Centrometal
HEATING TECHNIQUE

Centrometal d.o.o. - Glavna 12, 40306 Macinec, Croatia, tel: +385 40 372 600, fax: +385 40 372 611

TECHNICAL INSTRUCTIONS

CE

Description and using of BioTec Plus control unit
- USER

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

BioTec Plus

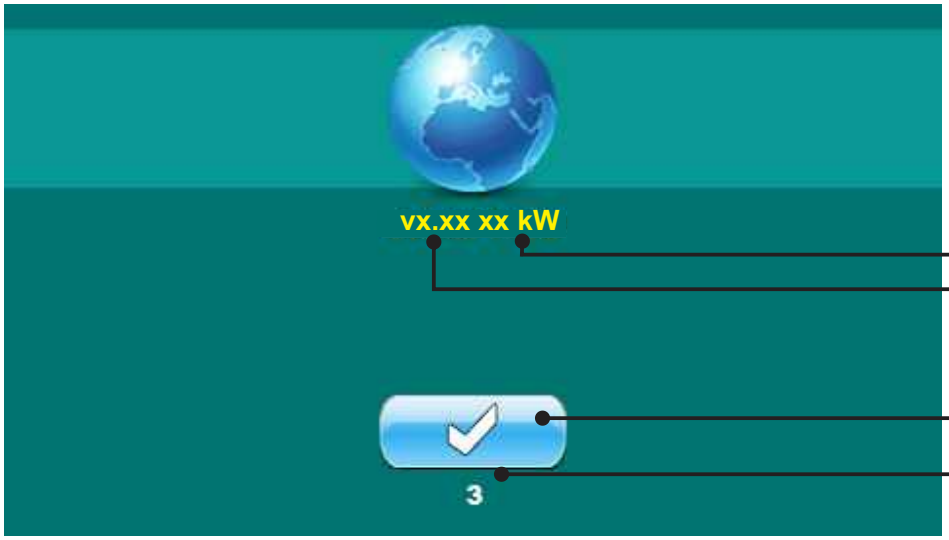
TUBTP-CU-08-2017-1.08h-ENG

DESCRIPTION

SWITCHING ON

After turning on the main switch, screen will display language selection menu and software version. To select the language, press the flag of language you want.

If the language selection is "disabled" (display > language sel > disabled), initial message wil appear in the screen as long as the set in the menu "Welcome time" (display > welcome time).



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.

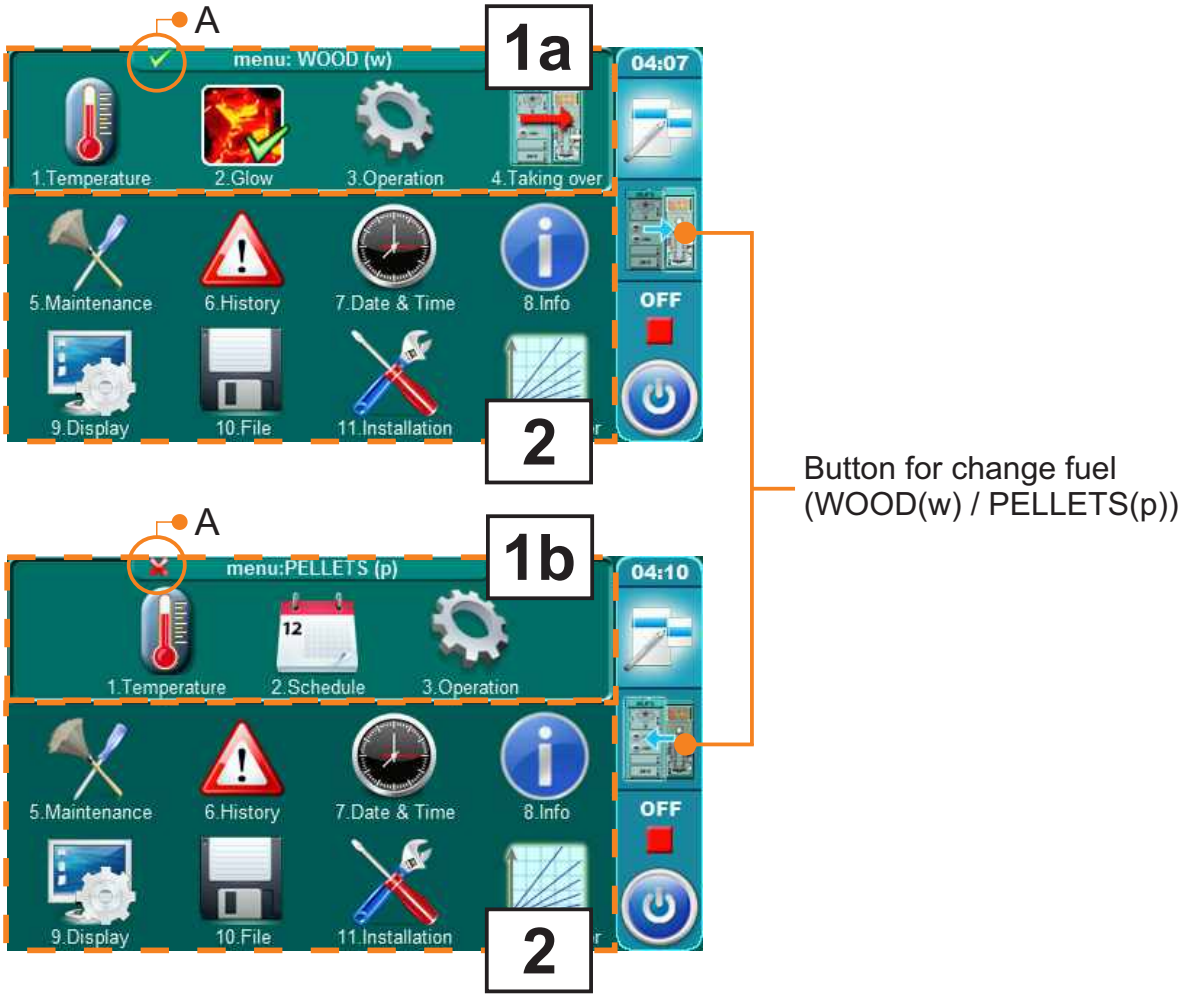
RIGHT SIDE TOOLBAR

LEGEND:

1 - Time & Date
2 - Display selection - Main menu / Main screen
3 - Button for change fuel (WOOD(w) / PELLETS(p))
4 - State of the current boiler status (working phase)
5 - Boiler Start / Stop

MAIN MENU

Main menu on BioTec Plus boiler control unit is composed of two parts - changeable part (1a and 1b) and static part (2). By pressing button for change fuel (see image below) displayed parameter will be changed. Displaying parameters can be changed regardless of boiler working phase and which fuel are choosen as active for work.



1a - WOOD(w) menu (changeable menu) - menu for using parameters at wood firing (left side of the boiler)

1b - PELLETS(p) menu (changeable menu) - menu for using parameters at wood pellet firing (right side of the boiler)

2 - static part of main menu - this part of main menu is always same

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**”

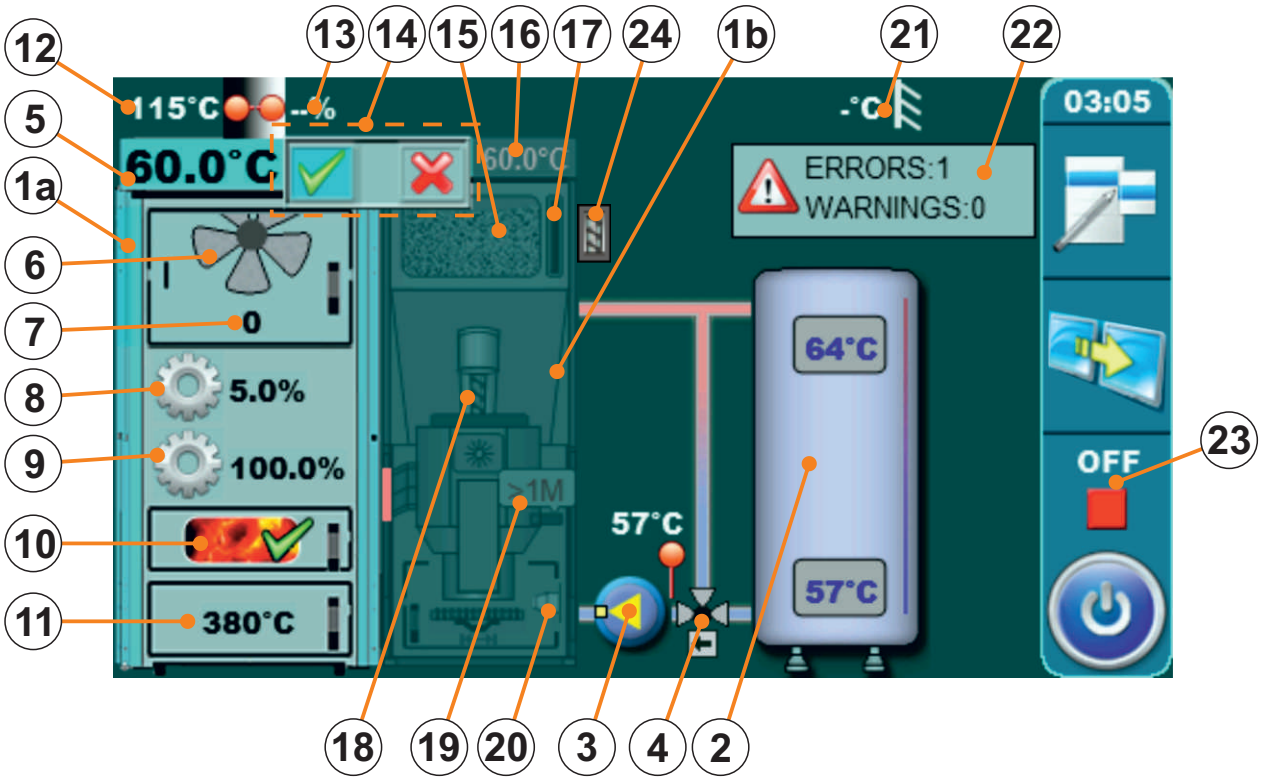
Button ”**INFORMATION**”

Button ”**NEXT SCREEN**”

Button ”**COPY**”

Button ”**PASTE**”

MAIN SCREEN

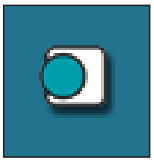


1a - Boiler (Wood firing side)
1b - Boiler (Pellet firing side)
2 - Buffer tank
3 - Boiler pump P1
4 - 3 - way protection valve (thermic or with actuator)
5 - Boiler temperature (Wood firing side)
6 - Symbol of fan operation (simbol is rotate when fan working)
7 - Fan speed (rpm)
8 - Simbol and opening percentage of primary air actuator
9 - Simbol and opening percentage of secondary air actuator
10 - Glow option (if is enabled)
11 - Combustion chamber temperature
12 - Flue gas temperature
13 - The percentage of oxygen in the flue gases (lambda probe)
14 - Boiler side activity indicator
15 - Wood pellet tank
16 - Boiler temperature (Wood pellet firing side)
17 - Fuel level sensor (Wood pellets)
18 - Feeder screw
19 - Photocell
20 - Electric heater
21 - Outer temperature
22 - Errors and warnings
23 - Boiler working phase
24 - Wood pellet feeding system (if is installed - additional equipment)

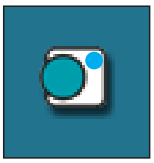
SYMBOLS

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)

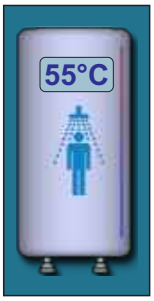


Room thermostat



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

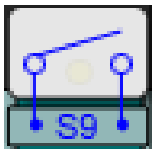


Domestic hot water tank
with current temperature

Cleaning of flue pass.
(this symbol is located in
left side-wood)

Pellets reffil
(this symbol is located in
left side-wood)

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



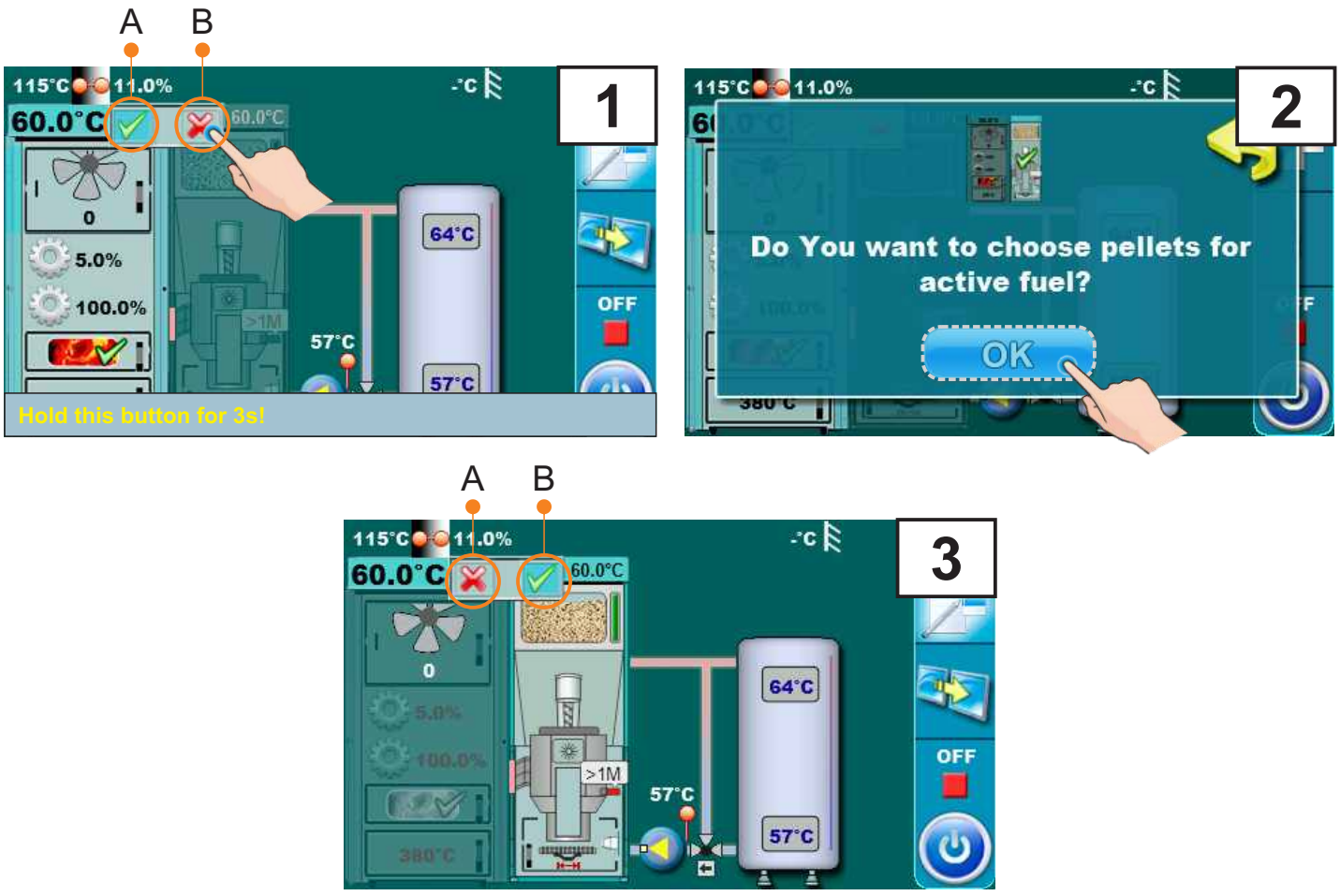
Burner operation is not required by external control (this symbol is visible only if external control is installed and configured)

External control require burner operation (this symbol
is visible only if external control is installed and configured)

CHOOSING BOILER SIDE (choosing fuel)

Using of BioTec Plus boiler are consist of using of left part of the boiler (fuel: wood) and using of right part of the boiler (fuel: wood pellets). On boiler control unit is necessary to choose which side of the boiler will be used (which fuel will be used). Below is shown procedure for choosing boiler side for work when is boiler turned off (working phase „OFF").

PROCEDURE FOR CHOOSING BOILER SIDE FOR WORK (USED FUEL):
Example: Selecting wood pellets for active fuel (right side of the boiler).



Left and right side of the boiler have indicators (A and B) which shows which of these two side are active (which fuel are choosen). Active side have green indicator, inactive side have red indicator (red „x"). On figure above is example for switching from left side of the boiler to the right side of the boiler (from wood to wood pellets). It's necessary to press and hold for 3 seconds indicator on inactive boiler side (figure 1, indicator B). On display will be displayed message „Do you want choose wood pellets for active fuel?" (figure 2). Press „OK" button (figure 2). Now left side of the boiler have red inactive indicator, right side of the boiler have green indicator of activity (figure 3.).

TAKING OVER

Note: Option „Taking over" is possible only from left side of the boiler (fuel: wood) to right side of the boiler (fuel: wood pellets) (wood pellets taking over wood).

„Taking over" option is used for automatic switching operation from one fuel to another fuel. Automatic switch is possible only from wood to wood pellets.
For use of „Taking over" option is neccesary to activate it (see „Activating „Taking over" option").

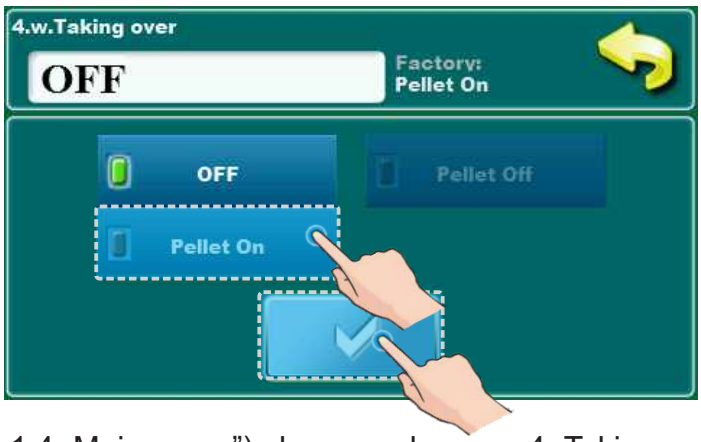
„Taking over" option works on the way that when left part of the boiler (fuel: wood) runs out of the fuel, right side of the boiler (fuel: wood pellets) automatic take over work activity and right side of the boiler (fuel: wood pellets) continues with work.

ACTIVATING „TAKING OVER" OPTION

Activating „Taking over" option can be done on two ways:

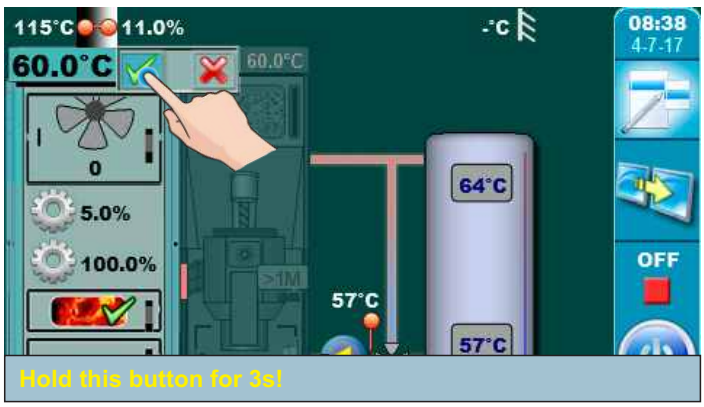
a) through main menu (menu: WOOD(w), „Taking over" submenu)
b) through main screen by pressing boiler side status indicator

a) activating „Taking over" option through main menu



On main menu (menu: WOOD(w)) (see Point „8.1.4. Main menu") choose submenu „4. Taking over", select „Pellet On" and confirm it by pressing „Confirm" button.

b) activating „Taking over" option through main screen (boiler side activity indicator)



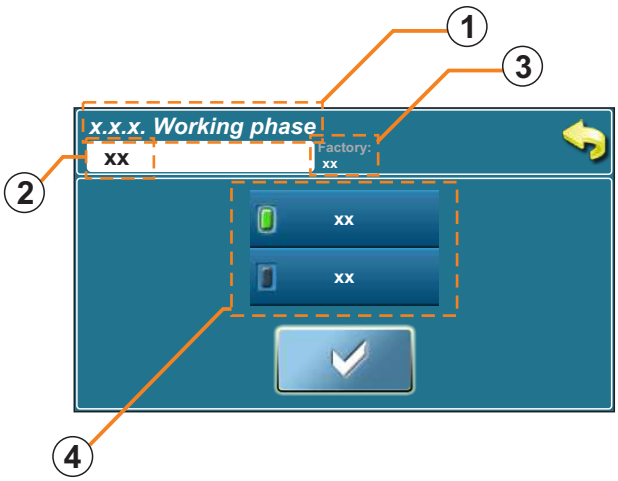
Press green activity indicator on right boiler side (fuel: wood) and hold it for 3 seconds. On display will be desplayed „Do you want to ENABLE „pellets take over?". Confirm it by pressing „Confirm" button.

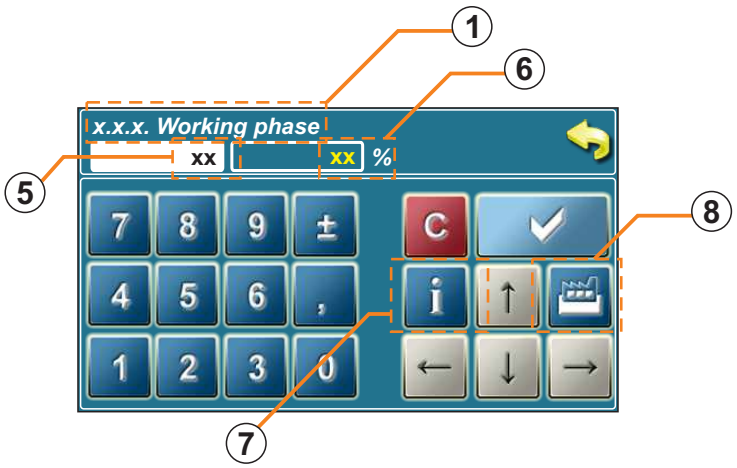
PARAMETERS MANAGMENT

Methods for parameters input

Method 1: entering parameters by choosing offered values.

Method 2: entering parameters by numerical keyboard (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

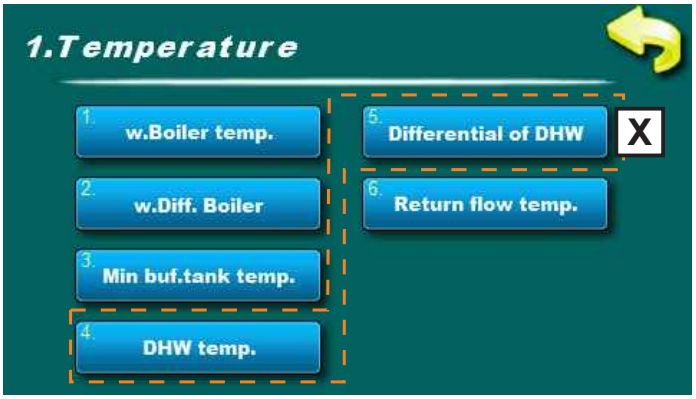
6. Currently adjusted value
- in this box are shown currently adjusted value of paramete (last confirmed)

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

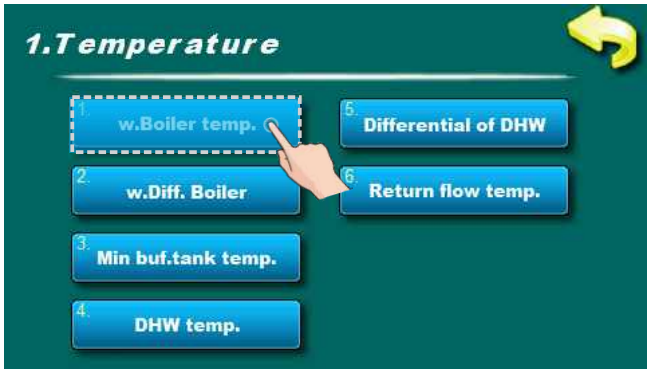
WOOD(w) MENU

1. TEMPERATURE



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

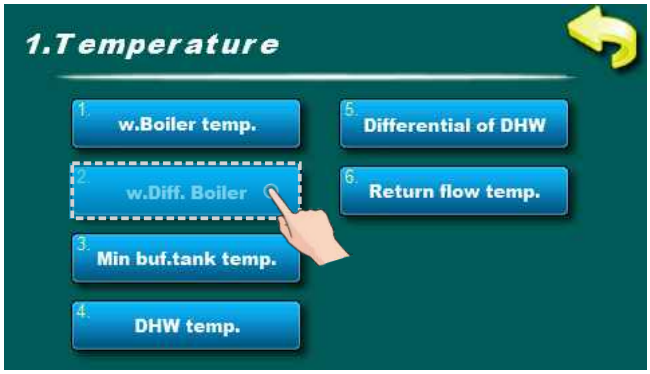
1.1. (w) BOILER TEMPERATURE



In this parameter is possible to adjust boiler working temperature.

Possible adjustment:
- Factory adjusted: 85°C
- Minimal adjustment value: 75°C
- Maximal adjustment value: 90°C

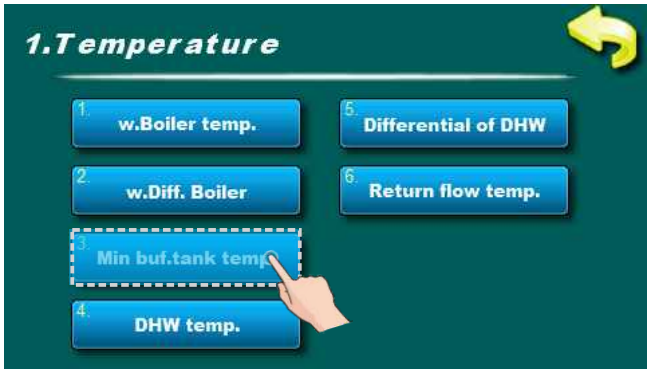
1.2. (w) DIFFERENCE OF BOILER TEMPERATURE



In this parameter is possible to adjust difference of boiler working temperature.

Possible adjustment:
- Factory adjusted: 5°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 7°C

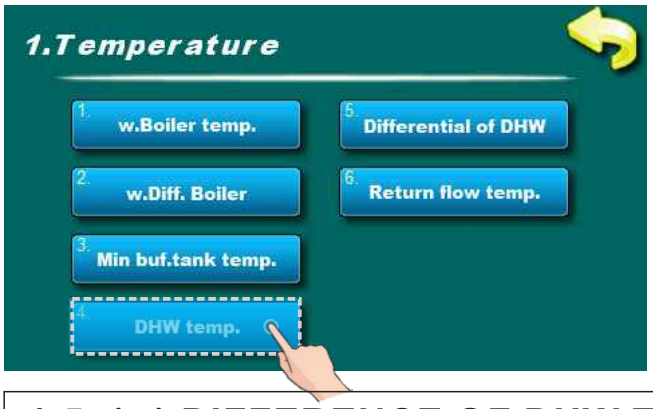
1.3. (w) MINIMAL BUFFER TANK TEMPERATURE



In this parameter is possible to adjust minimal buffer tank temperature.

Possible adjustment:
- Factory adjusted: 20°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 85°C

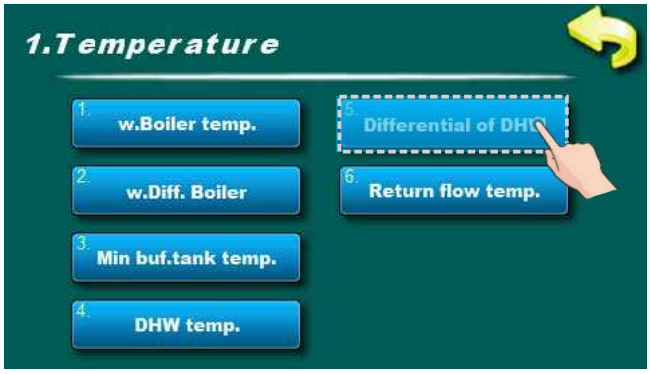
1.4. (w) DHW TEMPERATURE



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

Possible adjustment:
- Factory adjusted: 50°C
- Minimal adjustment value: 40°C
- Maximal adjustment value: 80°C

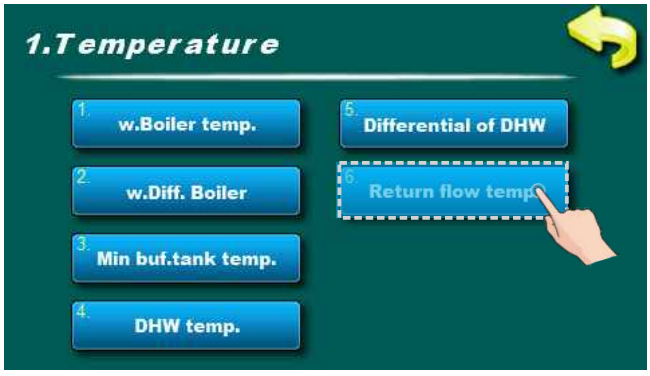
1.5. (w) DIFFERENCE OF DHW TEMPERATURE



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

Possible adjustment:
- Factory adjusted: 5°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 40°C

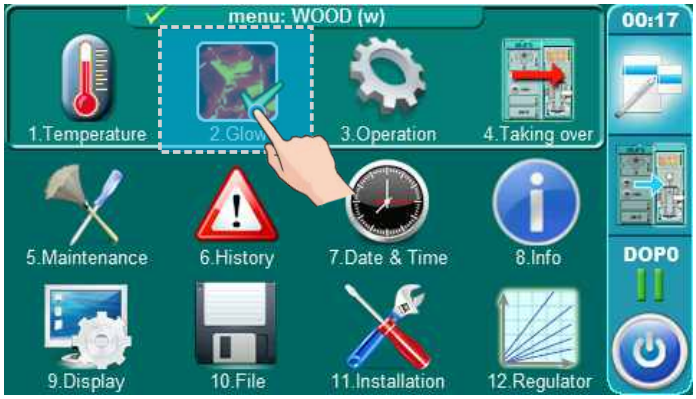
1.6. (w) RETURN FLOW TEMPERATURE



In this parameter is possible to adjust return flow temperature.

Possible adjustment:
- Factory adjusted: 60°C
- Minimal adjustment value: 60°C
- Maximal adjustment value: 70°C

2. (w) GLOW



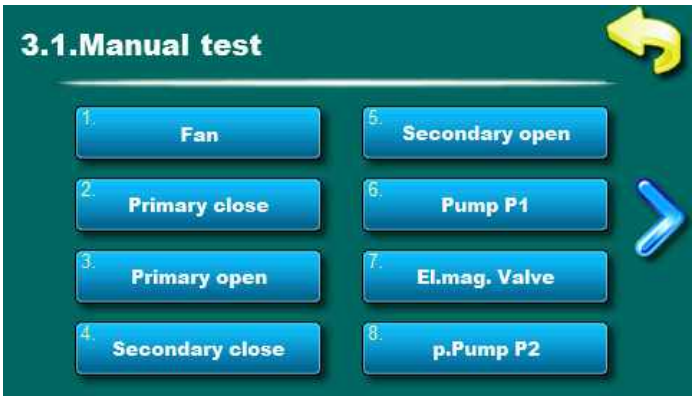
In menu "Glow" option for glow maintenance can be turned on or of.

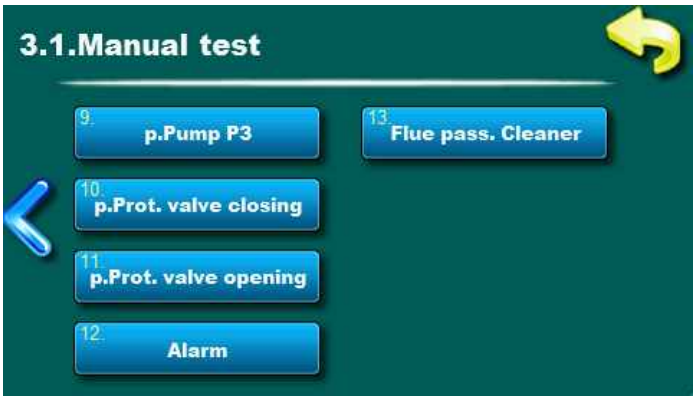
Possible selection:
- Factory selected: Day temperature
- Possible selection: OFF, ON;

ENABLED OPTION GLOW: when, on fuel load storage, remain only glow, boiler can maintain remain glow for max 12h, depend about heating requirement.

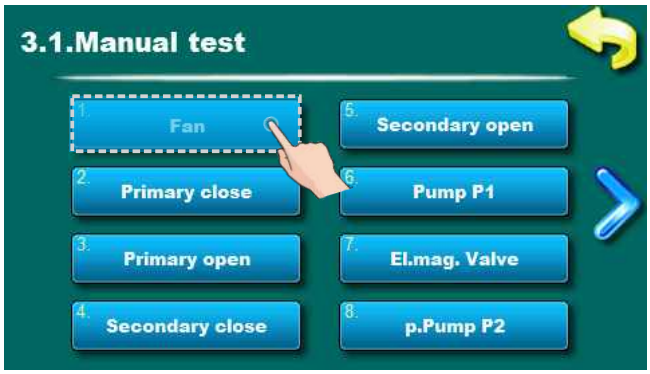
3. OPERATION

3.1. MANUAL TEST





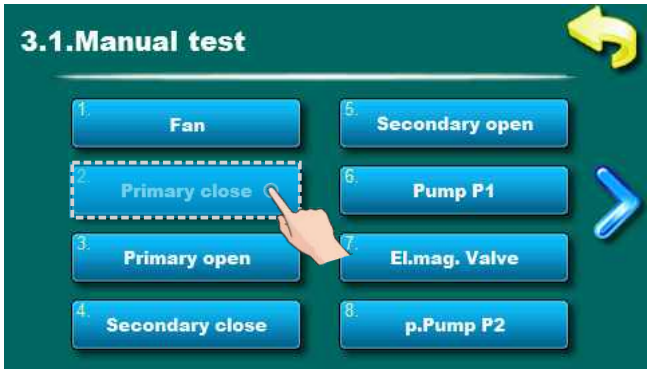
3.1.1. FAN



Option for boiler fan testing.

Fan can be tested on 1700rpm and max. rpm. When the fan works, fan symbol on display is animated.

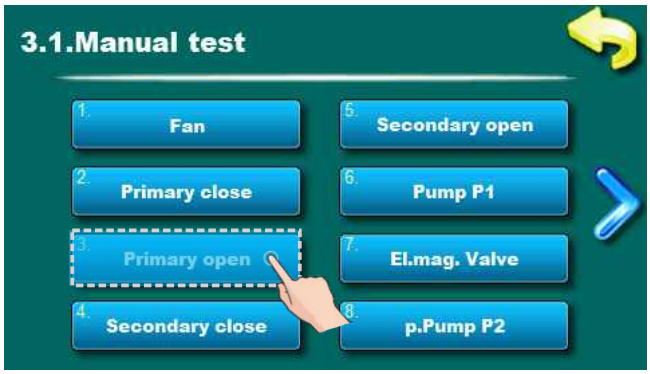
3.1.2. PRIMARY CLOSE



Option for primary air motor device (close direction) test.

By pressing „Start" button primary air motor device will be start with closing.

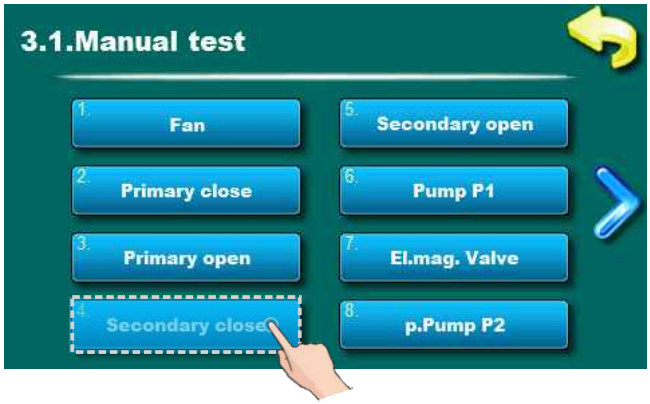
3.1.3. PRIMARY OPEN



Option for primary air motor device (open direction) test.

By pressing „Start" button primary air motor device will be start with opening.

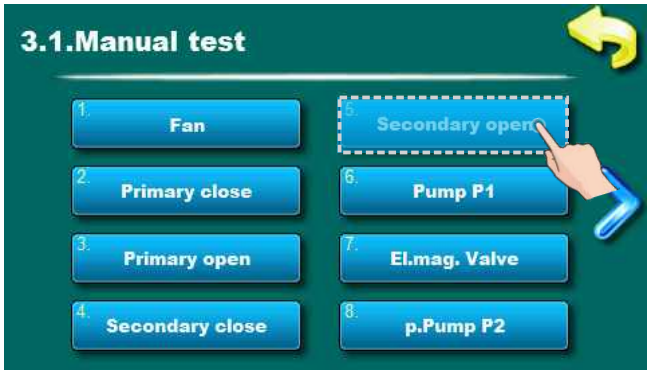
3.1.4. SECONDARY CLOSE



Option for secondary air motor device (close direction) test.

By pressing „Start" button secondary air motor device will be start with closing.

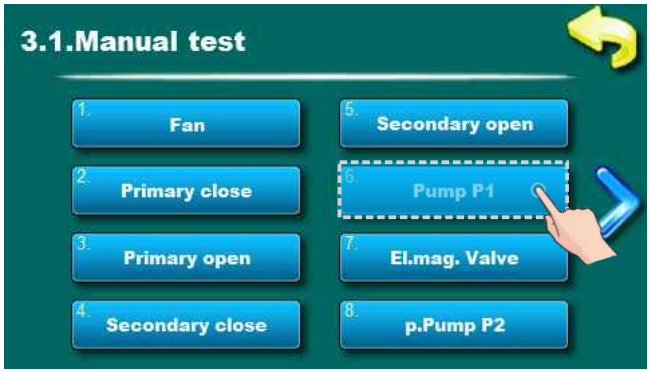
3.1.5. SECONDARY OPEN



Option for secondary air motor device (open direction) test.

By pressing „Start" button secondary air motor device will be start with opening.

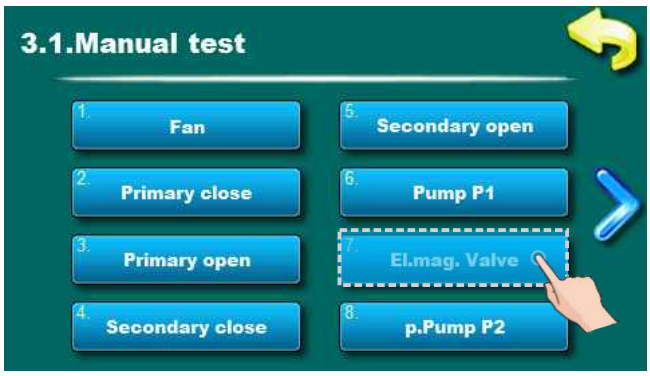
3.1.6. PUMP P1



Option for P1 pump test.

By pressing „Start" button P1 pump will be start with work.
When the pump works, pump symbol on display is animated.

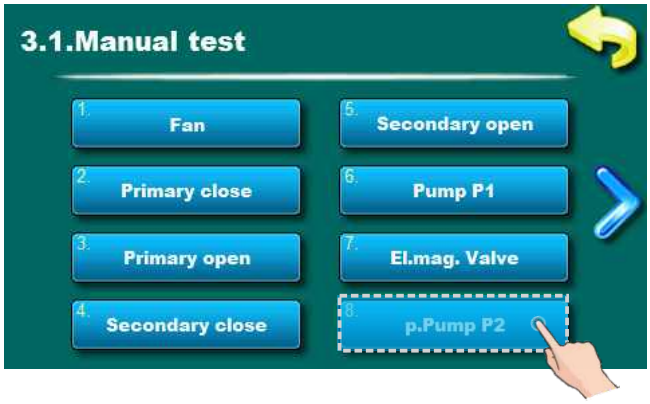
3.1.7. ELECTRO-MAGNETIC VALVE



Option for electro-magnetic valve test.

By pressing „Start" button electromagnetic valve will be start with work.

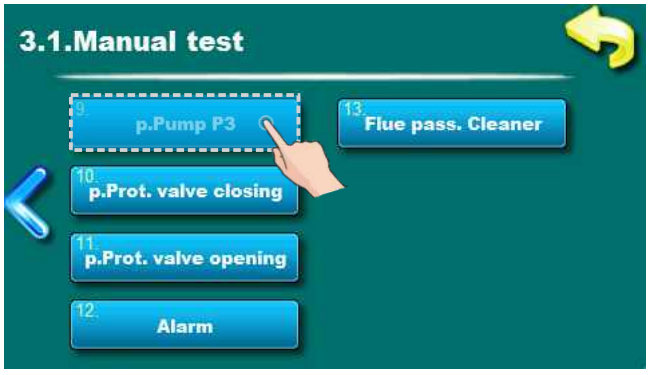
3.1.8. PUMP P2



Option for P2 pump test.

By pressing „Start" button P2 pump will be start with work.
When the pump works, pump symbol on display is animated.

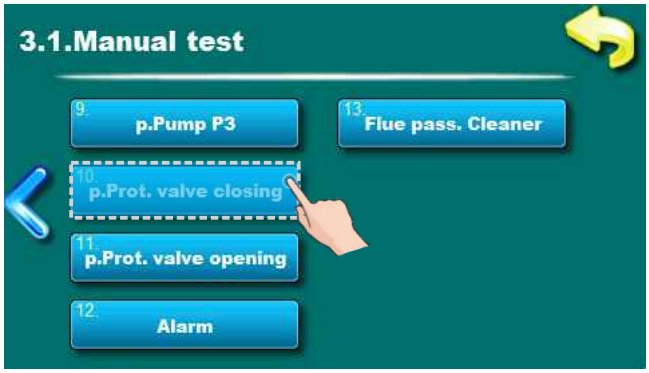
3.1.9. PUMP P3



Option for P3 pump test.

By pressing „Start" button P3 pump will be start with work.
When the pump works, pump symbol on display is animated.

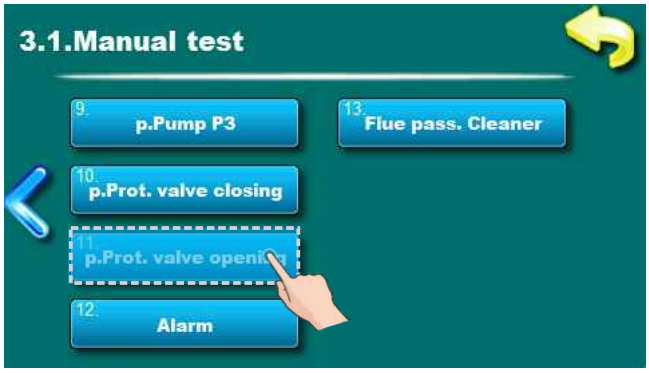
3.1.10. VALVE CLOSING



Option for protection valve (closing) test.

By pressing „Start" button protection valve will be start with closing.

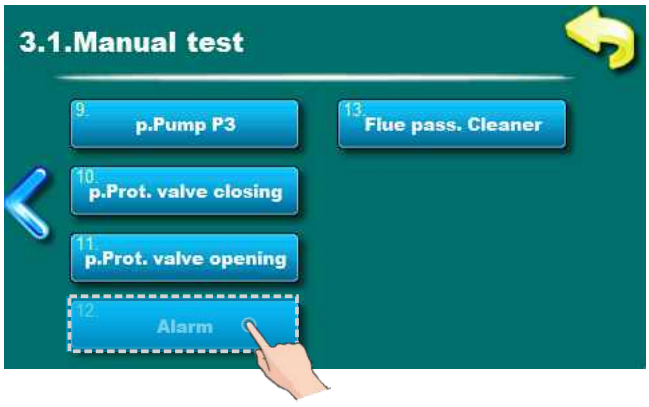
3.1.11. VALVE OPENING



Option for protection valve (opening) test.

By pressing „Start" button protection valve will be start with opening.

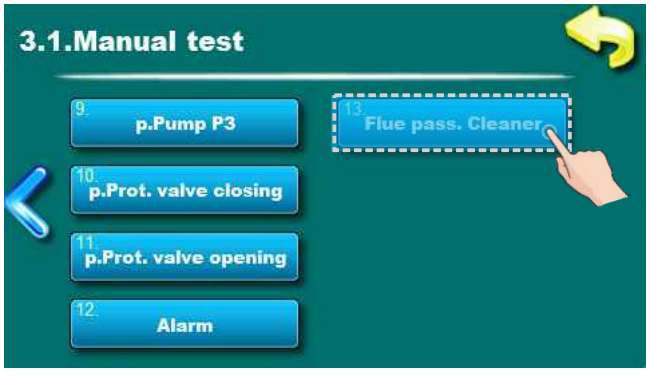
3.1.12. ALARM



Option for alarm test.

Alarm can be tested for errors and fuel level.

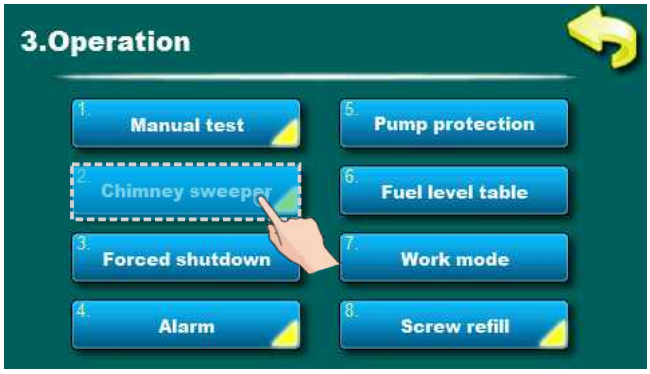
3.1.13. FLUE PASS. CLEANER

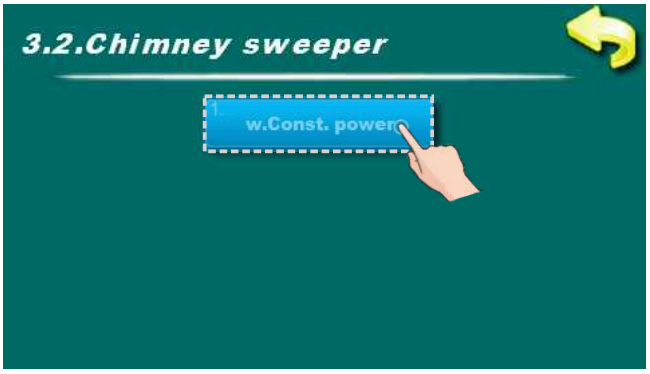


Option for flue pass. cleaner test.

By pressing „Start" button flue pass. cleaner will be start with work.

3.2. CHIMNEY SWEEPER





This option allows the flue gas measurement at boiler nominal power (D6).

Possible selection:
- Factory selected: Disabled
- Possible selection: Disabled, D6 100%;

3.3. FORCED SHUTDOWN

This option is used to forced stop all processes.
First must be pressed the ON/OFF button to put the boiler in shutdown procedure and then "forced shutdown" button. All processes are stopped.

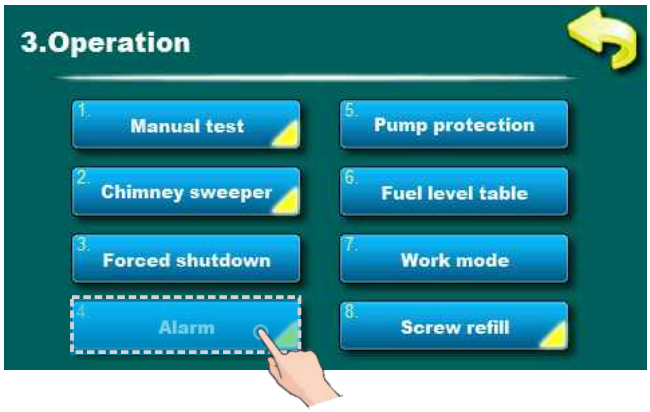
Option ”FORCED SHUTDOWN“ is not usual procedure for turning OFF the boiler

IMPORTANT! To be able to stop all processes, you must first turn off the boiler in the usual way by pressing and then STOP.

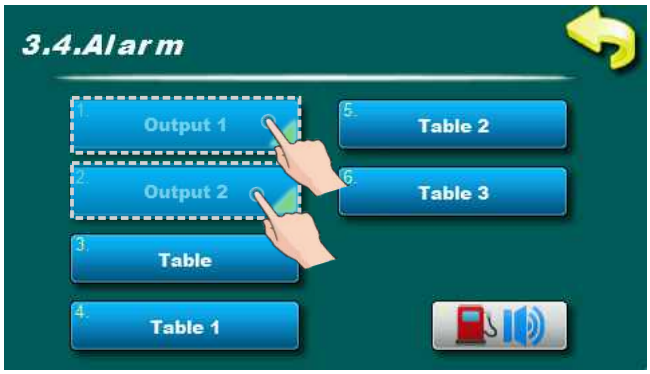
3.4. ALARM

This option is used for error report by speaker or lamp to living area. It's neccessary to buy light or sound alarm „CAL" which can be installed only by authorized person (before using of alarm is neccessary to configure it in „Installation" menu whoose access have only authorized persons by entering PIN).
It's possible to choose in which way will be control unit alert user about error or low fuel level. Pause is time which will be pass before control unit again send signal about error / warning.

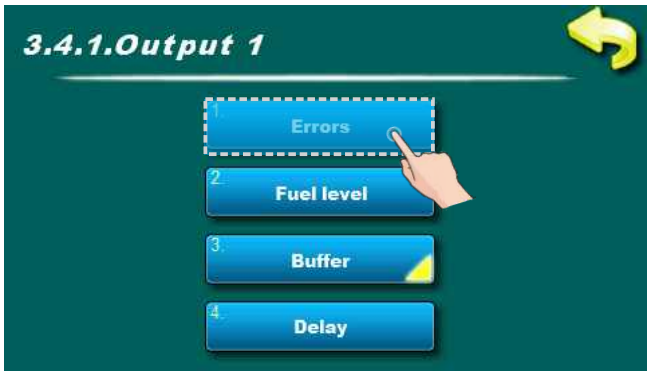
By pressing this button () user can disable/enable the fuel level warning sound from the speaker.
(It refers only to warning about the low fuel level in the tank when speaker is selected as connected device). If only lamp is connected and selected as connected device, this shortcut is not displayed.
When speaker is disabled, this symbol becomes 



3.4.x OUTPUT 1,2



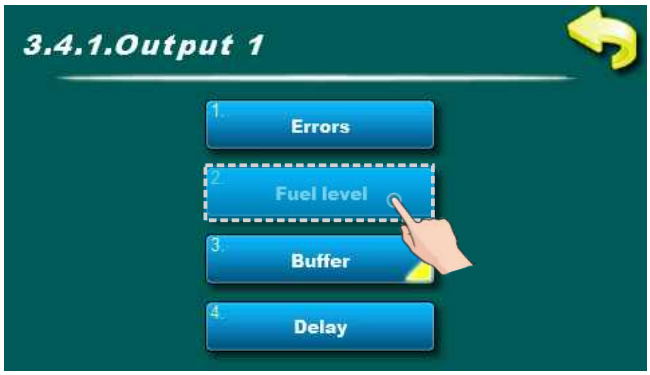
3.4.x.1. ERRORS



This parameter determines whether the output 1 errors occur. By selecting certain types of signals will be activated in the selected signal format.

Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

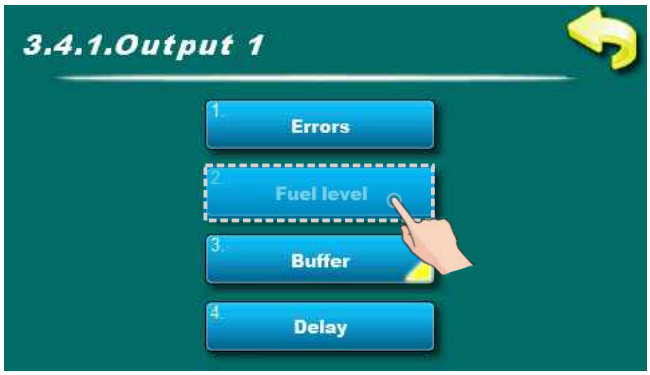
3.4.x.2. FUEL LEVEL



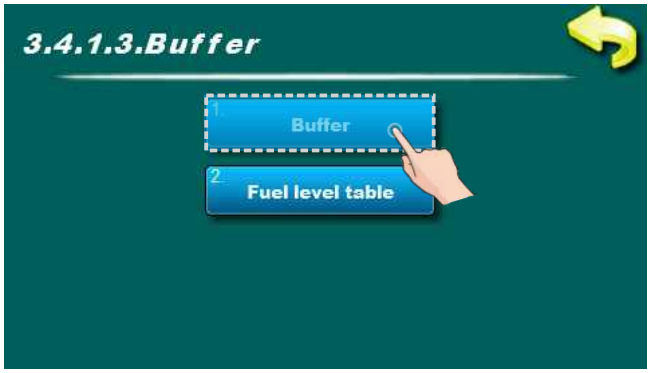
This parameter determines whether the output 1 fuel level warning occur. By selecting certain types of signals will be activated in the selected signal format.

Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

3.4.x.3. BUFFER



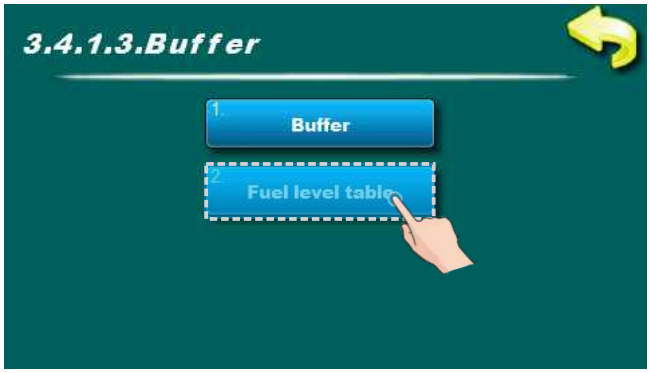
3.4.x.3.1. BUFFER



This parameter define whether will it output 1 report warning for low temperature in buffer tank. This option don't allow setting of his own table for signal type in different time of day, but adjusted table for fuel level warning can be used. For using table for low temperature in buffer tank is neccessary to activate table for fuel level (see Figure below).

Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

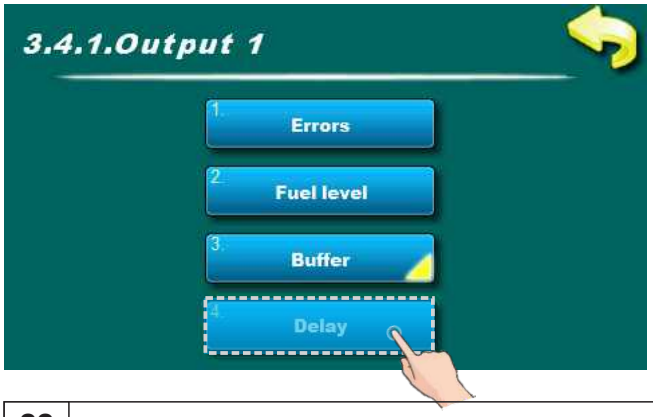
3.4.x.3.2. FUEL LEVEL TABLE



In this parameter is possible to turn on / off table for fuel level alarm.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON

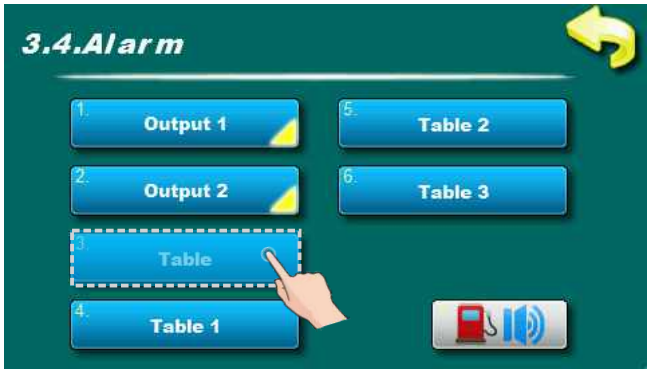
3.4.x.4. DELAY



This parameter define after how long will be again activate error / warning of fuel level / low temperature of buffer tank **(this parameter doesn't work if is selected continous signal**).

Possible adjustment:
- Factory adjusted: 20 sec
- Minimal adjustment value: 5 sec
- Maximal adjustment value: 3600 sec

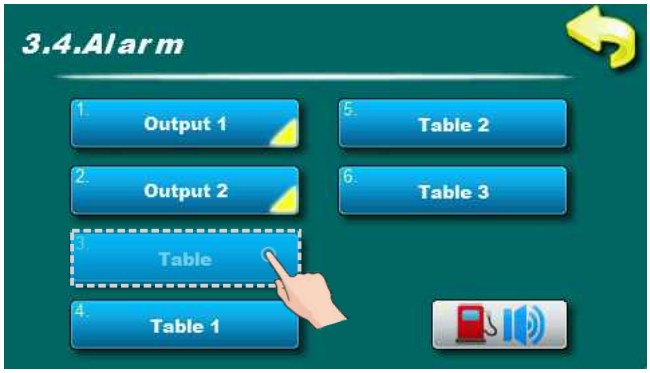
3.4.3 TABLE

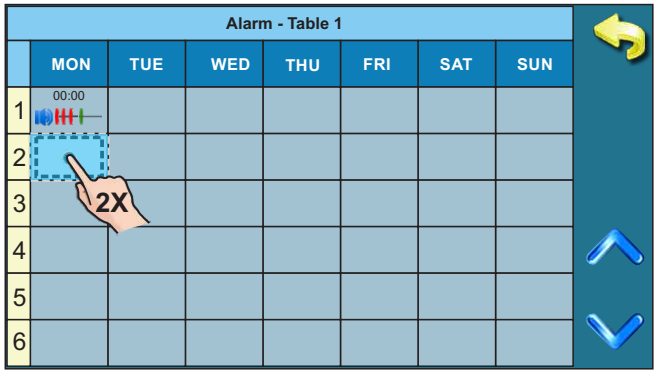


This parameter is used to select the predefined table for the alarm. The automatic switching on and off or changing the signal type at a specific time. It is possible to adjust signal type for speaker and signal type for low fuel level warning. The table will be operational only if is "table" selected in point 5.7.9.1 for output 1 (signal type).

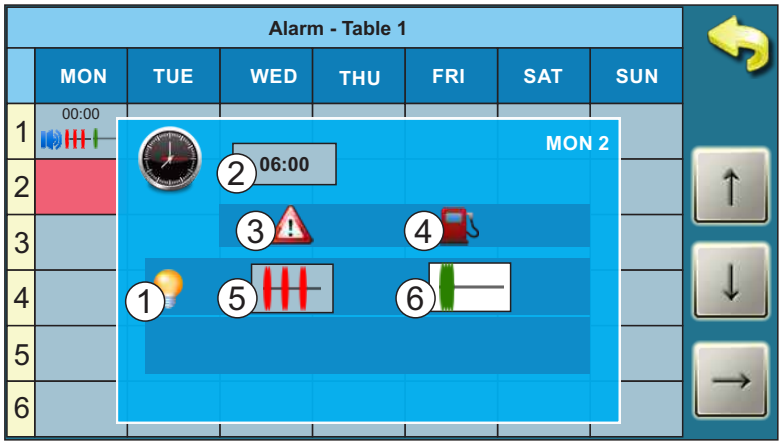
Possible selection:
- Factory selected: Table 1
- Possible selection: Table 1, Table 2, Table 3

3.4.x TABLE 1,2,3





1. Type of alarm alert
   - Lamp
   - Speaker
2. Time
3. Symbol for alarm of boiler errors.
4. Symbol for alarm of fuel level warning
5. Signal type of boiler erros alarm.
6. Signal type of fuel level warning



Setting values on table 1
Using the table to turn on or of and change type of signal for alarm or low fuel level warning at different times and days. When you enter the editing table, it is necessary to press 2 times the desired box (day) and then opens a new window where you can turn on and off, set signal type for boiler error, fuel level warning and the time at which the selected signal type takes effect. Eg. to change the time, it is necessary to press the box with time. When pressed on the box with time, its background becomes white and then it is possible to change the parameters by pressing the "up" and" down" (↑ ↓).
It is possible to specify the type of signal 16 changes per day.

Below are described all symbols for types of signal. In the same way, you can fill table 2 and table 3.

⚠	**The type of connected device (lamp or speaker) can be set only in installation menu, only by an authorized person.**

Symbol descriptions (signal types)

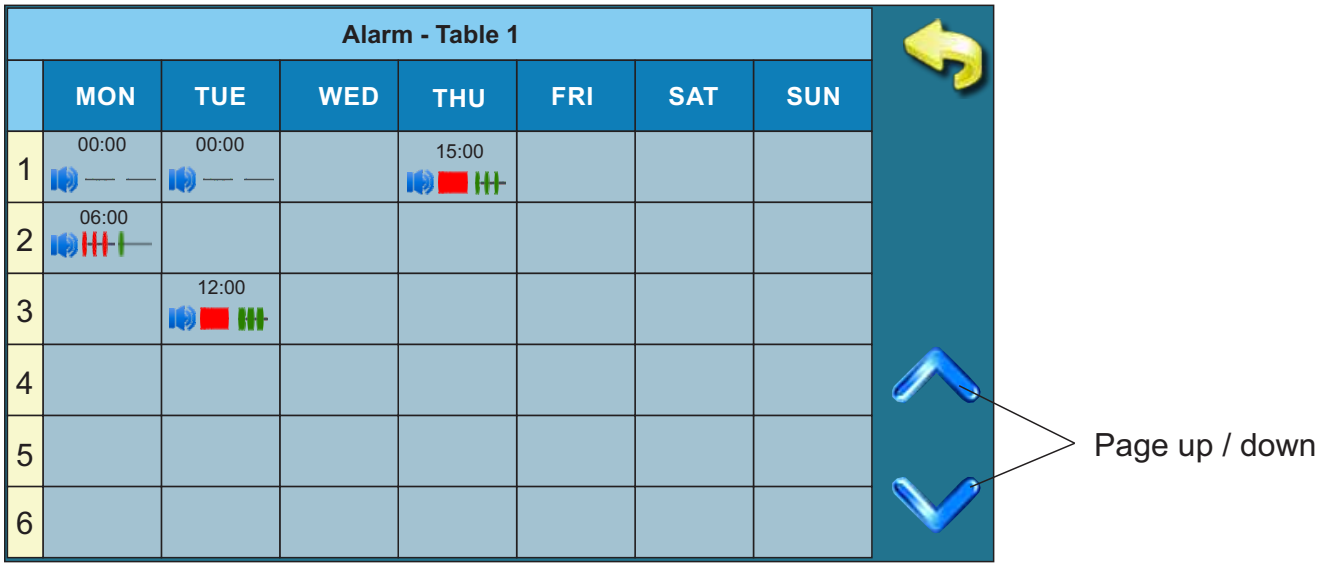
For boiler error alarm (red)

Symbol	Description
—	Off
▬	Continuous
▮—	Fast 1 time
▮▮▮	Fast 3 times
▮—	Slow 1 time
▮▮▮	Slow 3 times

For fuel level warning (green)

Symbol	Description
—	Off
▬	Continuous
▮—	Fast 1 time
▮▮▮	Fast 3 times
▮—	Slow 1 time
▮▮▮	Slow 3 times

Example of filled table



According to table alarm is off on monday in 00:00, then is turned on in 06:00 (fast 3X for boiler error and fast 1X for fuel level warning). This way to alert the alarm goes until 00:00 tuesday when switched off again. In tuesday 24:00 alarm is active again (continuous for boiler error and 3X slow for fuel level warning. This way of alert alarm is active all day wednesday (day and night) until thursday at 15:00 when the alert alarm type changes (continuous for errors and fast 3X for fuel level warning. This way of alert alarm is valid on friday, saturday and sunday until monday at 00.00 when start a new table circuit.

Note: Delay between two alarm indication can not be changed in the table, but it can be set in the alarm menu.

3.5. PUMP PROTECTION

In this parameter is possible to enable /disable pump protection.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

3.6. FUEL LEVEL TABLE

In this parameter is possible to change used fuel (choosing boiler side for work).

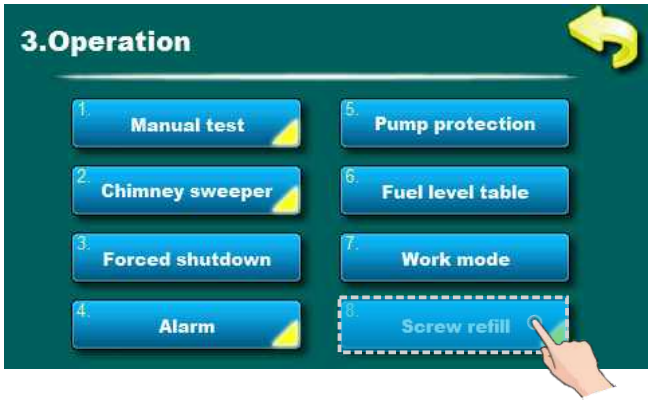
Possible selection:
- Factory selected: WOOD
- Possible selection: WOOD, PELLETS;

3.7. WORK MODE

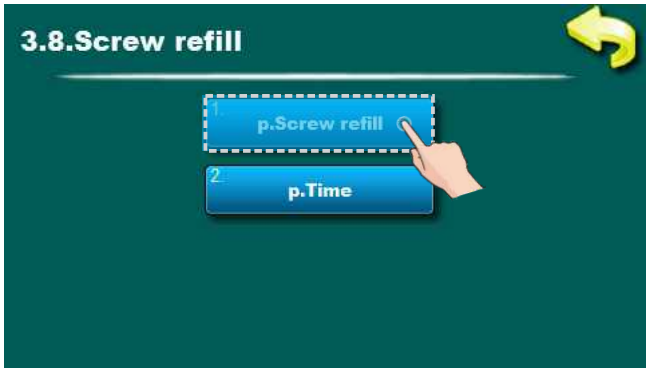
In this parameter is possible to change work mode .

Possible selection:
- Factory selected: DHW+Heating
- Possible selection: DHW+Heating, DHW only;

3.8. SCREW REFILL



3.8.1. SCREW REFILL



In this parameter is possible activate option for filling feeder screw.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

3.8.2. TIME

In this parameter is possible to adjust how long will be work option for feeder screw fill.

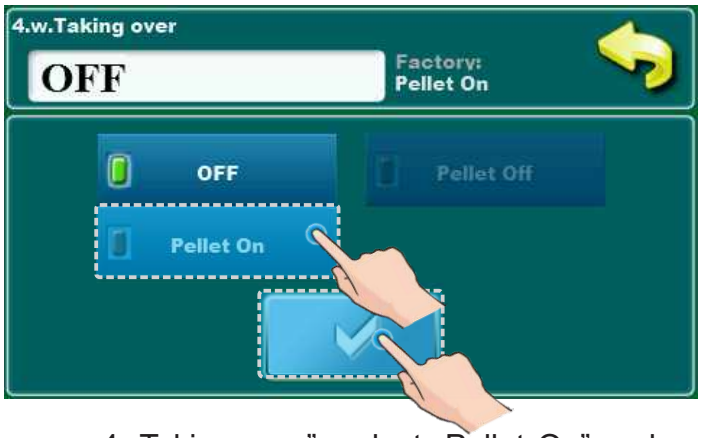
Possible adjustment:
- Factory adjusted: 300 sec
- Minimal adjustment value: 0 sec
- Maximal adjustment value: 1800 sec

4. TAKING OVER

Note: Option „Taking over" is possible only from left side of the boiler (fuel: wood) to right side of the boiler (fuel: wood pellets) (wood pellets taking over wood).

„Taking over" option is used for automatic switching operation from one fuel to another fuel. Automatic switch is possible only from wood to wood pellets.
For use of „Taking over" option is neccesary to activate it (see „Activating „Taking over" option").

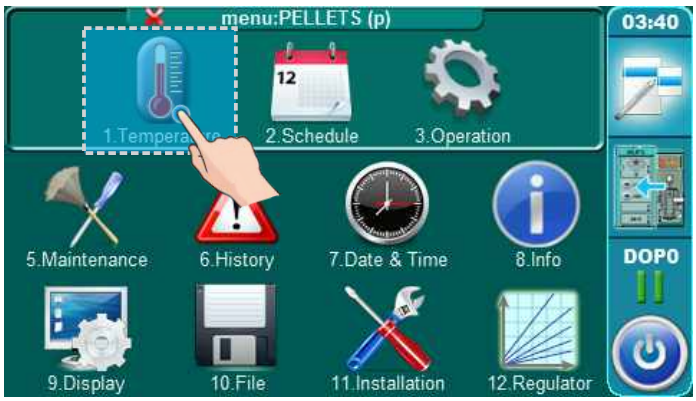
„Taking over" option works on the way that when left part of the boiler (fuel: wood) runs out of the fuel, right side of the boiler (fuel: wood pellets) automatic take over work activity and right side of the boiler (fuel: wood pellets) continues with work.

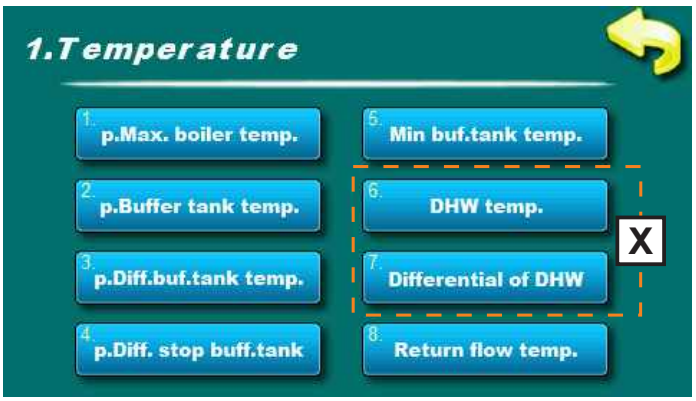


On main menu (menu: WOOD(w)) choose submenu „4. Taking over", select „Pellet On" and confirm it by pressing „Confirm" button.

PELLETS(p) MENU

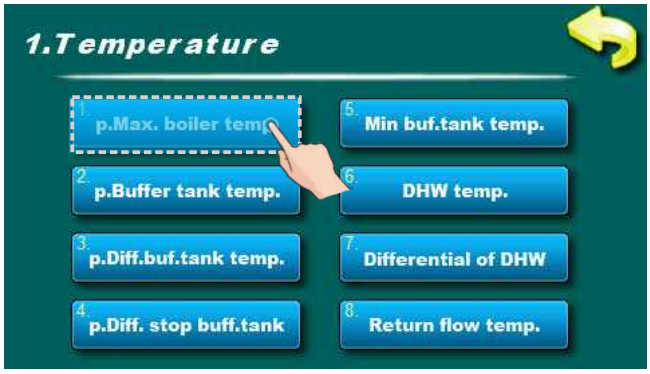
1. TEMPERATURE





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

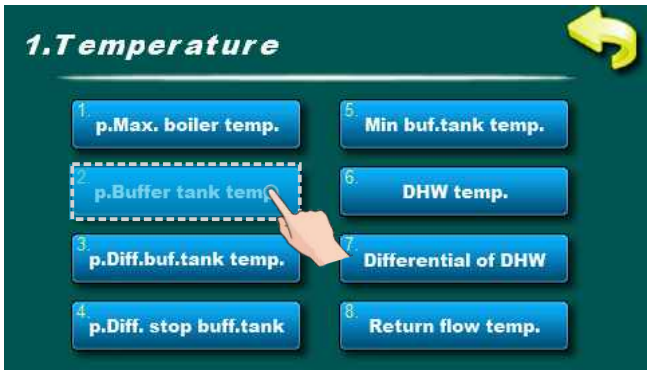
1.1. (p) MAXIMAL BOILER TEMPERATURE



In this parameter is possible to adjust maximal boiler working temperature.

Possible adjustment:
- Factory adjusted: 80°C
- Minimal adjustment value: 70°C
- Maximal adjustment value: 90°C

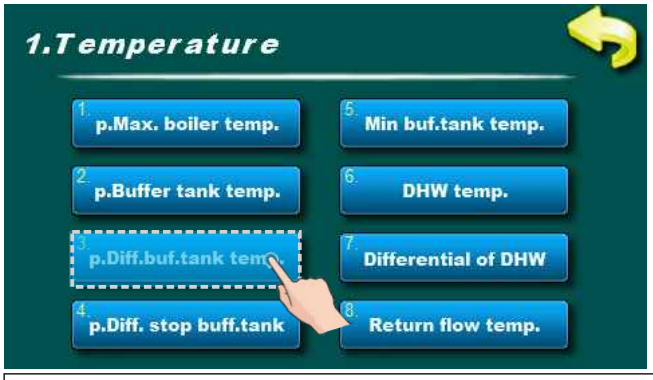
1.2. (p) BUFFER TANK TEMPERATURE



In this parameter is possible to adjust buffer tank temperature.

Possible adjustment:
- Factory adjusted: 80°C
- Minimal adjustment value: 40°C
- Maximal adjustment value: 85°C

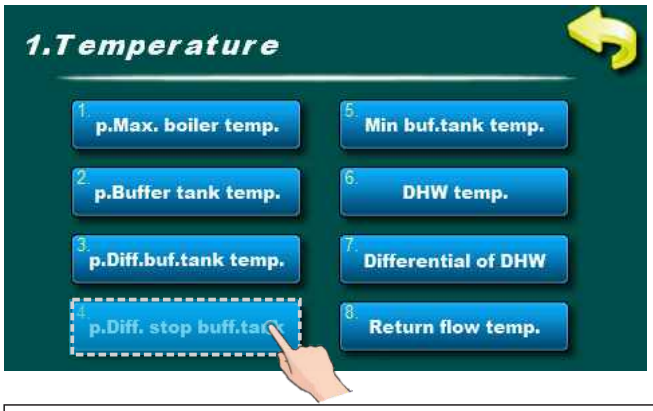
1.3. (p) DIFFERENCE OF BUFFER TANK TEMPERATURE



In this parameter is possible to adjust difference of buffer tank temperature.

Possible adjustment:
- Factory adjusted: 10°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 30°C

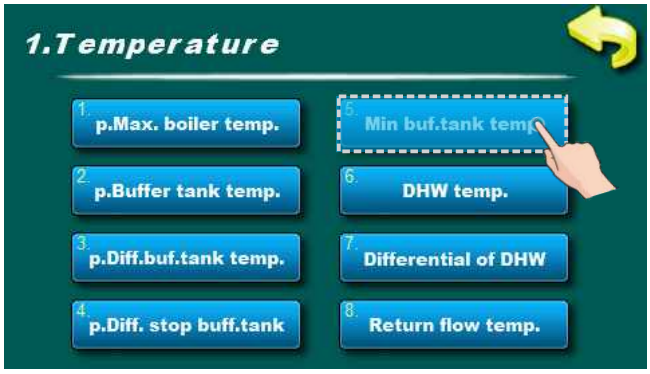
1.4. (p) DIFFERENCE OF BUFFER TANK STOP TEMPERATURE



In this parameter is possible to adjust difference of buffer tank stop temperature (condition for boiler shut down and pause).

Possible adjustment:
- Factory adjusted: 5°C
- Minimal adjustment value: 3°C
- Maximal adjustment value: 30°C

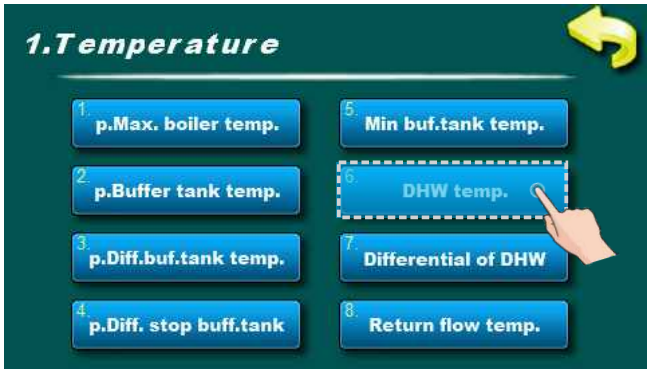
1.5. (p) MINIMAL BUFFER TANK TEMPERATURE



In this parameter is possible to adjust minimal buffer tank temperature.

Possible adjustment:
- Factory adjusted: 20°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 85°C

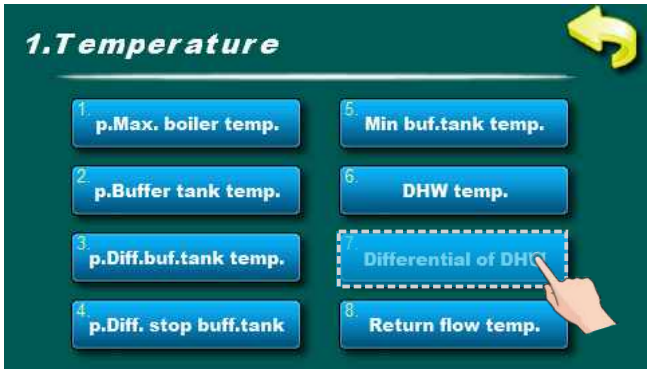
1.6. (p) DHW TEMPERATURE



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

Possible adjustment:
- Factory adjusted: 50°C
- Minimal adjustment value: 40°C
- Maximal adjustment value: 80°C

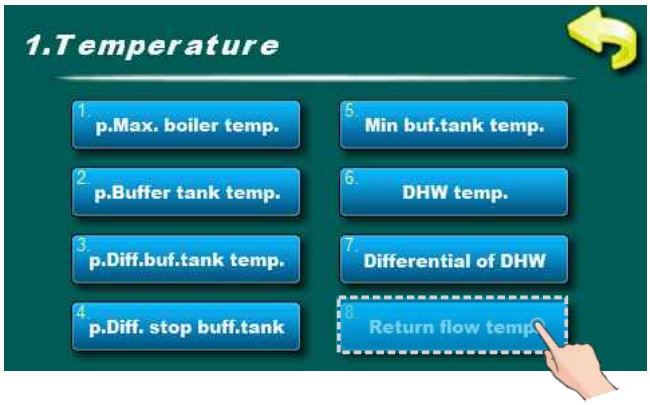
1.7. (p) DIFFERENTIAL OF DHW



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

Possible adjustment:
- Factory adjusted: 5°C
- Minimal adjustment value: 4°C
- Maximal adjustment value: 40°C

1.8. (p) RETURN FLOW TEMPERATURE



In this parameter is possible to adjust return flow temperature.

Possible adjustment:
- Factory adjusted: 60°C
- Minimal adjustment value: 60°C
- Maximal adjustment value: 70°C

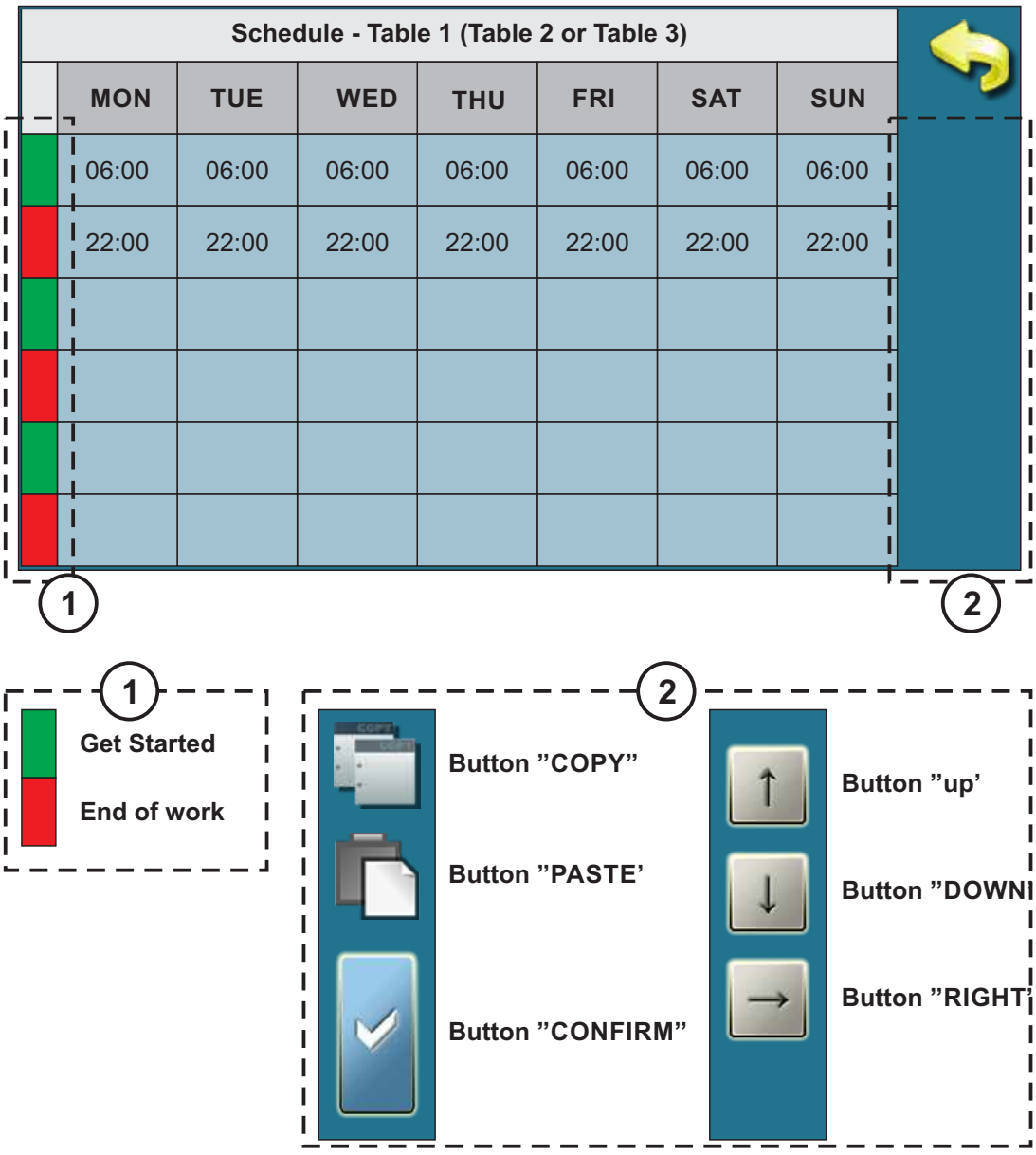
2. SCHEDULE

2.1. (p)SCHEDULE

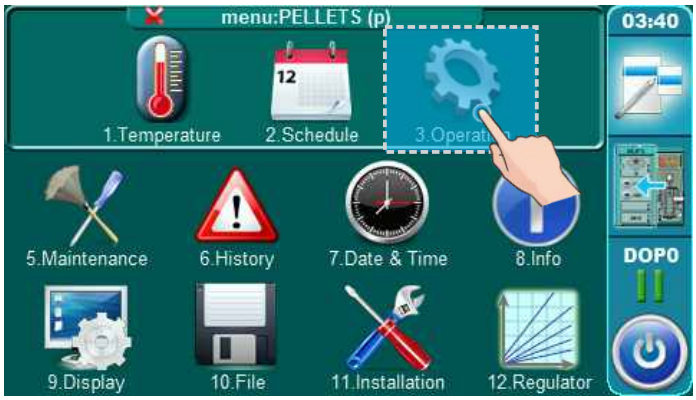
Possible selection:
- Factory selected: OFF (schedule is turned off)
- Table 1 - Scheduled starting times are turned-on and work according to the settings in Table 1
- Table 2 - Scheduled starting times are turned-on and work according to the settings in Table 2
- Table 3 - Scheduled starting times are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

2.2, 2.3, 2.4, (p)TABLE 1,2,3

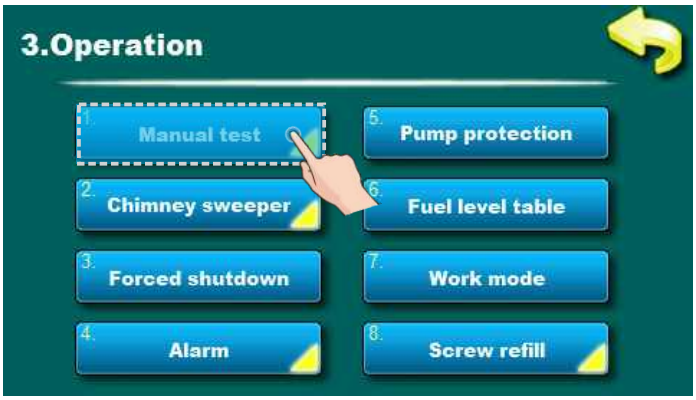
Possibility of schedule is done using tables.They can be pre-set 3 tables of schedule of which only one table can be active. It is possible for every day of the week set 3 turning-on and 3 turning-off the boiler. Turn-on is marked by a green field and turn-off is marked with red field. You can adjust 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.

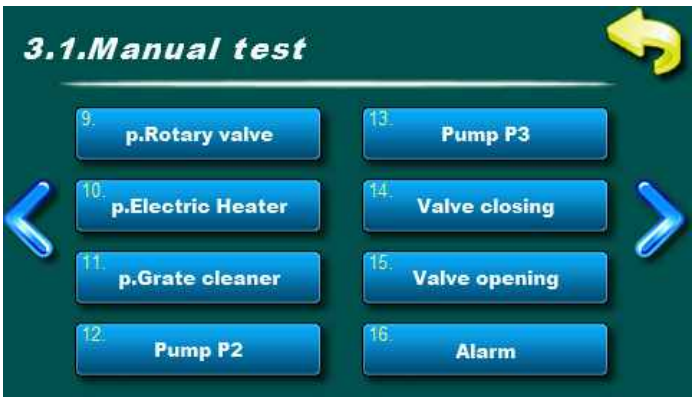


3. OPERATION

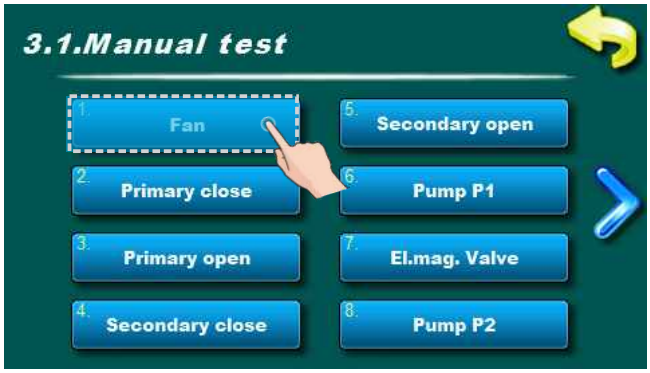


3.1. MANUAL TEST





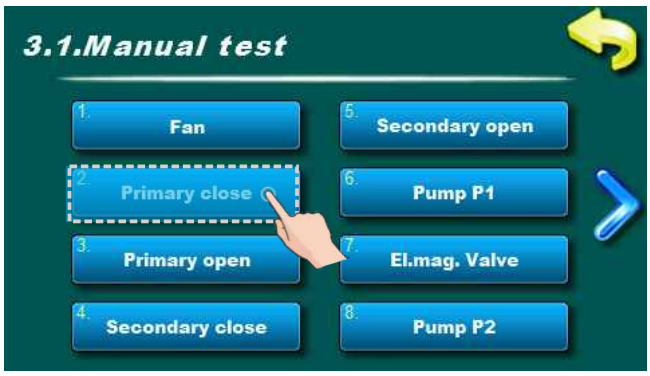
3.1.1. FAN



Option for boiler fan testing.

Fan can be tested on 1700rpm and max. rpm. When the fan works, fan symbol on display is animated.

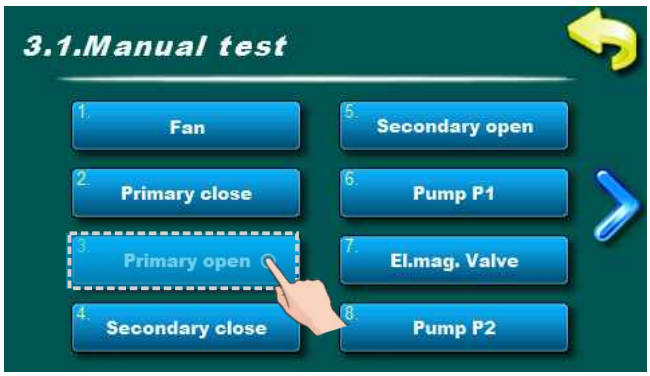
3.1.2. PRIMARY CLOSE



Option for primary air motor device (close direction) test.

By pressing „Start" button primary air motor device will be start with closing.

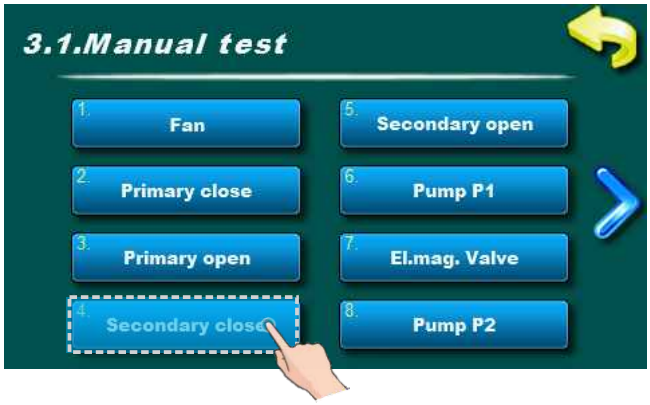
3.1.3. PRIMARY OPEN



Option for primary air motor device (open direction) test.

By pressing „Start" button primary air motor device will be start with opening.

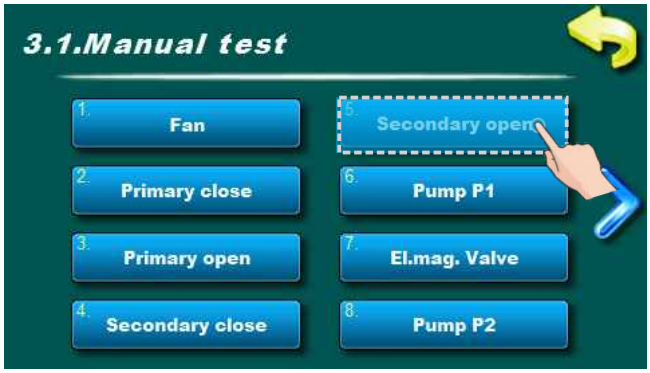
3.1.4. SECONDARY CLOSE



Option for secondary air motor device (close direction) test.

By pressing „Start" button secondary air motor device will be start with closing.

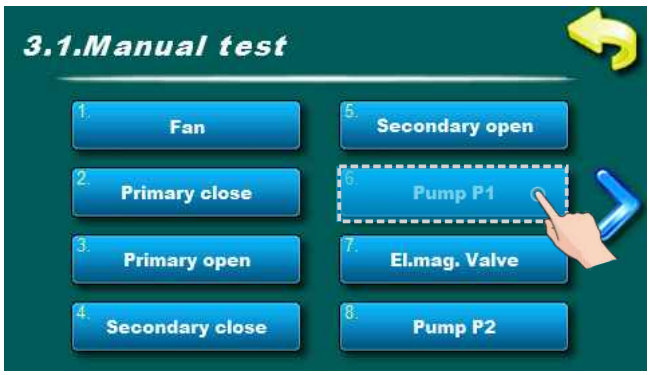
3.1.5. SECONDARY OPEN



Option for secondary air motor device (open direction) test.

By pressing „Start" button secondary air motor device will be start with opening.

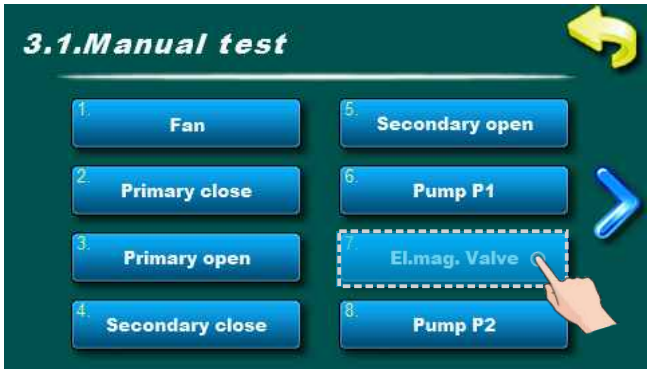
3.1.6. PUMP P1



Option for P1 pump test.

By pressing „Start" button P1 pump will be start with work.
When the pump works, pump symbol on display is animated.

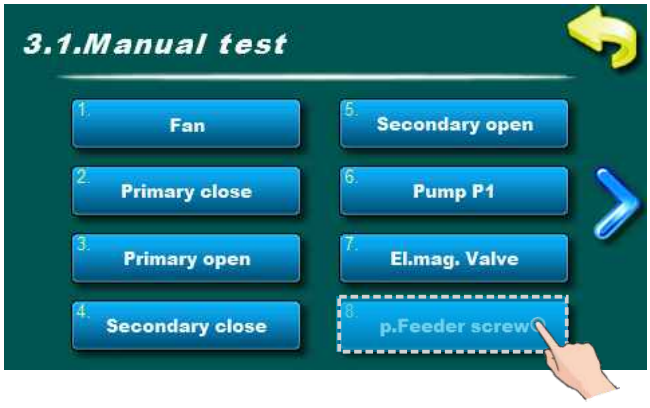
3.1.7. ELECTRO-MAGNETIC VALVE



Option for electro-magnetic valve test.

By pressing „Start" button electromagnetic valve will be start with work.

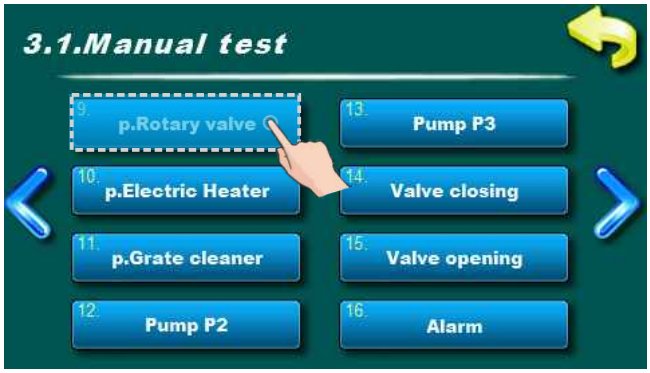
3.1.8. FEEDER SCREW



Option for feeder screw test.

By pressing „Start" button feeder screw will be start with work.
When feeder screw works, feeder screw symbol on display is animated.

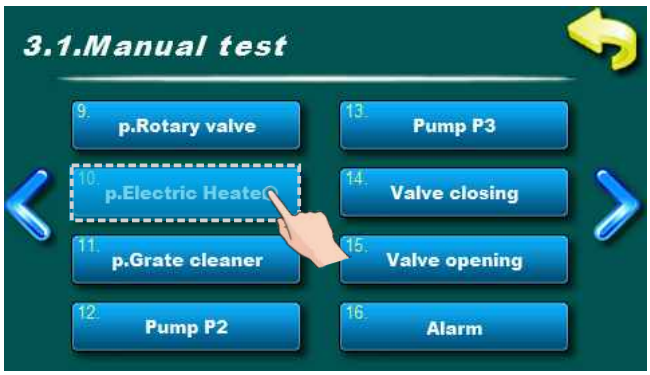
3.1.9. ROTARY VALVE



Option for backfire protection rotating valve (RSE) test.

By pressing „Start" button rotating valve will be start with work.
When rotating valve works, rotating valve symbol on display is animated.

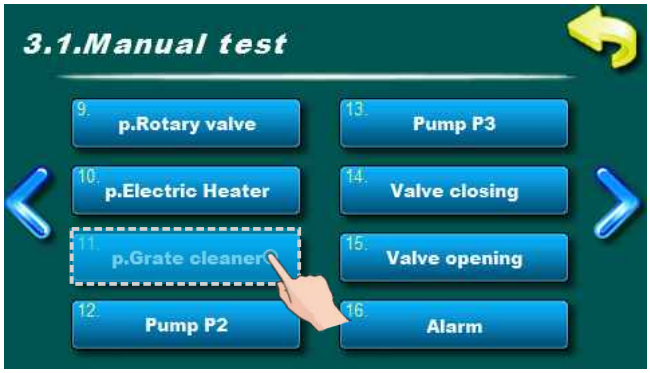
3.1.10. ELECTRIC HEATER



Option for electric heater test.

By pressing „Start" button electric heater will be start with work.
When electric heater works, electric heater symbol on display is animated.

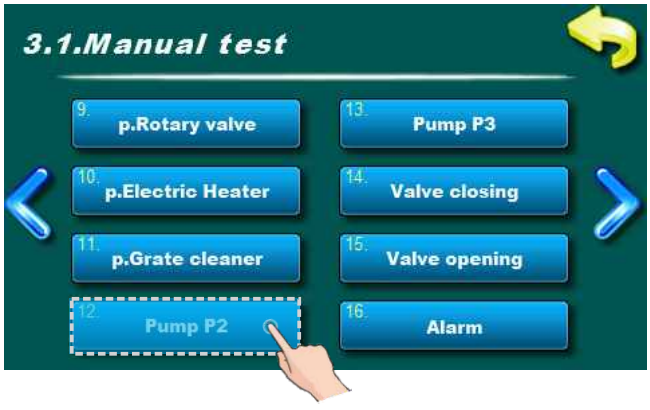
3.1.11. GRATE CLEANER



Option for grate cleaner test.

By pressing „Start" button grate cleaner will be start with work.
When grate cleaner works, grate cleaner symbol on display is animated.

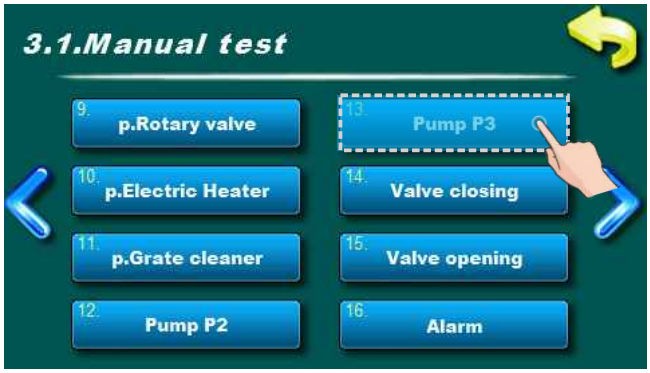
3.1.12. PUMP P2



Option for P2 pump test.

By pressing „Start" button P2 pump will be start with work.
When the pump works, pump symbol on display is animated.

3.1.13. PUMP P3



Option for P3 pump test.

By pressing „Start" button P3 pump will be start with work.
When the pump works, pump symbol on display is animated.

3.1.14. VALVE CLOSING

Option for protection valve (closing) test.

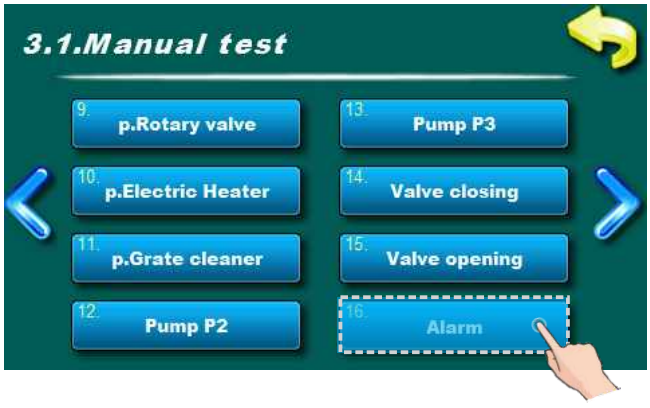
By pressing „Start" button protection valve will be start with closing.

3.1.15. VALVE OPENING

Option for protection valve (opening) test.

By pressing „Start" button protection valve will be start with opening.

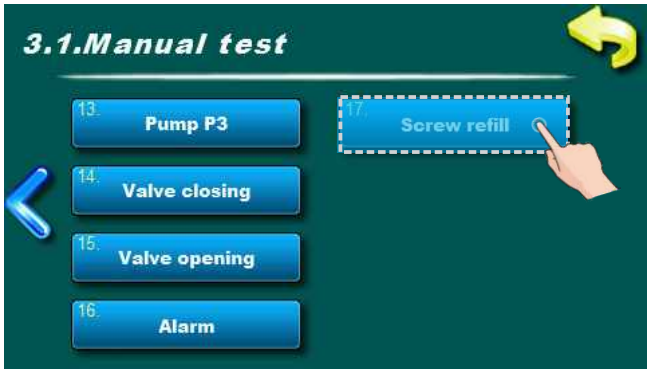
3.1.16. ALARM



Option for alarm test.

Alarm can be tested for errors and fuel level.

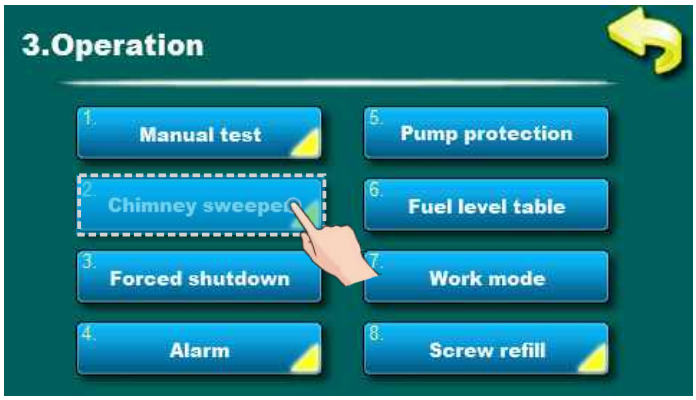
3.1.17. SCREW REFILL



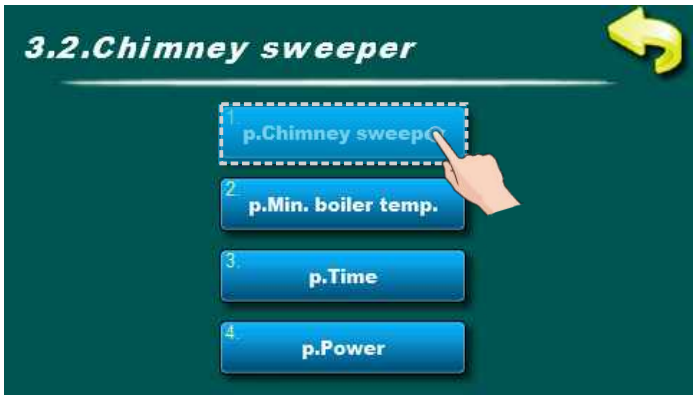
Option for pellet feeding system test.

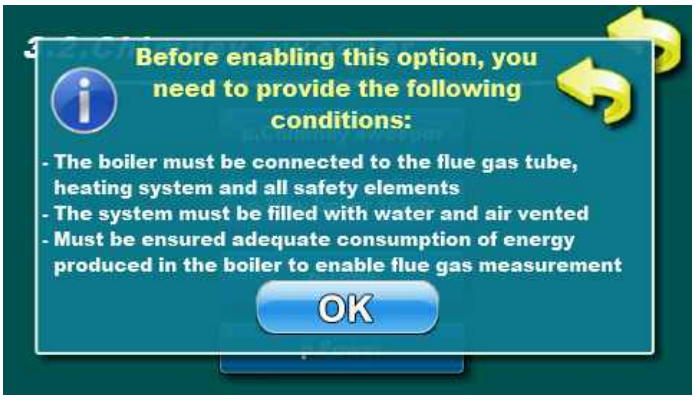
By pressing „Start" button pellet feeding system will be start with work.
When the pellet feeding system works, pellet feeding system symbol on display is animated.

3.2. CHIMNEY SWEEPER



3.2.1. CHIMNEY SWEEPER





This option allows the flue gas measurement.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

3.2.2. MINIMAL BOILER TEMPERATURE

In this parameter is possible to adjust minimal boiler temperature at flue gas measurement.

Possible adjustment:
- Factory adjusted: 60°C
- Minimal adjustment value: 60°C
- Maximal adjustment value: 60°C

3.2.3. TIME

In this parameter is possible to adjust time for flue gas measure.

Possible adjustment:
- Factory adjusted: 600s
- Minimal adjustment value: 600s
- Maximal adjustment value: 3600s

3.2.4. POWER

In this parameter is possible to adjust boiler power for flue gas measurement.

Possible selection:
- Factory selected: Max. D6 100%
- Possible selection: Min. D2~25%, D3~45%, D4~65%, D5~85%, Max. D6 100%

3.3. FORCED SHUTDOWN

This option is used to forced stop all processes.
First must be pressed the ON/OFF button to put the boiler in shutdown procedure and then "forced shutdown" button. All processes are stopped.

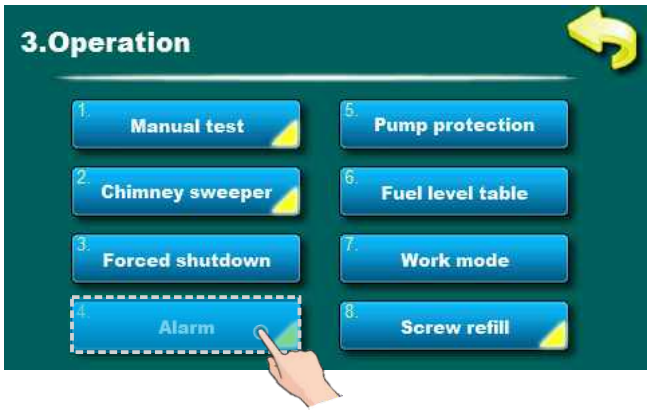
Option ”FORCED SHUTDOWN“ is not usual procedure for turning OFF the boiler

IMPORTANT! To be able to stop all processes, you must first turn off the boiler in the usual way by pressing and then STOP.

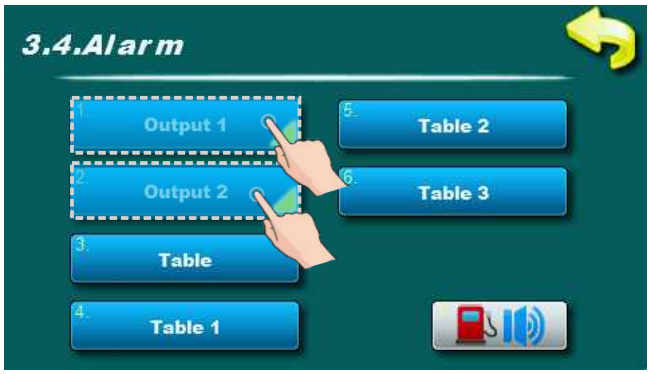
3.4. ALARM

This option is used for error report by speaker or lamp to living area. It's neccessary to buy light or sound alarm „CAL" which can be installed only by authorized person (before using of alarm is neccessary to configure it in „Installation" menu whoose access have only authorized persons by entering PIN).
It's possible to choose in which way will be control unit alert user about error or low fuel level. Pause is time which will be pass before control unit again send signal about error / warning.

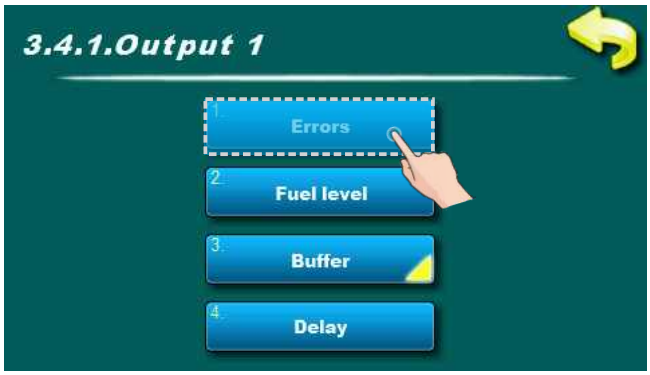
By pressing this button () user can disable/enable the fuel level warning sound from the speaker.
(It refers only to warning about the low fuel level in the tank when speaker is selected as connected device). If only lamp is connected and selected as connected device, this shortcut is not displayed.
When speaker is disabled, this symbol becomes 



3.4.x OUTPUT 1,2



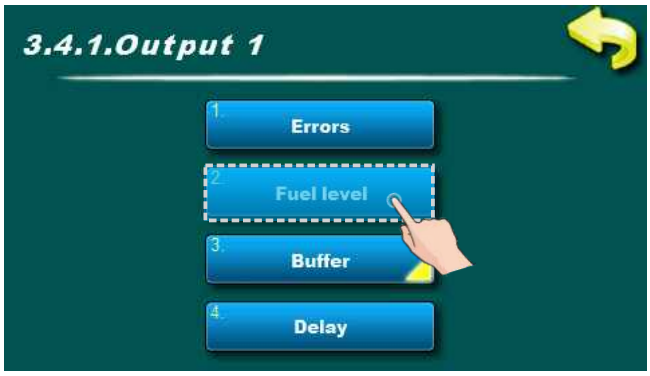
3.4.x.1. ERRORS



This parameter determines whether the output 1 errors occur. By selecting certain types of signals will be activated in the selected signal format.

Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

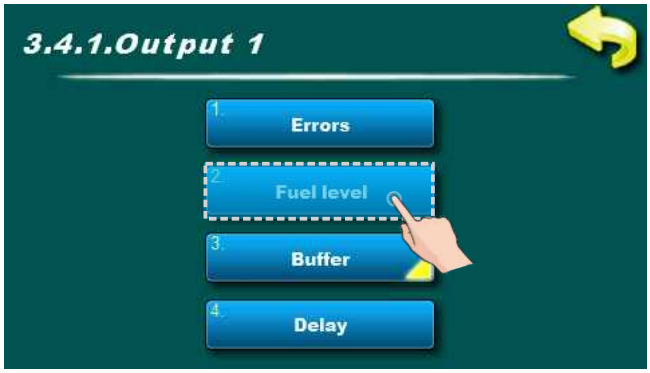
3.4.x.2. FUEL LEVEL

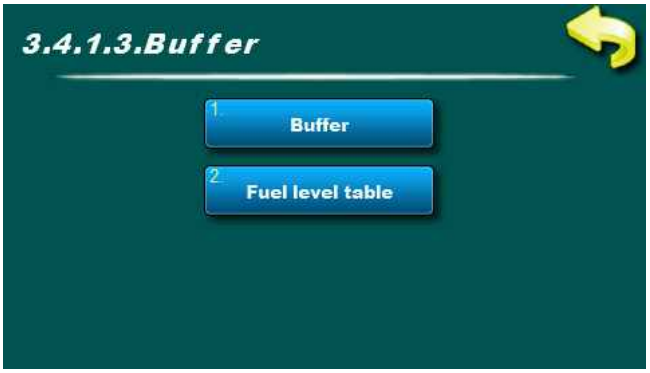


This parameter determines whether the output 1 fuel level warning occur. By selecting certain types of signals will be activated in the selected signal format.

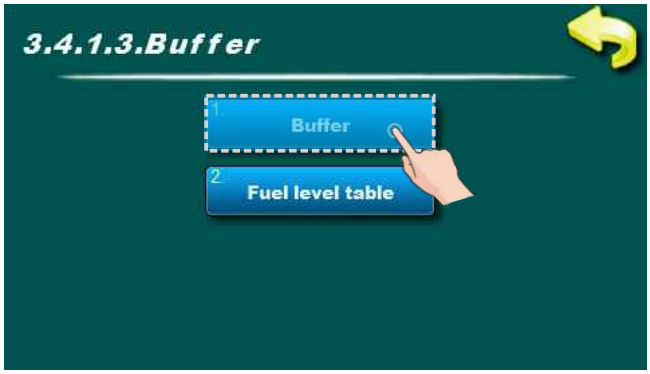
Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

3.4.x.3. BUFFER





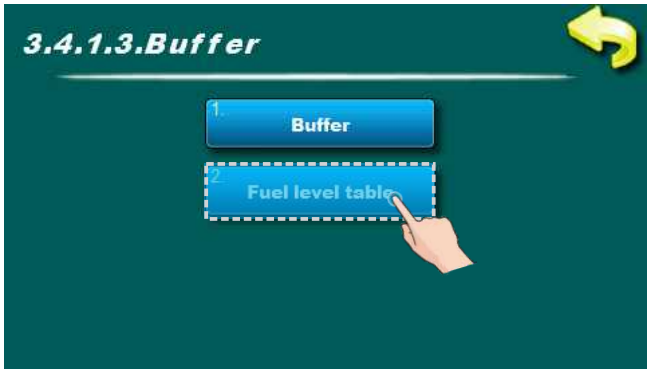
3.4.x.3.1. BUFFER



This parameter define whether will it output 1 report warning for low temperature in buffer tank. This option don't allow setting of his own table for signal type in different time of day, but adjusted table for fuel level warning can be used. For using table for low temperature in buffer tank is neccessary to activate table for fuel level (see Figure below).

Possible selection:
- Factory selected: OFF
- Possible selection: Off, Continous, Fast 1 time, Fast 3 times, Slow 1 time, Slow 3 time, Table

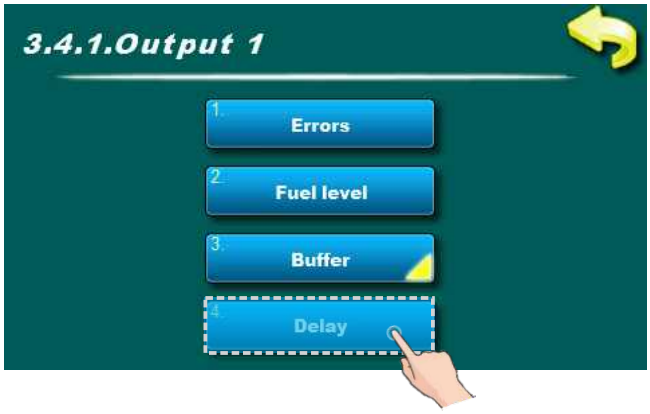
3.4.x.3.2. FUEL LEVEL TABLE



In this parameter is possible to turn on / off table for fuel level alarm.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON

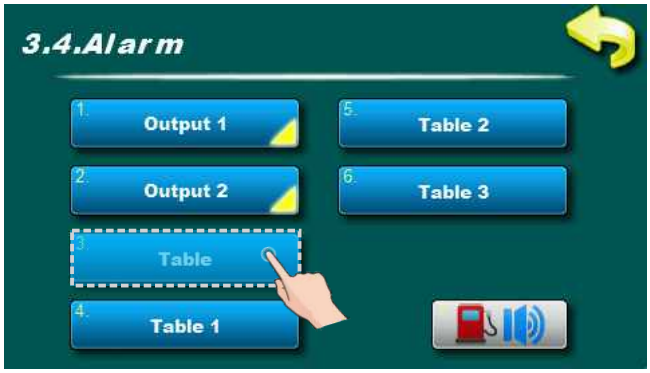
3.4.x.4. DELAY



This parameter define after how long will be again activate error / warning of fuel level / low temperature of buffer tank **(this parameter doesn't work if is selected continous signal**).

Possible adjustment:
- Factory adjusted: 20 sec
- Minimal adjustment value: 5 sec
- Maximal adjustment value: 3600 sec

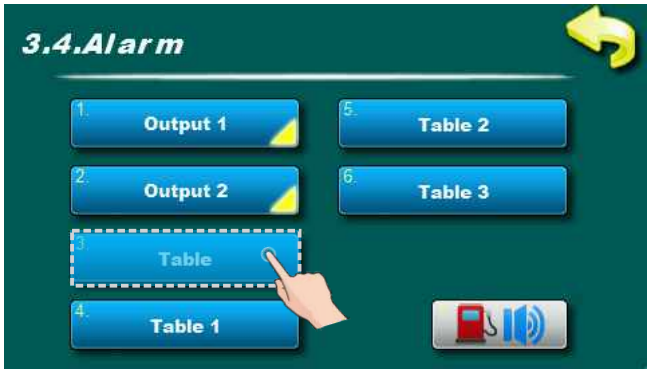
3.4.3 TABLE

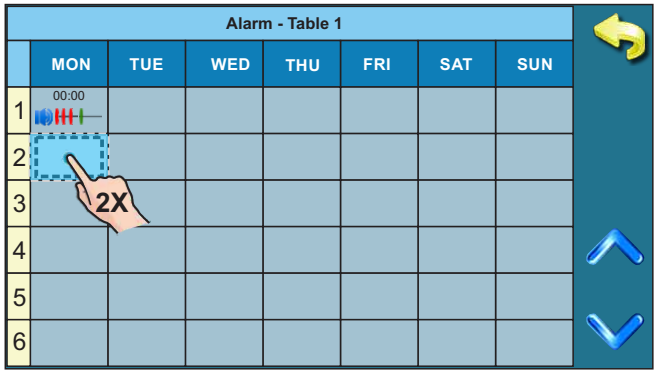


This parameter is used to select the predefined table for the alarm. The automatic switching on and off or changing the signal type at a specific time. It is possible to adjust signal type for speaker and signal type for low fuel level warning. The table will be operational only if is "table" selected in point 5.7.9.1 for output 1 (signal type).

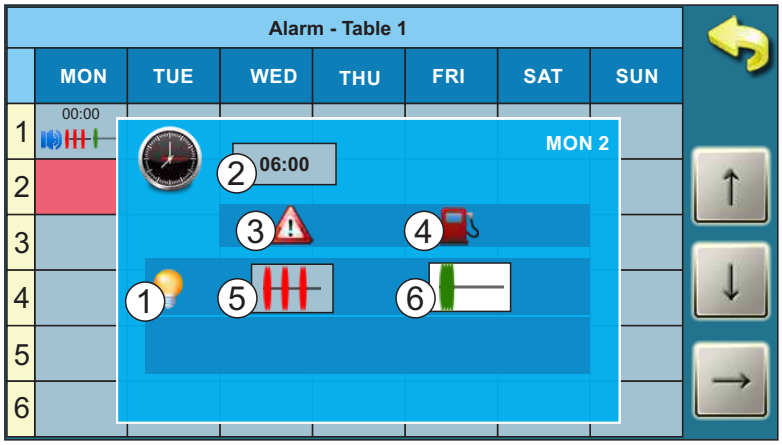
Possible selection:
- Factory selected: Table 1
- Possible selection: Table 1, Table 2, Table 3

3.4.x TABLE 1,2,3





1. Type of alarm alert
   - Lamp
   - Speaker
2. Time
3. Symbol for alarm of boiler errors.
4. Symbol for alarm of fuel level warning
5. Signal type of boiler erros alarm.
6. Signal type of fuel level warning



Setting values on table 1
Using the table to turn on or of and change type of signal for alarm or low fuel level warning at different times and days. When you enter the editing table, it is necessary to press 2 times the desired box (day) and then opens a new window where you can turn on and off, set signal type for boiler error, fuel level warning and the time at which the selected signal type takes effect. Eg. to change the time, it is necessary to press the box with time. When pressed on the box with time, its background becomes white and then it is possible to change the parameters by pressing the "up" and" down" (↑ ↓).
It is possible to specify the type of signal 16 changes per day.

Below are described all symbols for types of signal. In the same way, you can fill table 2 and table 3.

⚠	**The type of connected device (lamp or speaker) can be set only in installation menu, only by an authorized person.**

Symbol descriptions (signal types)

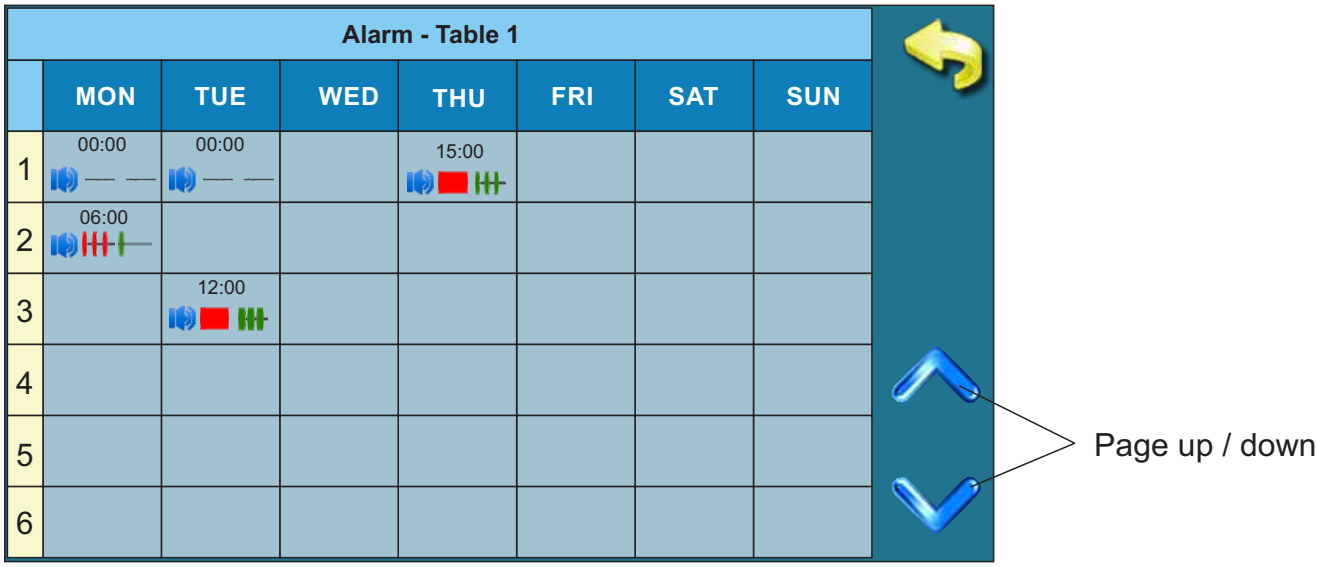
For boiler error alarm (red)

Symbol	Description
—	Off
▬	Continuous
▮—	Fast 1 time
▮▮▮	Fast 3 times
▮—	Slow 1 time
▮▮▮	Slow 3 times

For fuel level warning (green)

Symbol	Description
—	Off
▬	Continuous
▮—	Fast 1 time
▮▮▮	Fast 3 times
▮—	Slow 1 time
▮▮▮	Slow 3 times

Example of filled table



According to table alarm is off on monday in 00:00, then is turned on in 06:00 (fast 3X for boiler error and fast 1X for fuel level warning). This way to alert the alarm goes until 00:00 tuesday when switched off again. In tuesday 24:00 alarm is active again (continuous for boiler error and 3X slow for fuel level warning. This way of alert alarm is active all day wednesday (day and night) until thursday at 15:00 when the alert alarm type changes (continuous for errors and fast 3X for fuel level warning. This way of alert alarm is valid on friday, saturday and sunday until monday at 00.00 when start a new table circuit.

Note: Delay between two alarm indication can not be changed in the table, but it can be set in the alarm menu.

3.5. PUMP PROTECTION

In this parameter is possible to enable /disable pump protection.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

3.6. FUEL LEVEL TABLE

In this parameter is possible to change used fuel (choosing boiler side for work).

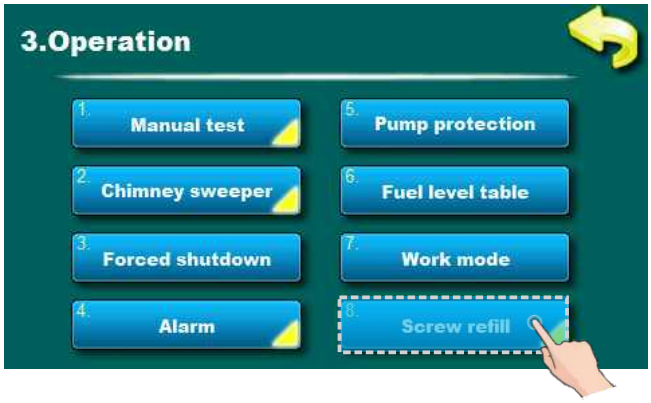
Possible selection:
- Factory selected: WOOD
- Possible selection: WOOD, PELLETS;

3.7. WORK MODE

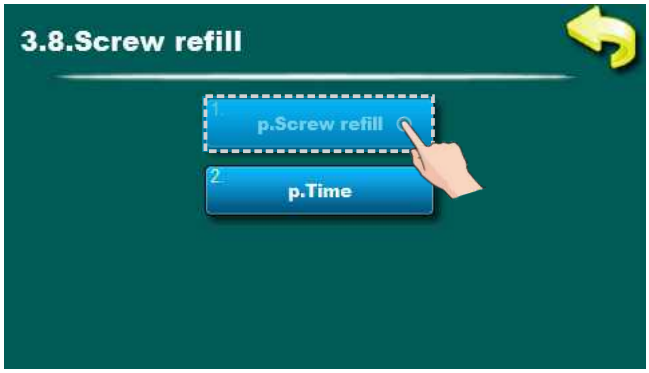
In this parameter is possible to change work mode .

Possible selection:
- Factory selected: DHW+Heating
- Possible selection: DHW+Heating, DHW only;

3.8. SCREW REFILL



3.8.1. SCREW REFILL



In this parameter is possible activate option for filling feeder screw.

Possible selection:
- Factory selected: OFF
- Possible selection: OFF, ON;

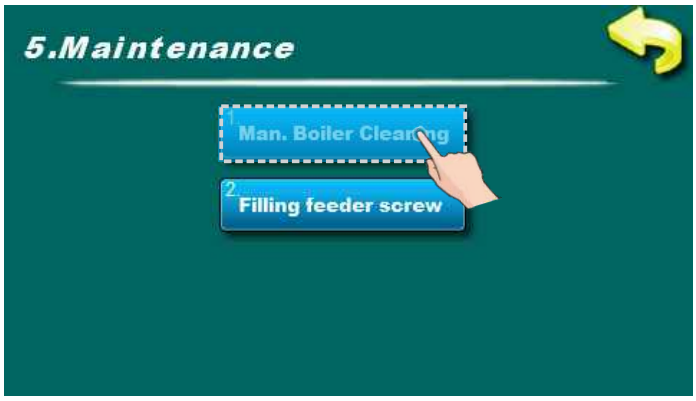
3.8.2. TIME

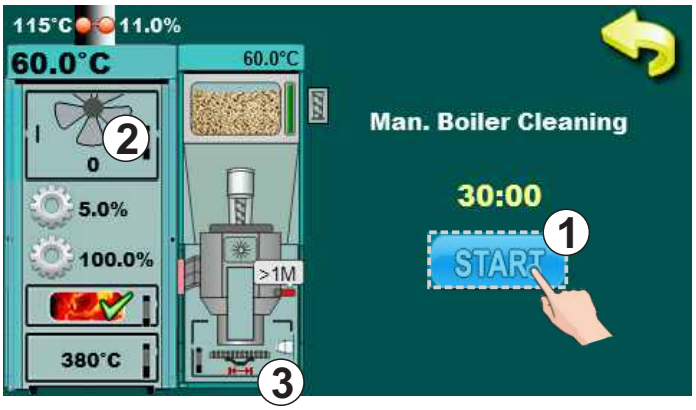
In this parameter is possible to adjust how long will be work option for feeder screw fill.

Possible adjustment:
- Factory adjusted: 300 sec
- Minimal adjustment value: 0 sec
- Maximal adjustment value: 1800 sec

5. MAINTENANCE

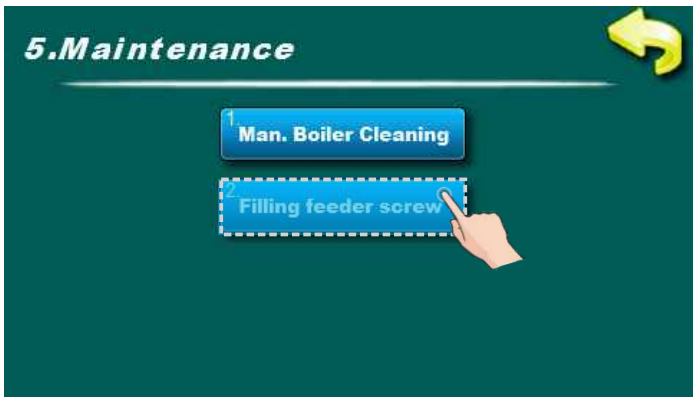
5.1. MANUAL BOILER CLEANING

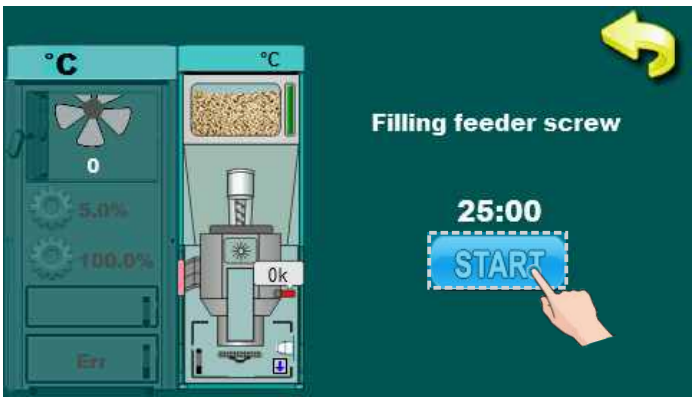




Cleaning the boiler - By pressing the button ”START” (1) fan will begin work (2), an burner grate (3) will move into the open position (100%) (4), (button ”START” will become a button”STOP”).
This option enables you to during cleaning of combustion chamber, boiler ash does not come out of the boiler, and since the burner grate is open ash falls into the ash box. After cleaning, it is necessary to press the "STOP" to shut off the fan and burner grate move back to the closed position (0%) (4) (same thing will happen if you press the button "BACK" (5)) . After cleaning, it is necessary to empty the ashtray.

5.2. FILLING FEEDER SCREW





This option allow filling of empty feeder screw with pellets. At start-up or missing fuel, when is feedery screw empty this option is used for filling feeder screw. By pressing „START” feeder screw start with work. This option must be turned on until fuel start droping from feeder screw.

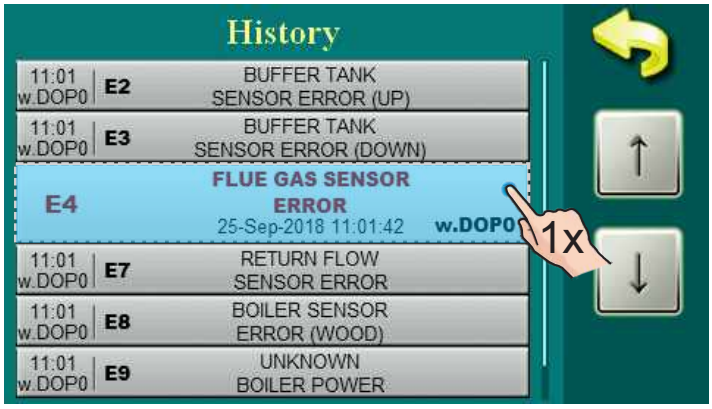
5. HISTORY

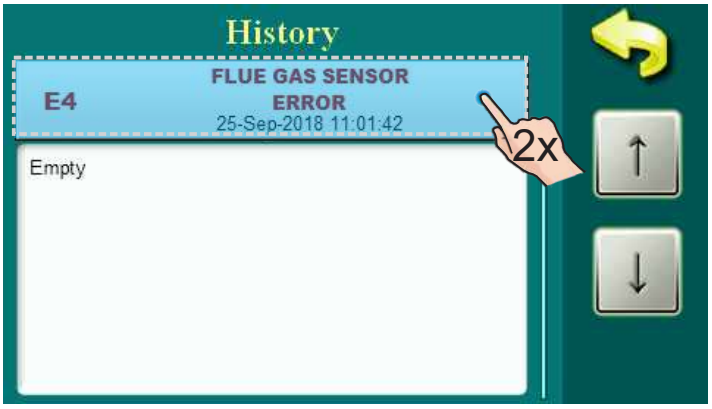
By pressing on „History" button will be opened menu for choosing history list. It can be choosen between error list and warning list. Informations history are placed with error list.

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

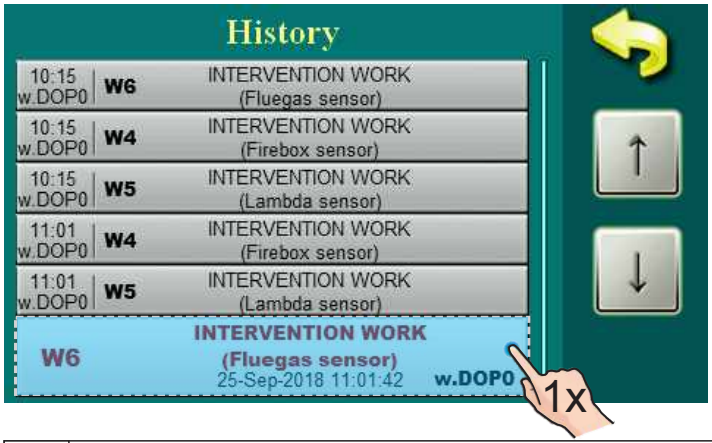
The first press on the field error/warning/information field is indicated, in addition to see and date generated errors/warnings/information. The second press on the selected error/ warning/information, prints a detailed description of the error/warnings/information and corrective action errors/warnings/information.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

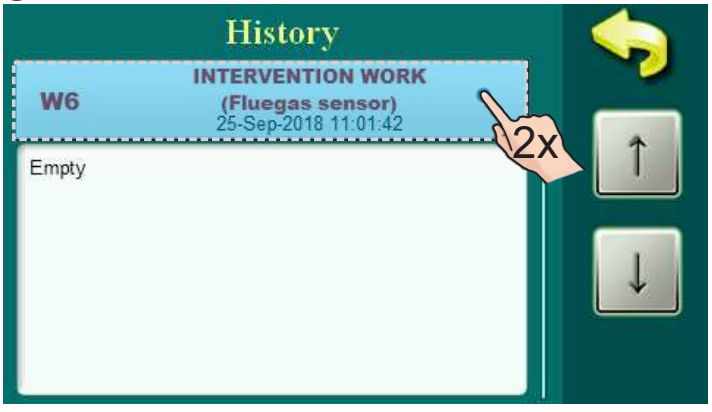
Error list





Warnings list

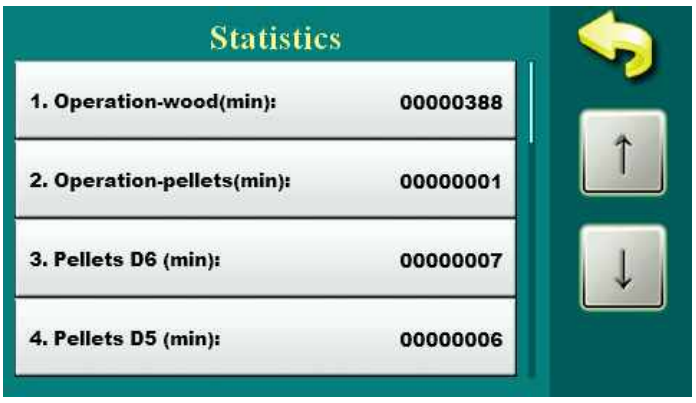




7. DATE & TIME

By pressing this option on the main screen you can set the date and time. This option is used to set the date and time. It is necessary for starting times, and the recording of errors/warnings/informations (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.

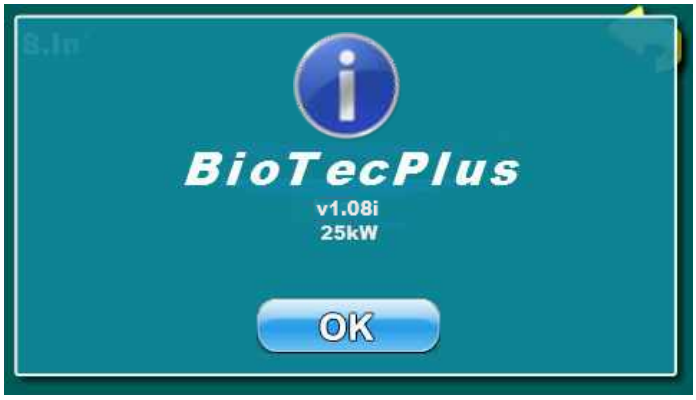
8. INFO



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

Boiler devices in statistics:
- operation-wood (min)
- operation-pellets (min)
- pellets D6 (min)
- pellets D5 (min)
- pellets D4 (min)
- pellets D3 (min)
- startup wood (n)
- startup pellets (n)
- DHW+Heating (min)
- DHW Only (min)
- fan (min)
- heater (min)
- heater start (n)
- screw feeder (min)
- grate cleaning (n)

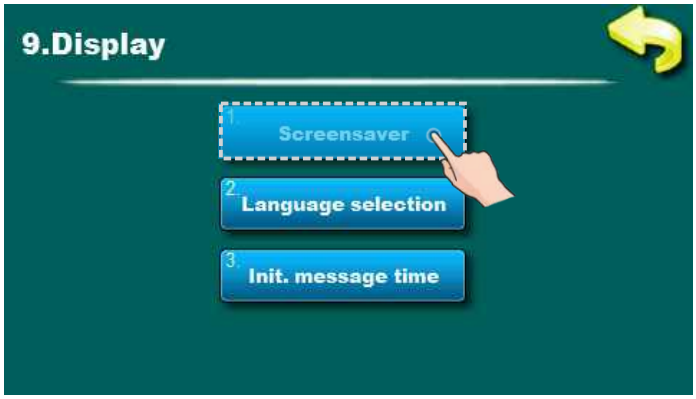
8.2 SOFTWARE VERSION



Software version displaying.

9. DISPLAY

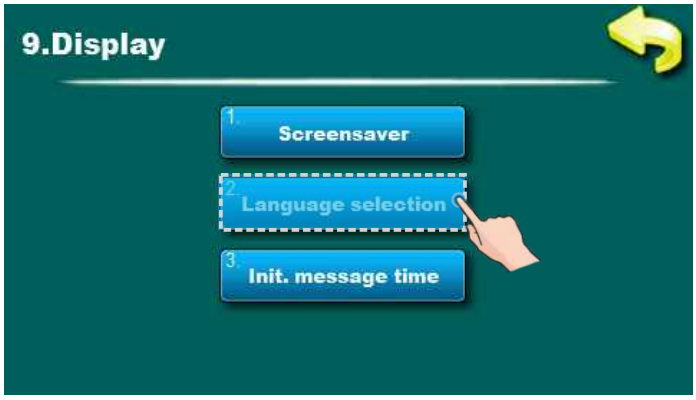
9.1 SCREENSAVER



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: 600s
- Minimal adjustment value: 10s
- Maximal adjustment value: 3600s

9.2 LANGUAGE SELECTION



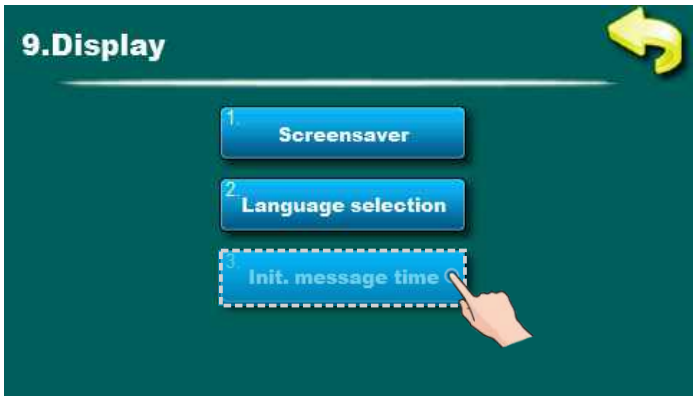
This option enables or disables screen with the choice of language regulation when you turn on main switch. If is marked "DISABLED", after turning-on the main switch, it will be set on before selected language and after some time, display will show the work display of the boiler.(The time until this screen appears can be adjusted in point 9.3.).

Possible selection:

- Factory selected: ON

- Possible selection: OFF, ON;

9.3 LANGUAGE SELECTION



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 9.2.) Is set to"DISABLE".

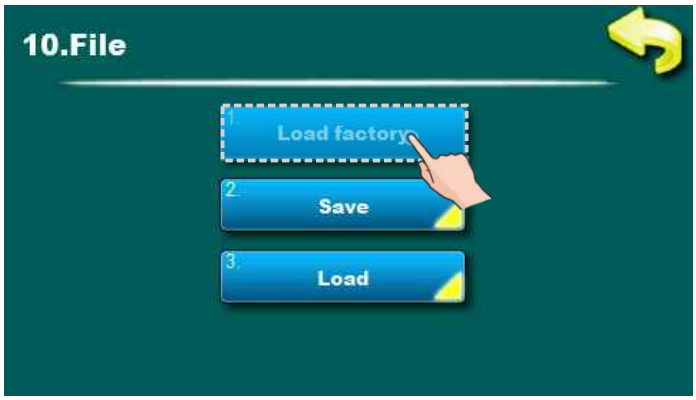
Possible adjustment:

- Factory adjusted: 5s

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

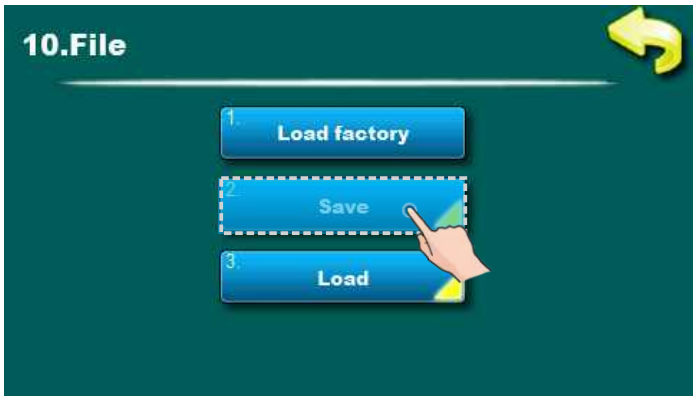
10. FILE

10.1 FILE



After pressing "LOAD FACTORY" you will see a message "LOAD FACTORY SETTINGS?". Pressing button "OK" will load the default settings of regulation. Pressing the" BACK" will return to the previous menu.

10.2 SAVE



After pressing "SAVE" you will see a 3 slots to save data (Memory 1, 2, 3). Presing to one of this three buttons you will se message "SAVE CURRENT SETTINGS?". Pressing button "OK" the current setting of regulation will be saved in memory. Pressing the "BACK" will return to the previous menu.

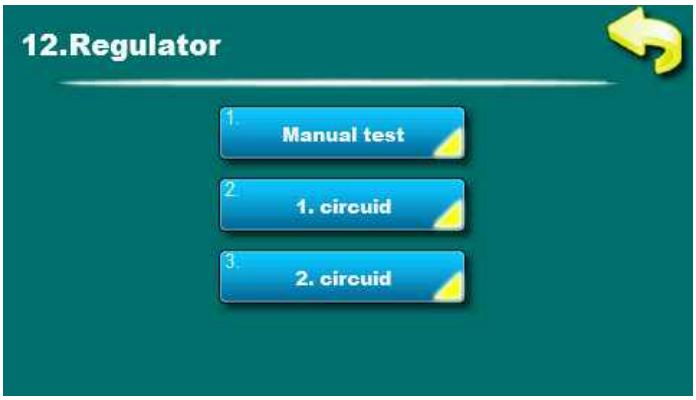
10.3 LOAD

After pressing "LOAD'' you will see "LOAD SAVED SETTINGS?". Pressing button "OK" saved settings (saved in option SAVE) will be loaded. Pressing the "BACK" will return to the previous menu.

11. INSTALLATION

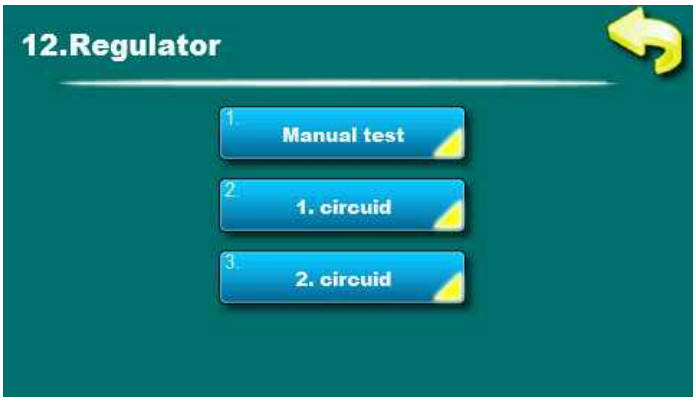
This menu can use only authorized persons. For entry in „Installation“ menu is necessary to input PIN.

10. REGULATOR



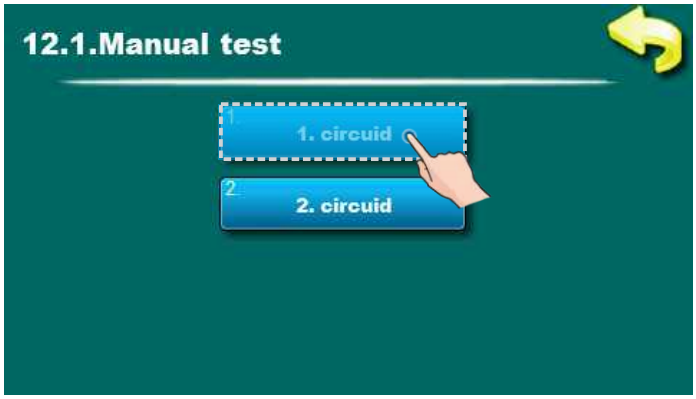
Menu „Regulator" is showed only if module for two heating circuits CM2K-B is installed and configurated.

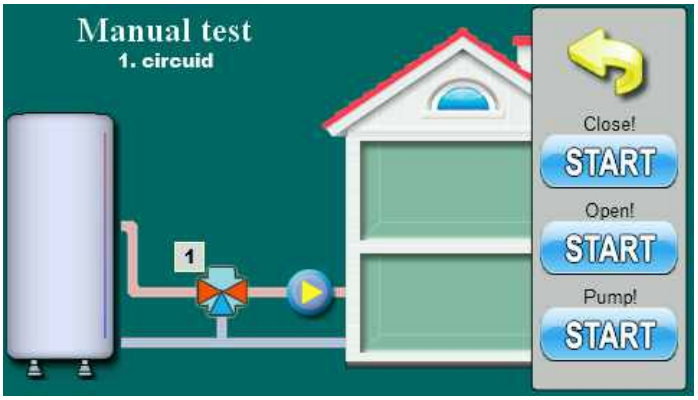
12. MANUAL TEST



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

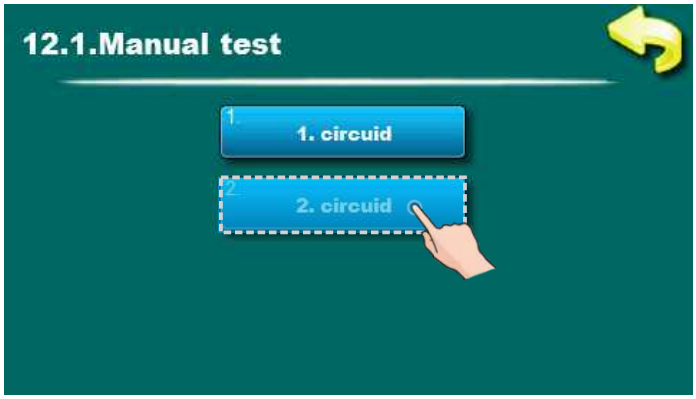
12.1.1 1.CIRCUIT

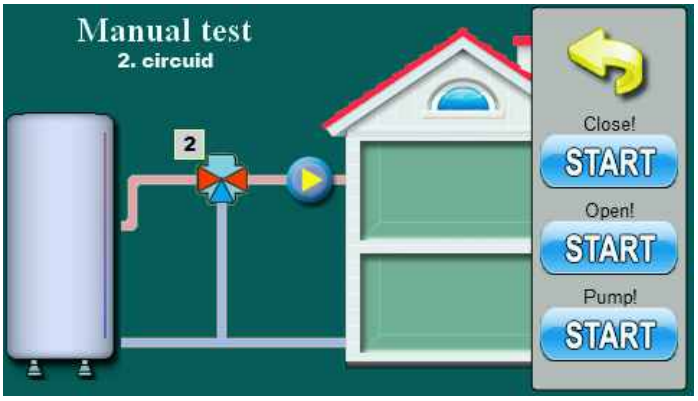




Option for testing elements of 1st heating circuit (mixing valve (START-open), mixing valve (START-close) and pump (START)).

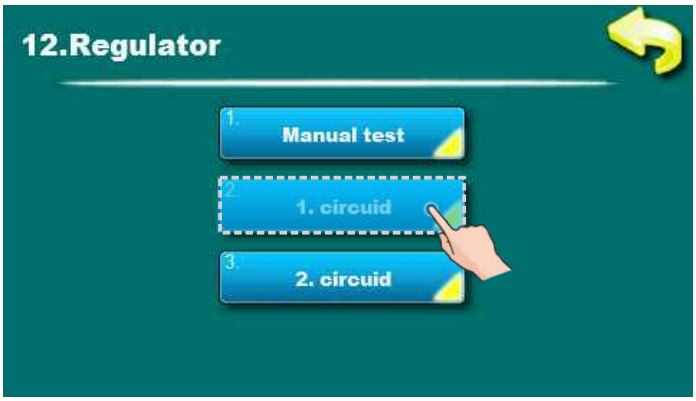
12.1.2 2.CIRCUIT

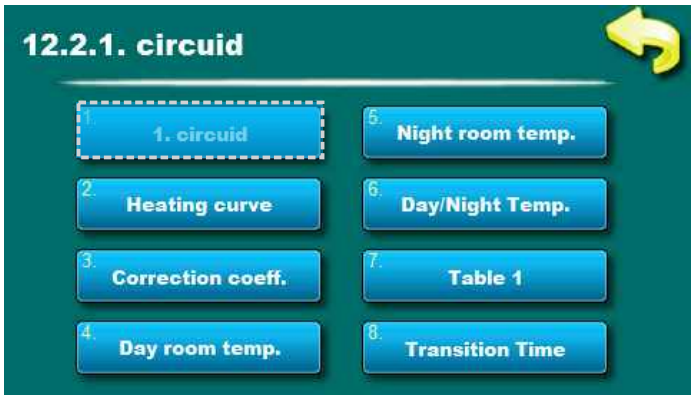




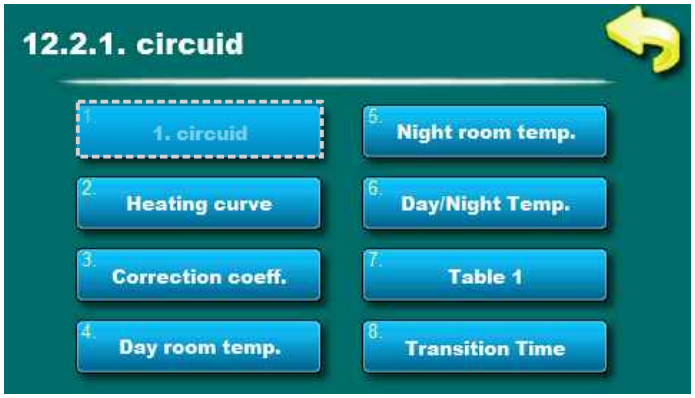
Option for testing elements of 1st heating circuit (mixing valve (START-open), mixing valve (START-close) and pump (START)).

12.2 1.CIRCUIT



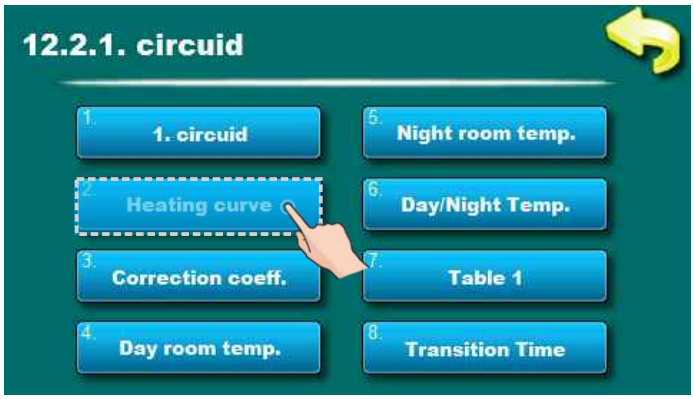


8.2.2.1. CIRCUIT



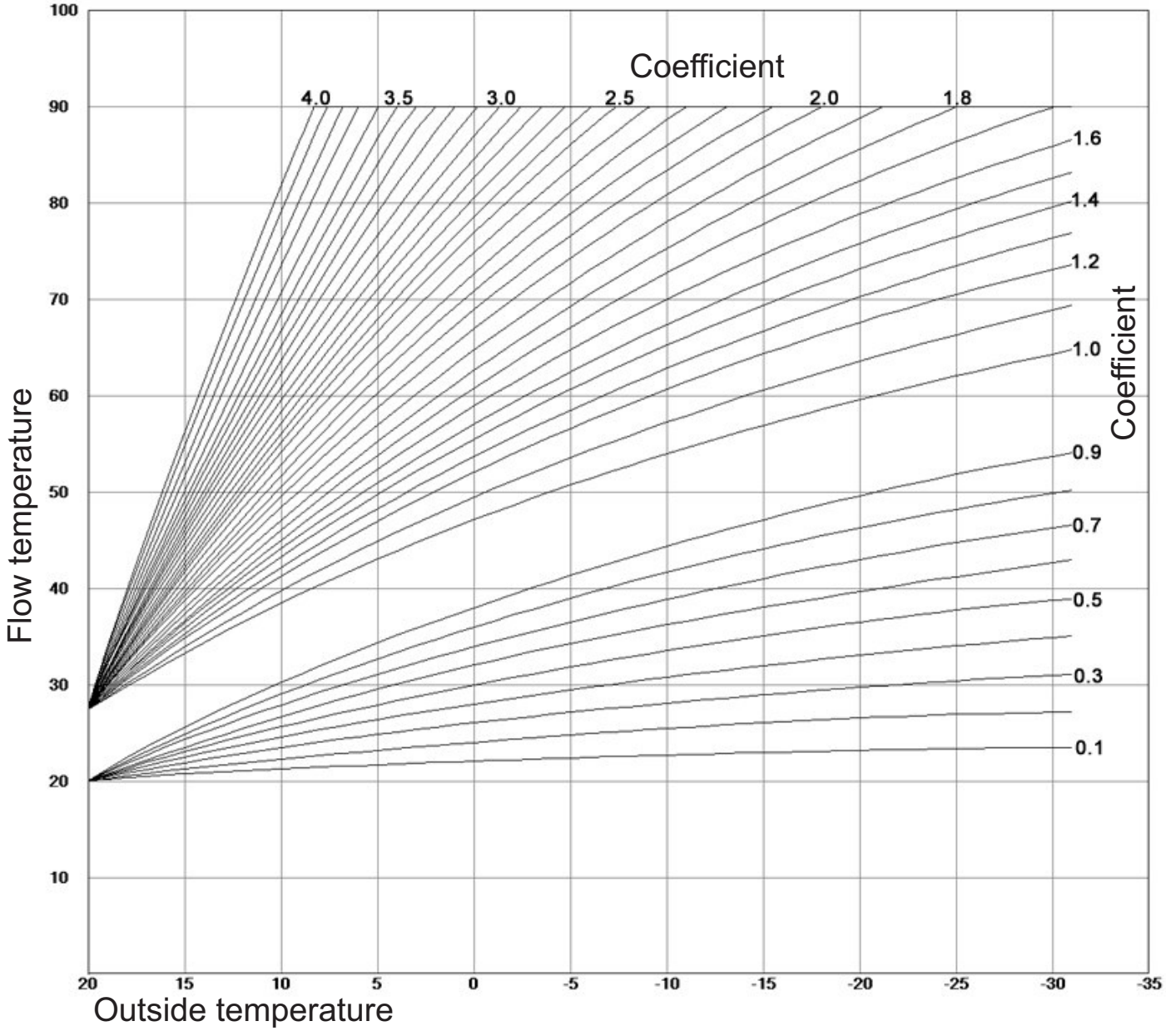
Option for turning on / off first heating circuit.
Possible selection:
- Factory selected: ON
- Possible selection: ON, OFF;

12.2.2 HEATING CURVE

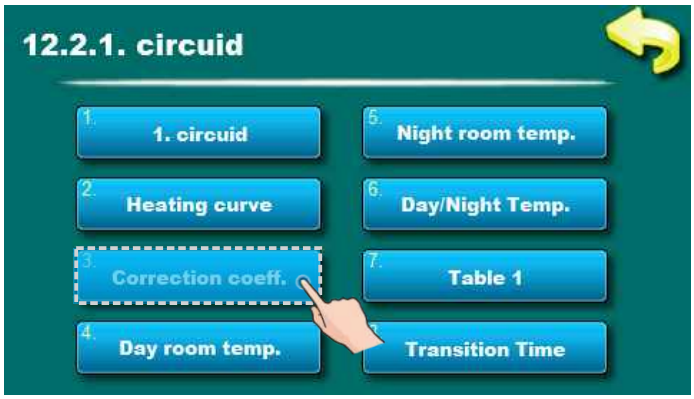


This parameter determine the coefficient of the heating curve. The regulation calculate required flow temperature according to the heating curve and outside temperature to achieve the desired room temperature.

Possible adjustment:
- Factory adjusted: 1
- Minimal adjustment value: 0,1
- Maximal adjustment value: 4,0

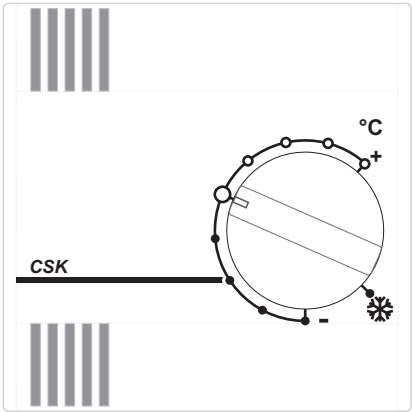


12.2.3 CORRECTION COEFFICIENT.

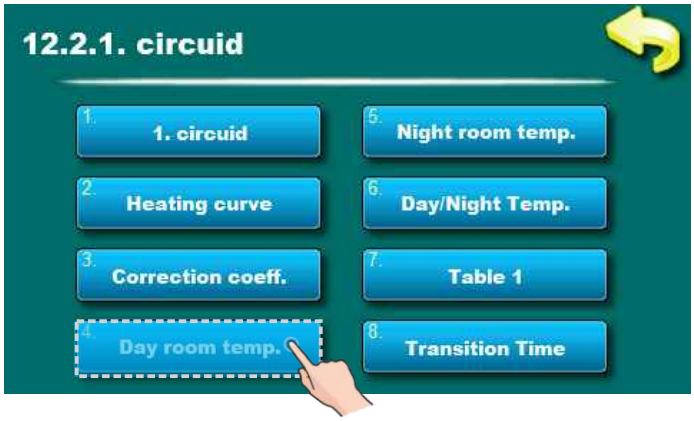


This parameter determines the influence of the room corrector. When this coefficient is larger, room corrector will more affect to the calculated required flow temperature in the heating circuit.

Possible adjustment:
- Factory adjusted: 1
- Minimal adjustment value: 0,1
- Maximal adjustment value: 5,0



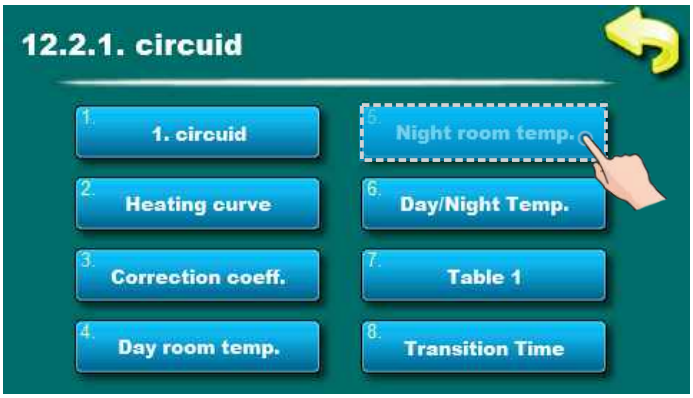
12.2.4 DAY ROOM TEMPERATURE



This parameter determines the value of day room temperature.

Possible adjustment:
- Factory adjusted: 20,0°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 30,0°C

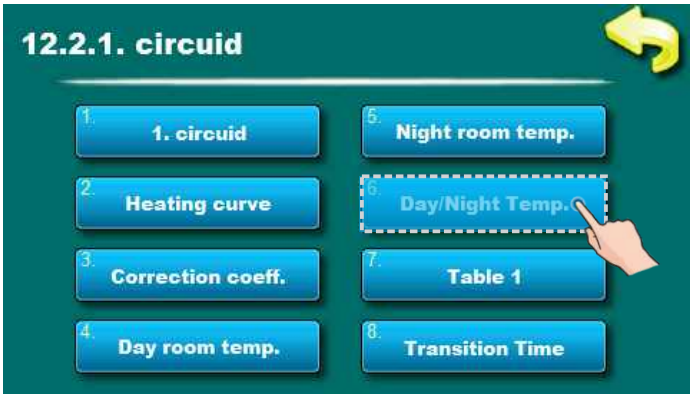
12.2.5 NIGHT ROOM TEMPERATURE



This parameter determines the value of night room temperature.

Possible adjustment:
- Factory adjusted: 20,0°C
- Minimal adjustment value: 5°C
- Maximal adjustment value: 30,0°C

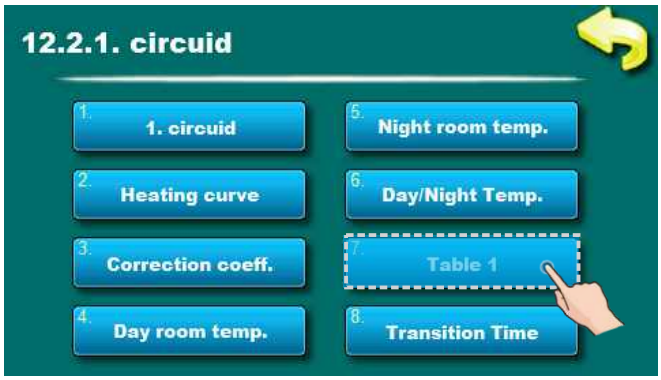
12.2.6 NIGHT ROOM TEMPERATURE

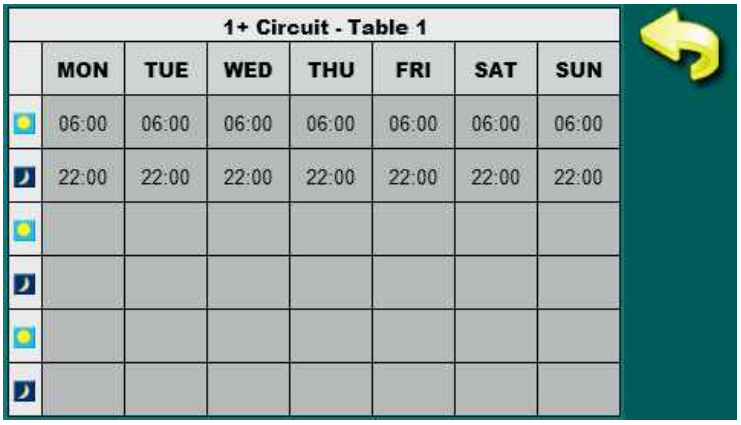


This option enables you to choose type of desired temperature (day, night or table.) In next page you can see how to fill a table.

Possible selection:
- Factory selected: Day temperature
- Possible selection: Day temperature, Night temperature, Table

12.2.7 TABLE 1

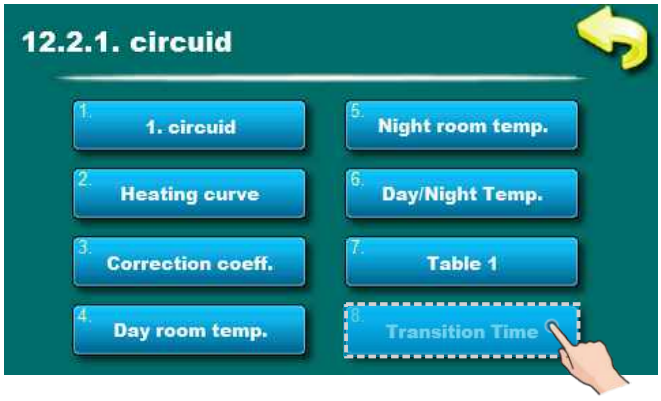




Day temperature Night temperature

Each cell marks the beginning of some type (day/night) of selected room temperature.
According to this table every day from monday at 06:00 am is activated day room temperature, until 22:00 pm when is activated night room temperature until tuesday, when at 06:00 am is again activated day room temperature.
On saturday, the day temperature is activated at 05:00 am and works until 10:00 am when is switched to night temperature. At 14:00 pm is again activated day room temperature up to 23:00 pm when is again switched to night temperature.
When passed one cycle (week) circle starts again from the beginning. The values of a day/night room temperature can be selected as is described in previous pages.

12.2.8 TRANSITION TIME



Possible adjustment:

- **Factory adjusted: 3600sec**
- **Minimal adjustment value:** 0 sec
- **Maximal adjustment value:** 18000 sec

This parameter is used only when configuration doesn't contain room corrector, because regulation doesn't have information of room temperature.

This parameter is time which is presumed that the system will achieve a given room temperature in a transition from day to night mode, and vice versa. So, this is time in which will "flow temperature" be optimally adjusted to achieve quick transition.

Centrometal d.o.o. Glavna 12, 40306 Macinec, Croatia

central tel: +385 40 372 600, fax: +385 40 372 611
service tel: +385 40 372 622, fax: +385 40 372 621

www.centrometal.hr
e-mail: servis@centrometal.hr

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