Centrometal
HEATING TECHNIQUE

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ENG

TECHNICAL INSTRUCTIONS

CE

Description and using of EKO-CKS Multi Plus boiler control unit

- USER

THE FIRST START-UP MUST BE DONE BY AUTHORIZED PERSON, OTHERWISE PRODUCT WARRANTY IS NOT VALID.

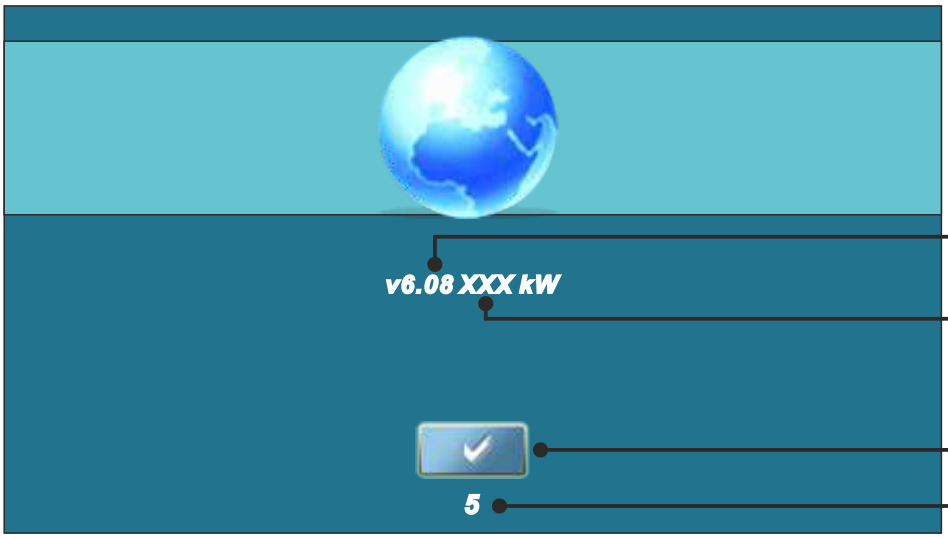
EKO-CKS Multi Plus

TU-E-CKSMP-R-2-2025-v6.10j-ENG

DESCRIPTION

SWITCHING ON

After turning on the main switch, screen will display language selection menu and software version.



Software version

Boiler power [kW]
(170, 250, 340, 450, 580)

”OK” button

Initial message duration
(countdown)

When turning the main switch the screen should not be pressed (by finger ...). If the screen when you turn the main switch is pressed (on the screen labeled "Firmware update") regulation is in ”software update“ that can be used by authorized personnel only. If this happens, it is necessary to turn off the main switch and restarted without any pressure on the display.

MAIN MENU

The main menu is used to select the desired submenu. To select a specific menu you must press the appropriate icon on the screen. To switch between the ''Main menu'' and ''Boiler working display'' press the button ''Display selection''. To switch between graphic and numeric display of the boiler using press ''Boiler operation display''.

BUTTONS

Button ''**ON / OFF**''
options: ON / OFF boiler operation''

Button ''**OK**''

Button ''**DISPLAY SELECTION**''
options: main menu / work

Button ''**START**''/''**STOP**''

Button ''**BOILER OPERATION DISPLAY**''
options: graphic / numeric

Navigation buttons:
''**LEFT**'', ''**RIGHT**'', ''**UP**'', ''**DOWN**''

Button ''**ENTER**''

Button ''**DELETE**''

Button ''**BACK**''

Button ''**FACTORY SETTINGS**''

Button''**PREVIOUS SCREEN**''

Button ''**INFORMATION**''

Button ''**NEXT SCREEN**''

Button ''**COPY**''

Button ''**PASTE**''

SYMBOLS

Pump (when pump is working symbol is rotating, otherwise idle)

The pump has a request for work (next to the pump symbol bright yellow square when the consumer given the demand for work the pump, the pump does not work if you have not met all the conditions for work, for example. low temp. in the boiler, otherwise the pump normally works)

Room thermostat

Next to the room thermostat symbol bright blue circle (the room thermostat has requested for operating the pump, the pump does not work if you have not met all the conditions for its operation, for example: low temp. in the boiler, otherwise normally works)

Heating circuit

Domestic hot water tank with current temperature

External start enabled

Alternative boiler: Manual OFF

Alternative boiler: Manual ON

Alternative boiler: AUTO START

Alternative boiler: ON

Alternative boiler: OFF

Alternative boiler: FREEZE ON

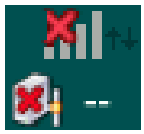
Hydraulic crossover with the current temperature

Accumulation tank with current temperature at top of the tank and at the bottom of the tank.

All of external starts are disabled (crossed out with red color)

Compressor symbol with work indicator (ON / OFF).

Some of external start are disabled (crossed out with black color)



CM-GSM module network status

Regulation is connected with web portal (internet supervision is possible)

Regulation is not connected with web portal (internet supervision is not possible)

Profibus

BOILER OPERATION PRINCIPLE:

After the boiler is enabled to work (START), the boiler tries to meet the set water temperature in the boiler by automatically adjusting the current heat production (see below: **BOILER MODULATION IN WORKING PHASES (DX)** and **OPERATION PHASES (RUNNING STAGES).**
START / STOP of the boiler can be done manually on the screen of the boiler control unit (see **BOILER START / STOP** below) or by remote monitoring (see **5.3.x. INTERNET SUPERVISION**) or by **SCHEDULE** (see **3.2.1. SCHEDULE**). If the boiler heats the water in the boiler to the set temperature, it goes into the **PAUSE** phase (S0) and waits for the condition for a new start of the burner to be met (the temperature in the storage tank must drop by the value of the set difference, see **2.3. - A - dTpuf (Accumulation tank temperature difference)**).

OPERATION PHASES (RUNNING STAGES) (SHOWN ON THE SCREEN)

PHASE (R. S.)	DESCRIPTION
OFF	Boiler is switched "OFF "
S0	Boiler burner doesn't work (standby, pause). Boiler waits for demand for start.
S0.1	The burner does not work, the boiler can be started using external control (external start), the boiler is waiting for a start request from the external control.
S1	Initial fuel filling phase
S1.1	Additional fuel charge phase. (If no flame occurred in the default time). It can be disabled.
C0	Waiting for flame to appear
C1...C2 (C3)	Stabilization phases
D0...D5	Working phases
A0, A1, A2, A3	Shutting down phases
PF	Phase - program after power failure / the re-arrival of electricity, PF (lasts 30 seconds), follows PFC0 (ignition of residual fuel), PFA0 (shutting down phase - A0), PFA1 (shutting down phase - A1).

BOILER MODULATION IN WORKING PHASES (DX):

Reducing the power:

D5==> **D4**
Tb1>=(Tb-4.5°C),

D4 ==> **D3**
Tb1>=(Tb-4.0°C),

D3 ==> **D2**
Tb1>=(Tb-3.5°C),

D2==> **D1**
Tb1>=(Tb-3.0°C),

D1 ==> **D0**
Tb1>=(Tb-0.5°C),

D0==> **A0**
Tb1>=(Tb+Te) or Tb1>=95°C

Raising the power:

D0==>**D1**
Tb1<=(Tb-1),

D1==> **D2**
a) D0=>D1==> **D2**
Tb1<(Tb-3.0°C)
b) D2=>D1==> **D2**
Tb1<(Tb-3.0°C) and expired set min. time on D1,

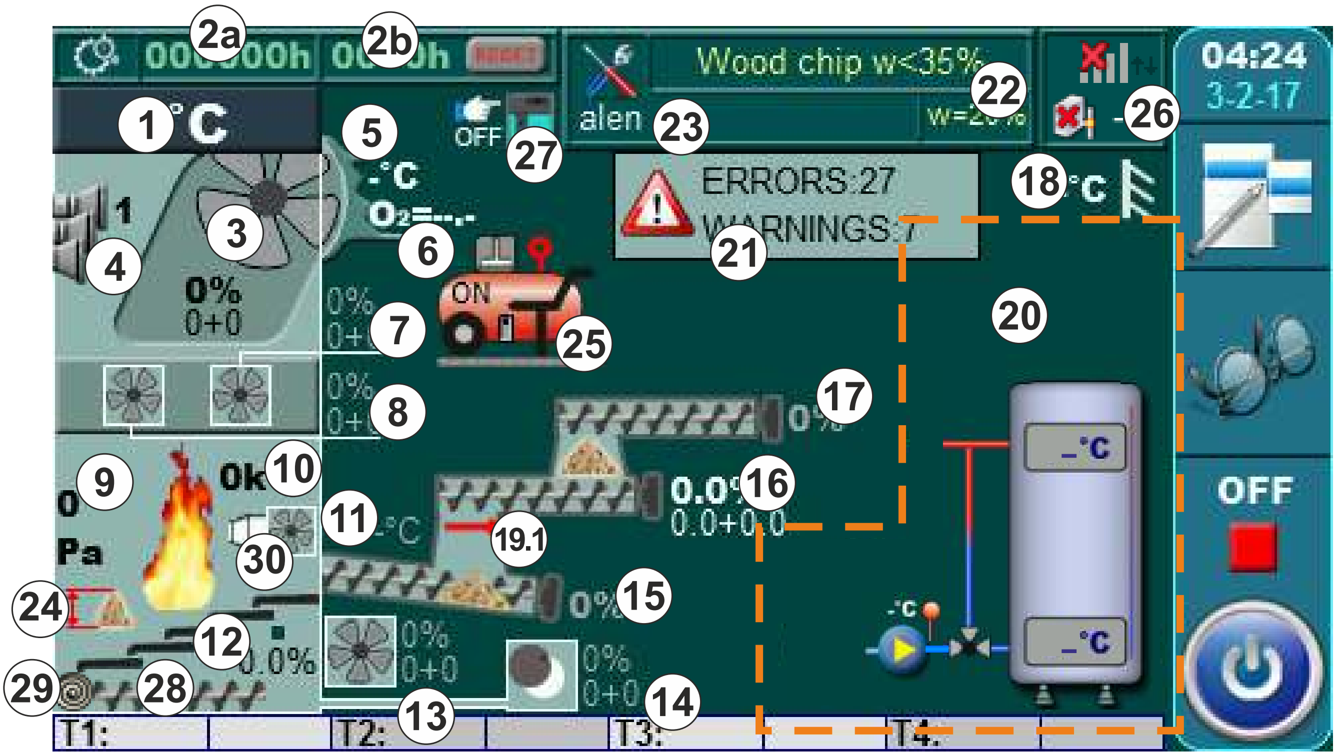
D2 ==> **D3**
a) D0=>D1=>D2==> **D3**
Tb1<(Tb-Difference) and set min. time on D2,
b) D3=>D2==> **D3**
Tb1<(Tb-3.5°C) and set min. time on D2,

D3 ==> **D4**
Tb1>=(Tb-4.0°C) and set min. time on D3,

D4==> **D5**
Tb1>=(Tb-4.5°C) and set min. time on D4

Legend:
Tb – set boiler temperature:
a) configuration: BUFFER TANK:
a1) (Tpuf <80°C) => **Tb**=(Tpuf +5);
a2) (Tpuf >=80) =>**Tb**=(Tpuf +3)
b) configuration: CRO (hydraulic crossover) **Tb** = (factory) 80°C, can be set 75-80 °C
Tpuf – set accumulation tank temperature, factory = 80°C, can be set 75-90 °C
Tb1 – measured boiler water temperture
Te –factory set parameter = 5°C
DX – working phases (D0…D5)
difference:
a) configuration: BUFFER TANK: **difference** = 5°C
b) configuration: CRO (hydraulic crossover): **difference** = (factory) 5°C, can be set 5-10°C

MAIN SCREEN


000000h
0000h
°C
OFF
-°C
O2=-.-
alen
Wood chip w<35%
w=20%
04:24
3-2-17
ERRORS:27
WARNINGS:7
ON
0%
0+0
0k
0
Pa
0.0%
0.0+0.0
OFF
T1:
T2:
T3:
T4:


000000h
0000h
-°C
-°C
O2=-.-
Wood chip w(U)<35%
test
w=20%
04:58
1-1-0
ERRORS:24
WARNINGS:4
0%
0+0
0k
0
Pa
0.0%
0.0+0.0
OFF
T1:
T2:
T3:
T4:

1 - Boiler temperature
2a - Working hours counter
2b - Working hours counter with reset option
3 - Cyclone
4 - Pneumat (air cleaning)
5 - Flue gas temperatures
6 - Lambda probe
7 - Secondary air 1 fan
8 - Secondary air 2 fan
9 - Firebox pressure
10 - Photocell
11 - Conveyor 1 temperature
12 - Movable grate
13 - Primary air fan
14 - Primary air fan lid
15 - Conveyor 1
16 - Conveyor 2
17 - Conveyor 3
18 - Outdoor temperature
19.1 - Backfire protection lid (standard delivery)
19.2 - Backfire protection - Rotary valve (special order)
20 - This area depend on configuration
21 - Errors and warnings
22 - Choosen fuel
23 - Name of saved settings image
24a - Bunch with a blue angular arrow (The firebox flap is raised to the height when the first microswitch is pressed, the boiler conveyors (screw feeder) work in a special mode).
24b - Bunch with a red angular arrow (The firebox flap is raised to the height when the first and second microswitches are pressed, the error "E119 - FUEL TOO HIGH" is announced and the automatic electrical fuses "DI" and "F2" eject in the el. boiler cabinet. Conveyors (screw feeder) do not work.
25 - Compressor with showned status (off / on) (if is installed - additional equipment)
26 - Network status (CM-GSM/WiFi) / Profibus (if is installed - additional equipment)
27 - Alternative boiler status (if it exist)
28 - Ash removing
29 - Ash transport - TP-3M/9M/3000L-Multi Plus 340-580 (only for Multi Plus 340/450/580) (if is installed - additional equipment)
30 - Electric heater
31 - External control (external boiler start) is configured

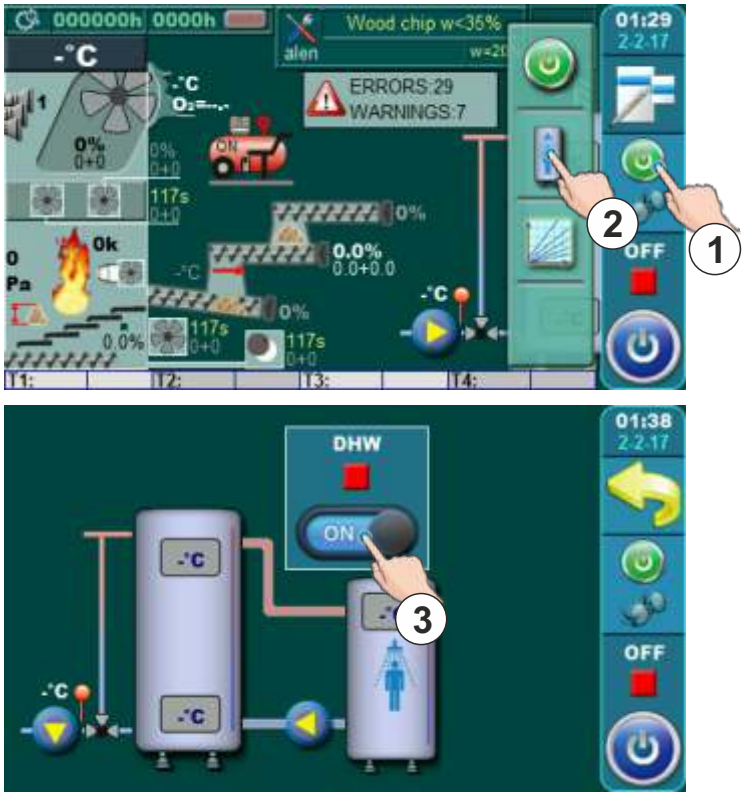
DROPDOWN MENU

Select equipment can be managed through dropdownm menu on main screen of boiler control unit.

Dropdown menu

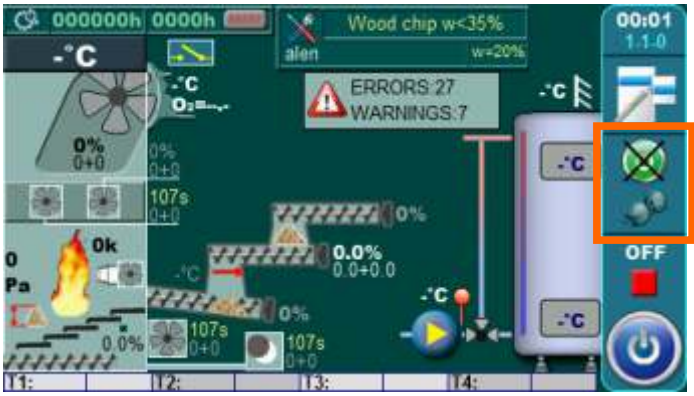
By pressing button for boiler operation on display will be displayed dropdown menu for acces to configurated equipment.

Example 1:
- acces to domestic hot water option through dropdown menu (ON/OFF)

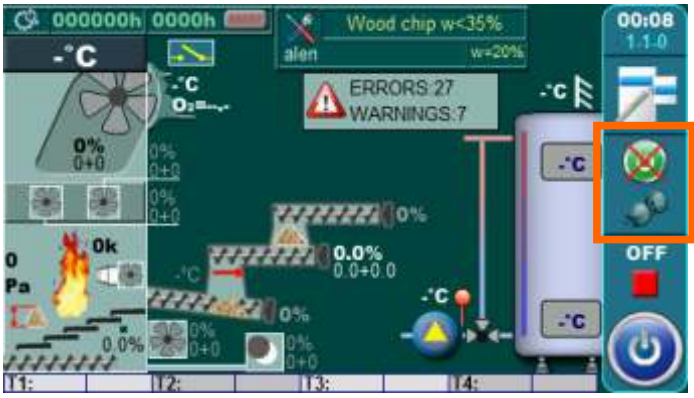


By pressing button for boiler operation (1) on display will be displayed dropdown menu. By pressing on button for domestic hot water (2) on display will be displayed menu for domestic hot water managment where is possible to switch on / off option for domestic hot water by pressing button (3).

Example 2:
- disabling the start of the boiler through Internet supervision and/or external control



Some of external start are disabled (crossed out with black color)

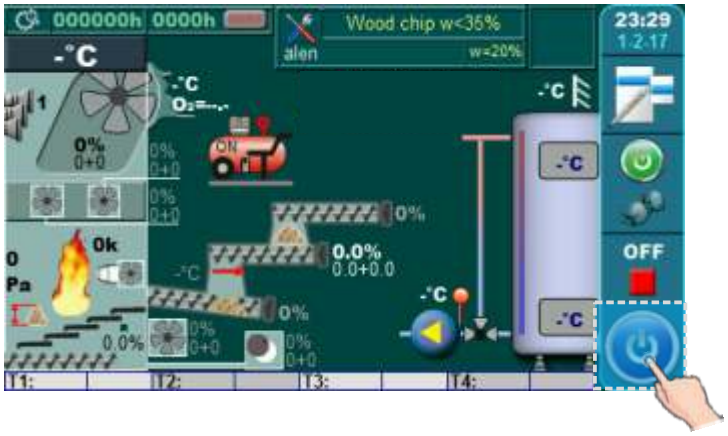


All of external starts are disabled (crossed out with red color)

BOILER START / STOP

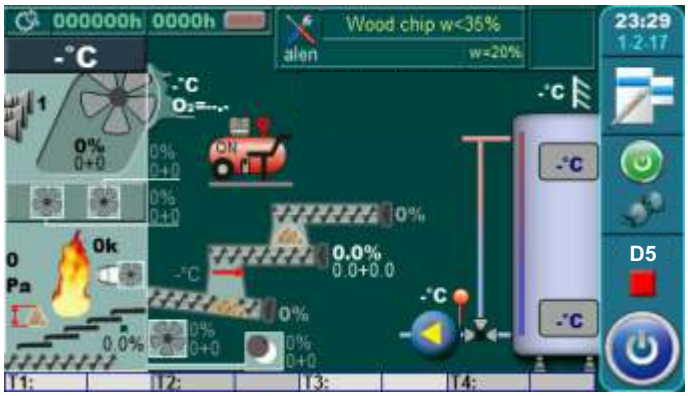
BOILER IGNITION (BOILER START) ON THE CONTROLLER SCREEN:

For boiler start is neccesary to press ON / OFF button. After pressing ON / OFF button on display will be displayed window for boiler start confirmation. Press „OK" to confirm boiler start.



BOILER SHUTDOWN (BOILER STOP) ON THE CONTROLLER SCREEN:

For boiler stop is neccesary to press ON / OFF button. After pressing ON / OFF button on display will be displayed window for boiler stop confirmation. Press „OK" to confirm boiler stop.

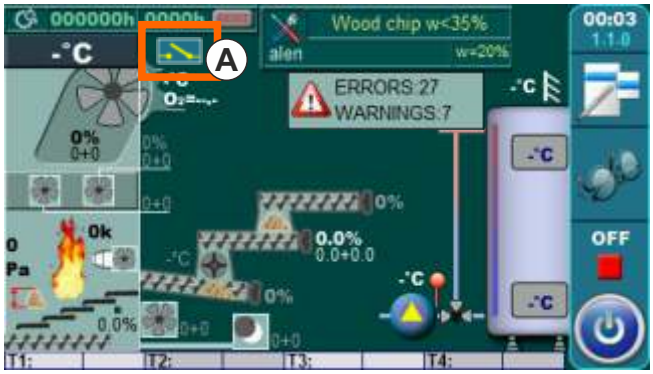


BOILER IGNITION (boiler start) / BOILER SHUTDOWN (boiler stop) using Schedule
- see point 3. SCHEDULE

BOILER IGNITION (boiler start) / BOILER SHUTDOWN (boiler stop) using Internet supervision
- see point 5.3.x. INTERNET SUPERVISION

BOILER IGNITION (boiler start) / BOILER SHUTDOWN (boiler stop) using external boiler start (external control)

- the authorized service technician needs to configure the external control (external start), the symbol (A) appears on the basic screen:



1. External start should be enabled:

2. Press the ON/OFF button , the boiler enters the mode in which the external start can turn the boiler on/off, the operating phase "S0.1" is displayed if the external start is not currently requesting boiler operation or some other boiler operating phase (except OFF) if the external start is requesting boiler operation.

IMPORTANT:
By pressing the ON/OFF button again, or by activating the schedule (shutdown) or by switching it off via internet supervision, the boiler will exit the mode in which the external start switches the boiler ON/OFF and will go into the shutdown phase and then to OFF if it was currently working or directly to OFF if it was not currently in operation. In this condition of the boiler (OFF), the external start will not be able to start/stop the boiler.

By pressing the ON/OFF button again, or by operating the schedule (shutdown) or by shutting down via internet supervision, the boiler will enter a mode in which an external start can turn the boiler ON/OFF.

DISABLING THE WORK OF EXTERNAL START:

- confirm with "OK"

- external start disabled

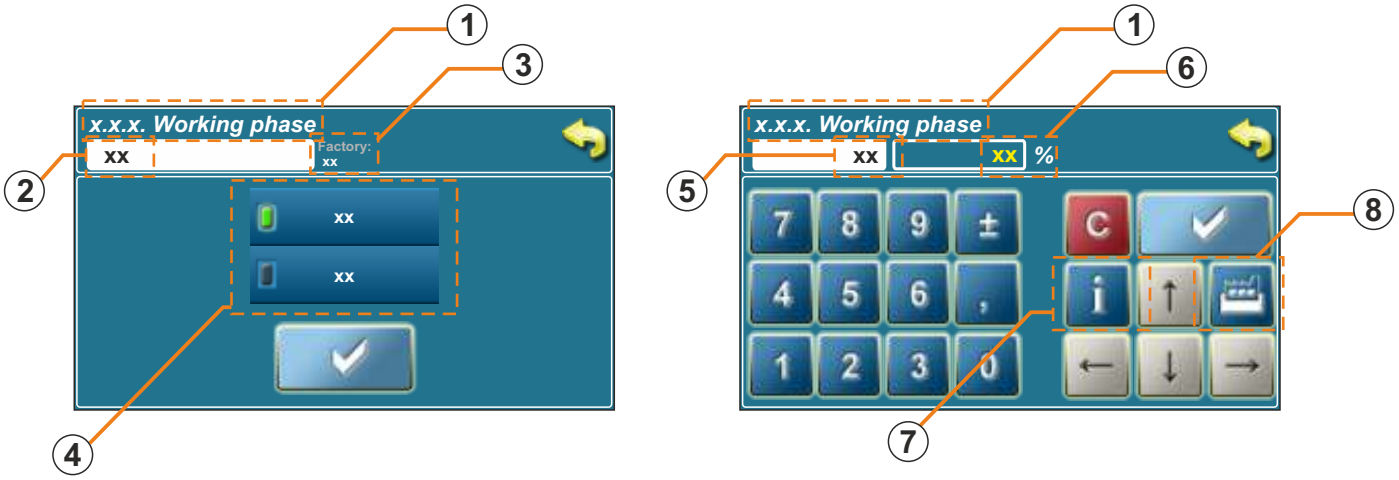
IMPORTANT:
When external start is disabled, it is not possible to turn the boiler ON/OFF using the external start. By pressing the ON/OFF button , or by operating the schedule or by turning it ON/oFF via internet supervision, the boiler will turn ON/OFF normally.

PARAMETERS MANAGMENT

Methods for parameters input

Method 1: entering parameters by choosing offered values.

Method 2: entering parameters by numerical keyboar (numerical values).



1. Working phase bar
- on this bar will be showned name of working phase for which changing parameters value

2. Parameter value
- in this box are shown currently adjusted value

3. Factory adjusted value
- in this box are shown factory adjusted value of this parameter

4. Possible selection (Method 1)
- in this box are located available options for choose

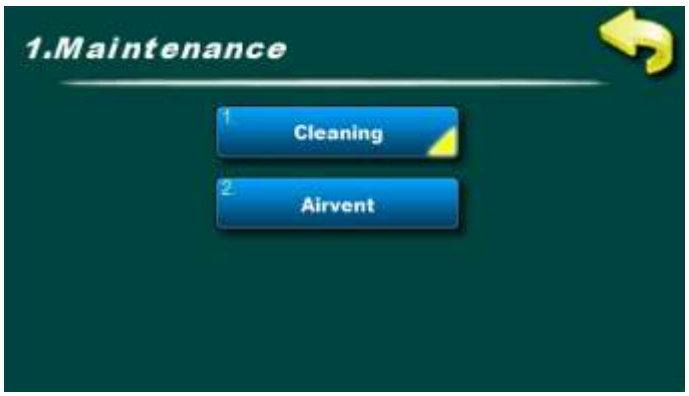
5. Parameter value
- in this box are shown currently write value

6. Currently adjusted value
- in this box are shown currently adjusted value of paramete (last confirmed)

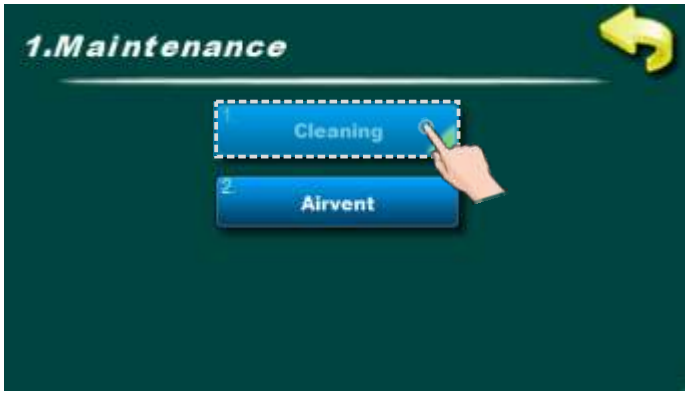
7. Info button
- info button telling us value of factory adjustment, max. possible value for adjustment and min. possible value for adjustment

8. Factory settings
- by pressing this button parameter value will be adjusted to factory value

1. MAINTENANCE



1.1. MAINTENANCE



1.1.1. CLEANING

Before cleaning is neccesary to start „Cleaning" option by pressing „START" button (1). Depending about which components are selected in point „1.1.3. Type" these components will be start with work with duration of 60 minutes (2). Now is possible to start with cleaning.
Pay attention to errors and warnings if they are displayed on the screen (3).

1.1.2. CYCLONE

In this parameter is possible to adjust percentage of cyclone work in cleaning option (if is cyclone selected in point „1.1.3. Type").

Possible adjustment:

- Factory adjustmen: 100%

- Minimal adjustment value: 20%
- Maximal adjustment value: 100%

1.1.3. TYPE

In this parameter is possible to select component which will be work in cleaning option (1.1.1. Cleaning).

Possible selection:

- Factory selected: Cyclone

- Cyclone
- Grate
- Ash removing
- Flue gas box conveyor (if is installed - additional equipment)

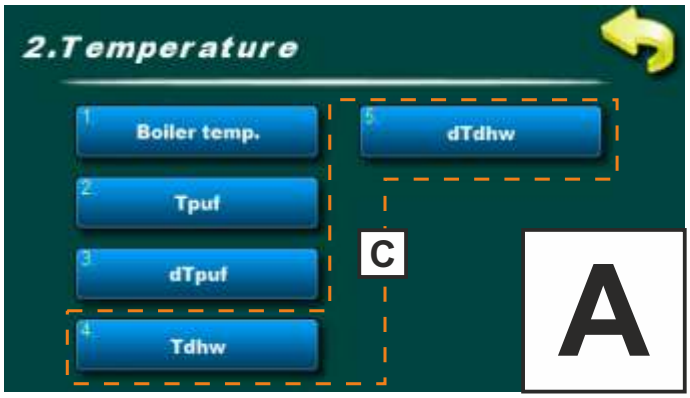
Every compontent can be selected independent on other components selection. All components can work in the same time.

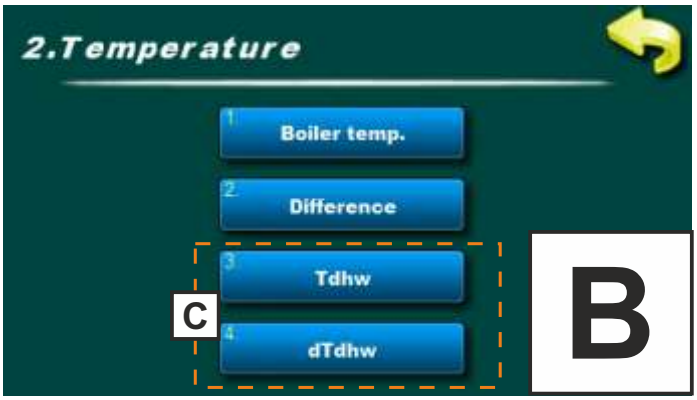
1.2. AIRVENT

By entering the "Airvent" menu and pressing the "START" button (2), the motor drives of all mixing valves and all pumps controlled by the boiler control start working (motor drives start by opening the mixing valves) (4), (6)), and the button "START" becomes the "STOP" button (5). By pressing the "STOP" button (5) the pumps and motor drives stop working ((1), (3)).

IMPORTANT!
Always after using the "AIRVENT" option, the boiler control must be switched OFF and ON again on the main switch (0/1) so that all motor drives close the mixing valves automatically, which is done as standard each time controller is switched ON at the main switch (0/1).

2. TEMPERATURE



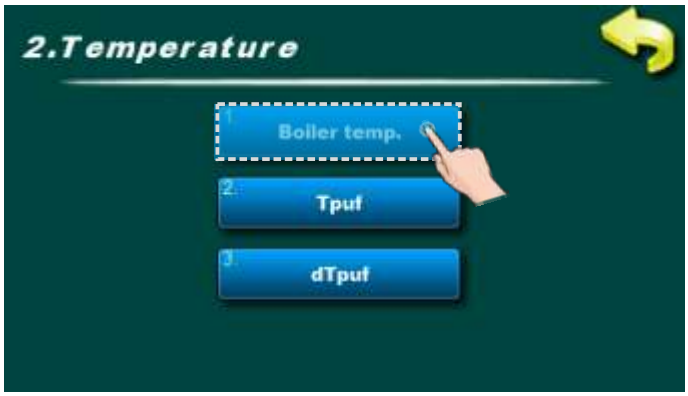


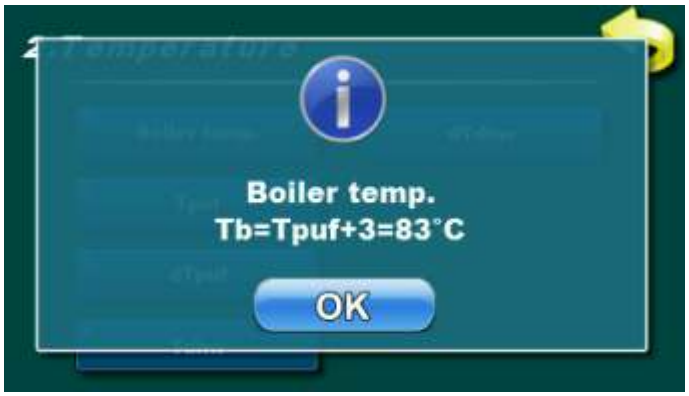
A - connection method: **„BUF**" (accumulation tank)
B - connection method: **„CRO**" (hydraulic crossover) - **NOT IN USE!**

C - only if **„DHW**" (domestic hot water) exist on heating system (must be configured like additional equipment)

A CONNECTION METHOD: **BUF (accumulation tank)**

2.1. - A - BOILER TEMP. (Boiler temperature)

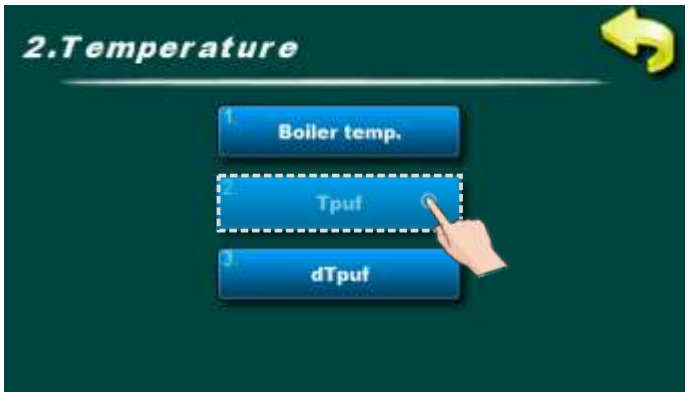




This parameter is adjusted automatic by displayed formula.

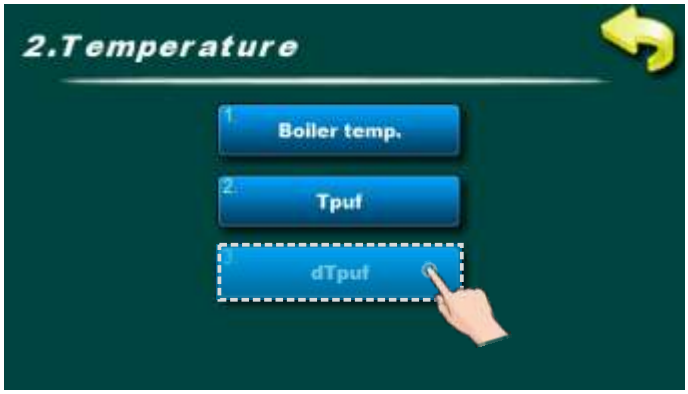
If it is (Tpuf<80°C) => **Tb** =(Tpuf + 5) °C;
If it is (Tpuf>=80°C) => **Tb** =(Tpuf + 3) °C

2.2. - A - Tpuf (accumulation tank temperature)



In this parameter is possible to adjust accumulation tank temperature.
Possible adjustment:
- Factory adjusted: 80°C
- Minimal adjustment value: 75%
- Maximal adjustment value: 90%

2.3. - A - dTpuf (Accumulation tank temperature difference)



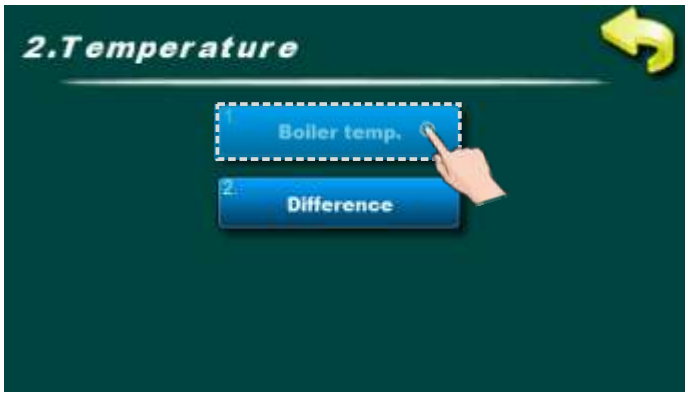
In this parameter is possible to adjust accumulation tank temperature difference.
Possible adjustment:
- Factory adjusted: 15°C
- Minimal adjustment value: 10°C
- Maximal adjustment value: 40°C

B

CONNECTION METHOD: **CRO (hydraulic crossover)**

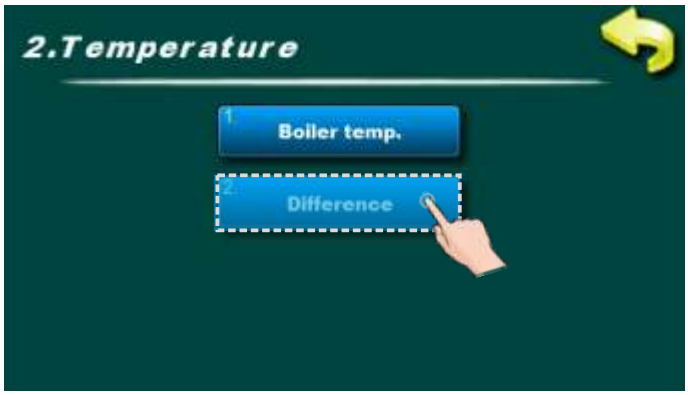
NOT IN USE!

2.1. - B - BOILER TEMP. (Boiler temperature)



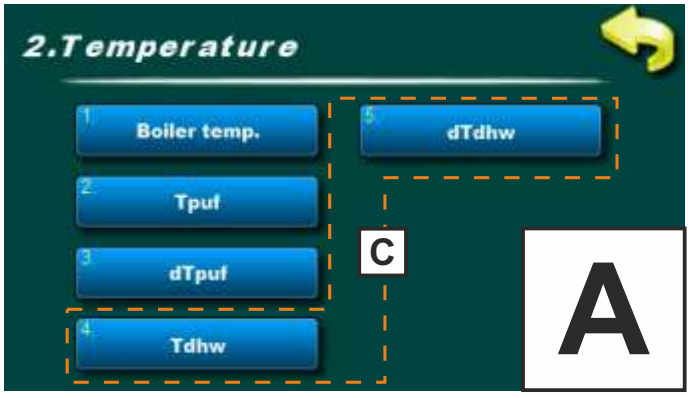
In this parameter is possible to adjust boiler temperature.
Possible adjustment:
- Factory adjustmen: 80°C
- Minimal adjustment value: 75°C
- Maximal adjustment value: 80°C

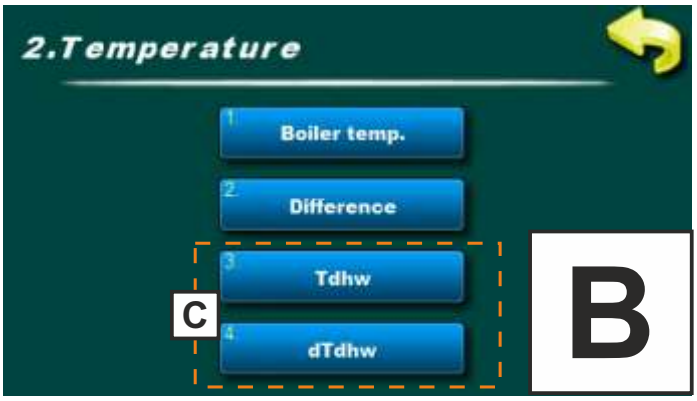
2.2. - B - DIFFERENCE



In this parameter is possible to adjust boiler temperature difference.
Possible adjustment:
- Factory adjustmen: 5°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 10°C

C ADDITIONAL EQUIPMENT: **DHW (domestic hot water)**





2.x. Tdhw (Domestic hot water temperature)

In this parameter is possible to adjust domestic hot water temperature.

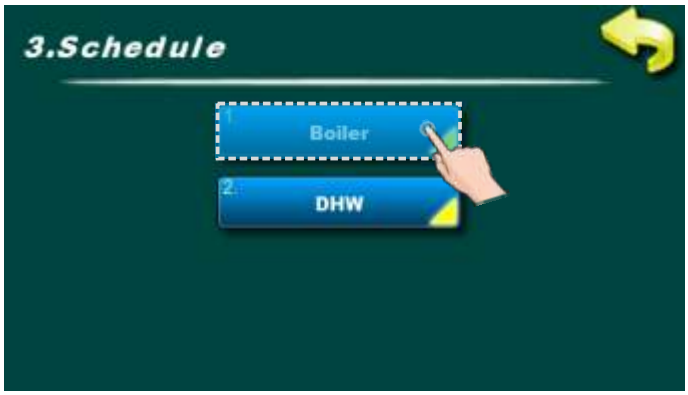
Possible adjustment:
- Factory adjusted: 50°C
- Minimal adjustment value: 10°C
- Maximal adjustment value: 70°C

2.x. dTdhw (Domestic hot water temperature difference)

This parameter can't be adjusteds. Factory adjusted difference for domestic hot water is 5°C.

3. SCHEDULE

3.1. BOILER



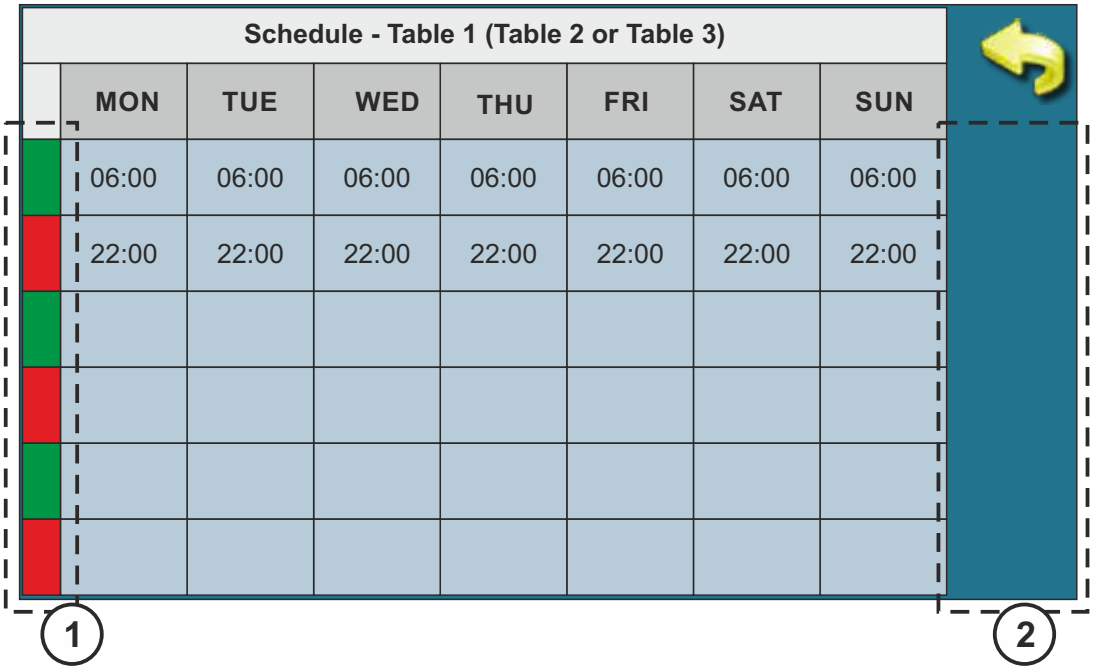
Boiler schedule adjustment.

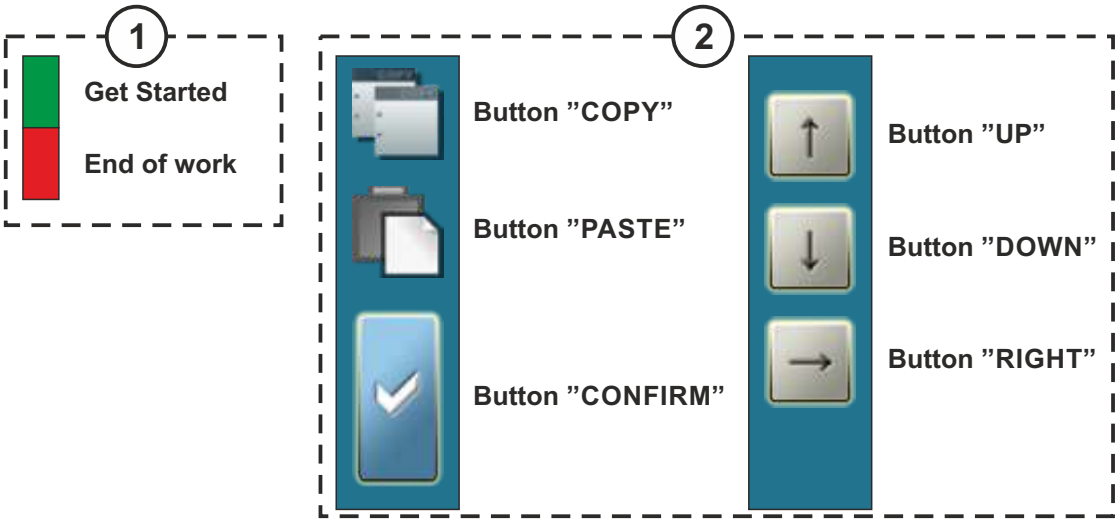
3.1.1. SCHEDULE

Possible selection:
- Factory selected: OFF (schedule is turned OFF)
- Table 1 - Scheduled starting times are turned-on and work according to the settings in Table 1
- Table 2 - Scheduled starting times are turned-on and work according to the settings in Table 2
- Table 3 - Scheduled starting times are turned-on and work according to the settings in Table 3

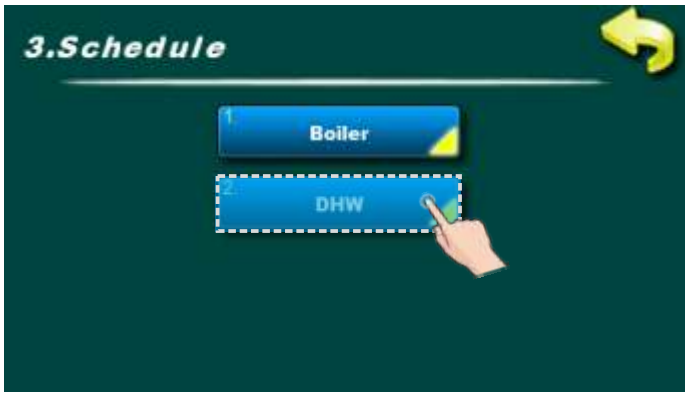
3.1.2., 3.1.3., 3.1.4. TABLE 1, 2, 3

Possibility of schedule is done using tables.They can be pre-set 3 tables of schedule of which only one table can be active. It is possible for every day of the week set 3 turning-on and 3 turning-off the boiler. Turn-on is marked by a green field and turn-off is marked with red field. You can adjust the starting times for one day and copied the same starting times to all other days. After setting the starting times for one day you have to click on the field that day (the whole day will be marked), on the right side will show the button**"COPY"**. Press this key (now you have copied the setting of that day and now will show button **"PASTE"**). It is necessary to press the day for which you want this settings and press the button **"PASTE"**. After that, the same starting time will be copied in the selected day. If you want the same settings for the other days, just select the desired day and press button **"PASTE"**. After filling the table with the starting times, press button **"BACK"**, and press button **"CONFIRM"** for saving this settings.



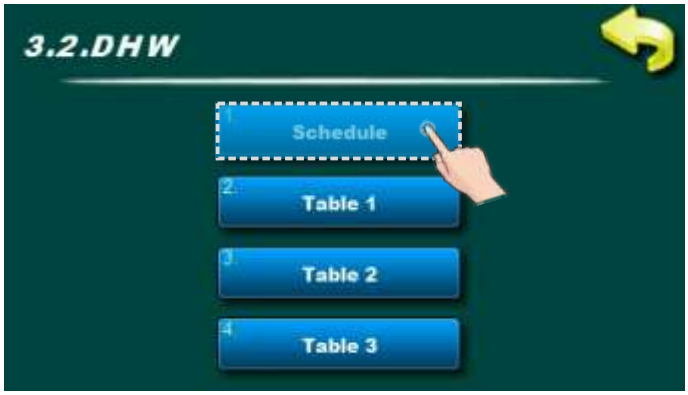


3.2. DHW



Domestic hot water schedule adjustment.

3.2.1. SCHEDULE



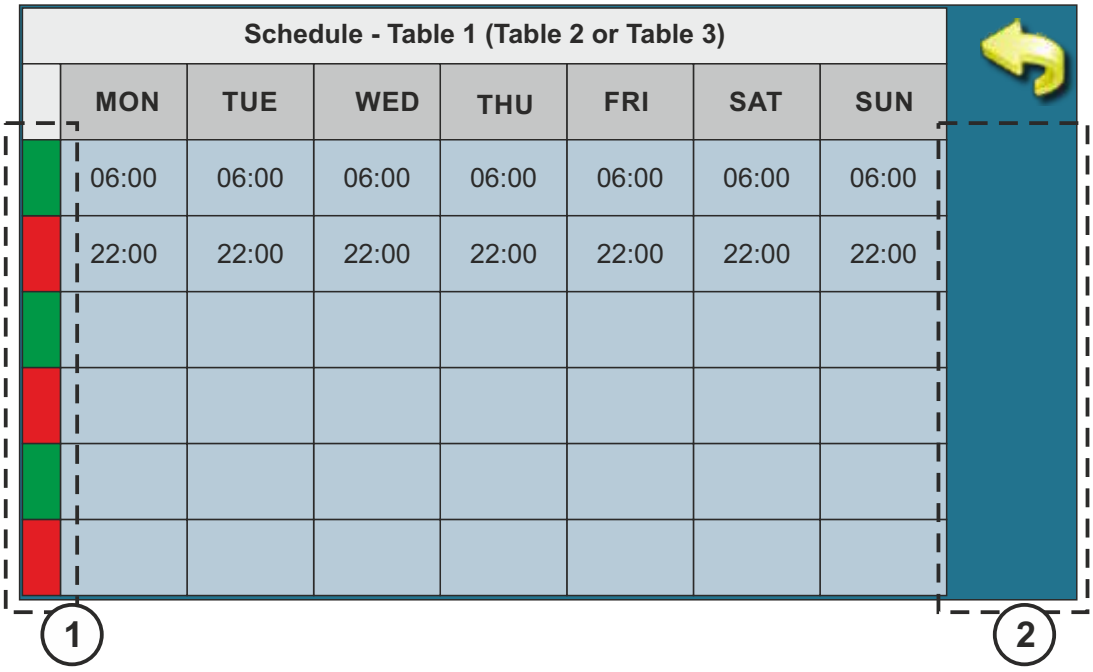
Possible selection:

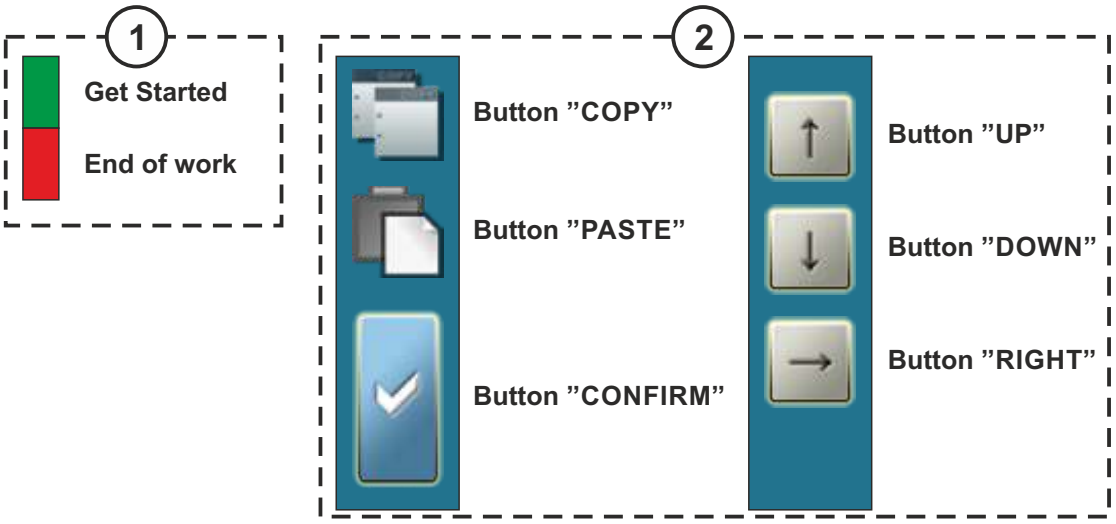
- Factory selected: OFF (schedule is turned OFF)

- Table 1 - Scheduled starting times are turned-on and work according to the settings in Table 1
- Table 2 - Scheduled starting times are turned-on and work according to the settings in Table 2
- Table 3 - Scheduled starting times are turned-on and work according to the settings in Table 3

3.2.2., 3.2.3., 3.2.4. TABLE 1, 2, 3

Possibility of schedule is done using tables. They can be pre-set 3 tables of schedule of which only one table can be active. It is possible for every day of the week set 3 turning-on and 3 turning-off the boiler. Turn-on is marked by a green field and turn-off is marked with red field. You can adjust the starting times for one day and copied the same starting times to all other days. After setting the starting times for one day you have to click on the field that day (the whole day will be marked), on the right side will show the button **"COPY"**. Press this key (now you have copied the setting of that day and now will show button **"PASTE"**). It is necessary to press the day for which you want this settings and press the button **"PASTE"**. After that, the same starting time will be copied in the selected day. If you want the same settings for the other days, just select the desired day and press button **"PASTE"**. After filling the table with the starting times, press button **"BACK"**, and press button **"CONFIRM"** for saving this settings.





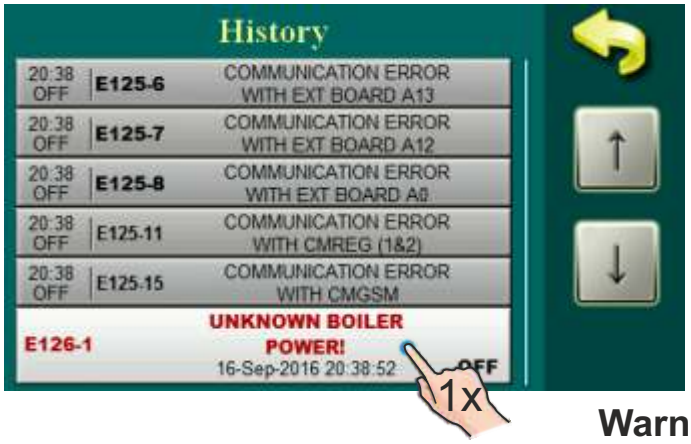
4. HISTORY

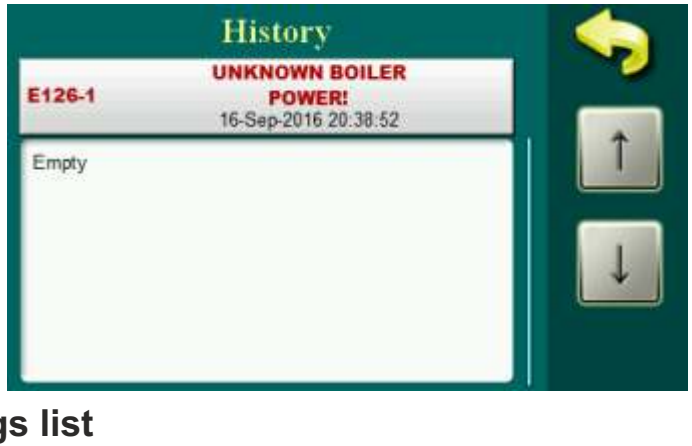
By pressing on „History" button will be opened menu for choosing history list. It can be choosen between error list and warning list. Informations history are placed with error list.

Written is: - time of occurrence errors/ warnings/ informations
- error/warning/information code
- description of the error/warning/information.

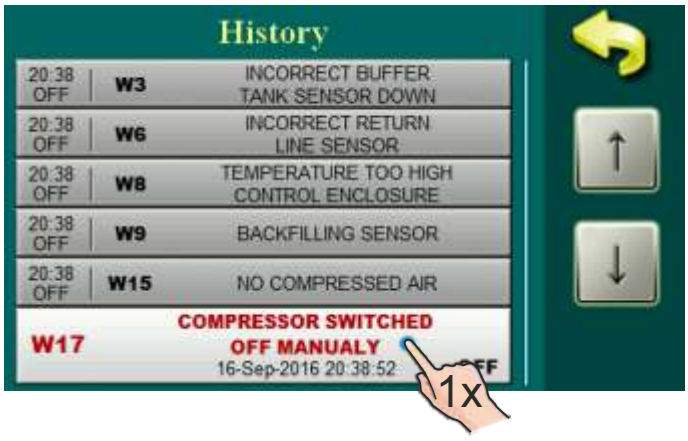
The first press on the field error/warning/information field is indicated, in addition to see and date generated errors/warnings/information. The second press on the selected error/ warning/information, prints a detailed description of the error/warnings/information and corrective action errors/warnings/information. If for some error/warning/information there is no description on current software version, on the screen will be displayed "Empty".

Errors list





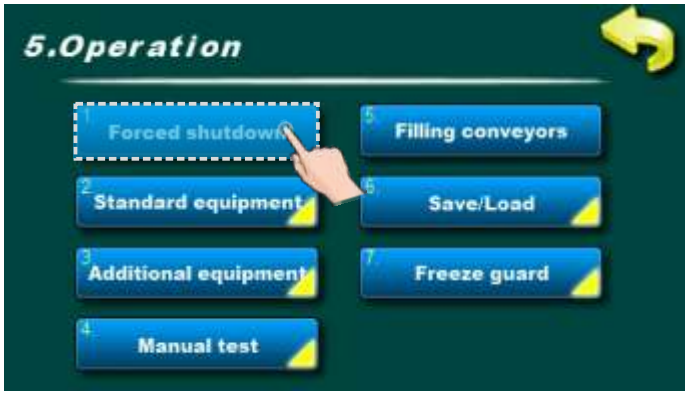
Warnings list



5. OPERATION

If alternate boiler exist (if is configured - additional equipment)

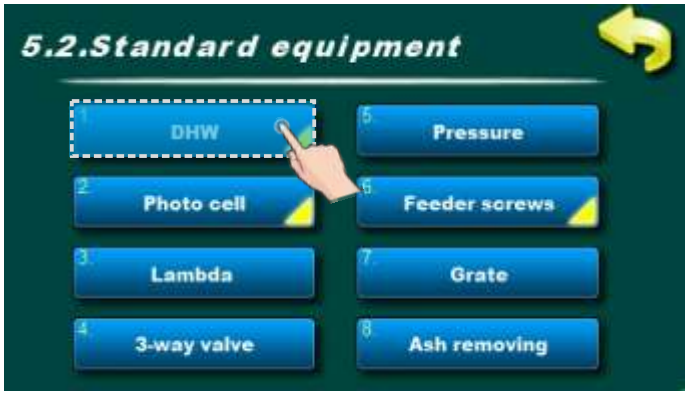
5.1. FORCED SHUT DOWN

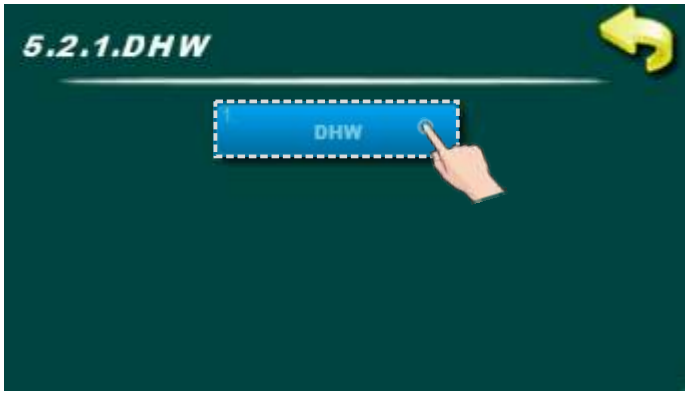


Option for boiler force shut down. By pressing on „OK" button boiler and all boiler processes will be forced shut down.

5.2. STANDARD EQUIPMENT

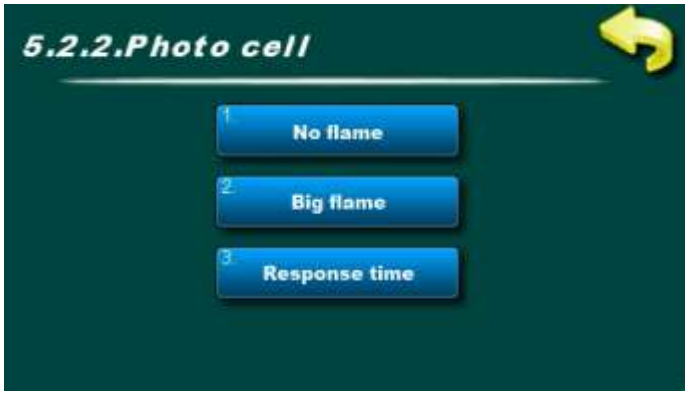
5.2.1. DHW



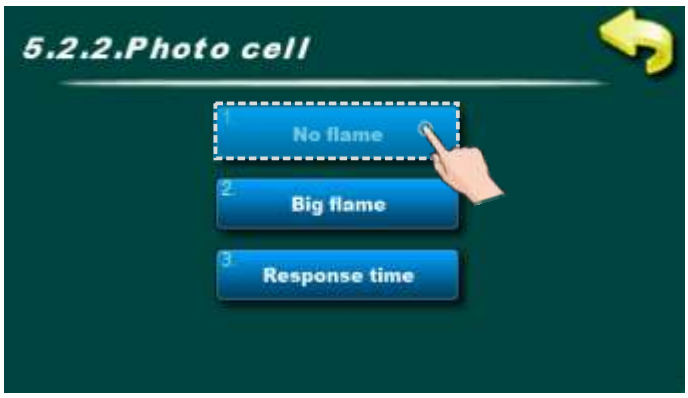


Option for turning on/off domestic hot water.

5.2.2. PHOTOCELL

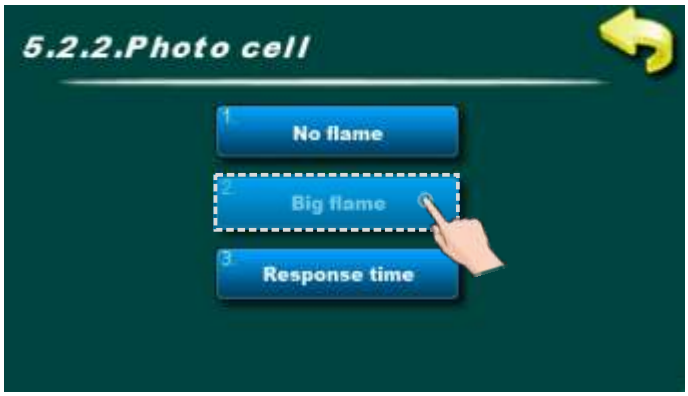


5.2.2.1. NO FLAME



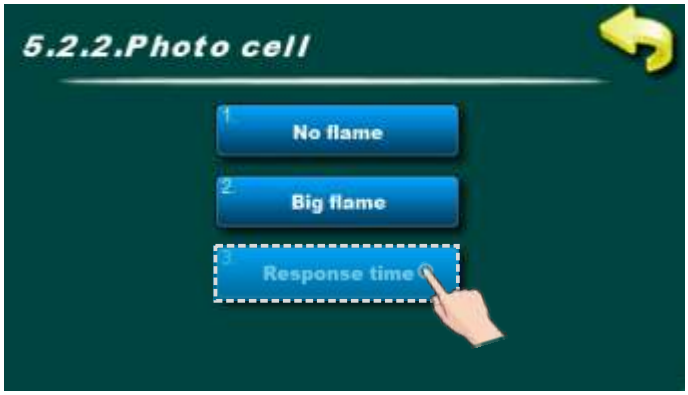
Value of photocell resistance in which will be control unit register that in boiler is no flame. It is not possible to change this parameter.

5.2.2.2. BIG FLAME



Value of photocell resistance in which will be control unit register big flame in boiler. It is not possible to change this parameter.

5.2.2.3. RESPONSE TIME



Time in which will be photocell react to light change. It is not possible to change this parameter.

5.2.3. LAMBDA

Option for lambda probe turning on/off. It is not possible to change this parameter.

5.2.4. 3-WAY VALVE

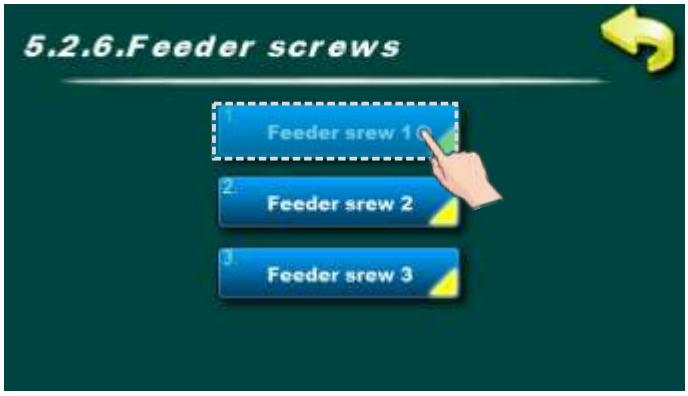
Option for turning on/off 3-way mixing valve. It is not possible to change this parameter.

5.2.5. PRESSURE

Option for pressure switch turning on/off. It is not possible to change this parameter.

5.2.6. FEEDER SCREWS

5.2.6.1. FEEDER SCREW 1



5.2.6.1.1. NOMINAL CURRENT

Entering the nominal motor current of the Transporter 1. It is not possible to change this parameter.

Feeder screw 1 nominal current:
- for boilers EKO-CKS Multi Plus 170, EKO-CKS Multi Plus 250, EKO-CKS Multi Plus 340: 1090 mA.
- for boilers EKO-CKS Multi Plus 450, EKO-CKS Multi Plus 580: 1520 mA.

5.2.6.1.2. OVERLOAD

It is not possible to change this parameter.

5.2.6.1.3. OVERLOAD TIME

It is not possible to change this parameter.

5.2.6.1.4. STOP DELAY

It is not possible to change this parameter.

5.2.6.1.5. REVERSE TIME

It is not possible to change this parameter.

5.2.6.1.6. NO. OF RETRIES 1

It is not possible to change this parameter.

5.2.6.1.7. RETRY TIME 1

It is not possible to change this parameter.

5.2.6.1.8. NO. OF RETRIES 2

It is not possible to change this parameter.

5.2.6.1.9. RETRY TIME 2

It is not possible to change this parameter.

5.2.6.2. FEEDER SCREW 2

5.2.6.2.1. FEEDER SCREW 2

Feeder screw 2 on/off option. It is not possible to change this parameter.

5.2.6.2.2. NOMINAL CURRENT

It is not possible to change this parameter.

Feeder screw 2 nominal current:
- for boilers EKO-CKS Multi Plus 170, EKO-CKS Multi Plus 250, EKO-CKS Multi Plus 340: 1090 mA.
- for boilers EKO-CKS Multi Plus 450, EKO-CKS Multi Plus 580: 1520 mA.

5.2.6.2.3. OVERLOAD

It is not possible to change this parameter.

5.2.6.2.4. OVERLOAD TIME

It is not possible to change this parameter.

5.2.6.2.5. STOP DELAY

It is not possible to change this parameter.

5.2.6.2.6. REVERSE TIME

It is not possible to change this parameter.

5.2.6.2.7. NO. OF RETRIES 1

It is not possible to change this parameters.

5.2.6.2.8. RETRY TIME 1

It is not possible to change this parameter.

5.2.6.2.9. NO. OF RETRIES 2

It is not possible to change this parameter.

5.2.6.2.10. RETRY TIME 2

It is not possible to change this parameter.

5.2.6.2.11. TIME TO PAUSE

It is not possible to change this parameter.

5.2.6.3. FEEDER SCREW 3

5.2.6.3.1. NOMINAL CURRENT

It is not possible to change this parameter

Here in example is displayed 100 mA but real value depend about motor device on feeder screw 3. Authorized serviceman will be check nominal current on motor device and enter it in Installation menu. That value will be displayed in this parameter.

5.2.6.3.2. OVERLOAD

It is not possible to change this parameter.

5.2.6.3.3. OVERLOAD TIME

It is not possible to change this parameter.

5.2.6.3.4. STOP DELAY

It is not possible to change this parameter.

5.2.6.3.5. REVERSE TIME

It is not possible to change this parameter.

5.2.6.3.6. NO. OF RETRIES 2

It is not possible to change this parameter.

5.2.6.3.7. RETRY TIME 1

It is not possible to change this parameter.

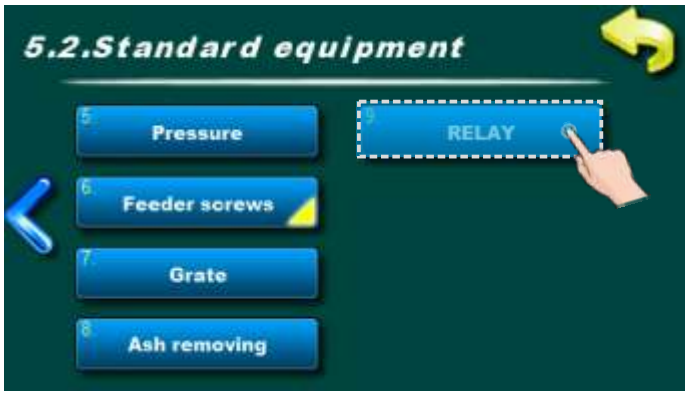
5.2.6.3.8. NO. OF RETRIES 2

It is not possible to change this parameter.

5.2.6.3.9. RETRY TIME 2

It is not possible to change this parameter.

5.2.9. RELAY



Option for choosing which device will be connected to output relay (alternative boiler or alarm).
It is not possible to change this parameter.
This option will be adjusted by authorized person in „Installation” menu.

5.3. ADDITIONAL EQUIPMENT

Submenus in this menu depend about installed and configured additional equipment. All installed additional equipment will be showned in this menu (except Profibus and Ash transport).

List of possible additional equipment menus:

- Pneumat
- Flue gas box screw
- Wood chip mixer
- CM-GSM
- Alarm
- Cascade
- External control
- Internet supervision or Profibus
- Storage ventilation
- Ash transport

STATUS MODULE - boiler status: WORKING (all phases except OFF) / NOT WORKING (phase OFF)

5.3.x. PNEUMAT

Option for Pneumat turning ON/OFF (if is installed and configurated). It is not possible to change this parameter.

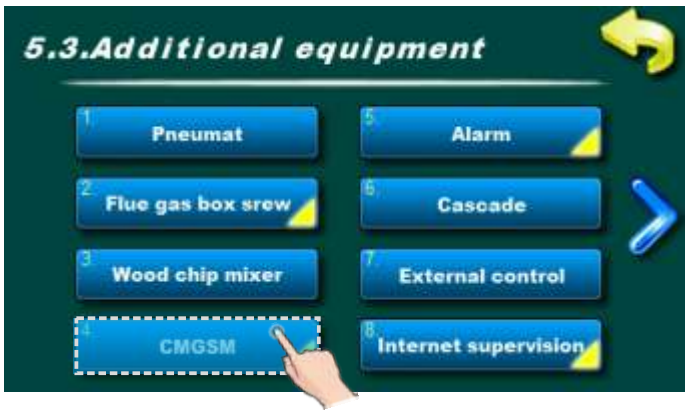
5.3.x. FLUE GAS BOX SCREW

Option for Flue gas box screw turning ON/OFF and adjustment time (if is installed and configurated). It is not possible to change this parameter.

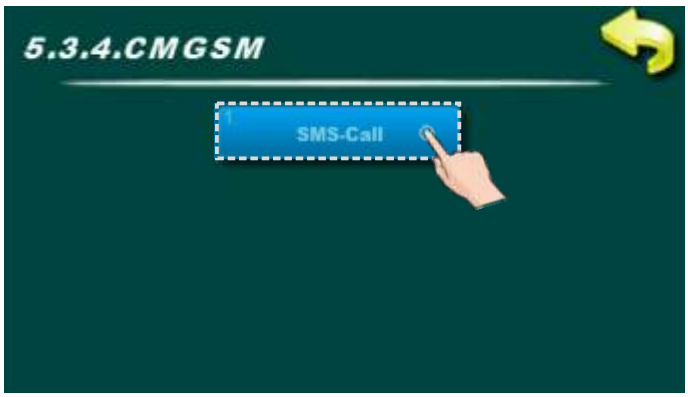
5.3.x. WOOD CHIP MIXER

Option for wood chip mixer turning ON/OFF (if is installed and configurated). It is not possible to change this parameter.

5.3.x. CMGSM



5.3.x.1. SMS-CALL



Option for turning ON/OFF sms-call (if is installed and configured GSM module).
Possible selection:
- Factory selected: OFF
- Possible selection: ON, OFF;

5.3.x. ALARM

Option for alarm turning ON/OFF (if is installed and configured).

5.3.x. CASCADE

Option for Cascade turning ON/OFF (if is cascade manager installed and configured).

5.3.x. EXTERNAL CONTROL

Option for external control turning ON/OFF (if is external control installed and configured).
Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

5.3.x. INTERNET SUPERVISION

IMPORTANT NOTES:

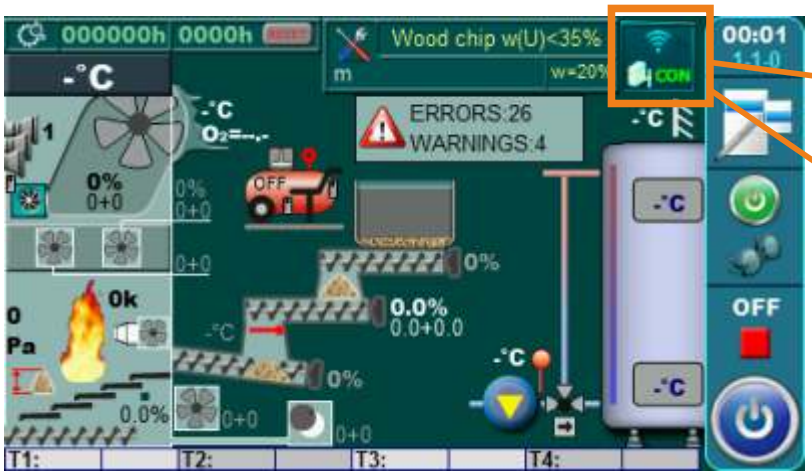
CM WiFi-box requires active DHCP server of Access Point (e.g. router) because manual setting of network parameters is not possible. For more informations contact administrator of your home network.

To be able to use Cm WiFi box on EKO-CKS Multi Plus boiler, minimum required firmware versions of the boiler regulation must be: "v6.09"
Boiler version is displayed in the "INFO" menu.
If there is older firmware version, it must be updated to be able to use Cm WiFi box.
For firmware update please contact authorized serviceman.

For detailed configuration of the Cm WiFi box please refer to the Cm WiFi box manual received with the Cm WiFi box.

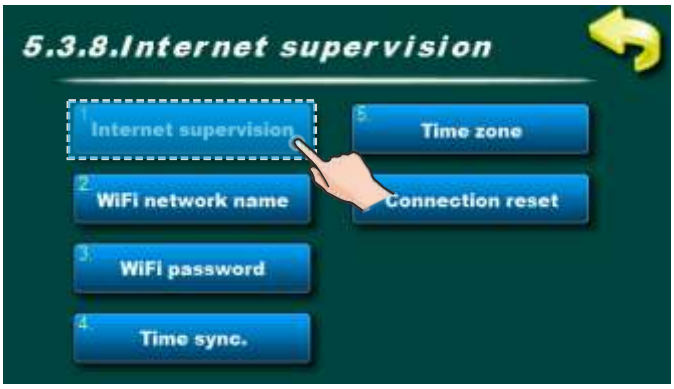
This option is used to set the regulation to connect boiler to the internet through local Wi-Fi network.
This option is used to change internet supervision settings.
This option is only visible if "Cm WiFi box" is connected to the boiler regulation by UTP cable.

When "Cm WiFi box" is connected to the boiler and internet supervision is enabled, a new icon appears on the main screen showing the status of internet supervision.



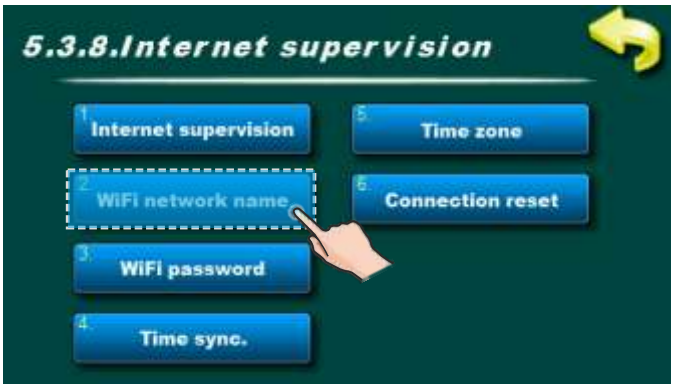
Regulation is connected with web portal (internet supervision is possible)

Regulation is not connected with web portal (internet supervision is not possible)

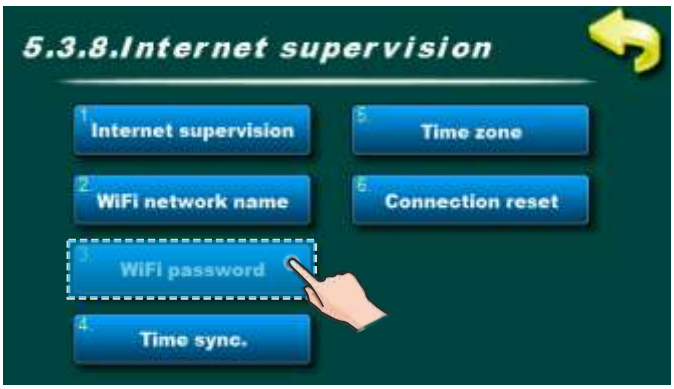


Factory: Supervision + control
OFF, Supervision, Supervision + control

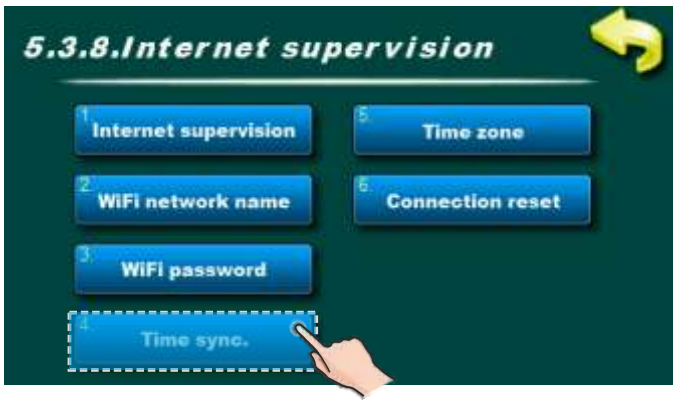
This option is used to set and enable/disable internet supervision.



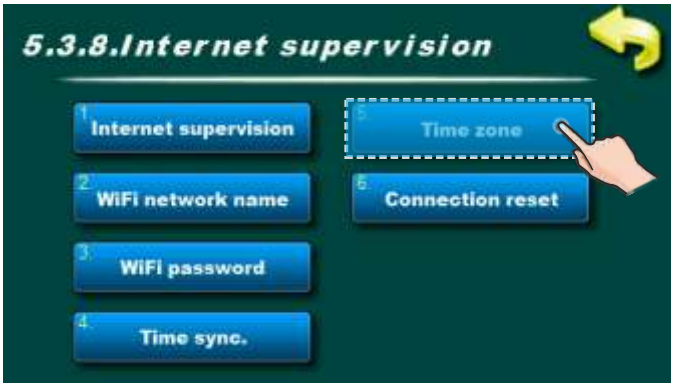
This option allows you to enter the name of WiFi home network to which you want to connect the "Cm WiFi box" and the boiler. You must enter exact WiFi network name or else boiler will not able to connect to the WiFI network.



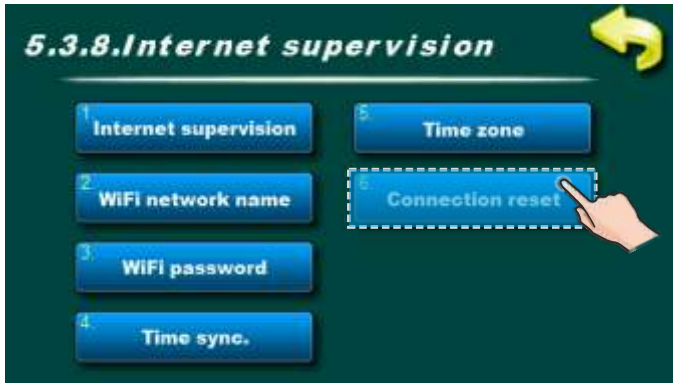
This option allows you to enter a password for your home Wi-Fi network. You must enter exact password or else boiler will not be able to connect to the WiFi network.



This option allows boiler time synchronization with web server time (internet time).



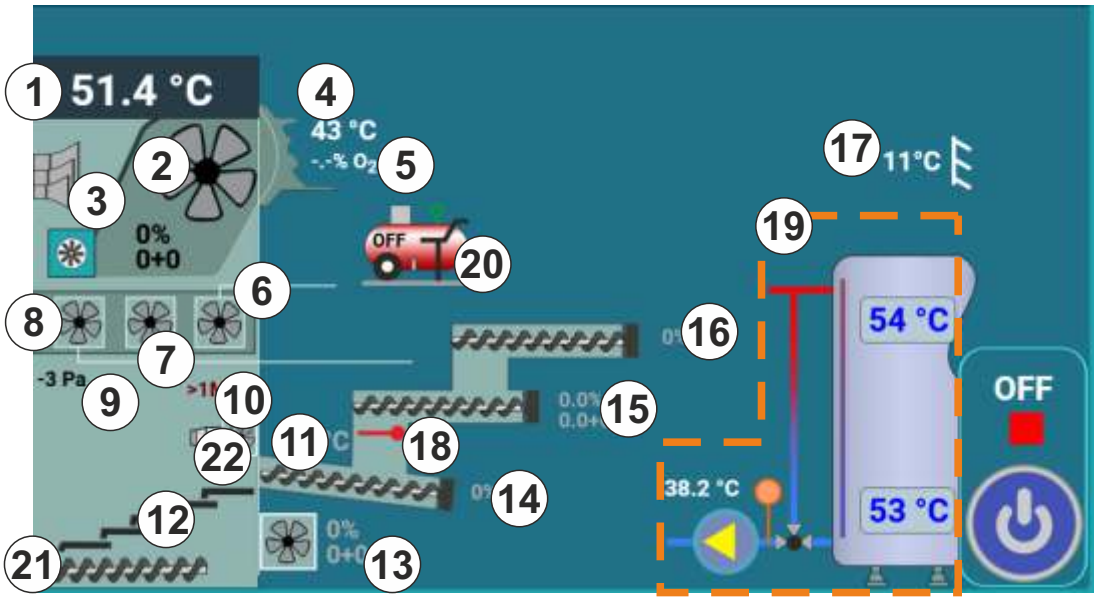
This option allows you to set the time zone if the boiler is in a different time zone than the web portal server. (this option must be set if you enable "Time syncronisation option")



This option allows you to reset connection with home network.

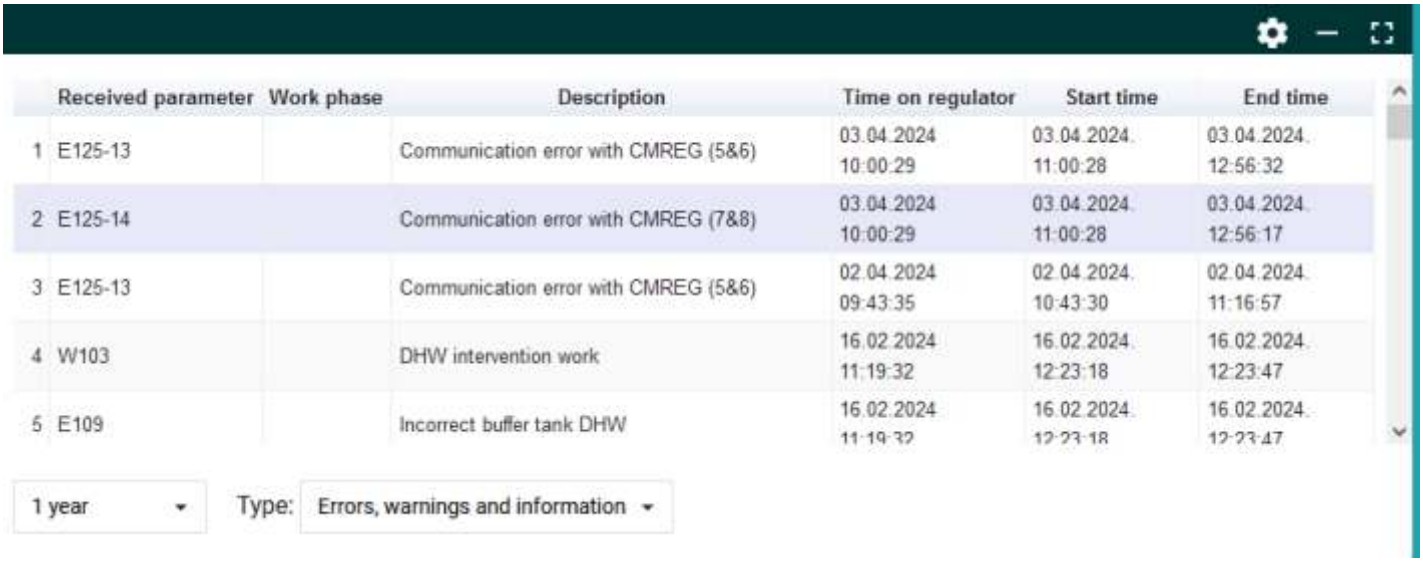
After registering on the INTERNET PORTAL (according to the description in the technical instructions for the Cm WIFI-Box), among other things, it is possible to turn on/off (START/STOP) the boiler, monitor temperatures and processes of the boiler, adjust some temperatures, adjust SCHEDULE, monitor the status of errors/warnings /information.

Example of the basic screen of the INTERNET PORTAL:



1 - Boiler temperature
2 - Cyclone
3 - Pneumat (air cleaning)
4 - Flue gas temperature
5 - Lambda probe
6 - Secondary air 1 fan
7 - Secondary air 2 fan
8 - Secondary air 3 fan
9 - Firebox pressure
10 - Photocell
11 - Conveyor 1 temperature
12 - Movable grate
13 - Primary air fan
14 - Conveyor 1
15 - Conveyor 2
16 - Conveyor 3
17 - Outdoor temperature
18 - Backfire protection lid
19 - This area depend on configuration
20 - Compressor with showned status (off / on) (if is installed - additional equipment)
21 - Ash removing
22 - Electric heater

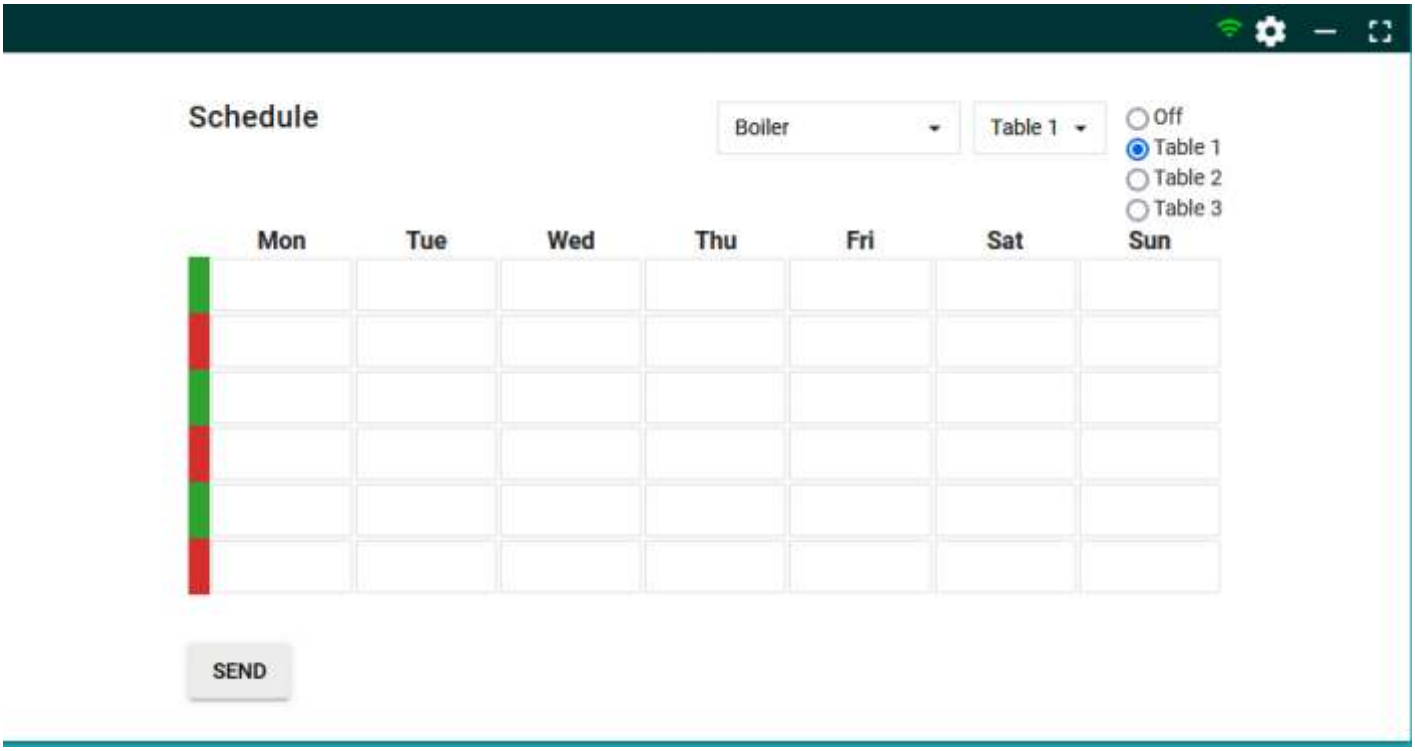
Example of the INTERNET PORTAL screen with errors/warnings and information:



	Received parameter	Work phase	Description	Time on regulator	Start time	End time
1	E125-13		Communication error with CMREG (5&6)	03.04.2024 10:00:29	03.04.2024. 11:00:28	03.04.2024. 12:56:32
2	E125-14		Communication error with CMREG (7&8)	03.04.2024 10:00:29	03.04.2024. 11:00:28	03.04.2024. 12:56:17
3	E125-13		Communication error with CMREG (5&6)	02.04.2024 09:43:35	02.04.2024. 10:43:30	02.04.2024. 11:16:57
4	W103		DHW intervention work	16.02.2024 11:19:32	16.02.2024. 12:23:18	16.02.2024. 12:23:47
5	E109		Incorrect buffer tank DHW	16.02.2024 11:19:32	16.02.2024. 12:23:18	16.02.2024. 12:23:47

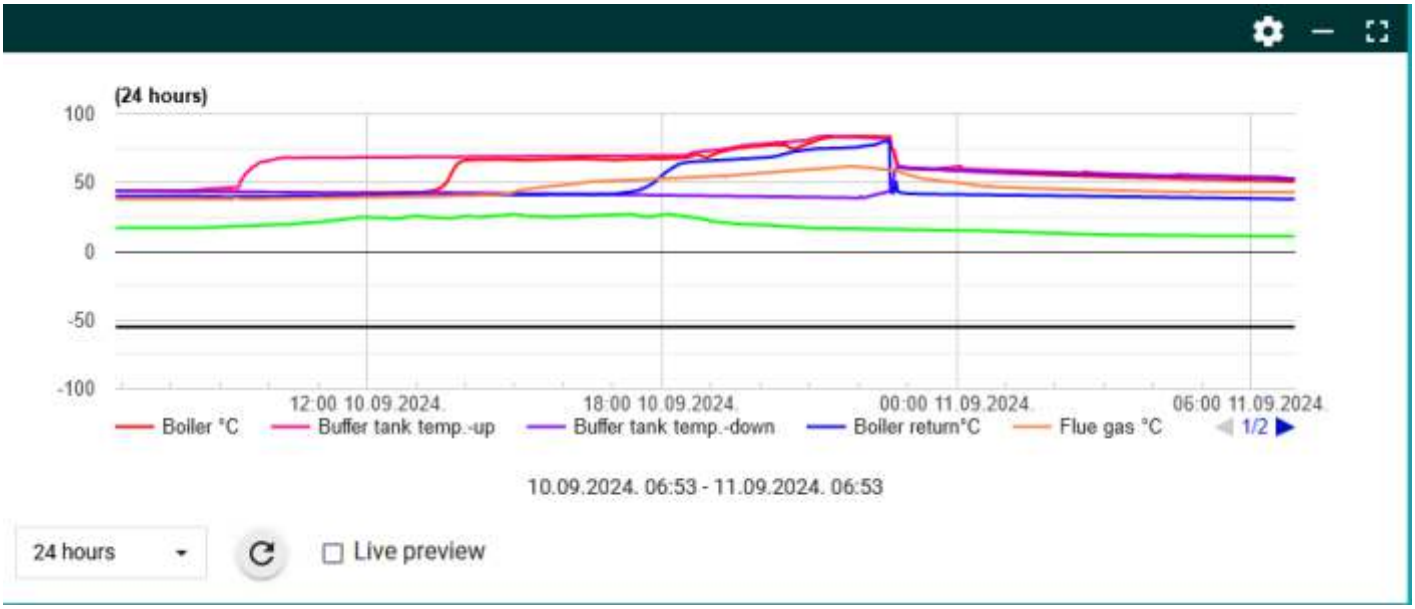
1 year Type: Errors, warnings and information

Example of the INTERNET PORTAL screen with SCHEDULES:

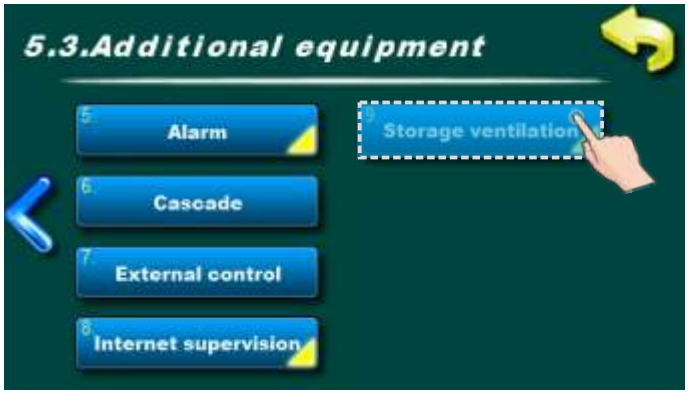


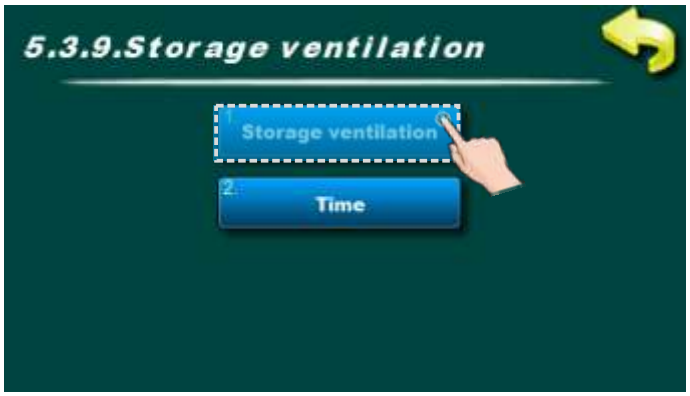
Example of the INTERNET PORTAL screen for adjusting some temperatures:

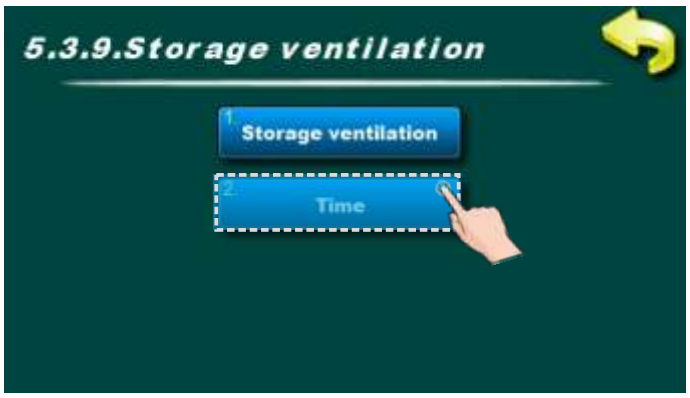
Example of an INTERNET PORTAL screen showing temperatures on the timeline:



5.3.x. STORAGE VENTILATION

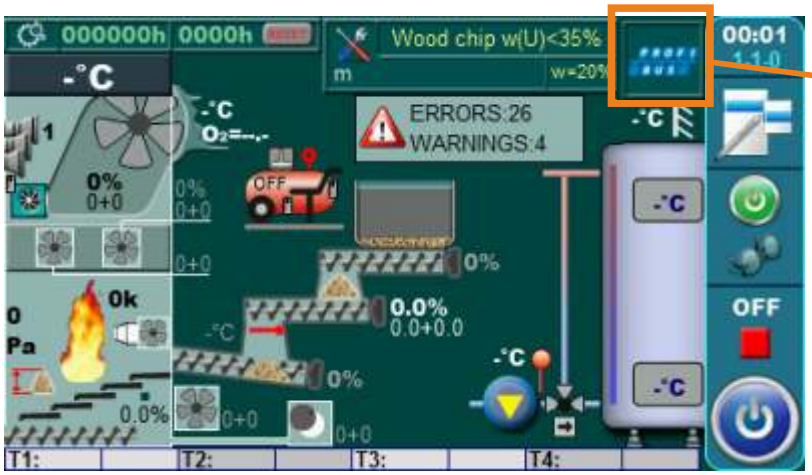






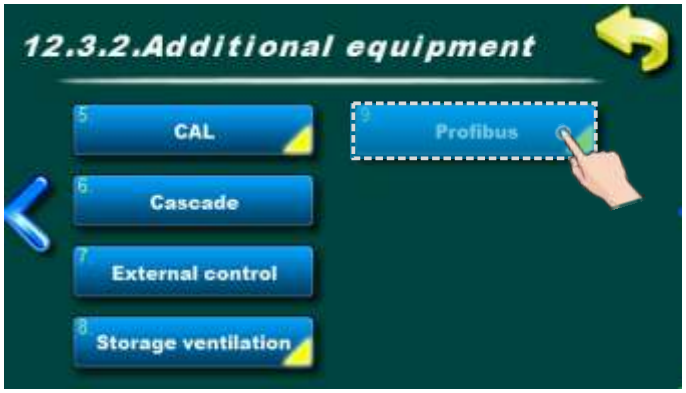
Option for Storage ventilation turning ON/OFF and adjustment time (if is installed and configurated). It is not possible to change this parameter.

5.3.x. PROFIBUS



Profibus is configured (selected) in boiler control unit.

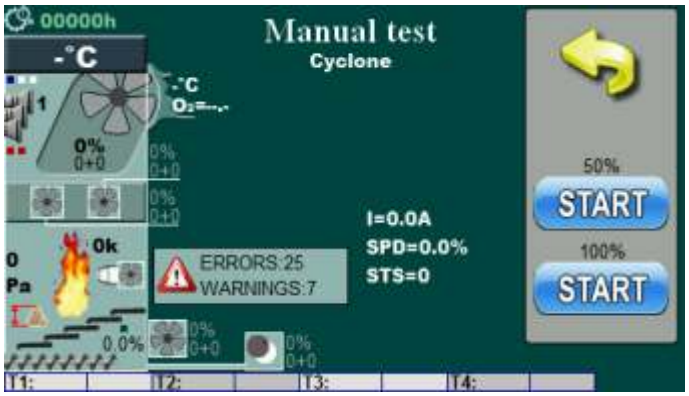
Installation -> PIN -> Electrical devices -> Additional equipment -> **Profibus**



Possibility of configuring the Profibus module (additional equipment). This option can only be configured under a **PIN (authorized service only).** It cannot be turned ON at the same time as Internet supervision.

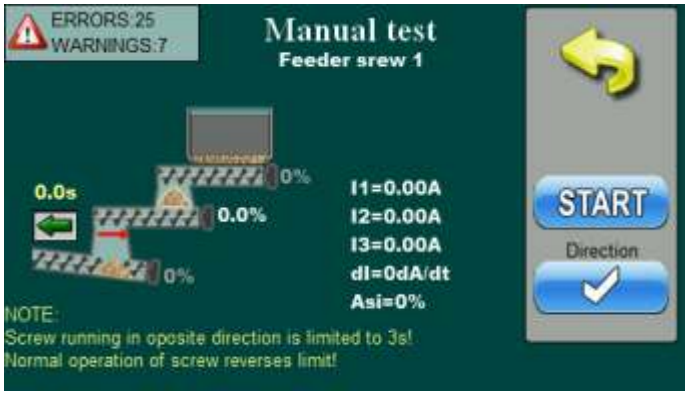
5.4. MANUAL TEST

5.4.1. CYCLONE



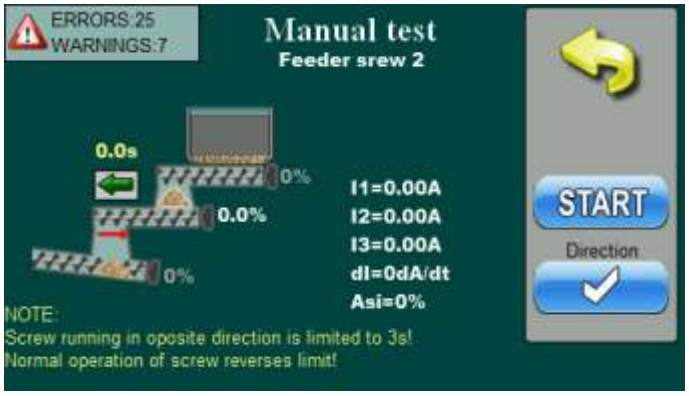
Option for cyclone test. By pressing „START (50%)" button cyclone will be work on 50% of power. By pressing „START (100%)" button cyclone will be work on 100% of power. After pressing „START" button on display will be displayed „STOP" button for cyclone stop.

5.4.2. FEEDER SCREW 1



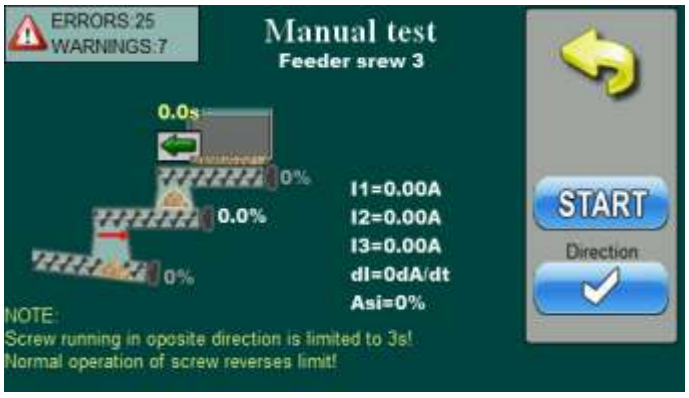
Option for Feeder screw 1 test. By pressing „START" button Feeder screw 1 will be start with work. It's possible to change rotation direction by pressing „Direction" button.

5.4.3. FEEDER SCREW 2



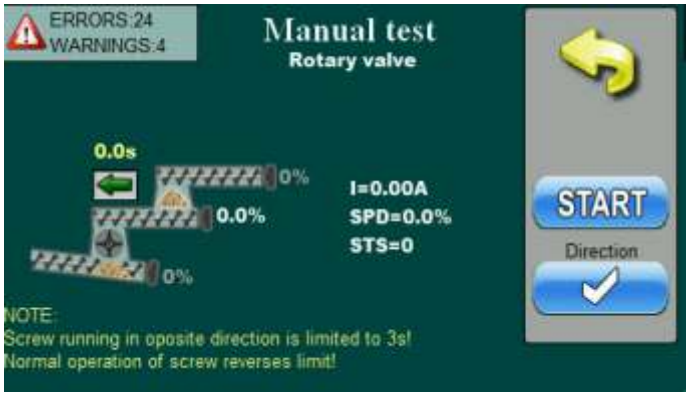
Option for Feeder screw 2 test. By pressing „START" button Feeder screw 2 will be start with work. It's possible to change rotation direction by pressing „Direction" button.

5.4.4. FEEDER SCREW 3



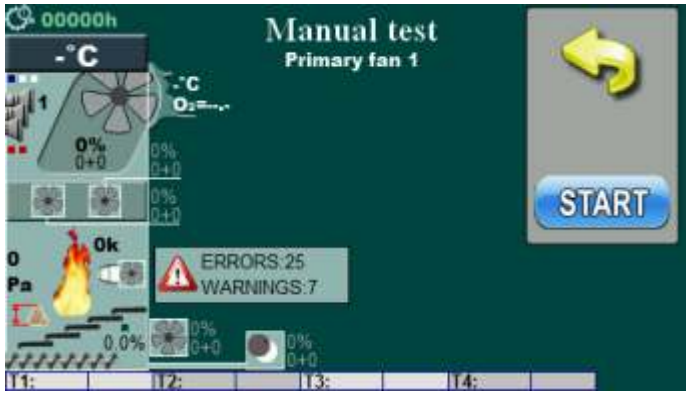
Option for Feeder screw 3 test. By pressing „START" button Feeder screw 3 will be start with work. It's possible to change rotation direction by pressing „Direction" button.

5.4.5. ROTARY VALVE (if installed, but backfire protection lid is not installed)



Option for Rotary valve test. By pressing „START" button rotary valve will be start with work. It's possible to change rotation direction by pressing „Direction" button.

5.4.5. PRIMARY FAN 1

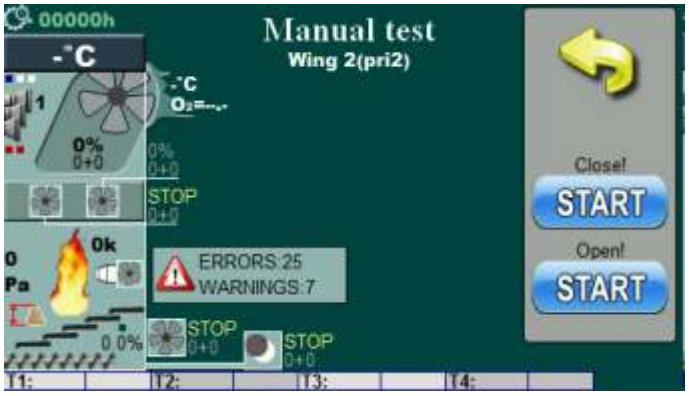


Option for primary air 1 fan test. By pressing „START" button primary air 1 fan will be start with work.

5.4.6. WING 1 (pri1)

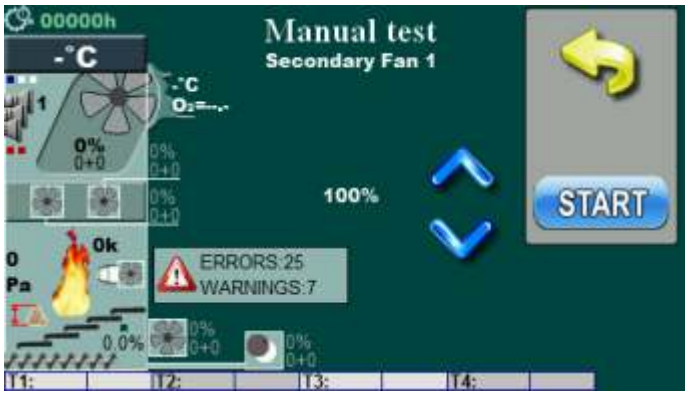
Option for test of primary air 1 fan lid. By pressing „START (close)" button lid will be start with closing. By pressing „START (open)" button lid will be start with opening.

5.4.7. WING 2 (pri2)



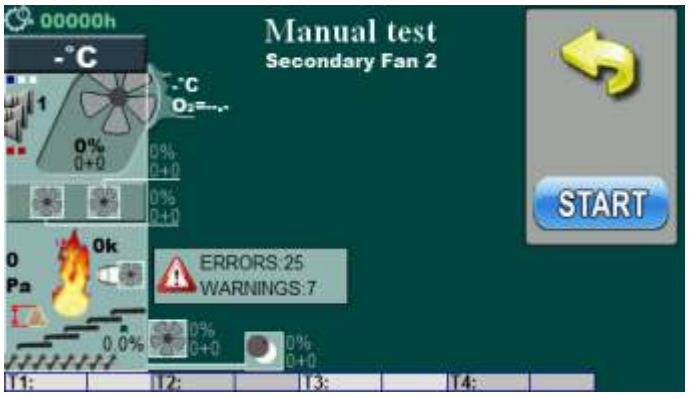
Option for test of primary air 2 fan lid. By pressing „START (close)" button lid will be start with closing. By pressing „START (open)" button lid will be start with opening.

5.4.8. SECONDARY FAN 1



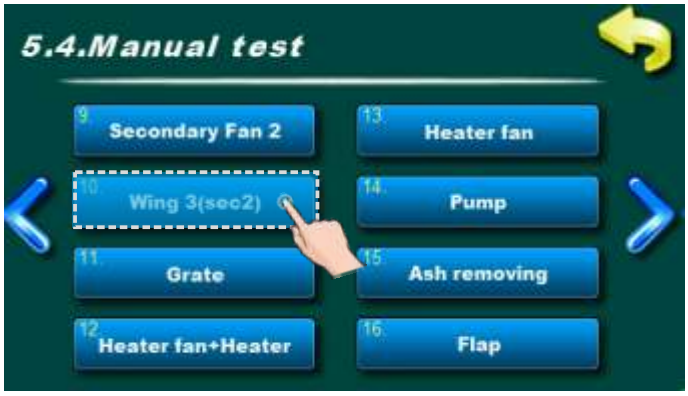
Option for secondary air 1 fan test. By pressing „START" button secondary air 1 fan will be start with work.

5.4.9. SECONDARY FAN 2



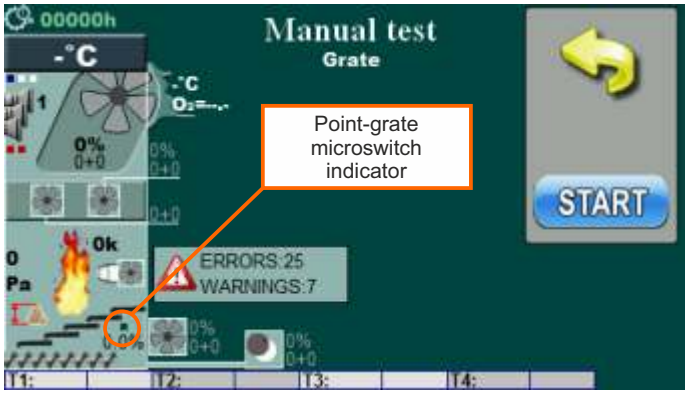
Option for secondary air 2 fan test. By pressing „START" button secondary air 2 fan will be start with work.

5.4.10. WING 3 (sec2)



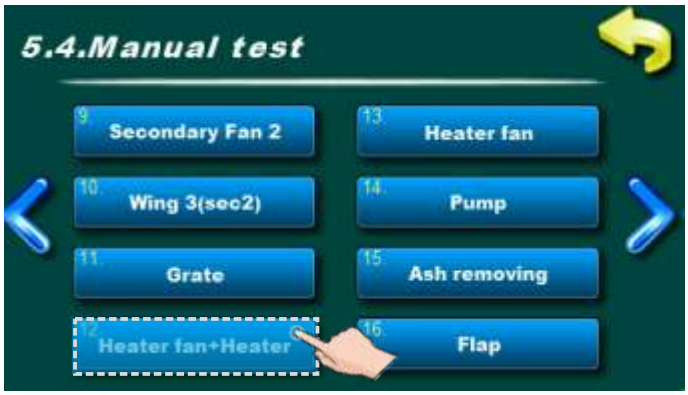
Option for test of secondary air 1 fan lid. By pressing „START (close)" button lid will be start with closing. By pressing „START (open)" button lid will be start with opening.

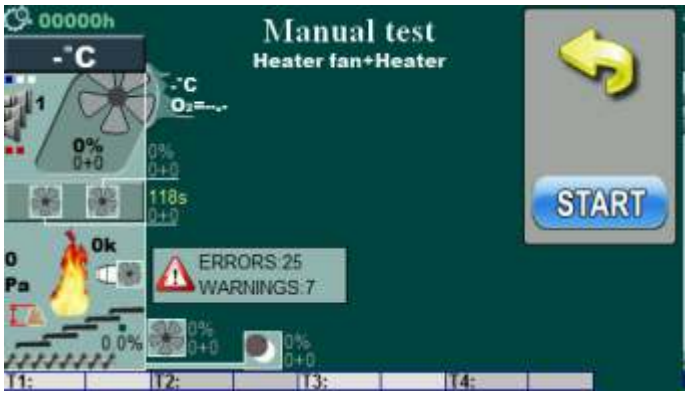
5.4.11. GRATE



Option for grate test.
- by pressing „START" button grate will be start with work (moving).
- when the grate reaches end position, the "Point-grate microswitch indicator" must disappear, and when the grate passes the end position, the "Point-grate microswitch indicator" is showed again, if during the operation of the grate, in manual test, the "Point-grate microswitch indicator" periodically does not disappear means that there is a specific problem (for a better understanding of the problem, see point 8.1.3. The procedure for checking the setting of the grate microswitch in the EKO-CKS Multi Plus _boiler technical instructions).

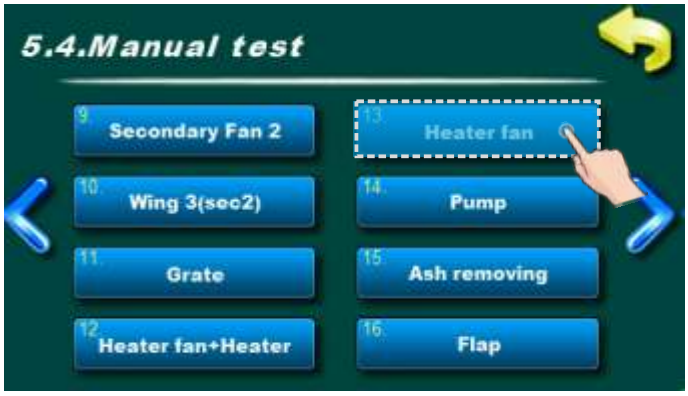
5.4.12. HEATER FAN + HEATER

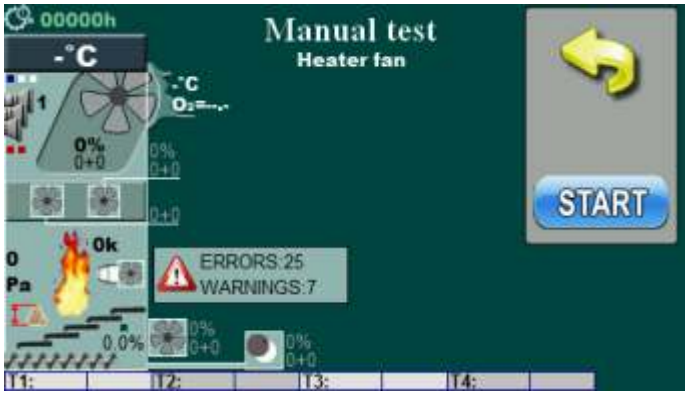




Option for test heate with heater fan. By pressing „START" button heater and heater fan will be start with work.

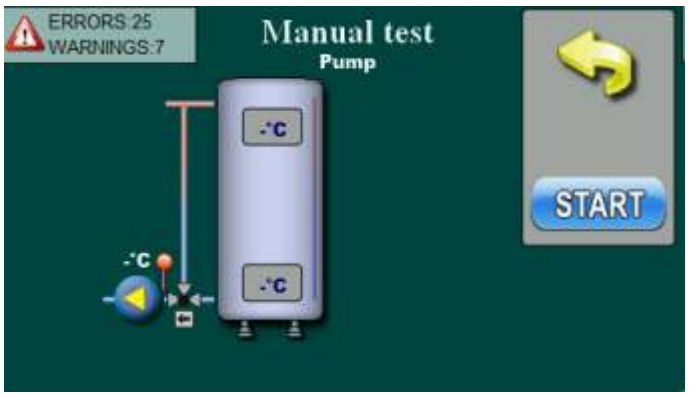
5.4.13. HEATER FAN





Option for heater fan test. By pressing „START" button heater fan will be start with work.

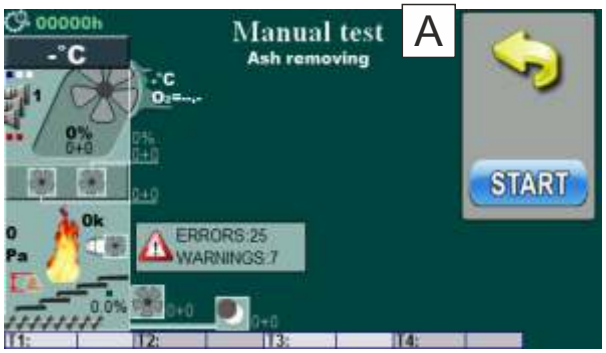
5.4.14. PUMP

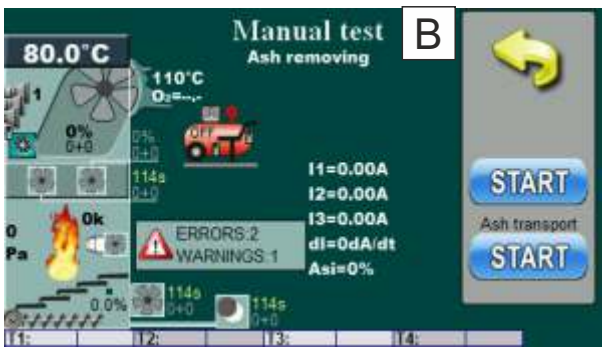


Option for pump test. By pressing „START" button pump will be start with work.

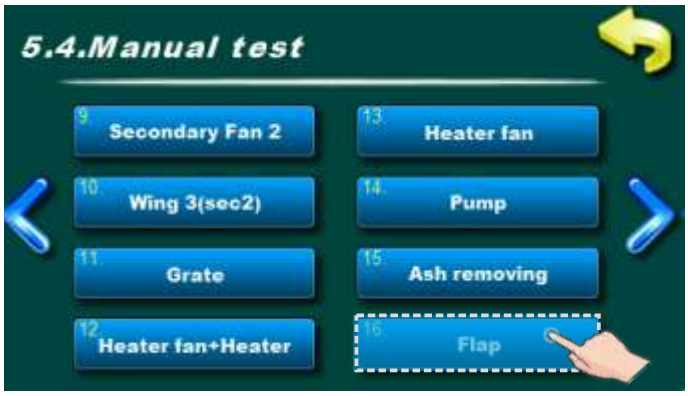
5.4.15. ASH REMOVING

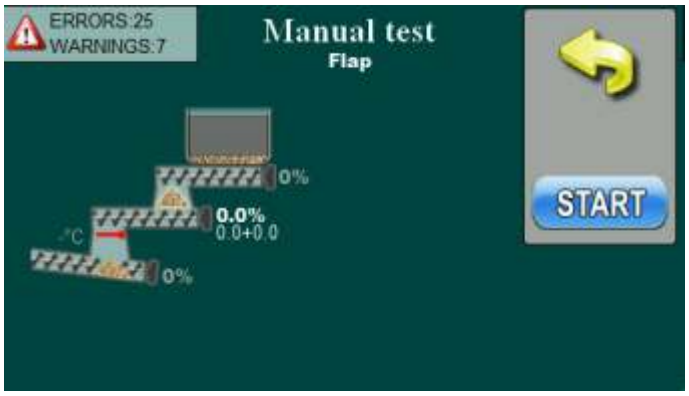
Option for test of Ash removing. By pressing „START" button Ash removing will be start with work (A). If "Ash Transport" configured (additional equipment), it is necessary to start "Ash Transport" first, and then "Ash removing" (B).





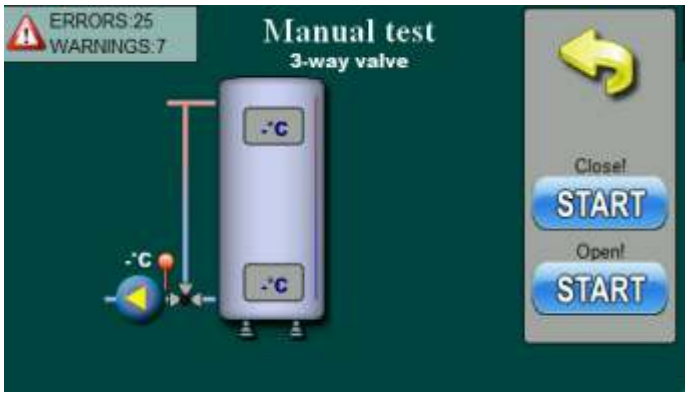
5.4.16. FLAP (if rotary valve is not installed)





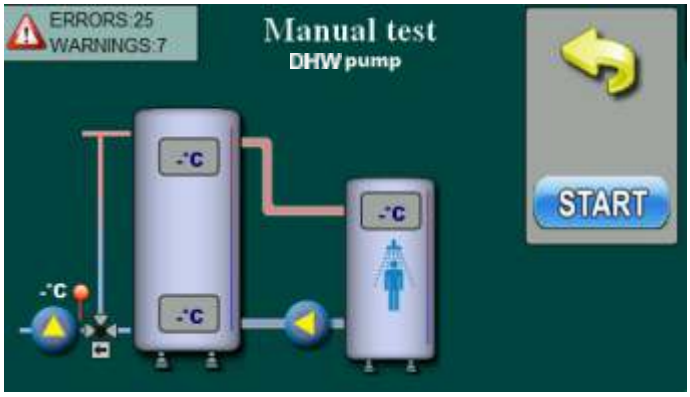
Option for test of backfire protection lid. By pressing „START" button backfire protection lid will be start with work.

5.4.17. 3-WAY VALVE



Option for 3-way mixing valve test. By pressing „START (close)" button mixing valve will be start with closing. By pressing „START (open)" button mixing valve will be start with opening.

5.4.18. DHW PUMP



Option for test of domestic hot water pump. By pressing „START" button pump will be start with work.

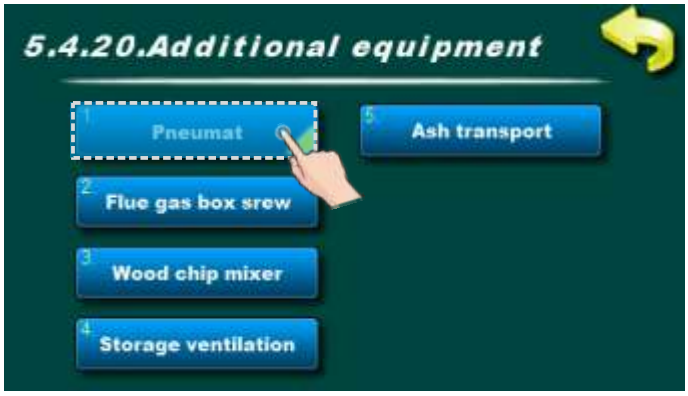
5.4.19. LAMBDA

Option for lambda probe test. By pressing „START" button lambda probe will be start with work, on display will be displayed lambda probe values.

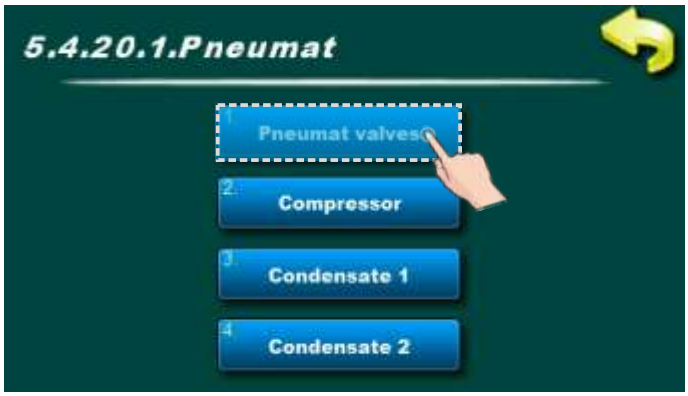
5.4.20. ADDITIONAL EQUIPMENT

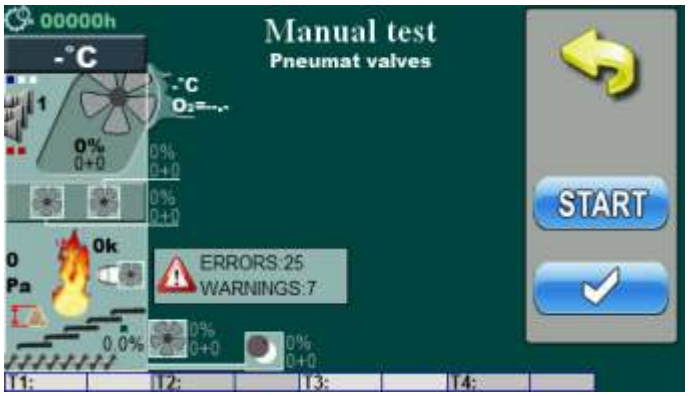
Menu for testing installed additional equipment.

5.4.20.1. PNEUMAT



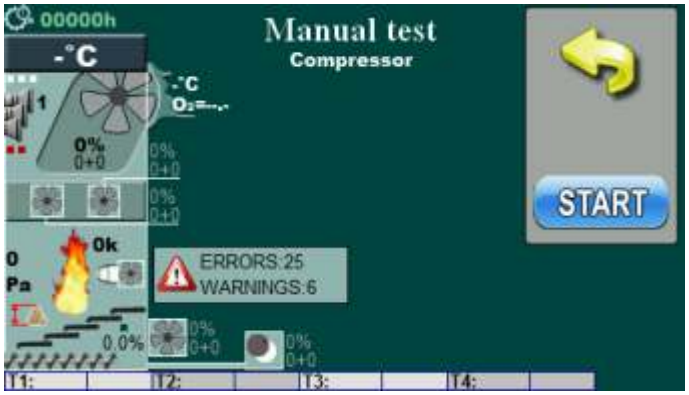
5.4.20.1.1. PNEUMAT VALVES





Option for test valves on pneumat system. By pressing „START" button valves will be start with work.

5.4.20.1.2. COMPRESSOR

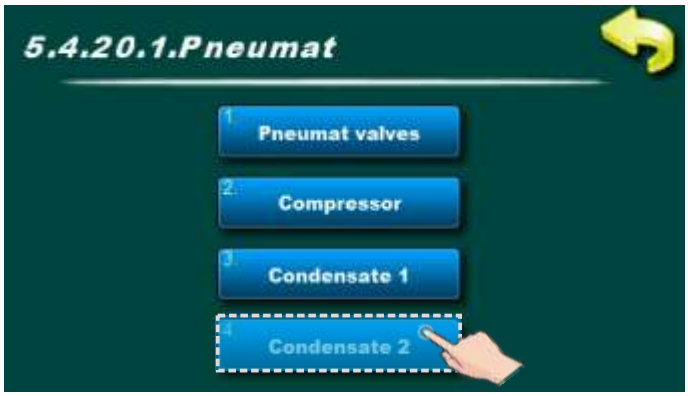


Option for compressor test. By pressing „START" button compressor will be start with work.

5.4.20.1.3. CONDENSATE 1

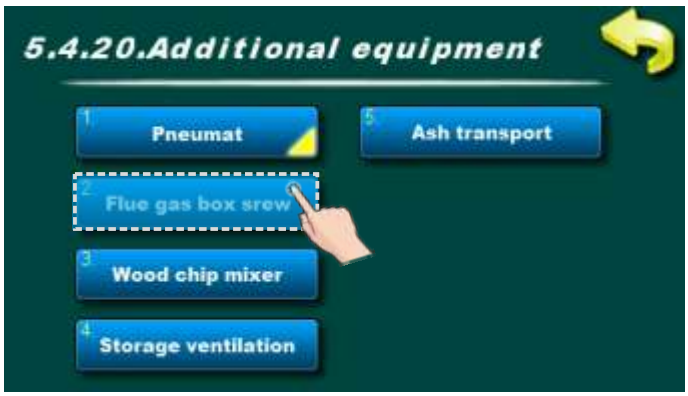
Option for test condensate drainage valve. By pressing „START" button valve will be opened.

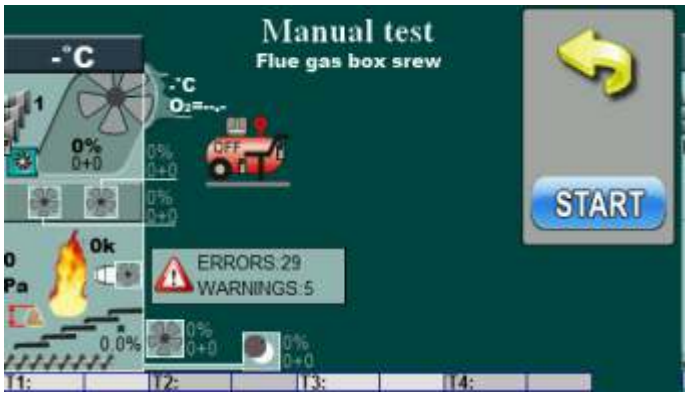
5.4.20.1.4. CONDENSATE 2



Option for test condensate drainage valve. By pressing „START" button valve will be opened.

5.4.20.2. FLUE GAS BOX SCREW



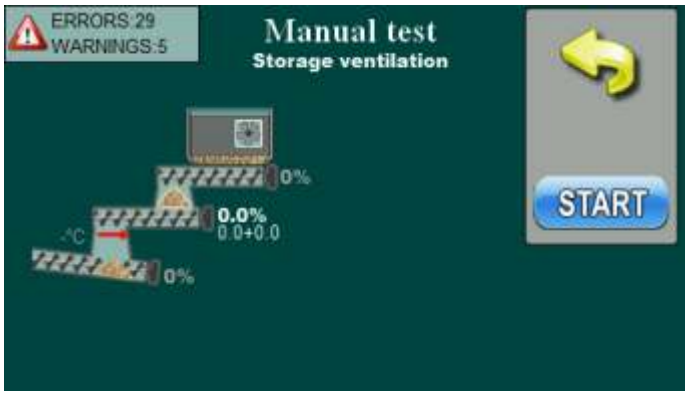


Option for flue gas box screw test. By pressing „START" button flue gas box screw will be start with work.

5.4.20.3. WOOD CHIP MIXER

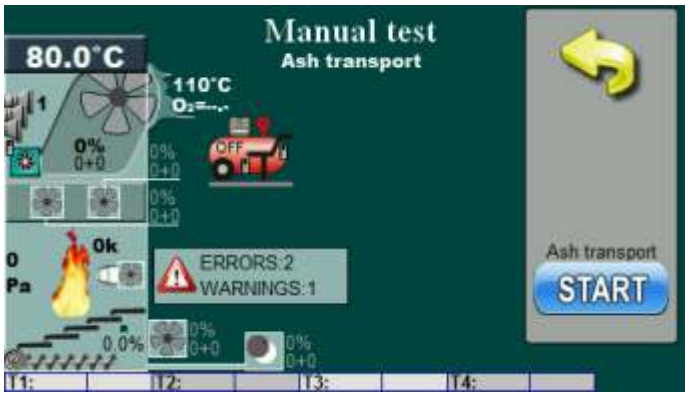
Option for wood chip mixer test. By pressing „START" button wood chip mixer will be start with work.

5.4.20.4. STORAGE VENTILATION



Option for storage ventilation test. By pressing „START" button storage ventilation will be start with work.

5.4.20.5. ASH TRANSPORT



Option for Ash transport test. By pressing „START" button Ash transport will be start with work.

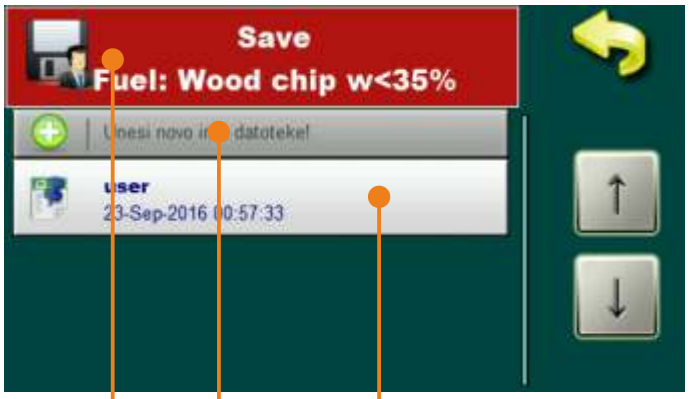
Note:
It is not possible to change the direction of rotation of the motor by means of a control unit. The ash transport system can be tested as a whole (all 4 motors together).
An authorized service technician can test each motor separately (Installation -> (PIN) -> Commissioning -> Manual test -> Additional equipment -> Ash transport).

5.5. FILLING CONVEYORS

Option for filling conveyors. At start-up or loosing fuel, when conveyors are empty then is neccesary to use this option for fill them. By pressing „START" button conveyors will be start with with work. Use this option until fuel start dropping from conveyors.

5.6. SAVE / LOAD

5.6.1. SAVE



Adjusted fuel for which we saving settings

Button for saving settings in new image

Existing saved image

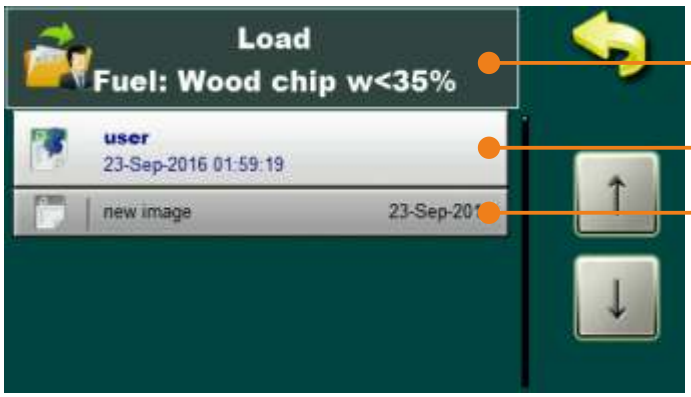
SAVING ADJUSTMENTS IN EXISTING IMAGE

For saving in existing image is necessary to press on exist image (1). On display will be displayed message „Are you sure?". Is necessary to confirm message (2) and press button for saving confirmation (3). On display will be displayed message „Successful" which mean that settings are successful saved. Confirm message by pressing button (4).

SAVING ADJUSTMENTS IN NEW IMAGE

For saving in new image is necessary to press twice on button (1). On display will be displayed option for image name entry. Is necessary to enter image name through numerical part (2). To confirm name press button (3). On display will be displayed message „Successful" which mean that settings are successful saved. Confirm message by pressing button (4).

5.6.2. LOAD

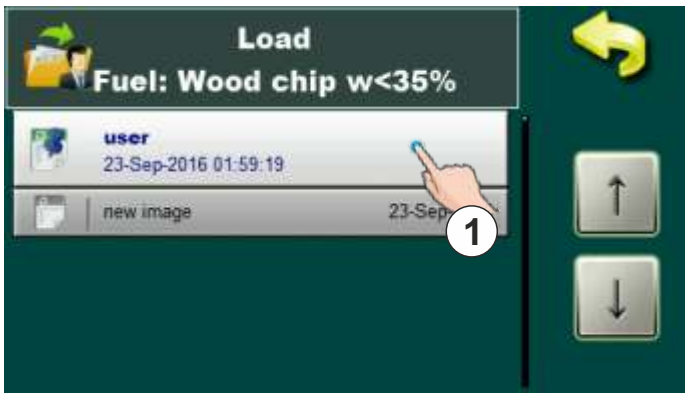


Adjusted fuel for which are saved settings

Saved image

Saved image

PROCEDURE FOR LOAD IMAGE



For loading is necessary choose image which we want to load and press on it (1). On display will be displayed message „Are you sure?". Is necessary to confirm message (2). On display will be displayed message „Successful" which mean that settings are successful loaded. Confirm message by pressing button (3).

5.6.3. LOAD SERVICE

If is needed, with this option i always possible to load setting which is serviceman adjust and saved at first start-up.

Adjusted fuel for which are saved settings

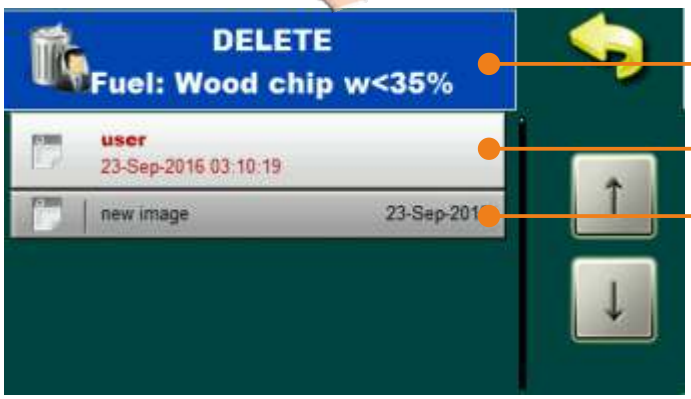
Saved image with serviceman settings

PROCEDURE FOR LOAD SERVICEMAN IMAGE

For loading of serviceman settings is necessary to choose image which we want to load and press on it (1). On display will be displayed message „Are you sure?". Is necessary to confirm message (2). On display will be displayed message „Successful" which mean that settings are successful loaded. Confirm message by pressing button (3).

5.6.4. DELETE

If is needed, with this option is possible to delete saved images.



Adjusted fuel for which are saved settings

Saved image

Saved image

PROCEDURE TO DELETE IMAGE

For delete image is necessary to choose exist image which we want to delete and press on it (1). On display will be displayed message „Are you sure?”. Is necessary to confirm message (2) and press button for saving confirmation (3). On display will be displayed message „Successful” which mean that image are successful deleted. Confirm message by pressing button (4).

5.6.5. CHANGE FUEL

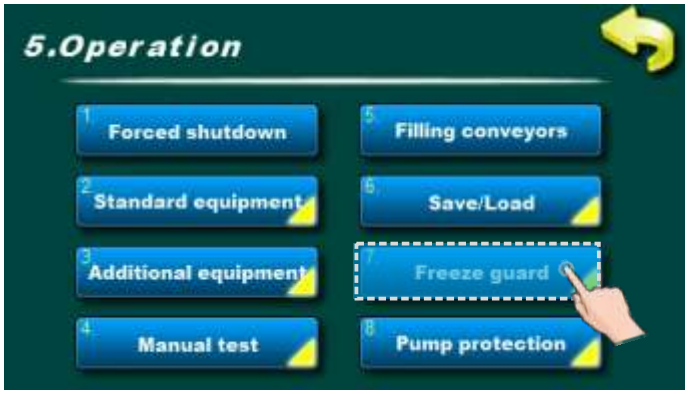
If the authorized service technician has pre-set the boiler operation with a fuel other than the currently active one, this option appears.

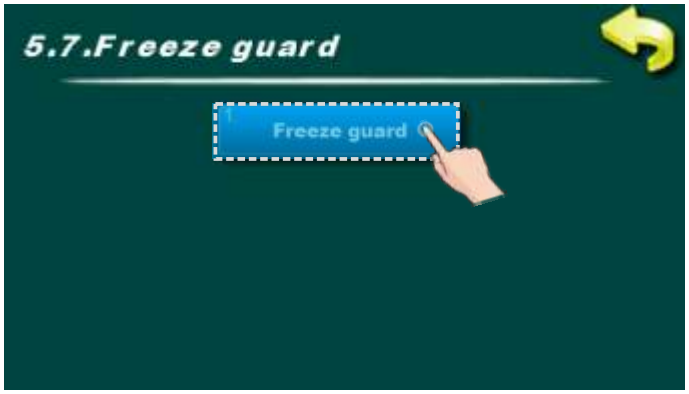
Possible fuel types (the boiler must be set to work with at least one fuel type):
- Wood chip - moisture less 35 % (w(U)<35%)
- Wood chip - moisture over 35 % (w(U)>35%)
- Wood pellets

This option allows the user, if he has fuel for boiler operation other than the currently selected one, which belongs to one of the above three fuel types, to select another fuel (boiler setting for operation with another fuel). Of course, this is only possible if an authorized repairer has pre-set the boiler to work with exactly that fuel. Therefore, in this option, it will be possible to select only the fuel for which the boiler has been pre-set by a previously authorized service technician. By selecting another fuel type, the boiler loads the settings (file) settings that were last used with that selected fuel type.
If this option does not offer to select the type of fuel that the user wants to select, and is listed above, you need to call an authorized service technician to adjust the operation of the boiler with this type of fuel (INSTALLATION (PIN) / Save/Load / Factory settings / New fuel).

Important!
An authorized service technician may pre-set / adjust the operation of the boiler with a new type of fuel only if such type of fuel is stored in the fuel tank for use in the operation of the boiler.

5.7. FREEZE GUARD

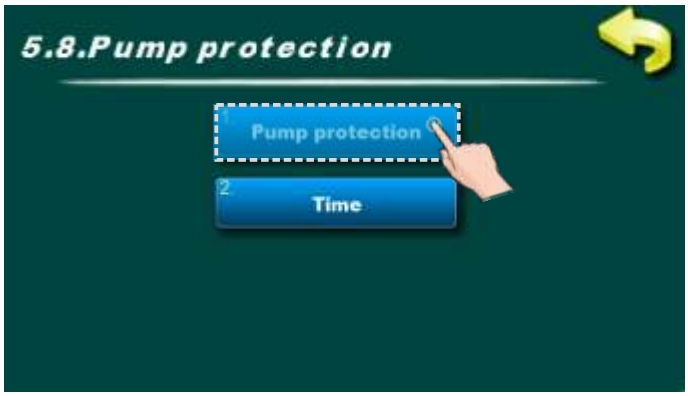




Option for freeze guard turning ON/OFF.
Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

5.8. PUMP PROTECTION

5.8.1. PUMP PROTECTION



This option enables protection of the pumps/valves from blocking during long stand-still (usually during summer season when heating is off).

Possible selection: - Factory selected:OFF

- Possible selection: ON, OFF.

5.8.2. TIME

By activating the "Pump protection" option, the setting of the maximum idle time of the output according to the pumps / valves can be adjusted. Factory this option is enabled and max. stand-still time of outputs is set to 48 hours. According to this setting, any pump/valve output that is not activated in 48 hour, it will be activated for a short time.

Possible selection: - Factory selected: 48 h

- Minimal adjustment value: 1 h
- Maximal adjustment value: 240 h

5.x. ALT. BOILER STATE (Alternative boiler state)

Precondition for this parameter is existing of alternate boiler and configuration from authorized person!

In this parameter is possible to select how will be work alternate boiler.

Possible selection:
- Factory selected: AUTO START
- Possible selection:
  - Manual OFF
  - Manual ON
  - AUTO START
  - OFF
  - ON
  - FREEZE ON

6.2. LANGUAGE SELECTION

This option enables or disables screen with the choice of language regulation when you turn on main switch. If is marked "OFF", after turning-on the main switch, it will be set on before selected language and after some time, display will show the work display of the boiler.

Possible selection:

- Factory selected: ON

- Possible selection: ON, OFF;

6.3. INITIAL MESSAGE TIME

This option is used to set the desired duration of the initial message after turning on the main switch. This option is only available if the option" LANGUAGE SELECTION" (point 6.2.) Is set to"DISABLE".

Possible adjustments:

- Factory adjusted: 5 sec

- Minimal adjustment value: 0 sec
- Maximal adjustment value: 20 sec

6. DISPLAY

6.1. SCREENSAVER

Of at some time nothing was pressed on the screen, the screensaver will turn on, to prevent damage on the screen. Once you touch the screen the screensaver will be turned off.

Possible adjustment:

- Factory adjusted: 600 sec

- Minimal adjustment value: 10 sec
- Maximal adjustment value: 3600 sec

6.4. SHOW TIMERS

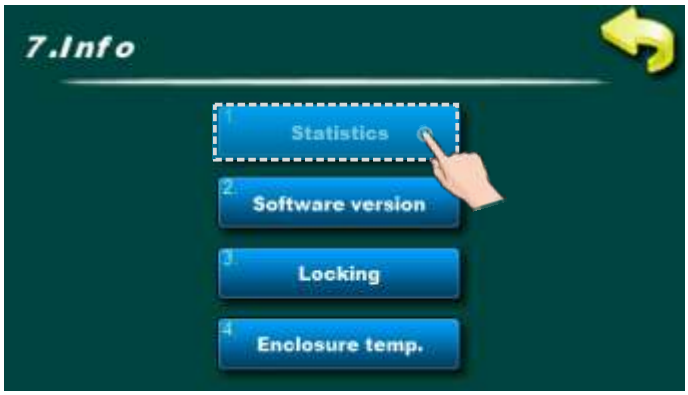
Option for tuning on / off for working hours counter on main screen.
Possible selection:
- Factory selected: ON
- Possible selection: ON, OFF;

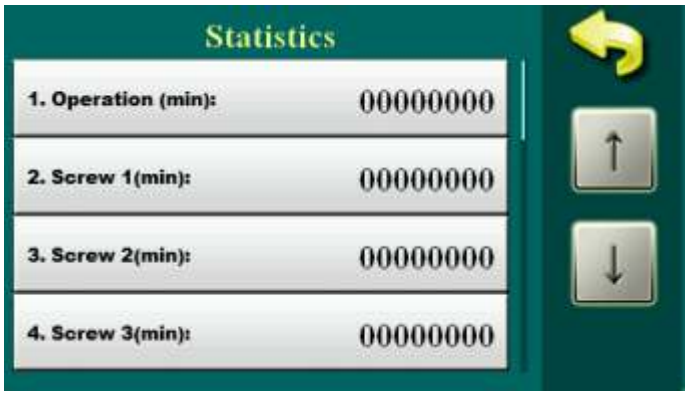
6.5. DATE & TIME

This option is used to set the date and time. It is necessary for starting times, and the recording of errors / warnings (for the occurrence of errors / warnings, remembers the date and time of occurrence). After setting the date and time it is necessary to press the "CONFIRM" for saving date and time. The clock could be faster/slower (the shift could be 2-3 minutes per month), which is considered normal and we recommend that you adjust it periodically.

7. INFO

7.1. STATISTICS





The regulation follows the startup number of the boiler and the work time of certain parts of the boiler.

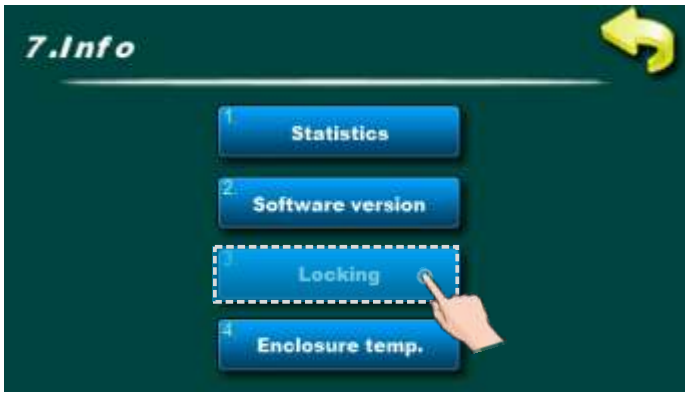
Boiler devices in statistics:

- operation (min)
- screw 1 (min)
- screw 2 (min)
- screw 3 (min)
- heater (min)
- heater count
- hydraulic pump (min)
- ash removing (min)
- protection pump (min)
- protection pump count
- flap count
- flap (min)
- time to cleaning (min)
- compressor (min)
- compressor service (min)

7.2. SOFTWARE VERSION

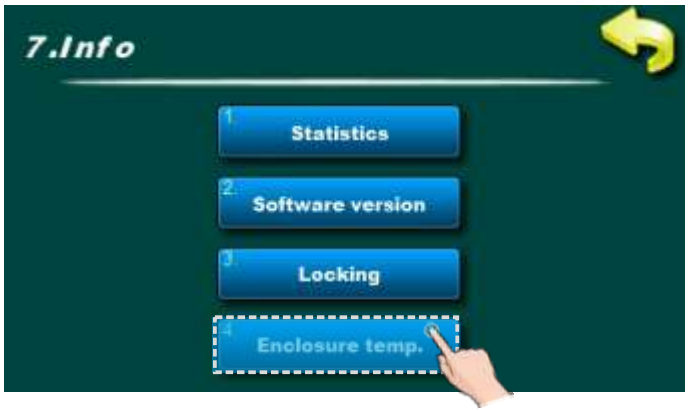
Software version displaying.

7.3. LOCKING



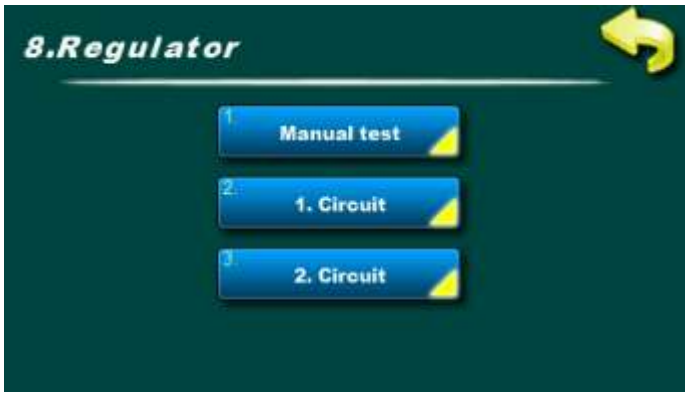
Status of screen locking.

7.4. ENCLOSURE TEMPERATURE



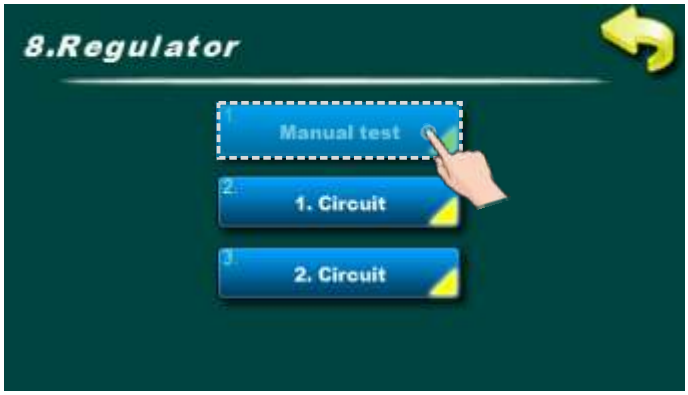
Displaying of junction box temperature.

8. REGULATOR

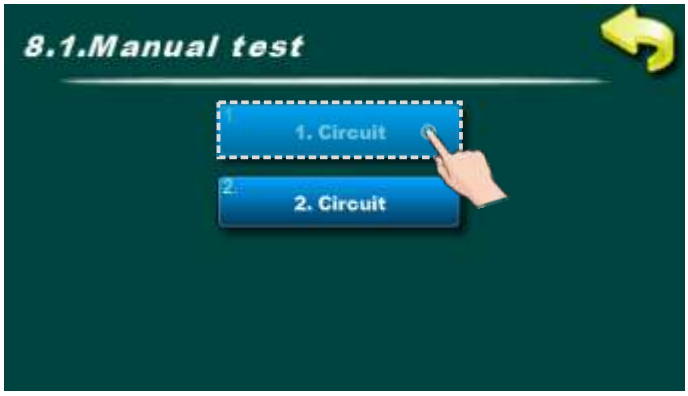


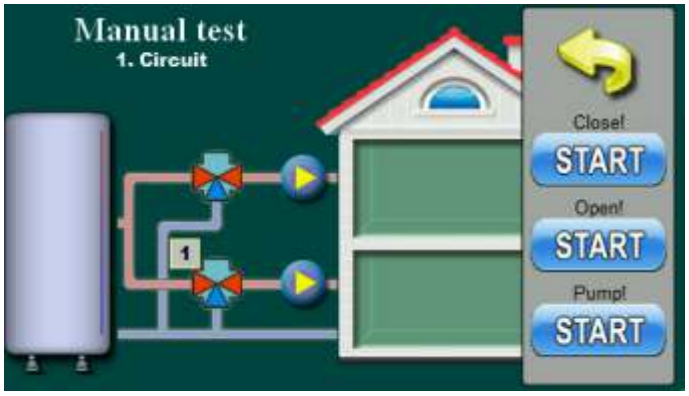
Menu „Regulator" is showed only if module for two heating circuits CM2K is installed and configurated.

8.1. MANUAL TEST



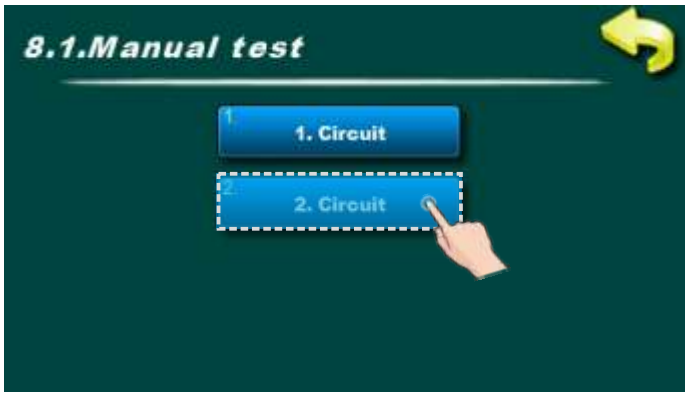
8.1.1. 1. CIRCUIT

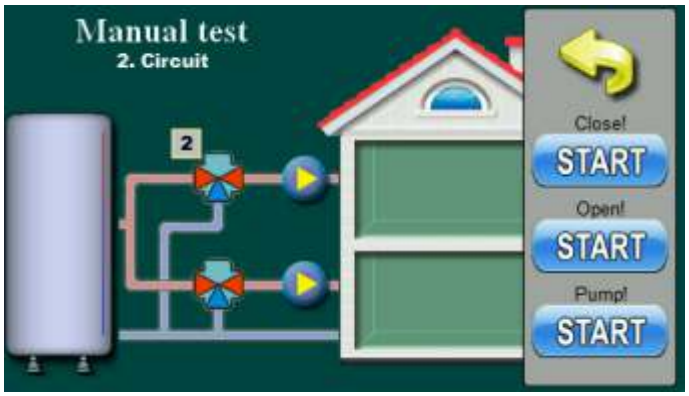




Option for testing elements of 1st heating circuit (mixing valve (START-open), mixing valve (START-close) and pump (START)).

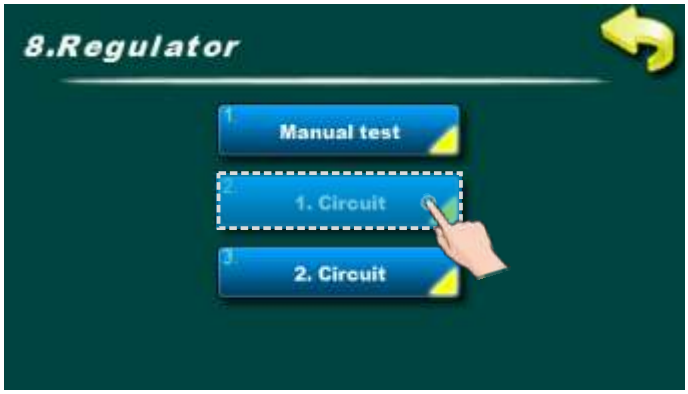
8.1.2. 2. CIRCUIT





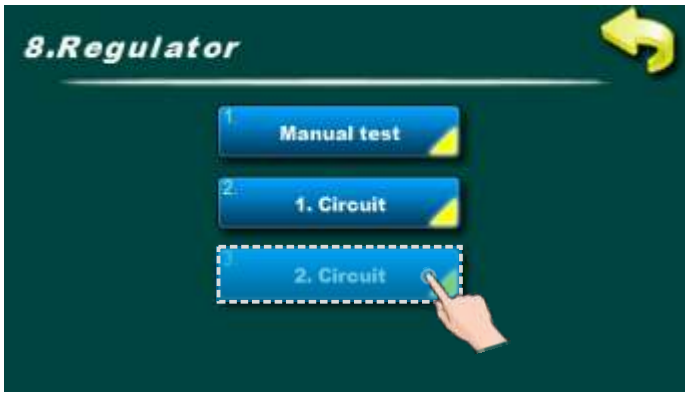
Option for testing elements of 1st heating circuit (mixing valve (START-open), mixing valve (START-close) and pump (START)).

8.2. 1. CIRCUIT



Option for turning on / off first heating circuit.
Possible selection:
- Factory selected: ON
- Possible selection: ON, OFF;

8.3. 2. CIRCUIT



Option for turning on / off second heating circuit.
Possible selection:
- Factory selected: ON
- Possible selection: ON, OFF;

9. UNBURNED

If is appear a lot of unburned fuel in ash box than is possible to use this option which is used for better (completed) fuel burning. With increase value of parameter fuel will be better burn.
Note: use only if is appear a lot of unburned fuel in ash box.
Possible selection:
- Factory adjustment: 0
- Minimal adjustment value: 0
- Maximal adjustment value: 3

10. LOCKING

10.1. LOCK

Option for locking display. Display can be locked only if exist profile for locking (10.2. Add user; 10.4. User list). When is display locked is possible to move through all menus but parameters can't be changed.

10.2. ADD USER

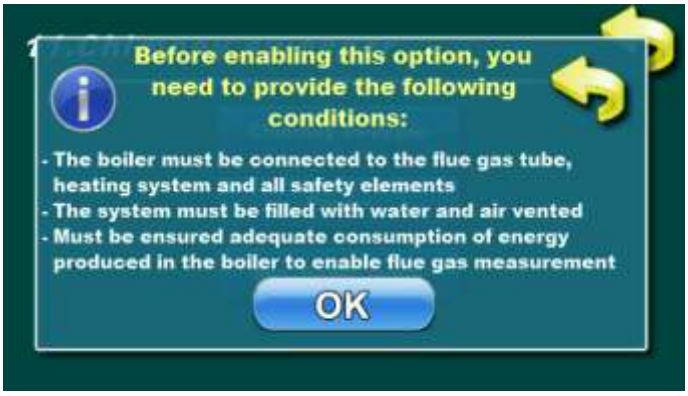
Option for adding new locking user. It's necessary to enter name of user through numerical part (1) and confirm it by pressing confirm button (2). Enter PIN and confirm it. After that is necessary to re-entry PIN and confirm it.

10.3. DELETE USER

Option for delete users. It's necessary to enter PIN of user which want to delete. Confirm PIN by pressing button for confirmation.

11. CHIMNEY SWEEPER

11.1. CHIMNEY SWEEPER



This option allows the flue gas measurement at different boiler powers. When this option is turned on, counter will appear on display. Time will start counting when the boiler reaches selected power (Dx). Text of the counter is red. When the boiler reach the selected power (Dx) and is on selected power for set time and factory set temperature of the boiler is achieved counter turns green and flue gases can be measured.

Possible selection:

- Factory selected: OFF

- Possible selection: OFF, ON;

<u>The procedure for measuring flue gas emissions at nominal heat output:</u>

The boiler should be cleaned of ash and dust:
- boiler firebox
- flue pipes of the boiler
- smoke box and connecting flue pipes between boiler and fan
- all ash boxes

All boiler doors and revision openings for cleaning should be air-tightly closed.
The "PNEUMAT" option (pneumatic cleaning of flue pipes) should be switched OFF.
After starting the boiler, it is necessary to select the option "CHIMNEY SWEEPER", "D5".
Wait for the boiler to work continuously for at least 1.5 hours at D5 (if the power drops to D4... it is necessary to wait for the boiler to be continuously at D5 for at least 1.5 hours) and start flue gas measurements. The measurement is not correct if the boiler modulated during the measurement or less than 1.5 hours before the measurement.
After the measurement, turn OFF the "CHIMNEY SWEEPER" option, turn ON the "PNEUMAT" option and, if necessary, leave the boiler running or turn it OFF.

Note:

Before measuring the emissions, the authorized service technician should perform a fine adjustment of the boiler's combustion.

12. INSTALLATION

For authorized persons only!

„Installation" menu can be access only with PIN. Only authorized persons have acces pin."Installation" menu is used by authorized persons for adjustment parameters for boiler work. User can't access „Installation" menu.

11.2. POWER

This option allows the boiler to work in different powers in order to measure the flue gases in the boiler modulation phases.

Possible selection:

- Factory selected: D5(max)

- Possible selection: D5(max), D2(min);

11.3. MINIMAL BOILER TEMPERATURE

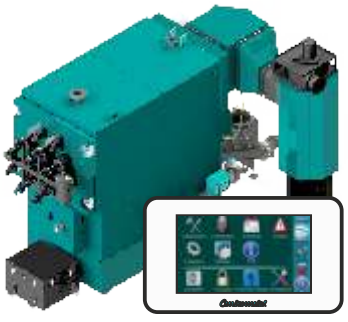
Adjustment of minimal boiler temperature when is chimney sweeper mod activated.

Possible adjustment:

- Factory adjusted: 60°C

- Minimal adjustment value: 60°C

- Maximal adjustment value: 60°C



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