be selected from the address book using *To* and *CC* or manually entered in the recipient line.



***Alarm test** 4*

Used to test the email settings. Pressing the button sends an email to the recipient *status email.*

***Send alarm email** 5*

Activates/deactivates the automatic sending of alarm emails. The sending of status emails is not affected by this.

***Alarm configuration** 6*

Settings for the alarm emails to be sent automatically.

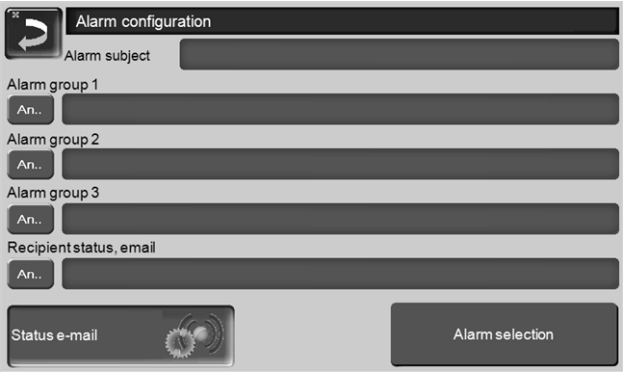


Abb. 2-23

Alarm subject: is used for all alarm emails and status emails, therefore it should be as meaningful as possible (e.g. boiler type / name of system operator; 40 characters available).

Alarm groups: For prioritisation of the alarm messages (e.g. *Alarm group 1* receives all messages, *Alarm group 2* receives only operationally-relevant messages, such as information on faults).

Status email: Set the time at which the status email is sent. The automatically generated content of the status email is:

- Current status of the heating system
- Fault present, and which

Alarm selection: This is where you define which alarm group is notified of which event.

5.4.6.4 mySOLARFOCUS app

Pressing the button displays the screen with information relating to online registration for the *mySOLARFOCUS app* (serial number, PIN, status, etc.) > Abb. 2-42, > 29

Detailed information about using the *mySOLARFOCUS app* > 28

5.4.6.5 Language selection

Abb. 2-24

5.4.6.6 Date and time

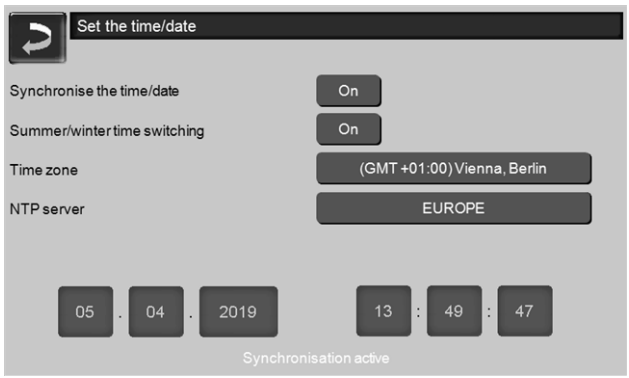


Abb. 2-25

Switchover from summer/winter time takes place automatically when the *Switchover Summer-Winter 1* parameter has the value *Europe*. Switchover takes place on the last Sunday of the months of March and October. If *America* is set, the clock is changed to summer time on the first Sunday in April.

6 Heating circuit

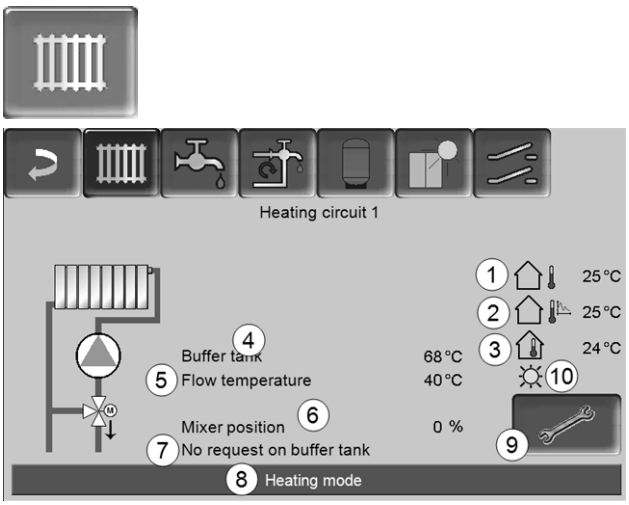


Abb. 2-26

1 Outside temperature
2 Average outside temperature
3 Room temperature (optional)
4 Temperature of the energy source, (e.g.boiler, buffer tank)
5 Flow temperature of the heating circuit
6 Position of the heating circuit mixing valve
0% - the mixer is closed, the heating circuit is supplied from the heating circuit return. 100% - the mixer is open, the heating circuit is supplied from the heating boiler flow.
7 Info line: Heating request (Yes/No) to the energy source
8 Status line of the heating circuit
9 Heating circuit settings > 20
10 Display of the heating circuit operating mode set on the optional room temperature controller (Art. no. 6160)

6.1 Heating circuit settings

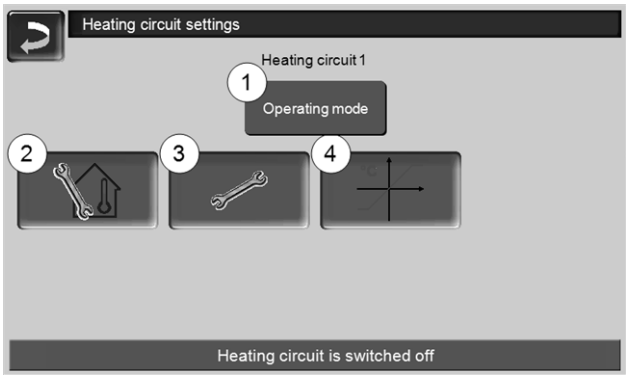


Abb. 2-27

1 Heating circuit operating mode > 20
2 Room settings
(Button is only visible when the *Room influence* parameter is set to *On* or *Sliding*; this can be found in the *Qualified personnel system parameters)*
3 General settings > 21
4 Heating curve > 21

6.1.1 Heating circuit operating mode

Heating mode 

The heating circuit pump is activated. A shutdown occurs whenever

– the *cutoff temperature for heating mode* is reached.
– a room temperature sensor is used and where *inside setpoint temperature for heating mode* has been reached.

The heating circuit is supplied with the *calculated required flow temperature* > Abb. 2-28.

Reduced mode 

Heating circuit pump is activated. A shutdown occurs whenever

– the *cutoff temperature for reduced mode* is reached.
– a room temperature sensor is used and where *inside setpoint temperature for reduced mode* has been reached.

The heating circuit is supplied with the reduced temperature, i.e. *calculated required flow temperature* minus *reduction*; > Abb. 2-28

Time switching 

In this operating mode, the timed switch-over between *Heating mode* and *Reduced mode* is defined. You can enter the times for heating mode *Daily* or *In blocks*.

Usage example: *Heating mode* should be active during the day, but be changed to *Reduced mode* at night.

Switch off heating circuit 

The heating circuit pump and heating circuit mixing valve are switched off. The anti-freeze function for the heating circuit is enabled (i.e. the heating circuit pump is switched on whenever the outside temperature drops below the *anti-freeze temperature*).

Holiday mode 

Holiday mode deactivates the active operating mode for the entered duration.

 activates the frost protection mode for the heating circuit for the duration of the holiday.

 activates the reduced mode for the heating circuit for the duration of the holiday.

 This icon indicates activated holiday mode in the *Heating circuit* screen.

6.1.2 General settings

Cutoff temperature

If the outside temperature exceeds the value set here, the heating circuit pump is switched off and the heating circuit mixing valve closes.

Cutoff temperature for heating mode: 18°C

Cutoff temperature for reduced mode: 5°C

This means: the heating circuit is normally automatically switched off during the summer month due to the outdoor temperature.
You can also switch the heating circuit off manually (=operating mode: Switch off heating circuit).

Anti-freeze temperature

If the outside temperature drops below the value set here, the heating circuit pump is switched on.

Buffer difference

The burner starts when the *tank temperature top* falls below the *required flow temperature* minus the *buffer difference*.

Example:
- Current required flow temperature = 50°C
- Buffer difference = 5°C

The burner starts as soon as the *tank temperature top* < 45°C.

A negative buffer difference value is added, i.e. the burner starts earlier.

Example:
- Current required flow temperature = 50°C
- Buffer difference = - 5°C

The burner starts as soon as the *tank temperature top* < 55°C.

Outside temperature delay

The delay set here is used to determine an average value for the outside temperature (= Average outside temperature).

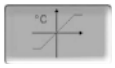
The heating circuit pump switches on if the Average temperature and the Current outside temperature fall below the cutoff temperature (within the heating period), or below the reduced mode cutoff temperature (outside the heating period).

The heating circuit pump switches off again as soon as the current outside temperature rises above the value of the cutoff temperature.

Heating circuit name

The heating circuit can be given an individual name.

6.1.3 Heating curve



The heating circuit flow temperature is controlled by the heating circuit operating mode > 6.1.1 and by the outside temperature. The heating curve represents the relationship between these two temperatures. I.e. the control uses the outside temperature to calculate the temperature (=*calculated required flow temperature*) with which the heating circuit is supplied.

In *heating mode* the heating curve for heating mode *4* (red) is used.

In *reduced mode* the heating curve for reduced mode *5* (= heating curve for heating mode minus *reduction*) is used.

The heating curve must be adapted to suit each building and its heating system.

2-point heating curve

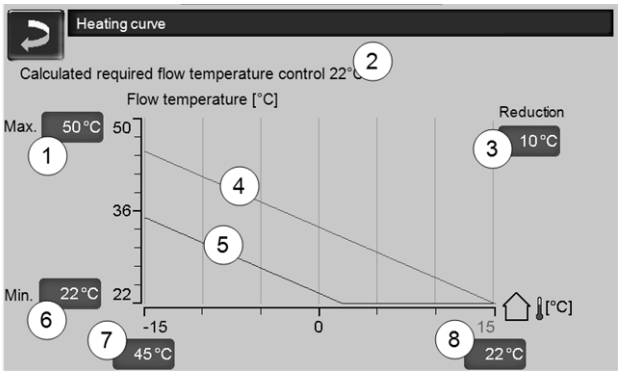


Abb. 2-28

1 Maximum heating circuit flow temperature[1]
2 Calculated required flow temperature
3 Reduction (the value by which the reduced temperature is lower than the heating temperature)
4 Heating curve for heating mode (shown in red)
5 Heating curve for reduced mode (blue)
6 Minimum heating circuit flow temperature[1]
7 Flow temperature at outside temperature -15°C
8 Flow temperature at outside temperature +15°C

! [1] **ATTENTION** - This temperature is system-specific and must be agreed with the heating engineer. If there is a risk of the boiler overheating, the hot water is discharged to the heating circuits at the *Maximum heating circuit flow temperature* *1*. Only to be set by qualified personnel.

The desired heating circuit required flow temperature in heating mode is set for an outside temperature of -15°C *7* and +15°C *8*. Between these outside temperatures, the required flow temperature is calculated from the characteristics of the heating curve (interpolated).

Example for calculation of required flow temperature (see the following illustration):
Flow temperature at outside temperature of -15°C = 45°C
Flow temperature at outside temperature of +15°C = 22°C
Current outside temperature = -5°C

In the heating circuit operating mode *Heating mode,* the following applies:
> The calculated required flow temperature (**Pos.9**) is 37.4°C
> The heating circuit is supplied with 37.4°C.

In the heating circuit operating mode *Reduced mode,* the following applies:
Reduction = 10°C
> The calculated required flow temperature (**Pos.10**) is 27.0°C
> The heating circuit is supplied with 27.0°C.

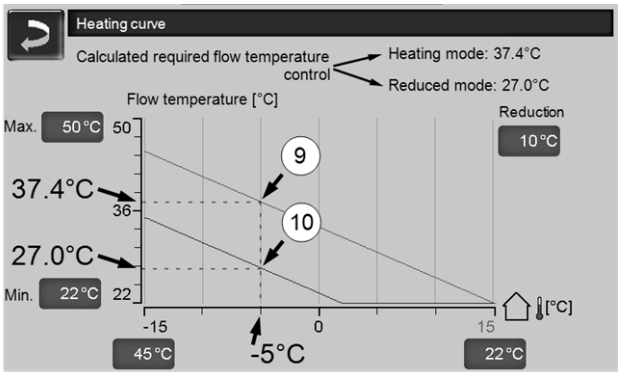


Abb. 2-29

Adjustment of the 2-point heating curve (in *heating mode*)

Note the currently set temperatures before you change the values.

A change in heating curve cannot be felt immediately. Instead, this depends largely on the kind of heat distribution system (e.g. underfloor heating) and the building standard (brick, lightweight construction etc.). It is advisable to adjust the heating curve in small increments (+/- 2°C) with corresponding pauses (1 to 2 days). Depending on the current outside temperature, different adjustments need to be made.

Current outside temperature	Perceived room temperature	Recommended adjustment of heating curve
-15°C to -5°C	too cold	Increase temperature value at *7*
	too hot	Reduce temperature value at *7*

Current outside temperature	Perceived room temperature	Recommended adjustment of heating curve
-5°C to +5°C	too cold	Increase temperature value at *7* and *8*
	too hot	Reduce temperature value at *7* and *8*
+5°C to +15°C	too cold	Increase temperature value at *8*
	too hot	Reduce temperature value at *8*

3-point heating curve

Function must be activated by qualified personnel.

Depending on the standard of building and insulation, it is advisable to change over from the 2-point to a 3-point heating curve. In contrast to the 2-point heating curve, it is possible to stipulate a third temperature *11*, i.e. the heating curve can include a sharp deflection or bend.

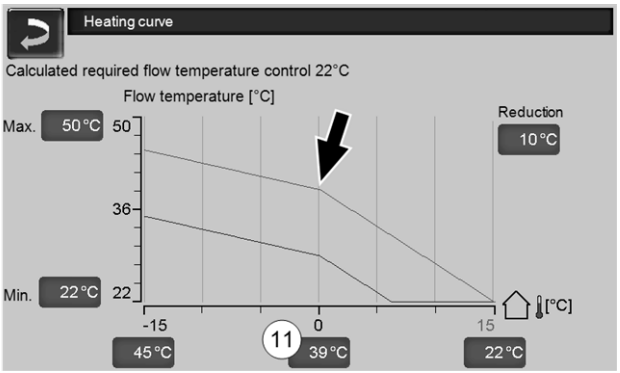


Abb. 2-30

Adjustment of the 3-point heating curve (in *heating mode*)

Note the currently set temperatures before you change the values.

Current outside temperature	Perceived room temperature	Recommended adjustment of heating curve
-15°C to -5°C	too cold	Increase temperature value at *7*
	too hot	Reduce temperature value at *7*
-5°C to +5°C	too cold	Increase temperature value at *11*
	too hot	Reduce temperature value at *11*
+5°C to +15°C	too cold	Increase temperature value at *8*
	too hot	Reduce temperature value at *8*

7 DHW heating

DHW can be heated up in two ways:

- With a *DHW tank* > 23
  (the energy source of the DHW tank is the heating boiler or a buffer tank[1])
- With a *fresh water module* > 24
  (The energy source of the fresh water module is a buffer tank[1])

[1]DHW area in the buffer tank

Warm water rises and collects in the uppermost area ofthe buffer tank (= thermal stratification). The DHW tank or the fresh water module draws the required energy for DHW heating from this uppermost area. Therefore, this (held at an adjustable temperature level) area in the buffer tank is also referred to as the *DHW area*.

7.1 Domestic hot water tank

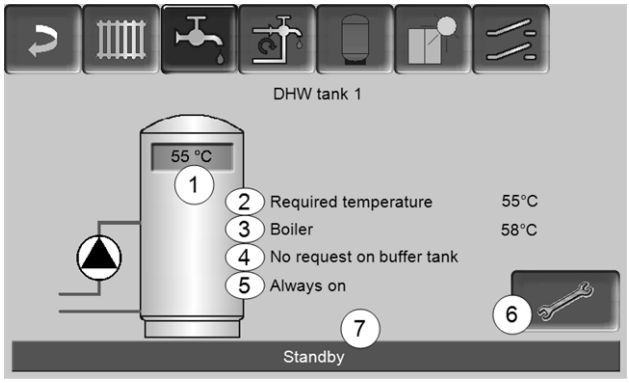


Abb. 2-31

1 DHW tank temperature
2 Required DHW tank temperature
3 Temperature of the energy source (boiler, buffer tank)
4 Info line: Charging requirement (Yes/No) to the energy source.
5 DHW tank operating mode > 24
6 DHW tank settings > 24
7 DHW tank status line

7.1.1 DHW tank settings

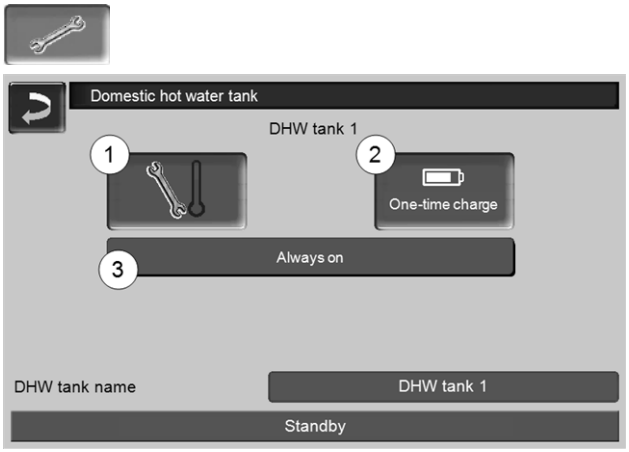


Abb. 2-32

1 Temperatures and hystereses *1*
2 One-time charge *2*
3 DHW tank operating mode *3*

Temperatures and hystereses *1*

Required temperature / hysteresis

The DHW tank (or the domestic hot water area in the buffer tank) is charged when required until the set *Required temperature 1* is reached. A new charge starts when the DHW tank temperature falls to the value *Required temperature 1* less *Hysteresis*.

Example
- Required temperature 1 = 55°C
- Hysteresis = 10°C

The DHW tank charge starts when the DHW temperature falls to 45°C (requirement: The temperature of the energy source is 5°C above 45°C).

One-time charge *2*

Is used to perform one-off re-heating of the DHW tank (e.g. if no release times are defined or the operating mode *Always Off* is set). By pressing the button, the DHW tank is recharged as soon as a charging request is made by the DHW tank.

DHW tank operating mode *3*

Always off: The DHW tank charge pump is switched off permanently.

Exception for frost protection mode: The DHW tank charging pump is activated if

- the outside temperature is <2°C, and
- the DHW tank temperature falls to <10°C.

Always on: The DHW tank charge pump is switched on permanently. The pump is controlled taking the parameters *Required temperature 1, Minimal temperature* and *Hysteresis* into account.

Time switching (*Monday-Sunday, daily*, etc.): different time ranges can be set, in which the DHW tank charge pump is switched to *ON*.

The operating mode *Monday - Sunday* is not available if you are using the *mySOLARFOCUS app* > 28.

7.2 Fresh water module - FWM (optional)

A fresh water module heats domestic hot water in the continuous flow principle. The circulation pump of the fresh water module starts if a DHW extraction point (also called a *tapping point* e.g. shower or bath) is opened. The energy for heating up domestic hot water is taken from the upper area (called the *DHW area*) of the buffer tank.

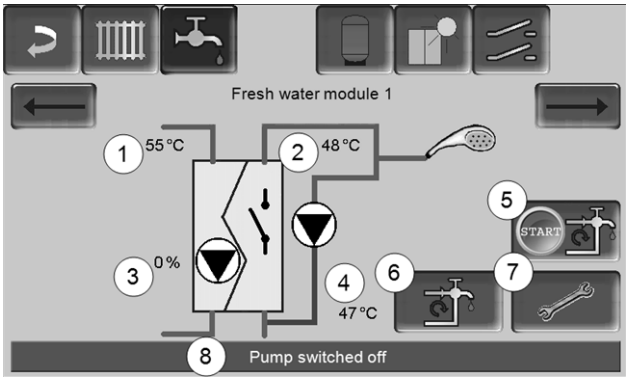


Abb. 2-33

1 Buffer tank temperature
2 Required DHW temperature
3 Speed of the fresh water module pump
4 Recirculation temperature [1](only visible if a recirculation sensor is connected)
5 Start recirculation pump [1](serves for immediate start of the recirculation pump)
6 Circulation pump settings [1] > 25
7 Fresh water module settings > 25
8 Fresh water module status line

[1] The recirculation control is an optional additional function.

Fresh water module settings 7

Pump control

Always off: The fresh water module pump is permanently switched off; no domestic hot water is heated up.

Always on: (= manual mode); the fresh water module pump is always switched on.

Automatic (= default setting), the fresh water module pump starts when a flow is detected in the pipework by an electronic sensor (e.g. the tap is opened at a connected device).

Required DHW temperature

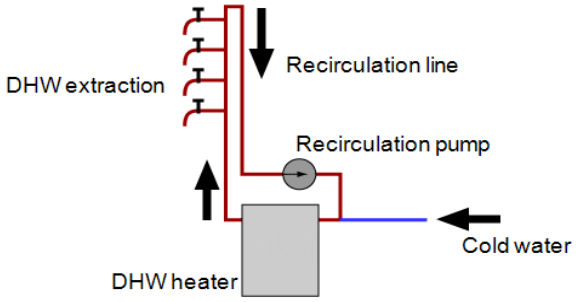
This parameter is only active for the release type *Automatic*. The fresh water module regulates the temperature at which the connected hot water devices receive water to this temperature.

8 Recirculation control

(optional additional function)

A recirculation line means that domestic hot water can be quickly available at the extraction points (also called tapping points, e.g. basin, shower, bath, etc.), even with long supply pipes.

Recirculation control is possible with a fresh water module or for a DHW tank.



***Recirculation* screen**

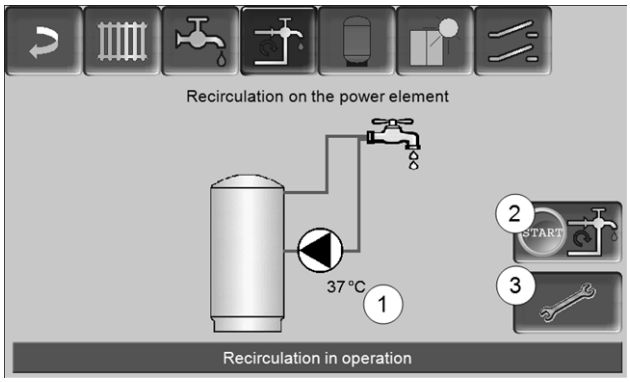


Abb. 2-34

1 Recirculation temperature (only visible if a recirculation sensor is connected on the power element).
2 Start recirculation pump (serves for immediate start of the recirculation pump).
3 Circulation settings

8.1 Circulation settings

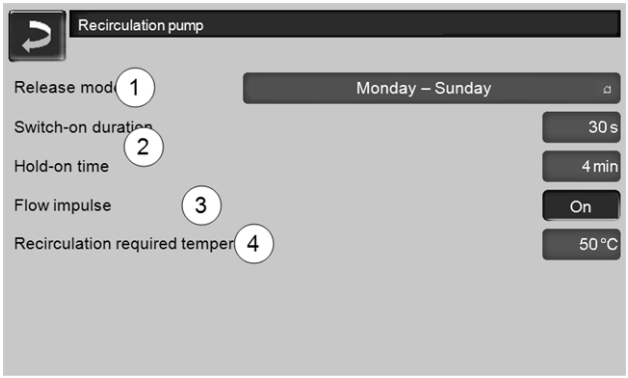


Abb. 2-35

***Release mode** 1*

Always off: The recirculation control is switched off permanently.

Always on: The recirculation control is switched on permanently. The recirculation pump is only triggered in consideration of the parameters *Switch-on duration* and *Hold-on time*.

Time switching (*Monday-Sunday, in blocks, etc.*): In this respect, time releases can be set for recirculation control.

***Switch-on duration / Hold-on time** 2*

Depending on the recirculation control selected, the pump is cycled in consideration of these two parameters, i.e. alternation between *Switch-on duration* and *Hold-on time*.

***Required recirculation temperature** 4*

Is the required temperature in the recirculation line (only displayed when a recirculation sensor is connected).

8.2 Recirculation control - Options

In order to be able to make use of the following controls, time switching (*Monday-Sunday, in blocks,* etc.) must be selected for the parameter *release type*.

Time-controlled recirculation

In the event of time-controlled recirculation, the recirculation pumps are triggered on a cycled basis if a time release (see parameter *release type*) is present. Cycling (i.e. switching between control/no control) is conducted in accordance with the *Switch-on duration* and *Hold-on time* parameters.

Example:
- Release type = *Monday-Sunday,*
- The recirculation control currently has, for example, a time release of 06:00 to 08:00
- Switch-on duration = 30 seconds
- Hold-on time = 4 minutes

The recirculation pump runs for 30 seconds. After this, the pump pauses for 4 minutes in order to then run for 30 seconds again. This repeats in the time release from 06:00 to 08:00. Outside the time release, the pump is not triggered.

Temperature- and time-controlled recirculation

Temperature-controlled recirculation is only available if a temperature sensor is connected for the recirculation temperature. The control takes the recirculation temperature (*required recirculation temperature*) into account within the time release. This means that the pump is only cycled if the recirculation temperature is below the *required recirculation temperature* minus 5°C.

Example:
- Release type = *Monday-Sunday*
- The recirculation control currently has, for example, a time release of 06:00 to 08:00
- Switch-on duration = 30 seconds
- Hold-on time = 4 minutes
- Required recirculation temperature = 50°C
- Recirculation temperature = 48°C

The recirculation pump is not triggered as the recirculation temperature (48°C) is above the *required recirculation temperature* minus 5°C (50°C minus 5°C = 45°C). If the recirculation temperature falls below 45°C, the recirculation pump is triggered for 30 seconds. After this, the pump pauses for 4 minutes in order to then run for 30 seconds again. This repeats until the recirculation temperature reaches the *required recirculation temperature*. Outside the time release, the pump is not triggered.

Extension of recirculation by means of a flow impulse

Recirculation being controlled by a flow impulse *3* is only possible in fresh water modules > 24, and is used as an extension of the control options previously named.

In order to activate this function, the *Flow impulse* *3* parameter must be set to *on*. When a DHW extraction point is opened briefly, an electronic sensor detects the pressure drop in the line. The recirculation pump is triggered even if there is no time release.

Exception: If a temperature sensor for the recirculation pump (=recirculation sensor) is connected and the recirculation temperature is sufficient (see *Temperature- and time-controlled recirculation*), then the recirculation pump is not triggered.

Example:
- Release type = *Monday-Sunday*
- No time release has been set.

As soon as DHW is drawn, the recirculation pump is triggered.

9 Buffer tank

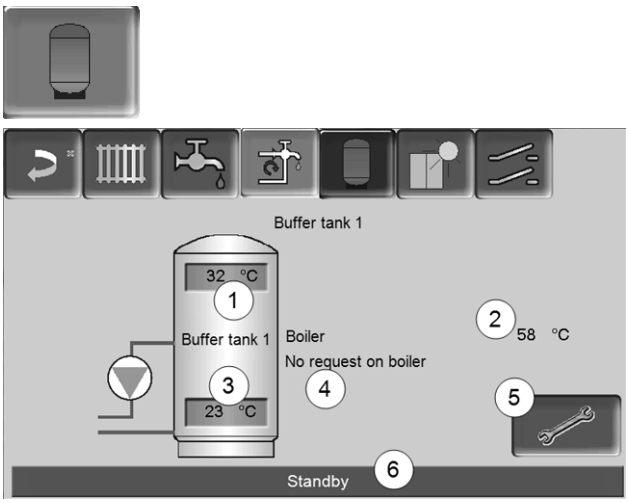


Abb. 2-36

1 Buffer cylinder temperature top
2 Temperature of the energy source
3 Buffer cylinder temperature bottom
4 Info line: Heating request (Yes/No) to the energy source.
5 Buffer tank settings
Button is only visible when *Time switching* is selected as the buffer tank operating mode; may be adjusted by qualified personnel only.
6 Buffer tank status line

Set buffer cylinder temperatures

Min. buffer cylinder temperature top

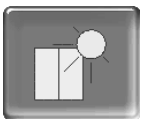
When *Buffer cylinder temperature top* falls below this value, the energy source for the buffer tank starts (e.g. boiler) and the buffer tank is re-charged (upon time release).

Max. buffer cylinder temperature bottom

The buffer tank is charged until the *Buffer cylinder temperature bottom* reaches this value.

In order to ensure optimum and efficient use of the buffer tank, the difference between these two temperatures should be > 15°C.

10 Solar system


(optional additional function)

The solar yield is charged into a solar tank. This tank can be a buffer tank or a DHW tank.

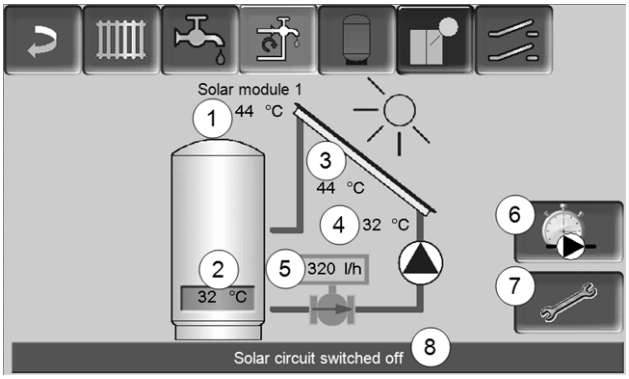


Abb. 2-37

1 Collector temperature (measured at the collector sensor)
2 Tank temperature bottom
3 Collector flow temperature
4 Collector return temperature
5 Solar circuit flow rate
6 Operating hour counter
7 Solar circuit settings
8 Solar circuit status line

Additional information on the solar functions, for which a charge is due, (e.g. boiler control of two or three solar circuits) will be provided in a separate manual upon purchase, DR-0007.

The solar yield is displayed in the *mySOLARFOCUS app* > 28 (prerequisite: A solar system controlled by the **eco**manager-*touch* control, including thermal unit counter).

11 Temperature difference, charge control

(optional additional function)

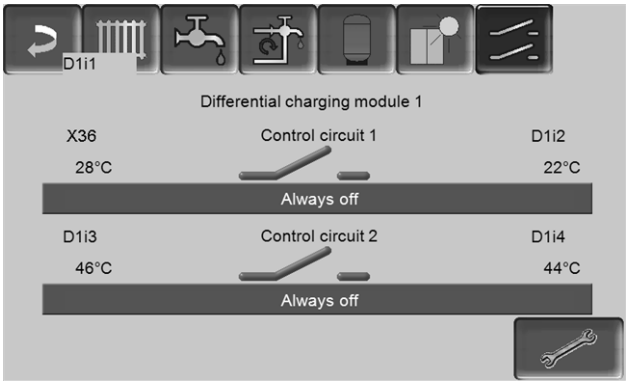


Abb. 2-38

- This function expands the **eco**manager-*touch* control with two (independent) differential control circuits. Suitable, for example, for charge pump control, for (rapid) tank charge, or return-stratification in the tank.
- The components of this charging circuit (e.g. circulation pump, motor valve, etc.) can be regulated by means of temperature differences between sensors.

Further information can be obtained in a separate manual when you purchase this function, DR-0014.

12 mySOLARFOCUS app

Function: The *mySOLARFOCUS app* allows you to use your smartphone to access specific **eco**manager-*touch* control functions:

- Set the room temperature and heating circuit flow temperature, including heating times.
- Hot water programs, with one-time DHW tank charge.
- Display the solar yield of your solar power system.

Installation and configuration of this function must be performed by the customer (i.e. not included in the commissioning, service and support activities).

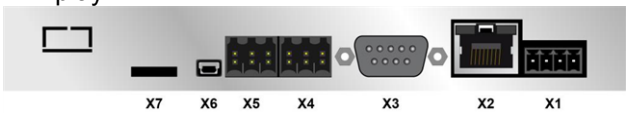
12.1 Requirements for use

- The control must be connected to the internet.
- Smartphone with Apple IOS 7.0 or higher or Android OS 4.4 or higher

12.2 Connecting the control to the internet

Create a network connection between the router and the touch display

► Use the *X2 Ethernet* (RJ45) on the rear of the display.



IP configuration

► To access the *IP-VNC* icon, select the following in the control
  - *Selection menu* screen
  - *Customer menu* screen
  - Qualified personnel button 

► Enter the data for your router. Recommended process:
  – Select *DHCP ON*.
    ↳ The IP address is determined.
  – Select the *DHCP OFF + Adopt* button.

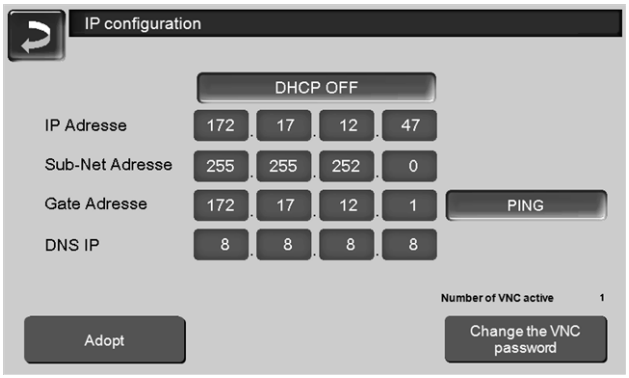


Abb. 2-39

  – The IP address must be unique in each Ethernet network and is dependent on the other network components (PC, modem/router, etc.).
  – Recommendation: Set a fixed IP address (=*DHCP OFF*), i.e. the control has a constant IP address.

12.3 Registering on the web server

The touch display must be registered on the SOLARFOCUS Web server:

► Press the app button

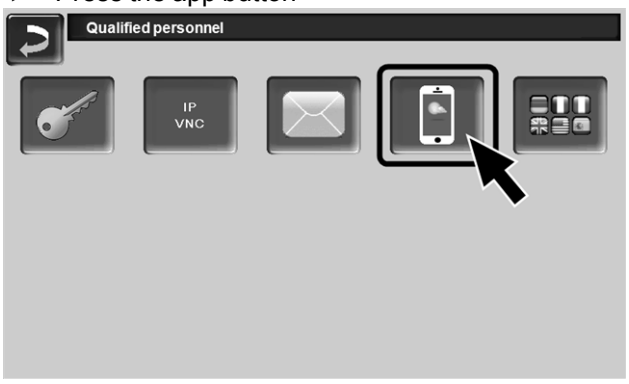


Abb. 2-40

► Continue by pressing *Accept*

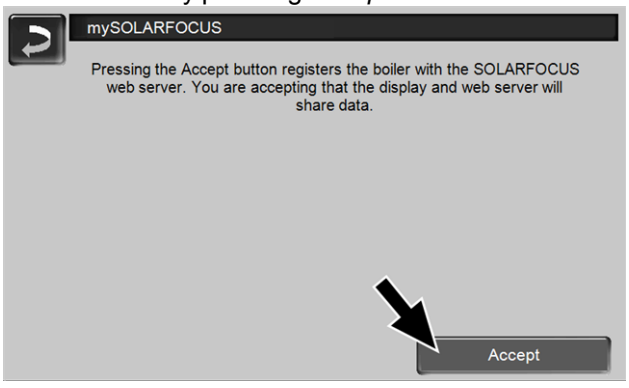


Abb. 2-41

► Note the serial number and PIN
► Switch the *Send data* parameter to *Yes*.

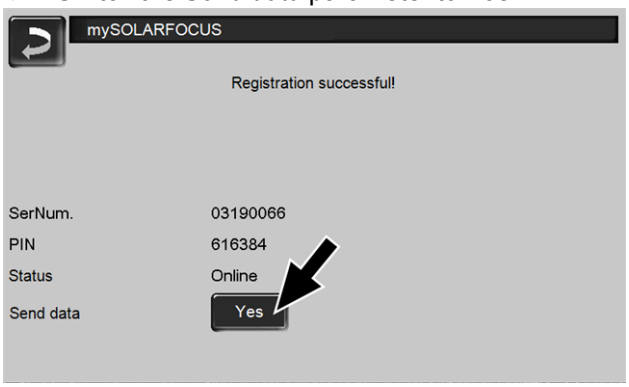


Abb. 2-42

If the connection is faulty, possible causes include:
► Check the connection from the display to the router.
► Check the IP addresses you have entered.
► Check your network router (status, etc.).

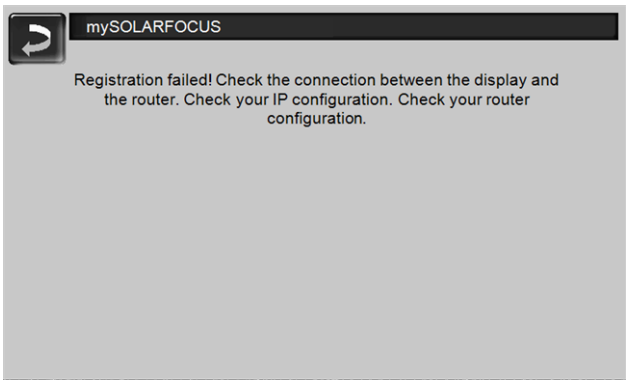


Abb. 2-43

12.4 Install app, register user

The *mySOLARFOCUS app* is available in the Apple Store and Google Play Store.

► Download, install and start the app.

► Press the *Register new user* button.

Abb. 2-44

► Enter the information required and press the *Register* button.
  ↳ An email will be sent to the email address you provided.
► Open the email and click on the *Confirm account* link.
  ↳ You can now sign into the app (to sign in, enter your email address and password).

12.5 Add system

☑ You have successfully signed into the app.
► Press the *Add new system* button.

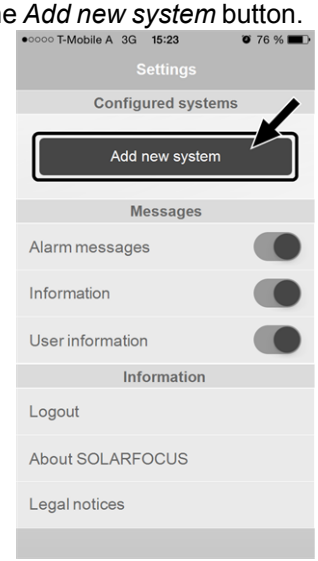


Abb. 2-45

► Enter the data for your heating system (serial number and PIN).

The weather forecast data for the weatherman function are sent to the boiler control on the basis of the *Postcode* and *Location* fields.

As an alternative to the app, you can also add systems on the website: https://www.mysolarfocus.com

Important: In principle only *one* user may access a system. If additional users are to access a system, then they must be approved in advance *Approve additional users* > 30

12.6 Use of the mySOLARFOCUS app

In the boiler control, the app icon indicates that the parameter has been changed on the basis of an entry in the app; e.g.

– on the *heating circuit* screen: If *short-term mode* has been activated in the app.
– on the *heating circuit* screen, in *room settings*
– on the *heating curve* screen

Changes using the app:

– In the *heating circuit* screen, only *Daily* time switching is available in the *Time switching* heating circuit mode, and not *In blocks*.
– In the *heating domestic hot water* screen, the time switches *Monday - Sunday* and *In blocks* are not available for DHW tank mode.

12.7 Approve additional users

You can enable access to your control for additional users, for example heating engineers.

Issuing approval

► Select the *Approval* menu item.

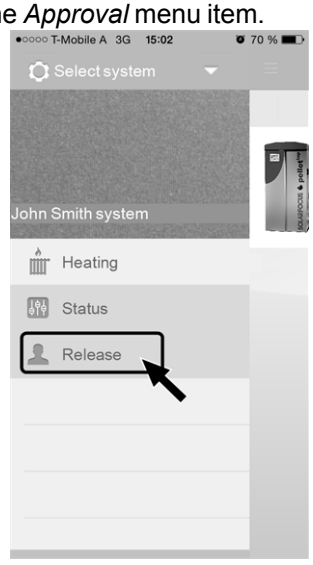


Abb. 2-46

► Enter the user's email address and select the *Invite* button.

↳ The invited user will receive an email with an approval code for the system. They can use this to add the system to their app account.

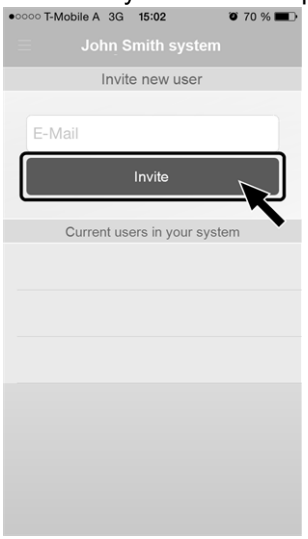


Abb. 2-47

13 Weatherman function

Function: The **eco**manager-*touch* control receives current weather forecast data on an ongoing basis. If good weather is forecast, then the control delays starting the burner when there is a heating request.

The requirements for using the weatherman function are as follows:

– The software version of the control is ≥ V 15.080; for **octo** plus, **pellet** elegance, **pellet** top, Central control **eco**manager-*touch*.

– Registration of the heating boiler on the web server SOLARFOCUS, or in the *mySOLARFOCUS app*, > 28.

After successful online registration of the heating system, the 'weatherman' button *1* is displayed in the *Selection menu* after 2 to 3 hours.

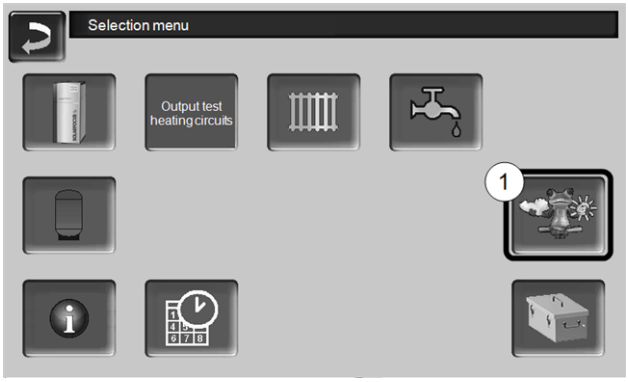


Abb. 2-48

Press button *1* to access the weatherman menu.

If you cannot see the button, check the following (see *mySOLARFOCUS app*, > 28).

- Has your heating system been correctly registered on the SOLARFOCUS web server?
- Is the connection status between the control and the SOLARFOCUS web server *online*?
- Is the *Send data parameter* set to *Yes*?

13.1 Information

The *weatherman information* menu visualises the current weather forecast.

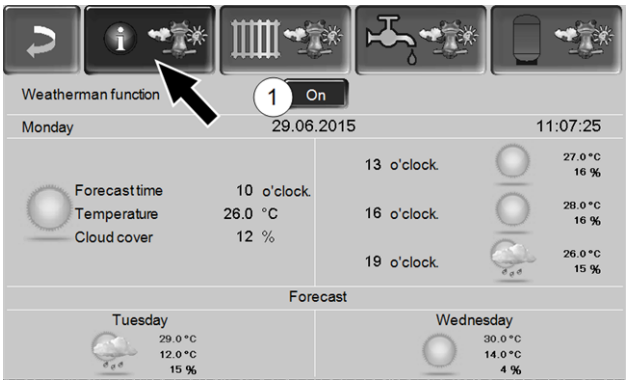


Abb. 2-49

***Weatherman function** 1*

Off: The weather forecast is shown in the display, but does not influence the control at all.

On: The weather forecast influences the behaviour of the control in the menus

– Heating circuit

– DHW heating

– Buffer tank

The following applies for three menus: The level of influence can be set using the plus/minus buttons on the bar, in 10% steps,

- 0% means that good weather being forecast has no influence on the control of the heating circuit/domestic hot water/buffer tank charging.
- 100% means a maximum level of influence.

13.2 Heating circuit

This menu *1* is only visible when a heating circuit in the boiler control is enabled.

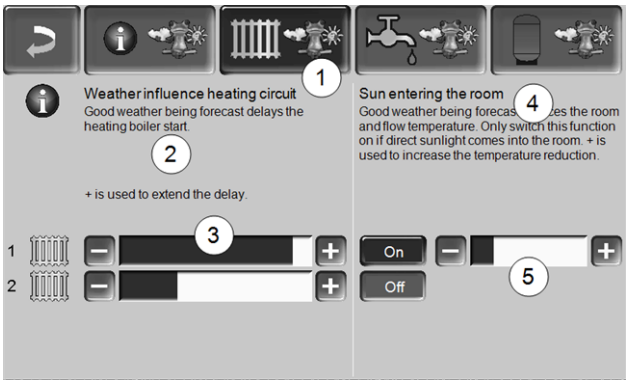


Abb. 2-50

Weather influence heating circuit *2*

This area is only visible when the heating circuit obtains its energy from a buffer tank enabled in the control.

Activate the *weather influence heating circuit* function only if the buffer tank is connected to a solar power system.

Good weather being forecast delays the start of the burner in the event of a request from the heating circuit. The bar *3* can be used to set the duration of the request delay for each heating circuit individually.

0% = no delay to burner start.
100% = maximum delay to burner start in the event of good weather being forecast.

If the function delays the burner start due to good weather being forecast, then the weatherman icon appears in the main heating circuit menu.

The green column indicates the delay. When 100% is reached, the burner starts.

Solar yield in the room *4*

Activate this function only if solar radiation directly influences the heating circuit (e.g. solar radiation through a glass panel).

Good weather being forecast means that

- the flow temperature of the heating circuit is reduced (within the heating period),
- the room temperature is reduced (if the *Room influence* parameter is activated in the heating circuit menu).

The bar *5* can be used to set the temperature reduction for each heating circuit individually.

0% = no reduction in the heating circuit flow temperature, or the room temperature.

100% = maximum reduction in the heating circuit flow temperature, or the room temperature, in the event of good weather being forecast.

Within the heating period, the heating circuit flow temperature is reduced by a maximum of the *reduction* set in the *heating curve* screen.

Within the heating period, the inside setpoint temperature is reduced as a maximum to the *inside setpoint temperature reduced mode* set on the *heating circuit room settings* screen.

If the *Solar yield in the room* function reduces the temperature(s) due to good weather being forecast, then the weatherman icon appears in the main heating circuit menu.

13.3 Domestic hot water

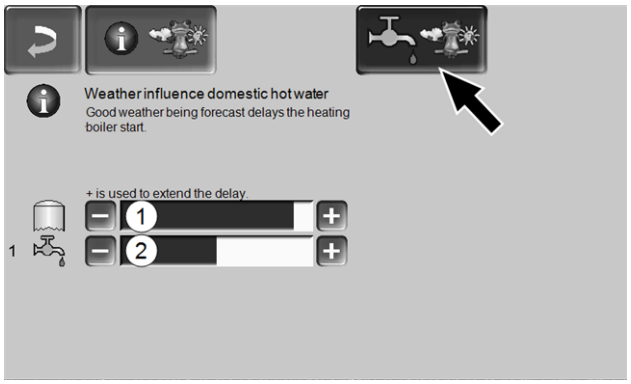


Abb. 2-51

1 DHW area for the boiler **octo** plus
2 DHW tank / domestic hot water area 1 to 4

Activate the *weather influence domestic hot water* function only if the DHW tank/domestic hot water area is heated by a solar power system, or is charged from a buffer tank that is heated by a solar power system.

Good weather forecast delays the start of the burner in the event of a request from the DHW tank/domestic hot water area.

The bar can be used to set the duration of the request delay for each DHW tank/domestic hot water area individually.

0% = no delay to burner start..

100% = maximum delay to burner start in the event of good weather being forecast.

If the function delays the burner start due to good weather being forecast, then the weatherman icon appears in the main domestic hot water menu.

The green column indicates the delay. When 100% is reached, the burner starts.

13.4 Buffer tank charging

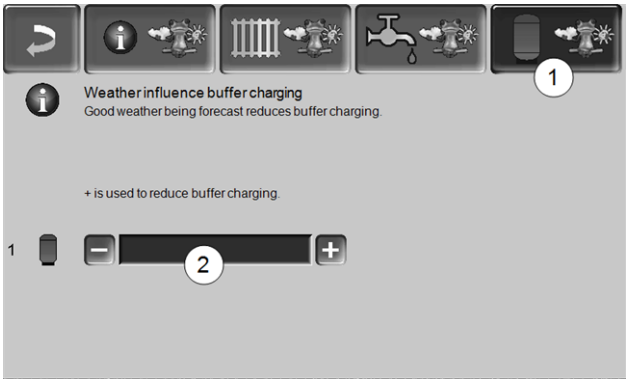


Abb. 2-52

This menu *1* is only visible when a buffer tank is enabled in the boiler control.

In the event of good weather being forecast, the buffer tank is charged for a shorter time within the release time.

The bar *2* can be used to set the level of influence for each buffer tank individually.

0% = if the burner has started and the buffer tank is within a release time, then the buffer tank is completely charged. The charge request is fulfilled when the *buffer cylinder temperature bottom* has reached the *maximum buffer cylinder temperature bottom* (in the buffer tank main menu).

100 % = if the burner has started and the buffer tank is within a release time, then the buffer tank is not completely charged. The charge request is then already fulfilled when the *buffer cylinder temperature bottom* has exceeded the *minimum buffer cylinder temperature top* (in the buffer tank main menu).

14 Maintenance (and cleaning)

Regular maintenance of the heating system is a prerequisite

- for permanently reliable functioning of the boiler,
- for energy-saving and environmentally friendly operation of the boiler,
- for a long boiler service life.

Basic information on boiler maintenance (including cleaning activities):

- Part of the boiler cleaning is done automatically in the boiler > 33
- Some activities must be done manually.

On the following pages you will find an overview > 34 of these manually required activities:

- What activities have to be performed
- At what time interval must this activity take place
- Who is responsible for carrying out the respective activity

Boiler cleaning - automated processes

The following processes are carried out automatically by the boiler control at regular intervals:

- Clean the turbulators *1* by rotating the inside of the heat exchanger, whereupon the ash falls into the combustion chamber *2*.
- The ashes from the burnt pellets fall through the stainless steel combustion grate *3* into the combustion chamber. The ash augur *4* transports the ashes into the ash container *5* (this ash container must be emptied regularly).

Deashing in the boiler

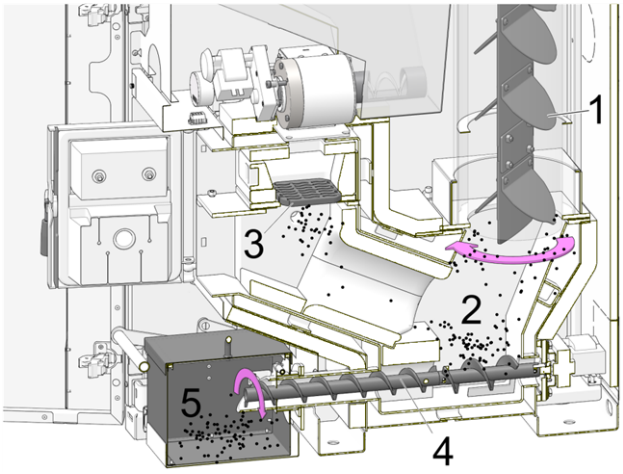


Abb. 2-53: Cross section through the boiler

14.1 Required activities - overview

The responsibility for carrying out the maintenance activities is defined according to type and extent (system operator *SO* or qualified personnel *QP*).

Activity	Interval	SO	QP
Empty ash container > 34	upon notification message[1]	X	
Perform boiler cleaning > 35 – Check the stainless steel combustion grate for wear > 35 – Check the stainless steel combustion grate support > 36 – Check the combustion chamber for ash > 36	monthly[2]	X	
Replace stainless steel combustion grate > 36	in case of wear	X	
Check system pressure > 37	monthly	X	
Clean flue gas pipe > 37	six-monthly [2]	X	
Check safety valve > 37	yearly	X	
Maintenance by qualified personnel > 38	yearly		X
Perform emissions measurement > 38	as per regional regulations		X

[1] You can use the *E-mail message* > 18 function to be informed about an upcoming emptying of the ash container (see *Alarm selection* button)

[2] Indication is valid for average consumption values; adjust the interval according to your own requirements.

14.1.1 Empty ash container

Empty the ash container when the notification message on the boiler control display appears. In the course of emptying the ash container, a boiler cleaning > 35 can also be performed.

Information on required emptying of the ash container:

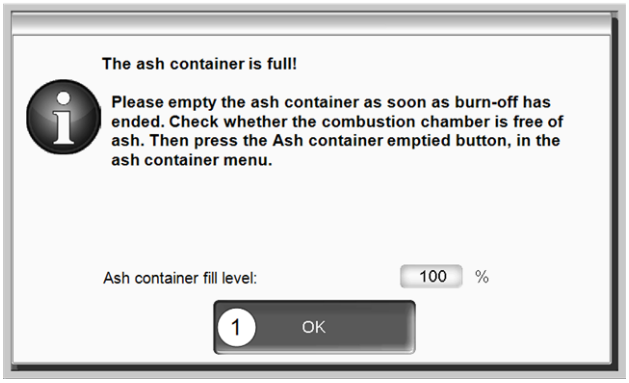
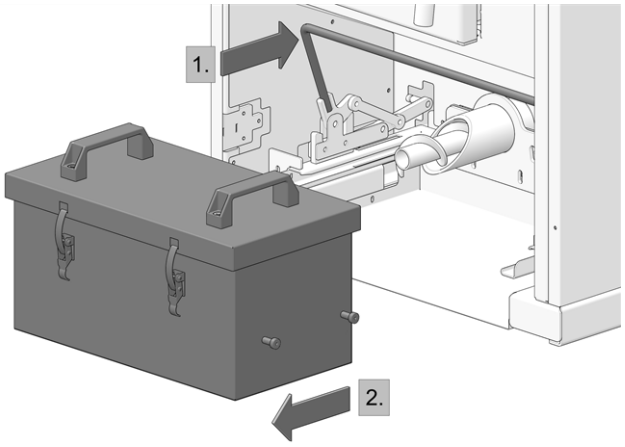


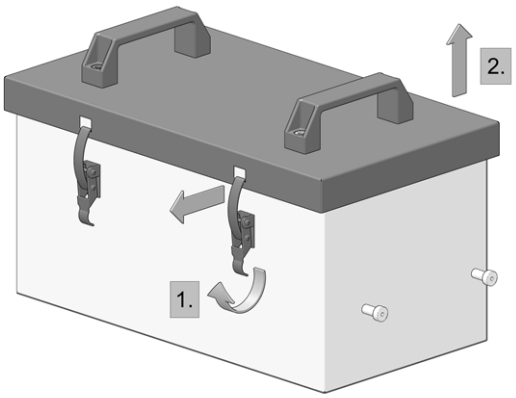
Abb. 2-54

► Wait until the burner switches off (the burner is still fulfilling its heating requests normally, i.e. this may take a while).
► Open the cladding door.
► Pull the bar of the retaining device *1* up and remove the ash container *2* forwards.



► In order to avoid ash coming out, close the opening on the rear of the container (move slide).

► Open the 2 turnbuckles *1* and remove the lid *2* upwards.



► Empty the ash container.

DANGER - risk of fire due to hot ash self-igniting. Only store removed ash in metal containers with a lid.

► After replacing the emptied ash container, lock the bar again by pulling it forwards.
► Confirm the information message on the display with OK *1* > Abb. 2-54

► Press the *Ash container emptied* *2* button (in the *selection menu*, ash container button).

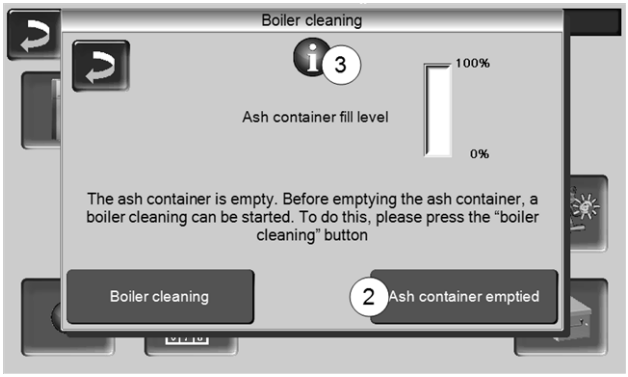


Abb. 2-55

↳ The counter for the ash container fill level is reset to zero.

Note: Press button *3* to open the *Boiler cleaning statistics* screen (shows the time of the last 5 boiler cleaning operations).

14.1.2 Boiler cleaning - manual activities

Two ways to start with the boiler cleaning:

The burner is active

► Switch the boiler off (press the *STOP* button > 13) and leave to cool.

The boiler is in *standby* status

► Press the *STOP* button > 13, and if necessary let the boiler cool down.
► Press the *boiler cleaning* button > Abb. 2-55
► Carry out the following activities:
– Check the stainless steel combustion grate for wear > 35
– Check the stainless steel combustion grate support > 36
– Check the combustion chamber for ash > 36

14.1.2.1 Check the stainless steel combustion grate for wear

In the event of advanced wear of the stainless steel combustion grate, the spaces in the grate enlarge. A seriously worn stainless steel combustion grate will allow incompletely burned pellets to fall through.

Check this regularly when emptying the ash container; if necessary, replace the stainless steel combustion grate > 36

14.1.2.2 Check the stainless steel combustion grate support

The stainless steel combustion grate must lie completely flat and horizontally.
When inclined, ignition problems are possible, or this can lead to uneven wear of the stainless steel combustion grate.
If necessary, clean the stainless steel combustion grate support surface over the entire circumference and remove any deposits.

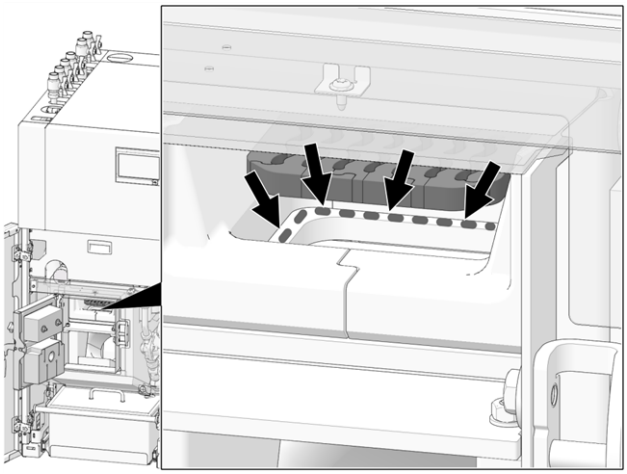


Abb. 2-56: Clean stainless steel combustion grate support surface

14.1.2.3 Check the combustion chamber for ash

- ► Switch the boiler to *STOP* > 13 and leave to cool.
- ► Open the combustion chamber door and check the combustion chamber for ash deposits, remove them if present.

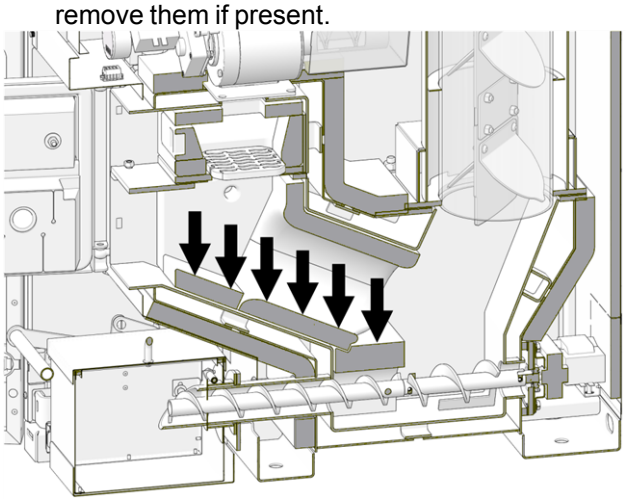
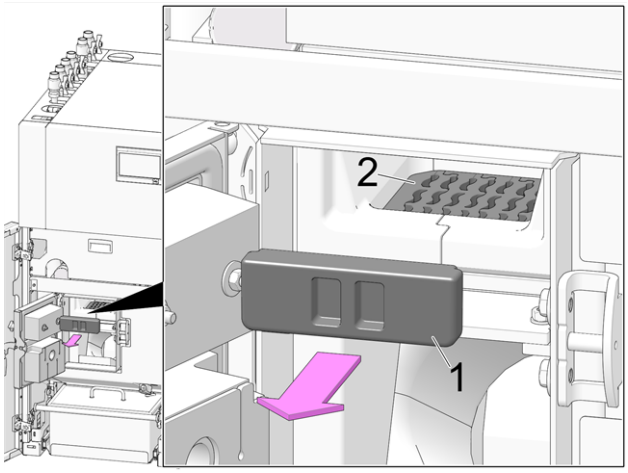


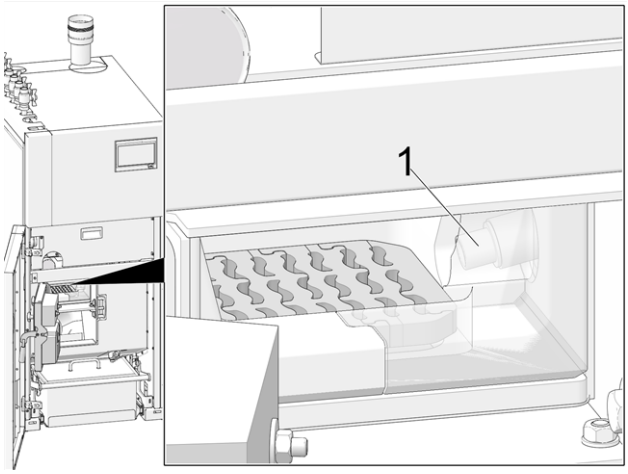
Abb. 2-57: Remove ash deposited in the combustion chamber

14.1.3 Replace stainless steel combustion grate

- ► Switch the boiler to *STOP* > 13 and leave to cool.
- ► Open the cladding door and the boiler door.
- ► Remove closure stone *1*.
- ► Remove stainless steel combustion grate *2*.



- ► Remove any deposits from the ignition pipe *1* on the right-hand side of the filling chamber (e.g. using a screwdriver).



- ► Insert a new stainless steel combustion grate, after first cleaning the support surface > Abb. 2-56

14.1.4 Check system pressure

The water pressure in the heating system can be read on the pressure gauge. As a rule of thumb (for buildings of up to three storeys), the pressure should be 1 to 2 bar for a cold system and 1.5 to 2.5 bar for a hot system.

It is important that the pressure remains constant at all times. A constant fall in pressure requires the addition of extra water and indicates a fault in the system (e.g. a leak).

TIP: Make a note of the set system pressure during initial commissioning.

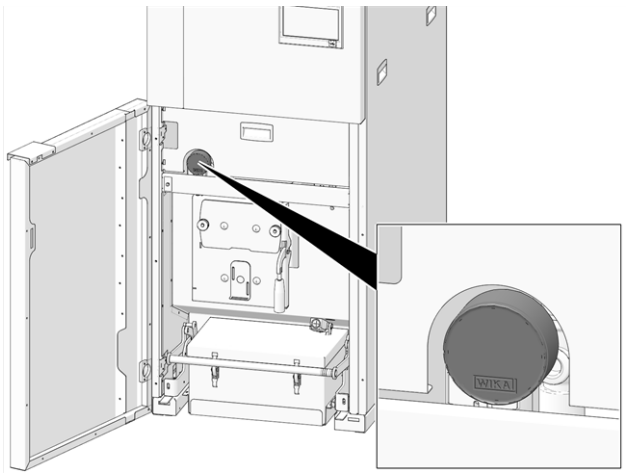


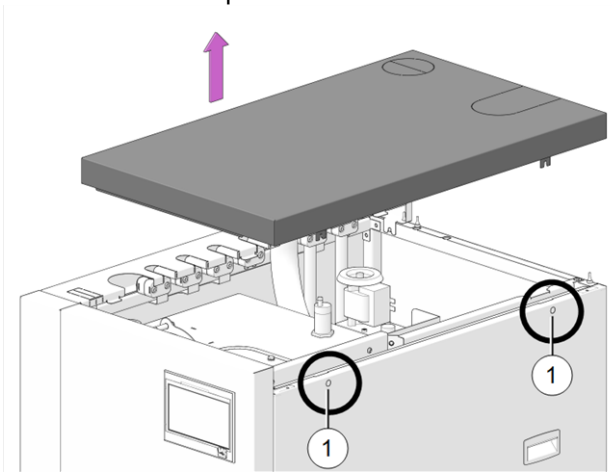
Abb. 2-58_Position of pressure gauge

14.1.5 Clean flue gas pipe

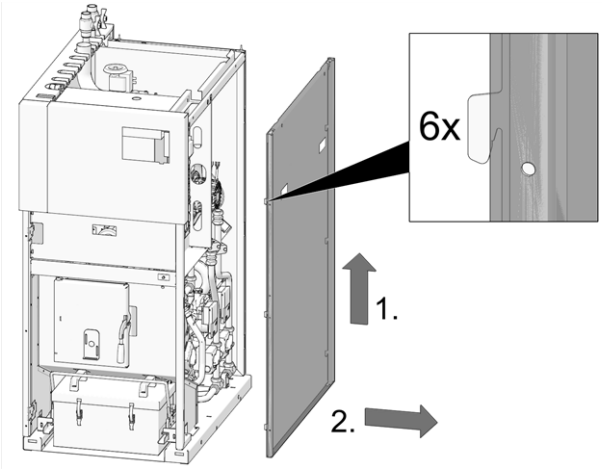
► Switch the boiler to *stop* operating mode and leave to cool.

► Loosen the 2 socket head screws *1* on the right side of the boiler.

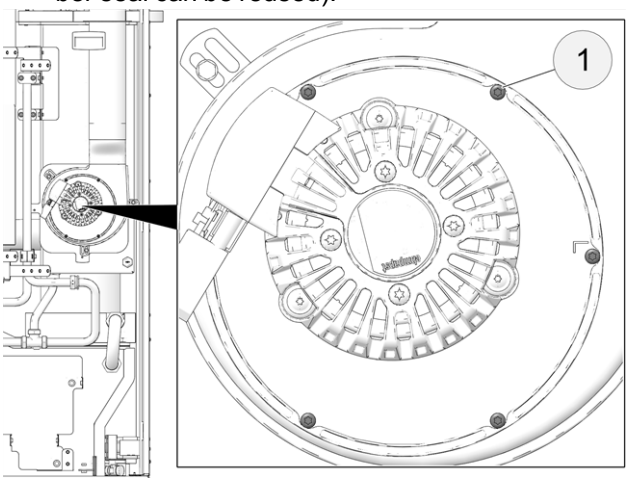
► Lift the cover up and remove.



► Remove the right-hand side panel.

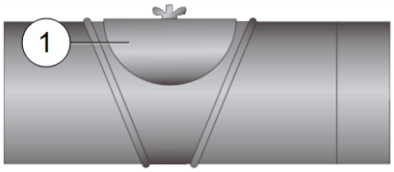


► Unscrew the M4x8 cylinder screws (TX20) *1* and remove the ID fan (to protect against dirt, the rubber seal can be reused).



The flue gas pipe is located between boiler and chimney.

► Remove cover *1* in the flue gas pipe.



► Remove combustion deposits (e.g. dust, flue ash) from the pipe.

► Install parts in the reverse order.

14.1.6 Check safety valve

Carry out a visual check for leaks at the valve (inspect around outlet of dump hose). Turning the valve cap is not recommended, as the valve may not seal completely afterwards.

Information on safety valve > 7

14.1.7 Replace pellet suction turbine

The suction turbine for conveying the pellets is a wearing part. Depending on the degree of soiling[1] of the suction turbine, the service life of the suction motor carbon brushes is around 300 operating hours for the initial equipment, and another 300 operating hours for the replacement carbon brush set. After approx. 800 operating hours, we recommend replacing the suction turbine.

[1] The cleaner the working air (air in the pellet hose) and cooling air (ambient air sucked in from the room), the longer the service life of the brushes will be.

14.1.8 Maintenance by qualified personnel

The control indicates when the boiler needs the required maintenance by qualified personnel, based on operating hours (in each case after 1800 hours, fixed value) or a defined duration (in months).

Contact your heating engineer or the SOLARFOCUS *Service Hotline* > 3

Boiler maintenance agreement

By purchasing a maintenance agreement, SOLARFOCUS will manage the annual appointment and contact you directly when a maintenance appointment is due.

15 Perform emissions measurement

- The emissions measurement at the boiler is a legal requirement and must be performed by qualified personnel on a regular basis.
- Contact the appropriate chimney sweep and your heating engineer for more information.
- When performing the emission measurement, the boiler control's *chimney sweep function* must be used.

Chimney sweep function

The chimney sweep function is available in the boiler operating mode screen > 13

Notes on chimney sweep function

- May only be performed by qualified personnel.
- Do not open the boiler door during the measurement.
- Ensure sufficient heat removal for the boiler (e.g. energy removal to buffer tank or heating circuit).
- The removal of heat is increased by opening the heating circuit mixing valve and by switching on the heating circuit pumps.

Start the chimney sweep function

► Press the  button.

↳ The prerequisites for measurement to be enabled are checked

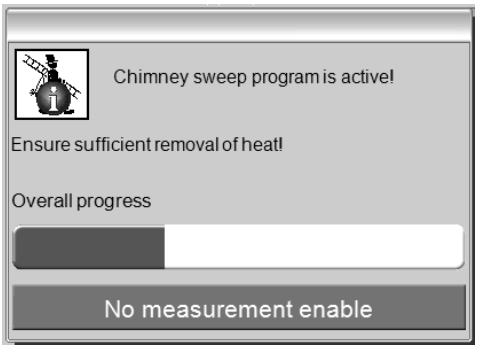


Abb. 2-59

► As soon as *Measurement enable* appears in the status bar, the measurement can be started.

- The chimney sweep function remains active for a period of 40 min., and before this period expires, a message allowing extension of the period by 30 min is displayed.
- To abort the function prematurely, switch to a different boiler operating mode.

15.1 Emission measurement for external boilers

If necessary, use the menu *output test heating circuit* > 14 to carry out the emission measurement on an external boiler. In this menu, the electrical outputs for the external boiler, 3-way motor valve as well as for the heating circuit pump and heating circuit mixing valve can be switched on/off manually.

16 Filling the pellet storage area

Switch off the boiler before filling

For safety reasons, switch off the boiler 15 min. before filling (blowing in) the pellet storage area.

If item *House connection box for pellet filling* (item no. 6678) is used, this is done automatically.

17 Messages

Messages that arise are shown in the **eco**manager-*touch* control display, each message is saved in the *message log* > 16.

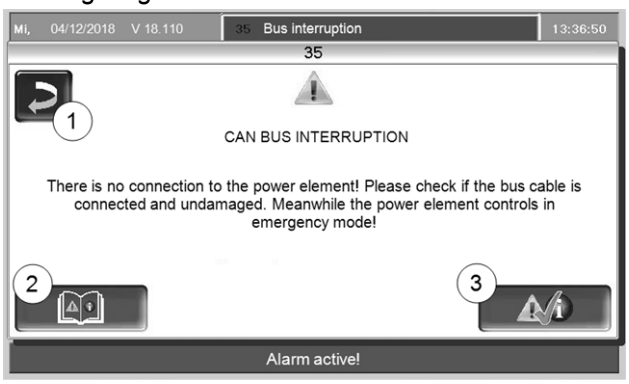


Abb. 2-60: Information window with message

Handling of messages

- Button *1*: Close window, change to main screen. The message remains active, i.e. the burner may not start depending on the type of message.
- Button *2*: Switch to the *message log*
- Button *3*: Acknowledge the message. For some messages, an acknowledgement is only possible if the cause of the fault has been rectified; the burner may then restart after a heating request is received.

A message is visible at the top edge of the main screen until it is acknowledged *1*. Press to acknowledge the message (information window opens)

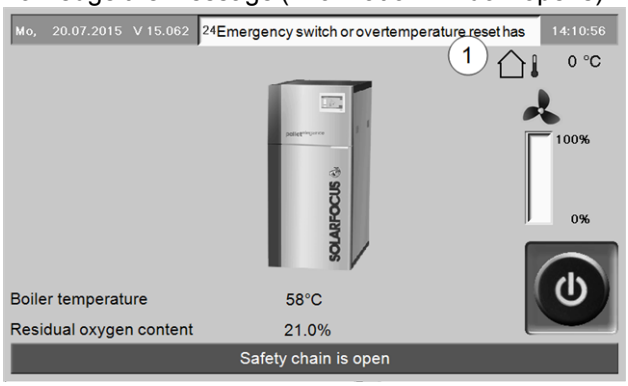


Abb. 2-61

Alarm symbol

This symbol indicates an alarm message: The boiler is no longer ready for operation if such a message occurs.

Note symbol

This symbol indicates a notification message: The boiler is still ready for operation.

Possible messages

The message in question determines who is supposed to take the required action (system operator *SO* or qualified personnel *QP*).

No.	Message	SO	QP
1	Internal memory is invalid	x	
2	Feeder sensor short circuit		x
3	Filling level sensor may be dusty		x
5	Flue gas temperature too low	x	
6	Flue gas sensor disruption		x
7	Flue gas sensor wrong measured value		x
8	Feeder sensor disruption		x
9	Flue gas sensor short circuit		x
10	Factory settings loaded		x
11	Error rotational speed feedback	x	
12	Rotational speed feedback test	x	
13	Rotational speed feedback Not OK		x
14	Maximum suction run time reached	x	
15	Error feed sensor measured value		x
16	Error lambda sensor measurement		x
17	Error boiler temperature sensor		x
19	Extraction auger is blocked	x	x
20	First ignition attempt was unsuccessful	x	
21	Defective Triac feed screw		x
23	Communication with module interrupted		x
24	Safety chain has triggered	x	
25	A power failure has occurred	x	
26	Mains fuse F3 defective		x
27	Triac fuse F6 defective		x
30	Feed blockage	x	
31	Heat exchanger is blocked		x
32	Heat exchanger is blocked		x
33	No feed motor current flow		x
35	CAN bus interruption		x
36	Fuse at fresh water module defective		x
37	A fuse in the electronic module (solar module) is defective		x
38	Commissioning settings have been loaded		x
40	Pellet ignition fault/pellet shortage?	x	x
41	FUSE F1 or F8 defective		x
42	Shortage of pellets in storage area	x	
43	Fault in diverter for suction heads		x
44	Communication error cascade		x
46	The ash container is full and must be emptied	x	
47	Heating boiler maintenance recommended!	x	
49	Boiler door or ash container is open	x	
50	The boiler door is open!	x	
51	Battery in operating element (display) is dead		x
52	Limiting thermostat is open	x	x
67	Indoor air damper does not open		x
68	Indoor air damper does not close		x
69	Error communicating with the indoor air module		x
71	No current flow heat exchanger		x
72	Note: No current flow heat exchanger		x
73	Fault in reference switch, diverter		x
74	Differential pressure switch has triggered (only possible with pellet elegance with combustion grate)	x	
75	Room temperature sensor assignment		x
76	Overtemperature reset triggered		x
77	Fuse F12 defective		x
78	Automatic ash extraction blockage		x
79	No current flow automatic ash extraction		x

1 - Internal memory is invalid

An error has occurred in the memory of the boiler control.

► Check whether the customer/system-specific settings are present in the boiler control.

2 - Feeder sensor short circuit

The temperature sensor of the pellet auger has short-circuited and must be replaced.

3 - Filling level sensor may be dusty

► Open the inspection cover on the intermediate pellet store. Check whether there are any pellets in front of the sensor. If there are no pellets present, then the green LED should not light up. If it does, wipe the sensor. If there is no change, replace the sensor.

5 - Flue gas temperature too low

The time limit for reaching the calculated flue gas required temperature has been exceeded.

► Clean the stainless steel combustion grate, combustion chamber and flue gas pipe

6 - Flue gas sensor disruption

The flue gas temperature sensor has a fault and must be replaced.

7 - Flue gas sensor wrong measured value

The flue gas temperature sensor has a fault and must be replaced.

8 - Feeder sensor disruption

The temperature sensor of the pellet auger has been disrupted and must be replaced.

9 - Flue gas sensor short circuit

The flue gas temperature sensor has a fault and must be replaced.

11 Error rotational speed feedback

Message is triggered when the burner heats, but no speed is measured at the induced draught fan (ID fan).

► Acknowledge the message, the ID fan will be tested for one minute. After the test, an OK or Not OK message will be output.

12 - Rotational speed feedback test

Message during active ID fan test run.

13 - Rotational speed feedback Not OK

Cleaning of the flue gas pipe may be necessary. > 37

14 - Maximum suction time reached

This message is only possible in conjunction with a pellet suction system. Message is triggered when a specified duration is exceeded during the suction filling of the intermediate pellet store.

The pellet storage area is empty

► Check pellet level

Suction turbine, extraction motor or filling level sensor is defective

► Acknowledge the message and check (see/-listen) whether the suction turbine or extraction motor commence operation

Blockage in pellet hose

► Check, if possible rectify blockage

► This may be caused by an excessive dust content (poor pellet quality)

15 - Error measured value feeder sensor

The temperature sensor of the pellet auger has a fault and must be replaced.

16 - Error lambda sensor measurement

Message is triggered when the residual oxygen content in the ID fan lag is measured at over 15.5% for a period of 1.5 hours.

17- Error boiler temperature sensor

Message is triggered when a boiler temperature sensor short-circuits (display -30.0°C) or a disruption occurs (display 150.0°C). The burner stops, all pumps are switched on (to prevent a rise in the boiler temperature).

19 - Extraction auger is blocked

The thermal contact on the motor of the storage area auger has triggered. The boiler is still ready for operation.

The suction process took too long and the motor overheated

The motor was blocked by a blockage and overheated

Electrical contact fault in the motor supply line

► Switch the boiler off and allow the motor to cool down!

► Visually inspect the pellet hose for blockage, rectify as necessary.

20 - First ignition attempt was unsuccessful

The boiler remains in operation and starts a second ignition attempt. - If the second ignition attempt is also unsuccessful, message No. 40 is shown.

21 - Triac pellet auger defective

23 - Communication with electronic module is interrupted

The CAN bus or RS-485 communication between the operating element (display) and the electronic module has been interrupted.

Interruption in the bus cabling

► Check cable connection

Error in the electronic module's power supply

► Check, replace if necessary

Incorrect device address for the electronic module

► Check whether the correct address is entered in the module for the intended use of the module. For further information, see the module's installation manual.

Fuse F1 or F3 on electronic module is defective

► Check, replace if necessary

24 - Safety chain has triggered

Due to a sudden reduction in the heat removal, the boiler temperature can rise above 90°C. In this case, the overtemperature reset trips and initiates a rapid shut-down of the boiler.

► Wait until the boiler temperature has dropped below 70°C.

► Remove the sealing cap on the overtemperature reset and depress the button until it stops.

► If the message appears again, contact qualified personnel.

25 - A power failure has occurred

The message serves to inform the system operator that there was a power failure. The boiler is operationally ready again.

26 - Mains fuse F3 defective

Mains fuse F3 on the electrical power element of the boiler is defective and must be replaced.

27 - Triac fuse F6 defective

Triac fuse F6 on the electrical power element of the boiler is defective and must be replaced.

30 - Feed blockage

The pellet auger is blocked.

Too many pellets in the filling chamber of the boiler; often as a result of ignition faults due to improper combustion grate support, > 36

► Switch the boiler off and allow it to cool down. Check the stainless steel combustion grate for soiling, heavy deposits.

31 - Heat exchanger is blocked

Message is triggered if the heat exchanger cleaning blocked the last time it was performed.

The boiler is still ready for operation.

32 - Heat exchanger is blocked

Message is triggered if the heat exchanger cleaning has blocked 5 times in a row. The boiler can only be switched back on once the message has been acknowledged.

Check the combustion chamber

► Check for overfilling, deposits

Perform output test

► Press the *Heat exchanger cleaning* button on the *Output test boiler* menu > *5.4 Customer menu* > 14

33 - No feed motor current flow

35 - CANbus interruption

Communication between the operating element (touch display) and the boiler's electrical power element is interrupted.

Bus cable defective

► Check cable connection

CANbus interface defective

► Check

36 - Fuse at fresh water module defective

A fuse in the electronic module of the fresh water module is defective and must be replaced. (Message only possible with electronic module with RS485 bus system, not with CAN bus).

37 - A fuse in the electronic module (solar module) is defective

A fuse in the electronic module (solar module) is defective and must be replaced. (Message only possible with electronic module with RS485 bus system, not with CAN bus).

38 - Commissioning settings have been loaded

During commissioning of the heating system, the customer-specific settings were saved (by qualified personnel). The message is triggered when this saved status is loaded back into the control.

40 – Ignition not possible

This message appears after two unsuccessful ignition attempts.

Intermediate pellet store is empty

► Check whether pellets are being conveyed

The combustion chamber or flue gas pipe to the chimney is full of ash

► Check and if necessary empty, clean

The combustion chamber door is not closed properly

► Check

The stainless steel combustion grate is covered with ash and should be cleaned check

► Check

The stainless steel combustion grate is worn, pellets are falling through

► Visual inspection inside the combustion chamber/ash container

Fault on the ignition device

► Contact qualified personnel

An auger is defective (pellet auger, tank auger, storage area auger)

► Contact qualified personnel

41 - Fuse F1 or F8 defective

Concerns the electrical fusing on the boiler's power element. Message is triggered when the 24 V DC supply is not available for the digital outputs.

Fuse is defective

► Check, replace if necessary

42 - Shortage of pellets in storage area

Message triggered, if at the automatic diverter for suction heads (optional accessory) only two suction heads are marked as *full* > 15 (if a total of only two heads is present, then if only one head is still marked as *full*).

Low filling level in pellet storage area

► Check the fill level, if necessary cover suction heads with pellets, fill the pellet storage area.

43 - Fault in diverter for suction heads (DFSH)

This message only appears in conjunction with the optional accessory *Automatic diverter for suction heads*, see also separate manual DR-0004.

There is an operating fault on one of the DFSH components (motor, switch) or their cabling to the electronic module.

The CAN bus communication between the **Eco**manager-*touch* boiler control and the electronic module works.

One of the two switches (position switch, reference switch) in the DFSH is defective, or there is a disruption, short-circuit

► Check switches, replace if necessary

Cabling fault between DFSH (motor, switches) and electronic module

► Check cabling

Input/output on the electronic module is defective

► Check

Fuse F2 (relay output) on the electronic module is defective

► Check, replace if necessary

The DFSH's motor is defective

► Check motor, replace if necessary

Permitted positioning run duration exceeded (> 20 sec)

► Check position pins (shorter clamping pins)

44 - Communication error cascade

46 - The ash container is full and must be emptied

47 - Heating boiler maintenance recommended

49 - Boiler door or ash container is open

Check the cladding door and the cover of the ash container for correct closure.

50 - The boiler door is open! A burner start is not possible.

Check the cladding door for correct closure.

51 - Battery in operating element is dead

A replaceable buffer batter (CR2032) ensures that data (time, settings) are retained when the power supply is switched off.

52 - Limiting thermostat is open

The heating circuit limiting thermostat is open. Heating water with excessive temperature was diverted to the heating circuit. The thermostat responds and stops the heating circuit pump, damage to the heating circuit is prevented.

Operating fault/defect on one of the components

► Check that the heating circuit pump, heating circuit mixing valve and heating circuit flow sensor are working properly.

67 - Indoor air damper does not open

This message only appears in conjunction with the optional accessory *Indoor air module for indoor air damper*, see also separate manual DR-0071.

The indoor air damper's slide does not open. Consequence: The burner is no longer ready for operation.

Mechanical problem possible

► Check for slide obstructions (e.g. snow/ice, dirt).

68 - Indoor air damper does not close

This message only appears in conjunction with the optional accessory *Indoor air module for indoor air damper*, see also separate manual DR-0071.

The indoor air damper's slide does not close. The burner remains ready for operation.

Error in the cabling, cable break

► Check cable connection

69 - Error communicating with the indoor air module

This message only appears in conjunction with the optional accessory *Indoor air module for indoor air damper*, see also separate manual DR-0071.

Communication error with the electronic module (which controls the indoor air damper).

The burner is no longer ready for operation.

A fuse in the electronic module is defective

► Check fuse, replace if necessary

Error in the electronic module's power supply

► Check

Faulty bus cabling

► Check cable connection

Incorrect device address set for the electronic module

► Check

71 - No current flow heat exchanger

72 - Note: No current flow heat exchanger

73 - Fault in reference switch, diverter

This message only appears in conjunction with the optional accessory *Automatic diverter for suction heads*, see also separate manual DR-0004.

During the zero point search of the diverter for suction heads, the reference switch was not actuated.

The reference switch in the DFSH is defective, or there is a disruption, short-circuit

► Check switch

Cabling fault between DFSH (reference switch) and electronic module

► Check cabling

Inaccurate position of the reference switch

► Check switch, for secure seating, mechanical fault, etc.

Problem with position pin, possible mechanical fault

► Check position pin (longer clamping pin)

74 - Differential pressure switch has triggered

This message is only possible with the **pellet** elegance boiler with combustion grate, see also separate manual DR-0138.

The differential pressure switch has triggered due to a pressure difference in the flue gas line. In pellet mode, the switch's triggering pressure is 0.8 mbar.

Air cross sectional area too small for the escaping flue gas, due to accumulated water not flowing out of the combustion grate.

► Check the condensate drain (unscrew the trap) and check the blow-off line for dirt, blockage.

Deposits in the spiral housing (ID fan) of the boiler.

► Remove the flange plate on the spiral housing, and check the spiral housing for ash deposits, clean if necessary.

75 - Room temperature sensor assignment

76 - Overtemperature reset triggered

77 - Fuse F12 defective

Fuse F12 protects the X26, X27 and X80 outputs on the boiler power element (holding magnets for the air supply to the boiler). If the fuse trips, this may indicate a fault with one of the magnets.

For further information on the use of the connections, see the boiler installation manual, *Electrical connection* section, *Connections to the power element* section.

Defective fuse

► If the fuse responds repeatedly, check the output magnets (e.g. with a multimeter).

► Another cause of the tripping could be a fault/defect on the power element's rectifier.

► Check cause, replace fuse.

– A spare fuse for F12 can be found at slot F13; further information about the electrical fuses > 45

– For information regarding the accessibility of the power element, see the boiler installation manual.

78 - Automatic ash extraction blockage

79 - No current flow automatic ash extraction

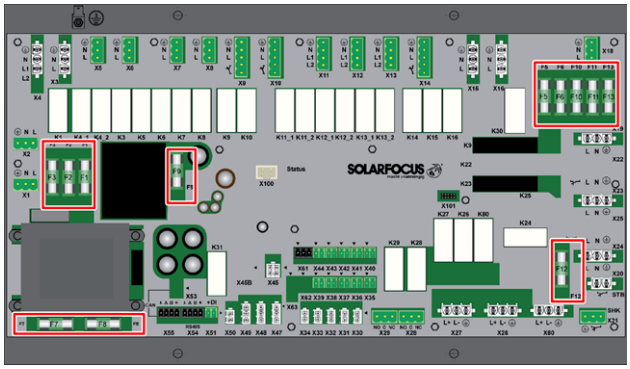
18 Electrical fusing

DANGER - There is a risk of fatal electric shocks when working on electrical components of the system

– Work may be performed only by a qualified electrician.

– Applicable standards and regulations must be observed.

Position of the fuses on the power element



Fuses on the power element

	Rating	Size	Use
F1	T 3.15A	5x20 mm	230V AC fuse: Pre-fusing main transformer
F2	T 125mA	5x20 mm	230V AC fuse: Pre-fusing standby transformer
F3	T 10A	5x20 mm	230V AC fuse: Relay outputs
F5	F 8A	5x20 mm	Fuse for X18 (power supply to external modules 230V AC)
F6	F 8A	5x20 mm	230V AC fuse: Triac outputs
F7	T 2.5A	5x20 mm	12V AC fuse: Heating lambda sensor
F8	T 2.5A	5x20 mm	18V AC fuse: Internal electronics for main transformer
F9	T 800mA	5x20 mm	18V AC fuse: Internal electronics for standby transformer; display supply
F10	T 10A	5x20 mm	Spare fuse
F11	F 8A	5x20 mm	Spare fuse
F12	F 0.5A	5x20 mm	230 VAC fuse: Relay outputs X26, X27 and X80
F13	F 0.5A	5x20 mm	Spare fuse for F12

For information regarding the accessibility of the power element, see the boiler installation manual.

19 ErP product data sheet

According to Regulation (EU) 2015/1187 and 2015/1189

Manufacturer	SOLARFOCUS GmbH., Werkstraße 1, 4451 St.Ulrich/Steyr			
Model designation	**pellet** elegance 10	**pellet** elegance 15	**pellet** elegance 20	**pellet** elegance 24
Energy efficiency class	A+	A+	A+	A+
Nominal heat output P_r kW	9.9	14.9	19.8	24
Energy Efficiency Index EEI %	114	119	121	122
Space heating annual usage η_s %	77	80	82	83
Special precautions to be taken for assembly, installation and maintenance	The enclosed technical data sheets, installation manuals and warranty passes must be observed before assembly, installation or maintenance. The relevant, country-specific standards and guidelines must be observed for the installation and operation of the solid fuel boiler.			

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