SERVICE MANUAL _r09_07_2011

MCZ service

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1. THE 5 BASIC RULES FOR INSTALLATION

1.1. ENVIRONMENT SUITABILITY	1.2. AIR INTAKE	1.3. SMOKE CONNECTION	1.4. FLUE PIPE	1.5. COWL
An open fireplace consumes ~45m³ of air for each kg. of fuel. The installation environment must ensure as much air as the unit is capable of consuming Consult the manufacturer's technical data concerning fuel to determine the minimum size of the installation environment. Comply with the safety distances prescribed by the manufacturer from the walls and/or flammable surfaces. Maintain the safety distances from furniture or other furnishings that may be damaged by the heat. **Insulate smoke ducts located near flammable materials. Installation is prohibited in rooms where there is already a type A unit or exhaust hoods.**	**It is mandatory to guarantee a correct flow of air to reintegrate the oxygen consumed by the appliance in the installation environment.** It is important to create an air intake directly from outdoors. Correctly dimension the air intake, according to the sizes prescribed by the manufacturer. The air intake serves two purposes: To provide a sufficient amount of air for the correct operation of the product. To provide air to the environment to compensate the air consumed by combustion.	The smoke connection is the section of pipe that connects the flue pipe to the unit; It must comply with basic safety and heat resistance requirements. **Flexible pipes may not be used and hence the connection must be made using only rigid pipes:** • in stainless steel • in aluminium covered steel Products with forced exhaust must be connected with hermetic pipes with a special gasket. For the connection of fireplace stoves, use only changes of direction at an angle of max 45° On pellet stoves, use of a maximum of 3 curves at 90° **The connection must NEVER be smaller at the smoke exit of the unit**	The chimney flue is a fundamental element in discharging smoke and therefore must have the following requisites: **It must be waterproof and thermally insulated.** It must be made with heat resistant materials, resistant to combustion products and any condensation. It must have a vertical slope with axis deviations not over 45° and without narrowing. **It must discharge smoke at the highest point of the house.** It must meet the requisites indicated in the technical table for the internal chimney section and height. It must preferably have a circular interior section. If pre-existing and previously used, it must be cleaned. **The wall outlet on pellet stoves is forbidden**	The cowl is the end part of the flue pipe. Proper draught depends on this part. The cowl must meet the following requisites: Have an internal section equal to that of the flue pipe. Have an output section not less than double that of the internal section of the chimney flue. It must be built to prevent rain, snow and any foreign object from getting into the chimney flue. It must be positioned so as to guarantee an adequate dispersal of the fumes and must discharge outside the reflux zone, which favours the development of negative pressure.

2. ELETTRONICA PELLET BOX®

2.1. Operating concept

The elettronica Pellet Box® was designed with the purpose of making the combustion adjustment of pellet stoves easy, thanks to measuring the specific weight of the fuel and interpreting the installation of the appliance. From now on, we will call this operation **RECIPE ADJUSTMENT**.

Obviously, at the base of good operation, the pellet stove requires a **correct installation,** that must be conducted by a specialist technician, in compliance with current standards and the provisions of the manufacturer, contained in the manual provided with the products.

2.2. Recipe adjustment

2.2.1. What is a recipe?

RECIPES are pre-set programmes saved on the motherboard of the device, which contain a series of parameters concerning the operation of the stove in all its modes.

The recipes especially contain the values concerning the start-up and shutdown times of the reduction motor and the number of revolutions to which the smoke extraction fan must rotate at the various powers.

The concept with which recipes are created consists of varying only the **FUEL (pellet)** or the **COMBUSTION (air)** to avoid to excessively unbalance the combustion.

By modifying the recipes based on the weight of the fuel and keeping the choice of installation type (VERTICAL or HORIZONTAL) unvaried, only the quantity of pellets is modified, while the number of smoke extraction fan revolutions remains unvaried.

In the same way, by maintaining the recipe based on weight unvaried, by varying the choice of installation type (from VERTICAL to HORIZONTAL or vice versa) the quantity of pellets inserted in the grate remains unvaried but the speed of the smoke extraction fan varies.

This makes it possible **to solve the problems of clogging the grate** caused by the excess of FUEL or due to lack of COMBUSTION. In the same way, it is possible to solve the problems **of low efficiency** caused by the lack of FUEL or excessive COMBUSTION.

Example:

MERCURY		
	V	**O**
❯700 g	M3	M7
660 g ➔ 700 g	M2	M6
630 g ➔ 660 g	M1	M5
570 g ➔ 630 g	M0	M4

Recipe **M0** is the one that, at all flame powers, loads the greatest quantity of fuel, since the specific weight of the pellet is very low (from 570 to 630 grams per dm^3 or litre).

The speed of the smoke fan in recipe **M0** is low, since the installation is considered **VERTICAL (V)**; thus it is assumed there is a flue pipe that assists the exhaust of the smoke.

In the same way, recipe **M3** is the one that loads the lowest quantity of pellets, while the smoke fan runs at low speed.

On the contrary, recipe **M4** is the one that loads the highest quantity of fuel at all the flame powers, but in this case the smoke fan runs at a high number of revolutions. Having chosen a **HORIZONTAL (O)** recipe, it is assumed that there are some problems expelling the discharge smoke.

Recipe **M7 is the best recipe for extreme conditions** concerning the weight of the pellet and the installation. In recipe **M7** the quantity of pellets loaded is low and the speed of the smoke fan is high.

The intermediate recipes (M2, M3, M5, M6) contemplate intermediate loads of fuel.

2.2.2. Weight of the pellet

Fill the pellet container (PelletBox®) provided with the appliance) until it is filled, using a ruler.
Do not press the contents of the recipient.
Weigh the pellet and the container together, using a normal kitchen scale. Note the weight (example 680 grams)

2.2.3. Interpreting the installation (VERTICAL - HORIZONTAL or WALL)
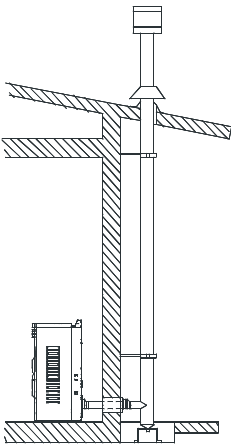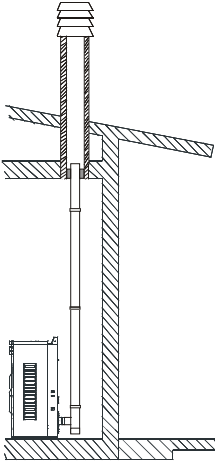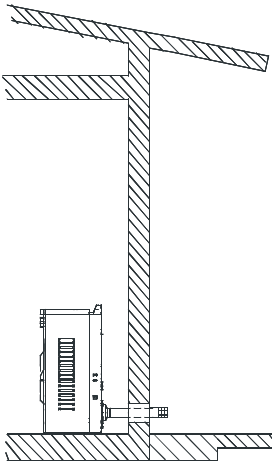
The terms **VERTICAL** and **HORIZONTAL** mean classifying the two different connections to the flue pipe (see definition of the flue pipe on page 4).

- **the VERTICAL connection** is very short, almost without any curves, and permits an almost direct connection to an "active" flue pipe, i.e. one that has a minimum natural draught of 0.10 mbar when hot.
- **the HORIZONTAL** connection is more twisted since there are curves and/or several metres of pipes. While the "vertical" connection is easy to recognise, the choice **of the HORIZONTAL installation is compulsory** in situations where the quality of the connection and the performance of the flue pipe are doubtful or where there are curves. The maximum values that can be created for a connection to the flue pipe are:
    - Never create more than **3 curves at 90°**
    - Never create more than **3 metres of horizontal piping Ø 80 mm** that in any case must have a **minimum gradient of 3-5%**
    - Never create **connections in counter-slope (aimed downwards)**
    - Never create **a connection with more than 6 metres of pipe Ø 80 mm**
    - Always install an **inspection "T"** at the output of the appliance (avoid curves at 90° or 45°)
- **The installation called "WALL" or not in flue pipe** (forbidden under Italian law) but still valid in some European countries, **is a great risk**. For those who decide to create one, we advise following these instructions:
    - Protect the output of the pipe from wind as much as possible.
    - **ALWAYS use a windproof cowl** (better if of high quality rather than just a simple windproof cap for boilers)
    - Do not use curves at 90° or "T" in place of windproof cowls. Most of the time these tricks worsen the functioning.
    - Always create the **shortest possible** connection.
    - Avoid uninsulated sections of pipe Ø outdoors.
    - Avoid installation vertically against walls: they will get dirty.
    - **ABSOLUTELY AVOID** discharging smoke below balconies, terraces and overhangs of roofs imagining that outlets will be more protected from the wind. Instead the opposite is true: in these points of the houses the wind builds up and makes it difficult for the smoke to discharge. In addition, the possibility of seriously dirtying the building is high.
    - **In case of wall installation you are advised to ALWAYS CHOOSE A HORIZONTAL RECIPE** unless the installation does not consists of a simple 50-70 cm pipe, without curves, that directly discharges to the outside of the building, at the same height of the outlet of the stove**. In this case, but only in this case**, it is possible to consider the VERTICAL setting.

N.B. and The manufacturer refuses to accept any responsibility in case of malfunctions or damage to objects and people. Furthermore, an installation carried out as so, may also void the guarantee.

Below are some examples of installation to help you interpret the installation type

Installations where the VERTICAL **setting must be chosen.**

50-70 cm connection to the insulated flue pipe without curves.	Connection to the existing flue pipe with minimum draught of 10 Pascal (10 Pa) when hot.	Direct or "wall" discharge composed of 50-70 cm without curves and windproof cowl (Not advised and forbidden)

Installations where the HORIZONTAL **setting must be chosen.**

Very long connections to the flue pipe	Connections with various curves and several metres of pipe	Wall discharge with curves and several metres of pipe + cowl. (Not advised and forbidden)

2.2.4. Selection of recipe

Suppose you want to adjust the "RECIPE" in the knowledge that this is installed on a VERTICAL configuration, that the weight of the BoxPellet®, including the pellets, is **680 grams** and that the stove is a **MERCURY** model. By crossing the values on the easy table that is on the Pellet Box®, the recipe to set is **"M2".**

Let's see how to set the recipe based on the type of control panel that is equipped on the stove.

MERCURY

	V	O
> 700 g	M3	M7
660 g → 700 g	M2	M6
630 g → 660 g	M1	M5
570 g → 630 g	M0	M4

TYPE OF PANEL	MODEL	INSTRUCTIONS
	ANTARES VEGA ASTRA AURORA MODULO **From 2003 to 06/07**	1. **With the stove off** simultaneously press the buttons ❸ and ❹ 2. Choose the recipe with the buttons ❶ or ❷ 3. Confirm the choice with button ❺
	SATURN OMEGA PLANET **From 2004 to 06/07**	1. **With the stove off** simultaneously press the buttons ❸ and ❹ 2. Choose the recipe with the buttons ❶ or ❷ 3. Confirm the choice with button ❺
	POLAR and NOVA Versions AIR MULTIAIR **From 2005 to 06/06** HYDRO **From 2005 to date**	1. **With the stove off** simultaneously press the buttons ❸ and ❹ 2. Choose the recipe with the buttons ❶ or ❷ 3. Confirm the choice with button ❺
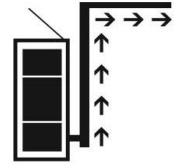
	MERCURY POLAR and NOVA Versions AIR MULTIAIR **From 06/06 to 06/07**	1. Press 'MENU ❻ and use the button ❶ up to the **MENU 4 "SET RECIPE"** Confirm with 'MENU ❻. 2. Choose the recipe with the buttons ❶ or ❷ 3. To confirm the choice press 'MENU ❻. 4. The display will show the request for confirmation **"YES"** or "**NO".** 5. Choose one of the two options with the buttons ❶ or ❷ and confirm with the button ❻

THE RECIPES
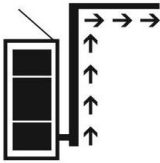
ANTARES - VEGA - ASTRA - AURORA

ANTARES		V	O
❯700 g	▶	H1	H5
660 g ➔ 700 g	▶	H0	H4
630 g ➔ 660 g	▶	G9	H3
570 g ➔ 630 g	▶	G8	H2
VEGA - ASTRA - AURORA		**V**	**O**
❯700 g	▶	G3	G7
660 g ➔ 700 g	▶	G2	G6
630 g ➔ 660 g	▶	G1	G5
570 g ➔ 630 g	▶	G0	G4

SATURN - OMEGA - PLANET

		V	O
❯700 g	▶	L3	L7
660 g ➔ 700 g	▶	L2	L6
630 g ➔ 660 g	▶	L1	L5
570 g ➔ 630 g	▶	L0	L4
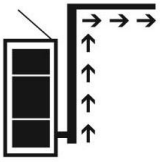
POLAR - NOVA (Hydro)

		V
❯700 g	▶	C3
660 g ➔ 700 g	▶	C2
630 g ➔ 660 g	▶	C1
570 g ➔ 630 g	▶	C0

POLAR - NOVA (Multiair/Air)

MULTIAIR		V	O
❯700 g	▶	B3	B7
660 g ➔ 700 g	▶	B2	B6
630 g ➔ 660 g	▶	B1	B5
570 g ➔ 630 g	▶	B0	B4
AIR		**V**	**O**
❯700 g	▶	A3	A7
660 g ➔ 700 g	▶	A2	A6
630 g ➔ 660 g	▶	A1	A5
570 g ➔ 630 g	▶	A0	A4

MERCURY

		V	O
❯700 g	▶	M3	M7
660 g ➔ 700 g	▶	M2	M6
630 g ➔ 660 g	▶	M1	M5
570 g ➔ 630 g	▶	M0	M4

2.2.5. Combustion control

To be certain that the choice of the recipe carried out is correct, light the stove and check the combustion when the flame is established and regularised.

The flame must have yellow sides and be white in the centre, not excessively slow or too oxygenated. Observing the flame, the upper tip must be sucked towards the high part of the combustion chamber and also, it must always remain within the outline of the grate and not overflow the sides.
The bottom of the grate must always be visible, indicating that the entire pellet that falls during a reduction motor cycle, completely burns before another load cycle.
The flame must also "pulsate" (move up and down) indicating that the loaded pellet is burnt instantly.
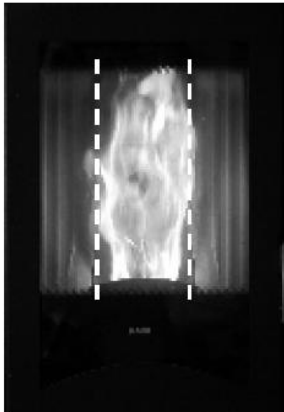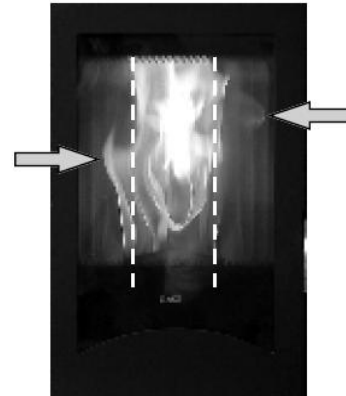
CORRECT FLAME	INCORRECT FLAME

2.2.6. Modify the recipe after the control of the combustion.

The too oxygenated flame, is low, very white and "nervous" and the members of the pellet tend to fall from the grate.
The most evident problem is a constantly low flame and a tendency to extinguish the fire especially at low power.
The variations to be made are as follows:

- Decrease the number of the recipe (e.g. from "M2" to "M1") by loading a recipe with a greater quantity of pellets.
- Should this not be sufficient, modify the recipe from HORIZONTAL to VERTICAL to decrease the speed of the smoke extraction fan and therefore the quantity of oxygen to the combustion chambers (e.g. from "M6" to "M2").

A poorly oxygenated flame is orange, sluggish and tends to produce wisps of smoke. The glass and the ALUTEC® (white internal refractory) quickly become dirty and blacken.
The most evident problem is the accumulation of pellets inside the grate. The faster the accumulation time, the larger the variations to be made to the recipe.

- If the accumulation is produced in a short time (2-3 hours) it is necessary to completely reconsider the type of installation from VERTICAL to HORIZONTAL.
- If the accumulation is produced in a long time (8-10 hours) it could be sufficient to decrease the quantity of pellets by increasing the recipe (e.g. from M2 to M3).

OTHER POSSIBLE SOLUTIONS TO THE PROBLEM OF CALIBRATION:
If the problem persists, carefully check that the seals of the door and the ash drawer are in good condition, that all the cleaning plugs of the combustion chamber are closed and that there are no obstructions in the flue pipe.
To solve even more important problems concerning the combustion, it is possible to directly act on the parameters and the internal settings of the stove, by modifying the duration of the load cycles of the reduction motor and the speed of the smoke extractor at the various powers.
Remember that the quality of the pellets is fundamental for correct combustion and is at the base of the combustion rules described above.

2.2.7. Modify the technical parameters when the recipe is not sufficient.

At the time when the recipes are not sufficient to eliminate the problems of clogging or poor efficiency it is possible to act on the technical parameters. To enter the technical parameters it is necessary to enter the **UT 04 TECHNICAL MENU**, enter the **password A9** and scroll down the list of 28 parameters listed below (the example is the Polar/Nova AIR).

N.B. In grey the loading times of the reduction motor and the speed of the smoke extractor, that must possibly be revised to adjust combustion.

E.g. (Polar/Nova stove AIR version)	RECIPES							
PARAMETERS	A0	A1	A2	A3	A4	A5	A6	A7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	30	30	30	30	30	30	30	30
PR 04: Load wood feed screw ON (sec)	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 05: Fire On feed screw ON (sec)	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	2,9	2,7	2,5	2,2	2,9	2,7	2,5	2,2
PR 08: Feed screw ON in Power 3 (sec) **	3,6	3,4	3,2	2,8	3,6	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,3	3,9	3,6	4,5	4,3	3,9	3,6
PR 10: Feed screw ON in Power 5 (sec) **	5,2	4,9	4,5	4	5,2	4,9	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30	30	30	30	30	30	30	30
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	2000	2000	2000	2000	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1350	1350	1350	1350	1600	1600	1600	1600
PR 18: Smoke extractor speed in Power 1 (rpm)	1000	1000	1000	1000	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1070	1070	1070	1070	1370	1370	1370	1370
PR 20: Smoke extractor speed in Power 3 (rpm)	1170	1170	1170	1170	1470	1470	1470	1470
PR 21: Smoke extractor speed in Power 4 (rpm)	1260	1260	1260	1260	1560	1560	1560	1560
PR 22: Smoke extractor speed in Power 5 (rpm)	1350	1350	1350	1350	1650	1650	1650	1650
PR 23: Air exchanger speed in Power 1	12	12	12	12	12	12	12	12
PR 24: Air exchanger speed in Power 2	15	15	15	15	15	15	15	15
PR 25: Air exchanger speed in Power 3	18	18	18	18	18	18	18	18
PR 26: Air exchanger speed in Power 4	23	23	23	23	23	23	23	23
PR 27: Air exchanger speed in Power 5	28	28	28	28	28	28	28	28
PR 28:	-	-	--	-	-	-	-	-

To solve the problems concerning **the clogging of the grate** it is advisable to:
- o Increase the number of revolutions of the smoke extraction fan at all the powers of:
  - 100-150 revolutions/minutes **at power 1 - 2** (PR18 and PR19)
  - 200 revolutions/minutes at power **3** (PR20)
  - 250-300 revolutions/minutes **at power 4 - 5** (PR18 and PR19)
- o Should the variations reported above have no effect, also act on the loading times of the reduction motor:

  - do not lower the loading time in **power 1** by more than 0.2 seconds (PR 06)
  - do not lower the loading time in **power 2-3** by more than 0.5 seconds (PR 07 – PR08)
  - do not lower the loading time in **power 4-5** by more than 1 second (PR 09 – PR10)

To solve the opposite problems **of low efficiency** it is preferable to increase the quantity of pellets to avoid acting on the smoke extraction fan to excessively unbalancing the combustion.
In this case the variations are less "delicate" and therefore may be carried out based on the performance of the flame.

Caontained within this document you will find the tecnica parameter tables for our various products that we **STRONGLY ADVISE NOT TO MODIFY (in grey)**, also because modifying these parameters will not completely resolve the above problems.

2.3. The adjustment of the HYDRO stoves with PELLET BOX® technology

The Hydro pellet stove, unlike the pellet stoves that only heat the air, has all the problems concerning the combination of the appliance to an existing plumbing system.
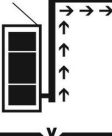
Therefore it is indisputable that **the HYDRO stove requires a correct installation by a specialist installer that may also carry out a calculation of the calorific requirement of the system.**

This appliance is equipped with all the functioning and security devices to be applied on a **CLOSED TANK** system and, therefore, it may only work when the pressure of the system is between 0.5 bar and 2.5 bars.

The operating pressure advised is 1.0 bar when cold and/or 1.5 bar when hot.

The HYDRO stove, unlike the other stoves, does not have difficulties in choosing the recipe since the power of the smoke extractor fan and the high load of fuel make the adjustment of the combustion decidedly less delicate.

As you can see, in the recipes for the HYDRO stoves, there is no distinction between VERTICAL and HORIZONTAL recipes and there is just one choice possible. The only task of the operator in charge of calibration is therefore to weight the fuel to choose the correct amount based on the specific weight of the pellet. To set the recipe, follow the instructions already illustrated previously.

POLAR - NOVA (Hydro)		
>700 g	▶	C_3
660 g → 700 g	▶	C_2
630 g → 660 g	▶	C_1
570 g → 630 g	▶	C_0

2.3.1. Before lighting a HYDRO stove: check list

- Always make a preventive check of the number of radiators and the potential power consumption of the system. Plus check the delivery and return pipes, both from the point of view of the diameter and the insulation.

- The stove **MUST** be connected to the hydraulic system by using the **flexible pipes** and inserting the **cut-off valves**, in order to insulate the appliance in case of maintenance.

- Load the system with cold water through the suitable filling tap located at the rear of the stove or through another filling tap along the system. **Take the pressure to 1.0 bar.** The pressure of the system may be checked through an external pressure gauge placed along the system (advised) or thanks to the pressure transducer located inside the stove (series in all the models built until November 2008).

  To check the pressure press and keep pressed the button ❸, until the pressure read appears on the display. Instead if the **OFF** is shown on the display, this means that the stove is not equipped with a pressure transducer and to know the pressure of the system another pressure gauge is required.

- Make sure that there are no leaks from the plumbing connections of the stove and the system, and tighten the joints if necessary.
- Discharge the air from the radiator system using the suitable valves.
- Discharge the stove using the vent valve placed below the ceramic top. If necessary, reintegrate the system to take the pressure back to the levels advised (1.0 bar).
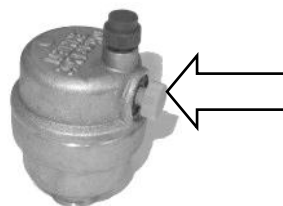
- Check that the room probe, placed at the rear of the stove, does not touch any hot part but remains suspended in away to detect the air temperature.
- Adjust the correct recipe as in the procedure.

- Check the calibration of the room temperature, by pressing the **SET** key **once**. With the keys ❶ and ❷ take the temperature to the level desired though to a temperature greater than the one in the room.
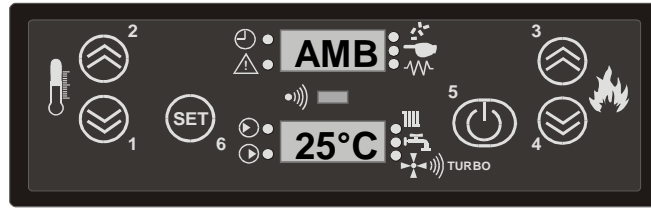
- Check the calibration of the water temperature, by pressing the **SET** key **twice**. With the keys ❶ and ❷ take the temperature to the level desired though **NEVER LESS THAN 55°C**. Below this temperature large problems in producing condensation may be met.
  The advised temperature is 65°C
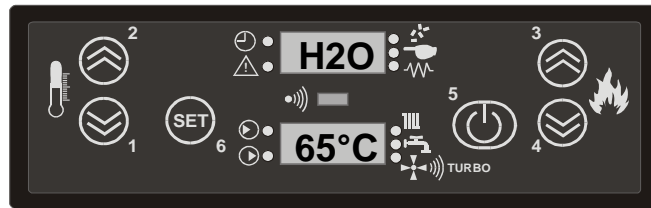
- Light the stove and wait until the water in the boiler reaches **50°C**. At this temperature the circulator (water pump) will operate and the hot water will start to circulate in the system. By feeding cold water into the boiler again, the temperature water inside the same will quickly drop and the circulator will stop. This activity is perfectly normal and may last from **20 to 60 minutes**, based on the size of the system. When all the water inside the system has a temperature exceeding **52°C**, the circulator will stay active permanently.
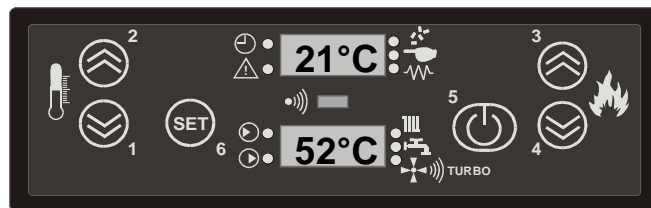
- It is possible to modify the intervention temperature of the pump by entering the technical parameters (see chapter 2.6.) and more specifically by modifying the parameter **PR 28.**
  With the keys ❶ and ❷ modify the start-up/shutdown temperature of the circulator. You are advised not to excessively lower the temperature (MIN 40°C) or excessively raise this threshold (MAX 55°C).

2.3.2. Operation of HYDRO stoves at full power

Once reaching full power the stove independently chooses the operating power based on the differences between the room and water temperatures requested and those desired.

THE HYDRO STOVE ONLY WORKS IN AUTOMATIC MODE (there is no MANUAL mode)

The flame starts to decrease its operating power **5°C** prior to reaching the temperature of the water in the boiler, to avoid the stove exceeding the desired water temperature, due to keeping the heat in.
The stove goes into **ECO** mode (minimum power), when both the temperatures required (water and air) are reached.
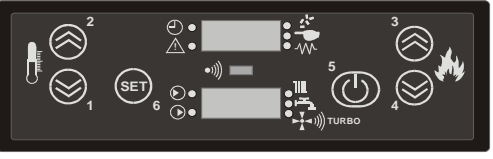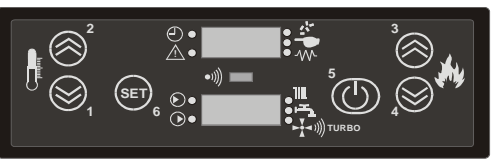
2.4. Special adjustments with PELLET BOX® technology

2.4.1. External room thermostat

On all the devices with PELLET BOX® technology it is possible to connect an EXTERNAL ROOM THERMOSTAT. To do so it is necessary to connect the thermostat to the serial port using the suitable MCZ connector
Let's see how to activate the thermostat based on the various stoves and panels.
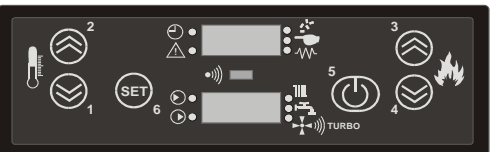
TYPE OF PANEL	MODEL	INSTRUCTIONS
	ANTARES VEGA ASTRA AURORA MODULO **From 2003 to 06/07** SATURN OMEGA PLANET **From 2004 to 06/07** POLAR and NOVA Versions AIR MULTIAIR **From 2005 to 06/06**	1. Press the button ❶ twice to go to **AUTOMATIC** mode. 2. Decrease the minimum temperature desired with the button ❶ (7°C) 3. Therefore the stove recognises the external thermostat as priority
	POLAR and NOVA ATHOS HYDRO **From 2005 to date**	1. Press the buttons ❷ and ❸ at the same time to access **UT01** 2. Press the button ❸ several times until reaching **UT16** 3. Press and always keep pressed the button ❹ 4. At the same time as pressing the button ❹ press the button ❸ several times to reach **UT20** 5. Set the internal thermostat to OFF with the buttons ❶ or ❷ 6. Confirm the choice with button ❺
	MERCURY POLAR and NOVA Versions AIR MULTIAIR **From 06/06 to 06/07**	1. Press the button ❶ twice to go to **AUTOMATIC** mode. 2. Decrease the minimum temperature desired with the button ❶ (7°C) 3. Therefore the stove recognises the external thermostat as priority and indicates on the display EXTERNAL THERMOSTAT

2.4.2. ECO-STOP mode

On all the devices with PELLET BOX® technology it is possible to activate the ECO-STOP mode.
This function may be considered as an "advanced automatic" mode that provides for the **shut down of the device upon reaching the temperature** instead of simply decreasing the power to the minimum (ECO).
It is UNADVISABLE to use the ECO-STOP in premises with little insulation or where the cooling of the installation environment is very sudden. If used in these conditions, the device is forced to frequently start up and shut down.
Let's see how to activate this function based on the various stoves and panels.

TYPE OF PANEL	MODEL	INSTRUCTIONS
	ANTARES VEGA ASTRA AURORA MODULO **From 2003 to 06/07** SATURN OMEGA PLANET **From 2004 to 06/07** POLAR and NOVA Versions AIR / MULTIAIR **From 2005 to 06/06**	1. Press the buttons ❷ and ❸ at the same time to access **UT01** 2. Press the button ❸ several times until reaching **UT16** 3. Press and always keep pressed the button ❹ 4. At the same time as pressing the button ❹ press the button ❸ to reach **UT18** 5. Set the internal **ECO-STOP** to **ON** with the buttons ❶ or ❷ 6. Confirm the choice with button ❺
	POLAR and NOVA ATHOS HYDRO **From 2005 to date**	1. Press the buttons ❷ and ❸ at the same time to access **UT01** 2. Press the button ❸ several times until reaching **UT16** 3. Press and always keep pressed the button ❹ 4. At the same time as pressing the button ❹ press the button ❸ to reach **UT19** 5. Set the internal **ECO-STOP** to **ON** with the buttons ❶ or ❷ and to chose the numbers of minutes after which the ECOSTOP must turn off the stove. 6. Confirm the choice with button ❺
	MERCURY POLAR and NOVA Versions AIR MULTIAIR **From 06/06 to 06/07**	1. Press the button **MENU** 2. With the button ❶ go to **MENU 5** 3. Press the button **MENU** to access and set the **ECO-STOP**. 4. With the button ❶ choose **ON** 5. Confirm with button **MENU**

2.4.3. Water temperature differential in the HYDRO stoves

In the Hydro models there is the possibility of decreasing or increasing the temperature differential to avoid that the temperature reached by the water in the boiler exceeds a certain value set by the user. This differential has a default setting into the menu **UT18** of **10°C**. To enter in this menu, follow de same directions as per menu **UT19** and **UT20**

This interval makes the stove decrease the operating power if the water reaches the temperature set + 10°C
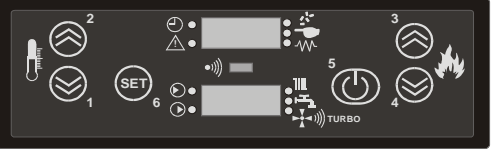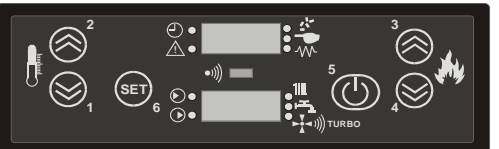
Example:
    WATER TEMPERATURE SET   = **65°C**
    TEMPERATURE DIFFERENTIAL   = **10°C**
    At **75°C** the stove necessarily goes to the minimum power to avoid overheating the water and boiling it.

2.5. Information on the operation of the PELLET BOX® device

It is possible to recover information on the operation of the device while it is on or during some particular operation phases.
This information is often fundamental to solve problems or to carry out a correct diagnosis of the faults.
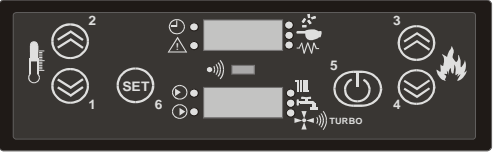
TYPE OF PANEL	MODEL	INSTRUCTIONS
	ANTARES VEGA ASTRA AURORA MODULO	By pressing and keeping pressed the button ❶ two pieces of information may be found: • Number of revolutions of the smoke fan detected by the encoder (E.g.: **1840**) • Current temperature of the smoke sensor (E.g.: **103°**)
	SATURN OMEGA PLANET	By pressing and keeping pressed for **5 seconds** during the start up phase the button ❸ it is possible to skip the start-up process. Obviously, to avoid that the stove goes into alarm condition, the smoke sensor must be more than 60°C. This function may be useful to change the recipe and immediately restart the stove without waiting for the entire 15 minute start up process.
	POLAR and NOVA Versions AIR '05 MULTIAIR '05	
	MERCURY POLAR and NOVA Versions AIR '06 MULTIAIR '06	Press ❻ and use the button ❶ up to **MENU 6** There are three pieces of information here: • Number of revolutions of the smoke fan detected by the encoder (E.g.: **1840**) • Current temperature of the smoke sensor (E.g.: **103°**) • Reduction motor operating (1 = Operating 0 = Off) Press ❻ and use the button ❶ up to **MENU 7** Here it is possible to see the number of working hours of the device. In **MENU 8**, by entering the password **(35)**, it is possible to reset the number of working hours.
	POLAR and NOVA ATHOS Versions HYDRO	By pressing and keeping pressed the button ❹ two pieces of information may be found: • Number of revolutions of the smoke fan detected by the encoder (E.g.: **1840**) • Current temperature of the smoke sensor (E.g.: **103°**) By pressing and keeping pressed the button ❸ it is possible to control the water pressure in the system.

2.6. The LCD display for PELLET BOX models – MENU tree

MENU 1 — MENU 1 / SET CLOCK → SET DAY (FRI) → HOUR 12:53 → MINUTE 12:53

MENU 2 — MENU 2 / SET TIMER → SET TIMER OFF (ON) Default = OFF → PROGRAM 1 START 12:53 → PROGRAM 1 STOP 12:53 → PROGRAM 1 ON DAYS (FRI); PROGRAM 2 / PROGRAM 3 / PROGRAM 4

MENU 3 — MENU 3 / SET LANGUAGE → LANGUAGE ENGLISH

MENU 4 — MENU 4 / SET RECIPE → SET RECIPE M-6 → CONFIRM CHANGE YES (NO) Default = YES

MENU 5 — MENU 5 / SET ECO-STOP → ECO-STOP MODE OFF (ON) Default = OFF

MENU 6 — MENU 6 / STOVE STATE → COCLEA STATE 1380 (ng) 180 (Tfum) 0

MENU 7 — MENU 7 / WORK HOURS → WORK HOURS 1250000

MENU 8 — MENU 8 / RESET HOURS → ACCESS CODE 35 → RESET NO (YES) Default = NO

MENU 9 — MENU 9 / CURRENT SETTINGS → ACCESS CODE A9 → Technical parameters

DAY 1 - MONDAY - MON
DAY 2 - TUESDAY - TUE
DAY 3 - WEDNESDAY - WED
DAY 4 - THURSDAY - THU
DAY 5 - FRIDAY - FRI
DAY 6 - SATURDAY - SAT
DAY 7 - SUNDAY - SUN

2.7. The technical parameters of the PELLET BOX stoves

2.7.1. How to access the technical parameters

TYPE OF PANEL	MODEL	INSTRUCTIONS
	ANTARES VEGA ASTRA AURORA MODULO	1. Press the buttons ❷ and ❸ at the same time to access **UT01** 2. Press the button ❸ three times to access the parameter **UT04** 3. Enter the password (**A9**) with the buttons ❶ or ❷
	SATURN OMEGA PLANET	4. Confirm the password by pressing the button ❸. 5. To scroll through the various parameters, use the button ❸ 6. To modify the parameters, use the buttons ❶ or ❷
	POLAR / NOVA AIR '05 MULTIAIR '05 HYDRO	
	MERCURY POLAR and NOVA Versions AIR '06 MULTIAIR '06	1. Press ❻ and use the button ❶ up to **MENU 9** 2. Press the button ❻ to access 3. Enter the password (**A9**) with the buttons ❶ or ❷ 4. Confirm the password by pressing the button ❻. 5. To scroll through the various parameters, use the button ❸ 6. To modify the parameters, use the buttons ❶ or ❷

2.7.2. The parameters

ANTARES	G8	G9	H0	H1	H2	H3	H4	H5
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	60*	60*	60*	60*	60*	60*	60*	60*
PR 04: Load wood feed screw ON (sec)	2,7	2,6	2,4	2,1	2,7	2,6	2,4	2,1
PR 05: Fire On feed screw ON (sec)	3	3	2,7	2,5	3	3	2,7	2,5
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	3,3	3,1	2,8	2,5	3,3	3,1	2,8	2,5
PR 08: Feed screw ON in Power 3 (sec) **	4,3	4	3,7	3,4	4,3	4	3,7	3,4
PR 09: Feed screw ON in Power 4 (sec) **	5,4	5,1	4,7	4,2	5,4	5,1	4,7	4,2
PR 10: Feed screw ON in Power 5 (sec) **	6,2	6	5,5	5	6,2	6	5,5	5
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	180	180	180	180	180	180	180	180
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1970	1970	1970	1970	2330	2330	2330	2330
PR 17: Smoke extractor speed in Fire On (rpm)	1210	1210	1210	1210	1570	1570	1570	1570
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1090	1090	1090	1090	1430	1430	1430	1430
PR 20: Smoke extractor speed in Power 3 (rpm)	1210	1210	1210	1210	1570	1570	1570	1570
PR 21: Smoke extractor speed in Power 4 (rpm)	1380	1380	1380	1380	1740	1740	1740	1740
PR 22: Smoke extractor speed in Power 5 (rpm)	1520	1520	1520	1520	1830	1830	1830	1830
PR 23: Air exchanger speed in Power 1	12	12	12	12	12	12	12	12
PR 24: Air exchanger speed in Power 2	16	16	16	16	16	16	16	16
PR 25: Air exchanger speed in Power 3	21	21	21	21	21	21	21	21
PR 26: Air exchanger speed in Power 4	25	25	25	25	25	25	25	25
PR 27: Air exchanger speed in Power 5	28	28	28	28	28	28	28	28
PR 28: Parameters of trasmission of remote control (0-1-2-3)	0	0	0	0	0	0	0	0

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

ASTRA - VEGA - AURORA – MODULO PELLET	G0	G1	G2	G3	G4	G5	G6	G7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	60*	60*	60*	60*	60*	60*	60*	60*
PR 04: Load wood feed screw ON (sec)	2,7	2,6	2,4	2,1	2,7	2,6	2,4	2,1
PR 05: Fire On feed screw ON (sec)	3	3	2,8	2,5	3	3	2,8	2,5
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,6	3,5	3,3	3	3,6	3,5	3,3	3
PR 09: Feed screw ON in Power 4 (sec) **	4,8	4,5	4,1	3,7	4,8	4,5	4,1	3,7
PR 10: Feed screw ON in Power 5 (sec) **	5,8	5,6	5,1	4,5	5,8	5,6	5,1	4,5
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	180	180	180	180	180	180	180	180
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1970	1970	1970	1970	2330	2330	2330	2330
PR 17: Smoke extractor speed in Fire On (rpm)	1100	1100	1100	1100	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	860	860	860	860	1250	1250	1250	1250
PR 19: Smoke extractor speed in Power 2 (rpm)	990	990	990	990	1370	1370	1370	1370
PR 20: Smoke extractor speed in Power 3 (rpm)	1100	1100	1100	1100	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1250	1250	1250	1250	1660	1660	1660	1660
PR 22: Smoke extractor speed in Power 5 (rpm)	1390	1390	1390	1390	1750	1750	1750	1750
PR 23: Air exchanger speed in Power 1	6	6	6	6	6	6	6	6
PR 24: Air exchanger speed in Power 2	8	8	8	8	8	8	8	8
PR 25: Air exchanger speed in Power 3	10	10	10	10	10	10	10	10
PR 26: Air exchanger speed in Power 4	11	11	11	11	11	11	11	11
PR 27: Air exchanger speed in Power 5	19	19	19	19	19	19	19	19
PR 28: Parameters of trasmission of remote control (0-1-2-3)	0	0	0	0	0	0	0	0

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

SATURN – OMEGA – PLANET – Versione A – Display LED	L0	L1	L2	L3	L4	L5	L6	L7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,2	3,8	3,5	4,5	4,2	3,8	3,5
PR 10: Feed screw ON in Power 5 (sec) **	5,2	5	4,5	4	5,2	5	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	185	185	185	185	185	185	185	185
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1050	1050	1050	1050	1400	1400	1400	1400
PR 20: Smoke extractor speed in Power 3 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1350	1350	1350	1350	1700	1700	1700	1700
PR 22: Smoke extractor speed in Power 5 (rpm)	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	13	13	13	13	13	13	13	13
PR 24: Air exchanger speed in Power 2	14	14	14	14	14	14	14	14
PR 25: Air exchanger speed in Power 3	15	15	15	15	15	15	15	15
PR 26: Air exchanger speed in Power 4	19	19	19	19	19	19	19	19
PR 27: Air exchanger speed in Power 5	22	22	22	22	22	22	22	22

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

SATURN – OMEGA – PLANET – Versione A2 – Display LED	L0	L1	L2	L3	L4	L5	L6	L7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,2	3,8	3,5	4,5	4,2	3,8	3,5
PR 10: Feed screw ON in Power 5 (sec) **	5,2	5	4,5	4	5,2	5	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	185	185	185	185	185	185	185	185
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1050	1050	1050	1050	1400	1400	1400	1400
PR 20: Smoke extractor speed in Power 3 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1350	1350	1350	1350	1700	1700	1700	1700
PR 22: Smoke extractor speed in Power 5 (rpm)	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	5	5	5	5	5	5	5	5
PR 24: Air exchanger speed in Power 2	6	6	6	6	6	6	6	6
PR 25: Air exchanger speed in Power 3	8	8	8	8	8	8	8	8
PR 26: Air exchanger speed in Power 4	11	11	11	11	11	11	11	11
PR 27: Air exchanger speed in Power 5	22	22	22	22	22	22	22	22

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

SERVICE MANUAL

SATURN – OMEGA – PLANET – Versione A3 – Display LED	L0	L1	L2	L3	L4	L5	L6	L7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,2	3,8	3,5	4,5	4,2	3,8	3,5
PR 10: Feed screw ON in Power 5 (sec) **	5,2	5	4,5	4	5,2	5	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	185	185	185	185	185	185	185	185
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1050	1050	1050	1050	1400	1400	1400	1400
PR 20: Smoke extractor speed in Power 3 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1350	1350	1350	1350	1700	1700	1700	1700
PR 22: Smoke extractor speed in Power 5 (rpm)	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	11	11	11	11	11	11	11	11
PR 24: Air exchanger speed in Power 2	13	13	13	13	13	13	13	13
PR 25: Air exchanger speed in Power 3	15	15	15	15	15	15	15	15
PR 26: Air exchanger speed in Power 4	19	19	19	19	19	19	19	19
PR 27: Air exchanger speed in Power 5	22	22	22	22	22	22	22	22

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

SATURN – OMEGA – PLANET – Versione B1 – Display LCD	L0	L1	L2	L3	L4	L5	L6	L7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,2	3,8	3,5	4,5	4,2	3,8	3,5
PR 10: Feed screw ON in Power 5 (sec) **	5,2	5	4,5	4	5,2	5	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1050	1050	1050	1050	1400	1400	1400	1400
PR 20: Smoke extractor speed in Power 3 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1350	1350	1350	1350	1700	1700	1700	1700
PR 22: Smoke extractor speed in Power 5 (rpm)	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	23	23	23	23	23	23	23	23
PR 24: Air exchanger speed in Power 2	25	25	25	25	25	25	25	25
PR 25: Air exchanger speed in Power 3	28	28	28	28	28	28	28	28
PR 26: Air exchanger speed in Power 4	36	36	36	36	36	36	36	36
PR 27: Air exchanger speed in Power 5	44	44	44	44	44	44	44	44
PR 28: Smoke extractor parameter in grate cleaning (rpm)	2500	2500	2500	2500	2500	2500	2500	2500
PR 29: Time for the restart up in eco-stop (min)	20'	20'	20'	20'	20'	20'	20'	20'
PR 30: Start up differential when hot (C°)	5	5	5	5	5	5	5	5

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

SATURN – OMEGA – PLANET – Versione B2 – Display LCD	L0	L1	L2	L3	L4	L5	L6	L7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
PR 07: Feed screw ON in Power 2 (sec) **	2,8	2,6	2,4	2,1	2,8	2,6	2,4	2,1
PR 08: Feed screw ON in Power 3 (sec) **	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,2	3,8	3,5	4,5	4,2	3,8	3,5
PR 10: Feed screw ON in Power 5 (sec) **	5,2	5	4,5	4	5,2	5	4,5	4
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1050	1050	1050	1050	1400	1400	1400	1400
PR 20: Smoke extractor speed in Power 3 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 21: Smoke extractor speed in Power 4 (rpm)	1350	1350	1350	1350	1700	1700	1700	1700
PR 22: Smoke extractor speed in Power 5 (rpm)	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	10	10	10	10	10	10	10	10
PR 24: Air exchanger speed in Power 2	12	12	12	12	12	12	12	12
PR 25: Air exchanger speed in Power 3	18	18	18	18	18	18	18	18
PR 26: Air exchanger speed in Power 4	22	22	22	22	22	22	22	22
PR 27: Air exchanger speed in Power 5	44	44	44	44	44	44	44	44
PR 28: smoke extractor parameter in grate cleaning (rpm)	2500	2500	2500	2500	2500	2500	2500	2500
PR 29: time for the restart up in eco-stop (min)	20'	20'	20'	20'	20'	20'	20'	20'
PR 30: start up differential when hot (C°)	5	5	5	5	5	5	5	5

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

MERCURY 6 kW – Versione A1-A2-A3 - Display LCD

	M0	M1	M2	M3	M4	M5	M6	M7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,5	1,8	1,8	1,8	1,5
PR 07: Feed screw ON in Power 2 (sec) **	2,6	2,4	2,1	1,8	2,6	2,4	2,1	1,8
PR 08: Feed screw ON in Power 3 (sec) **	3,2	3,0	2,8	2,5	3,2	3,0	2,8	2,5
PR 09: Feed screw ON in Power 4 (sec) **	3,8	3,5	3,2	2,9	3,8	3,5	3,2	2,9
PR 10: Feed screw ON in Power 5 (sec) **	4,5	4,1	3,7	3,4	4,5	4,1	3,7	3,4
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1200	1200	1200	1200
PR 19: Smoke extractor speed in Power 2 (rpm)	1000	1000	1000	1000	1300	1300	1300	1300
PR 20: Smoke extractor speed in Power 3 (rpm)	1100	1100	1100	1100	1400	1400	1400	1400
PR 21: Smoke extractor speed in Power 4 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 22: Smoke extractor speed in Power 5 (rpm)	1300	1300	1300	1300	1600	1600	1600	1600
PR 23: Air exchanger speed in Power 1	35	35	35	35	35	35	35	35
PR 24: Air exchanger speed in Power 2	36	36	36	36	36	36	36	36
PR 25: Air exchanger speed in Power 3	38	38	38	38	38	38	38	38
PR 26: Air exchanger speed in Power 4	41	41	41	41	41	41	41	41
PR 27: Air exchanger speed in Power 5	68	68	68	68	68	68	68	68
PR 28: smoke extractor parameter in grate cleaning (rpm)	2500	2500	2500	2500	2500	2500	2500	2500
PR 29: time for the restart up in eco-stop (min)	20'	20'	20'	20'	20'	20'	20'	20'
PR 30: start up differential when hot (C°)	5	5	5	5	5	5	5	5

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

MERCURY 8 kW – Vers. A4 – Micropr. integrato - Display LCD

	M0	M1	M2	M3	M4	M5	M6	M7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,5	3,4	3,2	2,8	3,5	3,4	3,2	2,8
PR 05: Fire On feed screw ON (sec)	2,6	2,6	2,4	2,1	2,6	2,6	2,4	2,1
PR 06: Feed screw ON in Power 1 (sec) **	1,8	1,8	1,8	1,5	1,8	1,8	1,8	1,5
PR 07: Feed screw ON in Power 2 (sec) **	2,6	2,4	2,1	1,8	2,6	2,4	2,1	1,8
PR 08: Feed screw ON in Power 3 (sec) **	3,2	3,0	2,8	2,5	3,2	3,0	2,8	2,5
PR 09: Feed screw ON in Power 4 (sec) **	3,8	3,5	3,2	2,9	3,8	3,5	3,2	2,9
PR 10: Feed screw ON in Power 5 (sec) **	4,5	4,1	3,7	3,4	4,5	4,1	3,7	3,4
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	1800	1800	1800	1800	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 18: Smoke extractor speed in Power 1 (rpm)	900	900	900	900	1200	1200	1200	1200
PR 19: Smoke extractor speed in Power 2 (rpm)	1000	1000	1000	1000	1300	1300	1300	1300
PR 20: Smoke extractor speed in Power 3 (rpm)	1100	1100	1100	1100	1400	1400	1400	1400
PR 21: Smoke extractor speed in Power 4 (rpm)	1200	1200	1200	1200	1500	1500	1500	1500
PR 22: Smoke extractor speed in Power 5 (rpm)	1300	1300	1300	1300	1600	1600	1600	1600
PR 23: Air exchanger speed in Power 1	30	30	30	30	30	30	30	30
PR 24: Air exchanger speed in Power 2	32	32	32	32	32	32	32	32
PR 25: Air exchanger speed in Power 3	34	34	34	34	34	34	34	34
PR 26: Air exchanger speed in Power 4	36	36	36	36	36	36	36	36
PR 27: Air exchanger speed in Power 5	68	68	68	68	68	68	68	68
PR 28: smoke extractor parameter in grate cleaning (rpm)	2500	2500	2500	2500	2500	2500	2500	2500
PR 29: time for the restart up in eco-stop (min)	20'	20'	20'	20'	20'	20'	20'	20'
PR 30: start up differential when hot (C°)	5	5	5	5	5	5	5	5

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

POLAR/NOVA Ver. PN AM 1 Display LED

	Versione AIR								Versione MULTIAIR							
	A0	A1	A2	A3	A4	A5	A6	A7	B0	B1	B2	B3	B4	B5	B6	B7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 05: Fire On feed screw ON (sec)	3	2,8	2,6	2,3	3	2,8	2,6	2,3	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2	2,3	2,2	2	2	2,3	2,2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	2,9	2,7	2,5	2,2	2,9	2,7	2,5	2,2	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 08: Feed screw ON in Power 3 (sec) **	3,6	3,4	3,2	2,8	3,6	3,4	3,2	2,8	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,3	3,9	3,6	4,5	4,3	3,9	3,6	5,2	4,9	4,5	4,2	5,2	4,9	4,5	4,2
PR 10: Feed screw ON in Power 5 (sec) **	5,2	4,9	4,5	4	5,2	4,9	4,5	4	6,3	6	5,6	5,1	6,3	6	5,6	5,1
PR 11: Shutdown revolutions after alarm (rpm)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	2000	2000	2000	2000	2200	2200	2200	2200	2000	2000	2000	2000	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1350	1350	1350	1350	1600	1600	1600	1600	1350	1350	1350	1350	1600	1600	1600	1600
PR 18: Smoke extractor speed in Power 1 (rpm)	1000	1000	1000	1000	1300	1300	1300	1300	1000	1000	1000	1000	1300	1300	1300	1300
PR 19: Smoke extractor speed in Power 2 (rpm)	1070	1070	1070	1070	1370	1370	1370	1370	1080	1080	1080	1080	1380	1380	1380	1380
PR 20: Smoke extractor speed in Power 3 (rpm)	1170	1170	1170	1170	1470	1470	1470	1470	1210	1210	1210	1210	1510	1510	1510	1510
PR 21: Smoke extractor speed in Power 4 (rpm)	1260	1260	1260	1260	1560	1560	1560	1560	1350	1350	1350	1350	1650	1650	1650	1650
PR 22: Smoke extractor speed in Power 5 (rpm)	1350	1350	1350	1350	1650	1650	1650	1650	1500	1500	1500	1500	1800	1800	1800	1800
PR 23: Air exchanger speed in Power 1	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
PR 24: Air exchanger speed in Power 2	15	15	15	15	15	15	15	15	16	16	16	16	16	16	16	16
PR 25: Air exchanger speed in Power 3	18	18	18	18	18	18	18	18	21	21	21	21	21	21	21	21
PR 26: Air exchanger speed in Power 4	23	23	23	23	23	23	23	23	25	25	25	25	25	25	25	25
PR 27: Air exchanger speed in Power 5	28	28	28	28	28	28	28	28	32	32	32	32	32	32	32	32

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

POLAR/NOVA Ver. PN AM 2 Display LED	Versione AIR								Versione MULTIAIR							
	A0	A1	A2	A3	A4	A5	A6	A7	B0	B1	B2	B3	B4	B5	B6	B7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 05: Fire On feed screw ON (sec)	3	2,8	2,6	2,3	3	2,8	2,6	2,3	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2	2,3	2,2	2	2	2,3	2,2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	2,9	2,7	2,5	2,2	2,9	2,7	2,5	2,2	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 08: Feed screw ON in Power 3 (sec) **	3,6	3,4	3,2	2,8	3,6	3,4	3,2	2,8	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,3	3,9	3,6	4,5	4,3	3,9	3,6	5,2	4,9	4,5	4,2	5,2	4,9	4,5	4,2
PR 10: Feed screw ON in Power 5 (sec) **	5,2	4,9	4,5	4	5,2	4,9	4,5	4	6,3	6	5,6	5,1	6,3	6	5,6	5,1
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	2000	2000	2000	2000	2200	2200	2200	2200	2000	2000	2000	2000	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1450	1450	1450	1450	1700	1700	1700	1700	1450	1450	1450	1450	1700	1700	1700	1700
PR 18: Smoke extractor speed in Power 1 (rpm)	1100	1100	1100	1100	1400	1400	1400	1400	1100	1100	1100	1100	1400	1400	1400	1400
PR 19: Smoke extractor speed in Power 2 (rpm)	1170	1170	1170	1170	1470	1470	1470	1470	1180	1180	1180	1180	1480	1480	1480	1480
PR 20: Smoke extractor speed in Power 3 (rpm)	1270	1270	1270	1270	1570	1570	1570	1570	1310	1310	1310	1310	1610	1610	1610	1610
PR 21: Smoke extractor speed in Power 4 (rpm)	1360	1360	1360	1360	1660	1660	1660	1660	1450	1450	1450	1450	1750	1750	1750	1750
PR 22: Smoke extractor speed in Power 5 (rpm)	1450	1450	1450	1450	1750	1750	1750	1750	1600	1600	1600	1600	1900	1900	1900	1900
PR 23: Air exchanger speed in Power 1	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12
PR 24: Air exchanger speed in Power 2	10	10	10	10	10	10	10	10	16	16	16	16	16	16	16	16
PR 25: Air exchanger speed in Power 3	12	12	12	12	12	12	12	12	21	21	21	21	21	21	21	21
PR 26: Air exchanger speed in Power 4	18	18	18	18	18	18	18	18	25	25	25	25	25	25	25	25
PR 27: Air exchanger speed in Power 5	28	28	28	28	28	28	28	28	32	32	32	32	32	32	32	32

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA Ver. PN AM 3 Display LCD	Versione AIR								Versione MULTIAIR							
	A0	A1	A2	A3	A4	A5	A6	A7	B0	B1	B2	B3	B4	B5	B6	B7
PR 01: Max lighting time (min)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
PR 02: Fire On (min)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PR 03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 04: Load wood feed screw ON (sec)	3,9	3,7	3,5	3,3	3,9	3,7	3,5	3,3	3,9	3,7	3,5	3,3	3,9	3,7	3,5	3,3
PR 05: Fire On feed screw ON (sec)	3	2,8	2,6	2,4	3	2,8	2,6	2,4	3	2,8	2,6	2,4	3	2,8	2,6	2,4
PR 06: Feed screw ON in Power 1 (sec) **	2	2	2	2	2	2	2	2	2,3	2,2	2	2	2,3	2,2	2	2
PR 07: Feed screw ON in Power 2 (sec) **	2,9	2,7	2,5	2,3	2,9	2,7	2,5	2,3	3	2,8	2,6	2,3	3	2,8	2,6	2,3
PR 08: Feed screw ON in Power 3 (sec) **	3,6	3,4	3,2	3	3,6	3,4	3,2	3	3,9	3,7	3,5	3,1	3,9	3,7	3,5	3,1
PR 09: Feed screw ON in Power 4 (sec) **	4,5	4,3	3,9	3,6	4,5	4,3	3,9	3,6	5,2	4,9	4,5	4,2	5,2	4,9	4,5	4,2
PR 10: Feed screw ON in Power 5 (sec) **	5,2	4,9	4,5	4,1	5,2	4,9	4,5	4,1	6,3	6	5,6	5,1	6,3	6	5,6	5,1
PR 11: Shutdown revolutions after alarm (rpm)	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
PR 12: Duration of grate cleaning (sec)	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*	30*
PR 13: Min temperature for the start-up phase (C°)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
PR 14: Max temperature for Eco phase modulation (C°)	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
PR 15: Temp. to start up/shut down the exchanger (C°)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
PR 16: Smoke extractor speed in Load wood (rpm)	2000	2000	2000	2000	2200	2200	2200	2200	2000	2000	2000	2000	2200	2200	2200	2200
PR 17: Smoke extractor speed in Fire On (rpm)	1450	1450	1450	1450	1700	1700	1700	1700	1450	1450	1450	1450	1700	1700	1700	1700
PR 18: Smoke extractor speed in Power 1 (rpm)	1100	1100	1100	1100	1400	1400	1400	1400	1100	1100	1100	1100	1400	1400	1400	1400
PR 19: Smoke extractor speed in Power 2 (rpm)	1170	1170	1170	1170	1470	1470	1470	1470	1180	1180	1180	1180	1480	1480	1480	1480
PR 20: Smoke extractor speed in Power 3 (rpm)	1270	1270	1270	1270	1570	1570	1570	1570	1310	1310	1310	1310	1610	1610	1610	1610
PR 21: Smoke extractor speed in Power 4 (rpm)	1360	1360	1360	1360	1660	1660	1660	1660	1450	1450	1450	1450	1750	1750	1750	1750
PR 22: Smoke extractor speed in Power 5 (rpm)	1450	1450	1450	1450	1750	1750	1750	1750	1600	1600	1600	1600	1900	1900	1900	1900
PR 23: Air exchanger speed in Power 1	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10
PR 24: Air exchanger speed in Power 2	10	10	10	10	10	10	10	10	12	12	12	12	12	12	12	12
PR 25: Air exchanger speed in Power 3	12	12	12	12	12	12	12	12	21	21	21	21	21	21	21	21
PR 26: Air exchanger speed in Power 4	18	18	18	18	18	18	18	18	25	25	25	25	25	25	25	25
PR 27: Air exchanger speed in Power 5	28	28	28	28	28	28	28	28	32	32	32	32	32	32	32	32
PR 28: smoke extractor parameter in grate cleaning (rpm)	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
PR 29: time for the restart up in eco-stop	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'
PR 30: start up differential when hot (C°)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA - MICROCHIP IDRO_Z - Micro-processor that manages the smoke fan without an ENCODER and MARKLE – KORFF 3.85 rpm reduction motor				
Parameters in UT04 - Password A9:	**C0**	**C1**	**C2**	**C3**
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	2,6	2,3	2,0	1,8
05: Fire On feed screw ON (sec)	2,6	2,3	2,0	1,8
06: Feed screw on in Power 1 (sec) **	1,8	1,6	1,4	1,2
07: Feed screw on in Power 2 (sec) **	2,6	2,3	2,0	1,8
08: Feed screw on in Power 3 (sec)	3,5	3,1	2,8	2,4
09: Feed screw on in Power 4 (sec)	4,4	3,9	3,4	2,9
10: Feed screw on in Power 5 (sec)	5,2	4,7	4,1	3,5
11:Smoke fan parameter shutting down	100	100	100	100
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	259	259	259	259
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	115	115	115	115
17: Smoke fan parameter in Fire On (rpm)	100	100	100	100
18: Smoke fan parameter in Power 1 (rpm)	90	90	90	90
19: Smoke fan parameter in Power 2 (rpm)	95	95	95	95
20: Smoke fan parameter in Power 3 (rpm)	100	100	100	100
21: Smoke fan parameter in Power 4 (rpm)	105	105	105	105
22: Smoke fan parameter in Power 5 (rpm)	110	110	110	110
23: Air exchanger speed in Power 1	12	12	12	12
24: Air exchanger speed in Power 2	14	14	14	14
25: Air exchanger speed in Power 3	18	18	18	18
26: Air exchanger speed in Power 4	22	22	22	22
27: Air exchanger speed in Power 5	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameters in UT04 Password B9:				
54:Feed screw on in domestic power (sec)	6,3	5,7	5,0	4,3
55:smoke fan parameter in domestic power (Volt)	120	120	120	120
56:smoke fan parameter in grate cleaning (Volt)	130	130	130	130
57:temperature for the restart up in eco-stop	80	80	80	80
58:start up differential when hot (C°)	5	5	5	5
Parameter in UT04 – Password C9:				
Factory extractor voltage calibration (-75V +75V)	To be defined card by card during production.			
Parameter in UT04 – Password P0:				
Emergency extractor voltage calibration (-25V +25V)	Default = 0			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA - MICROCHIP IDRO_ZM - Micro-processor that manages the smoke fan without an ENCODER and MELLOR 3.5 rpm or MARKLE – KORFF 3.3 rpm reduction motor				
Parameters in UT04 - Password A9:	**C0**	**C1**	**C2**	**C3**
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	2,8	2,4	2,2	1,9
05: Fire On feed screw ON (sec)	2,8	2,4	2,2	1,9
06: Feed screw on in Power 1 (sec) **	1,9	1,7	1,5	1,3
07: Feed screw on in Power 2 (sec) **	2,8	2,5	2,2	1,9
08: Feed screw on in Power 3 (sec)	3,7	3,3	2,9	2,5
09: Feed screw on in Power 4 (sec)	4,6	4,1	3,6	3,1
10: Feed screw on in Power 5 (sec)	5,5	4,9	4,3	3,7
11:Smoke fan parameter shutting down	100	100	100	100
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	259	259	259	259
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	115	115	115	115
17: Smoke fan parameter in Fire On (rpm)	100	100	100	100
18: Smoke fan parameter in Power 1 (rpm)	90	90	90	90
19: Smoke fan parameter in Power 2 (rpm)	95	95	95	95
20: Smoke fan parameter in Power 3 (rpm)	100	100	100	100
21: Smoke fan parameter in Power 4 (rpm)	105	105	105	105
22: Smoke fan parameter in Power 5 (rpm)	110	110	110	110
23: Air exchanger speed in Power 1	12	12	12	12
24: Air exchanger speed in Power 2	14	14	14	14
25: Air exchanger speed in Power 3	18	18	18	18
26: Air exchanger speed in Power 4	22	22	22	22
27: Air exchanger speed in Power 5	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameters in UT04 Password B9:				
54:Feed screw on in domestic power (sec)	**6,7**	**6,0**	**5,3**	**4,6**
55:smoke fan parameter in domestic power (Volt)	120	120	120	120
56:smoke fan parameter in grate cleaning (Volt)	130	130	130	130
57:temperature for the restart up in eco-stop	80	80	80	80
58:start up differential when hot (C°)	5	5	5	5
Parameter in UT04 – Password C9:				
factory extractor voltage calibration (-75V +75V)	**-30 (if ordered without card)**			
Parameter in UT04 – Password P0:				
Emergency extractor voltage calibration (-25V +25V)	Default = 0			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA - MICROCHIP IDRO_Z2 - Micro-processor that manages the smoke fan with an ENCODER and MARKLE – KORFF 3.85 rpm reduction motor				
Parameters in UT04 - Password A9:	C0	C1	C2	C3
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	2,3	2,0	1,8	1,6
05: Fire On feed screw ON (sec)	2,3	2,0	1,8	1,6
06: Feed screw on in Power 1 (sec) **	1,6	1,4	1,2	1,0
07: Feed screw on in Power 2 (sec) **	2,3	2,0	1,8	1,6
08: Feed screw on in Power 3 (sec)	3,1	2,8	2,4	2,1
09: Feed screw on in Power 4 (sec)	3,9	3,4	2,9	2,5
10: Feed screw on in Power 5 (sec)	4,7	4,1	3,5	3,0
11:Smoke fan parameter shutting down	1600	1600	1600	1600
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	259	259	259	259
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	1600	1600	1600	1600
17: Smoke fan parameter in Fire On (rpm)	1600	1600	1600	1600
18: Smoke fan parameter in Power 1 (rpm)	1000	1000	1000	1000
19: Smoke fan parameter in Power 2 (rpm)	1250	1250	1250	1250
20: Smoke fan parameter in Power 3 (rpm)	1500	1500	1500	1500
21: Smoke fan parameter in Power 4 (rpm)	1750	1750	1750	1750
22: Smoke fan parameter in Power 5 (rpm)	2000	2000	2000	2000
23: Air exchanger speed in Power 1	12	12	12	12
24: Air exchanger speed in Power 2	14	14	14	14
25: Air exchanger speed in Power 3	18	18	18	18
26: Air exchanger speed in Power 4	22	22	22	22
27: Air exchanger speed in Power 5	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameters in UT04 - Password B9:				
54:Feed screw on in domestic power (sec)	5,7	5,0	4,3	3,7
55:smoke fan parameter in domestic power (rpm)	2300	2300	2300	2300
56:smoke fan parameter in grate cleaning (Volt)	2300	2300	2300	2300
57:temperature for the restart up in eco-stop	80	80	80	80
58:start up differential when hot (C°)	5	5	5	5
Parameter in UT04 – Password P0:				
Extractor rpm calibration (acceptable values: -2,-1,0,1,2)	Default = 0			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA - MICROCHIP IDRO_Z3 - Micro-processor that manages the smoke fan with an ENCODER and MELLOR 3.5 rpm or MARKLE – KORFF 3.3 rpm reduction motor				
Parameters in UT04 - Password A9:	C0	C1	C2	C3
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	2,6	2,3	2,0	1,7
05: Fire On feed screw ON (sec)	2,6	2,3	2,0	1,7
06: Feed screw on in Power 1 (sec) **	1,7	1,5	1,3	1,1
07: Feed screw on in Power 2 (sec) **	2,6	2,3	2,0	1,7
08: Feed screw on in Power 3 (sec)	3,4	3,0	2,6	2,3
09: Feed screw on in Power 4 (sec)	4,3	3,8	3,3	2,8
10: Feed screw on in Power 5 (sec)	5,1	4,5	3,9	3,4
11:Smoke fan parameter shutting down	1600	1600	1600	1600
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	259	259	259	259
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	1600	1600	1600	1600
17: Smoke fan parameter in Fire On (rpm)	1600	1600	1600	1600
18: Smoke fan parameter in Power 1 (rpm)	1000	1000	1000	1000
19: Smoke fan parameter in Power 2 (rpm)	1250	1250	1250	1250
20: Smoke fan parameter in Power 3 (rpm)	1500	1500	1500	1500
21: Smoke fan parameter in Power 4 (rpm)	1750	1750	1750	1750
22: Smoke fan parameter in Power 5 (rpm)	2000	2000	2000	2000
23: Air exchanger speed in Power 1	12	12	12	12
24: Air exchanger speed in Power 2	14	14	14	14
25: Air exchanger speed in Power 3	18	18	18	18
26: Air exchanger speed in Power 4	22	22	22	22
27: Air exchanger speed in Power 5	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameters in UT04 - Password B9:				
54:Feed screw on in domestic power (sec)	6,1	5,4	4,6	4,0
55:Smoke fan parameter in domestic power (rpm)	2300	2300	2300	2300
56: Smoke fan parameter in grate cleaning (Volt)	2300	2300	2300	2300
57:temperature for the restart up in eco-stop	80	80	80	80
58:start up differential when hot (C°)	5	5	5	5
Parameter in UT04 – Password P0:				
Extractor rpm calibration (acceptable values: -2,-1,0,1,2)	Default = 0			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

POLAR/NOVA/ATHOS Power - Integrated micro-processor - Micro-processor that manages the smoke fan with an ENCODER and all types of reduction motors				
Parameters in UT04 - Password A9:	**C0**	**C1**	**C2**	**C3**
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	2,3	2,0	1,8	1,6
05: Fire On feed screw ON (sec)	2,3	2,0	1,8	1,6
06: Feed screw on in Power 1 (sec) **	1,6	1,4	1,2	1,0
07: Feed screw on in Power 2 (sec) **	2,3	2,0	1,8	1,6
08: Feed screw on in Power 3 (sec)	3,1	2,8	2,4	2,1
09: Feed screw on in Power 4 (sec)	3,9	3,4	2,9	2,5
10: Feed screw on in Power 5 (sec)	4,7	4,1	3,5	3,0
11:Smoke fan parameter shutting down	1000	1000	1000	1000
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	259	259	259	259
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	1600	1600	1600	1600
17: Smoke fan parameter in Fire On (rpm)	1600	1600	1600	1600
18: Smoke fan parameter in Power 1 (rpm)	1000	1000	1000	1000
19: Smoke fan parameter in Power 2 (rpm)	1250	1250	1250	1250
20: Smoke fan parameter in Power 3 (rpm)	1500	1500	1500	1500
21: Smoke fan parameter in Power 4 (rpm)	1750	1750	1750	1750
22: Smoke fan parameter in Power 5 (rpm)	2000	2000	2000	2000
23: Air exchanger speed in Power 1	12	12	12	12
24: Air exchanger speed in Power 2	14	14	14	14
25: Air exchanger speed in Power 3	18	18	18	18
26: Air exchanger speed in Power 4	22	22	22	22
27: Air exchanger speed in Power 5	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameters in UT04 - Password B9:				
54:Feed screw on in domestic power (sec)	5,7	5,0	4,3	3,7
55:smoke fan parameter in domestic power (rpm)	2300	2300	2300	2300
56:smoke fan parameter in grate cleaning (Volt)	2300	2300	2300	2300
57:temperature for the restart up in eco-stop	80	80	80	80
58:start up differential when hot (C°)	5	5	5	5
Parameter in UT04 – Password P0:				
Extractor rpm calibration (acceptable values: -2,-1,0,1,2)	Default = 0			
Parameter in UT04 – Password P2:				
Pressure transducer activation (1 active - 0 inactive)	Default = 1			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**

ATHOS 13 kW – Integrated micro-processor - Smoke fan with an ENCODER and MARKLE – KORFF 1.5 rpm reduction motor				
Parameters in UT04 - Password A9:	**C0**	**C1**	**C2**	**C3**
01: Load wood (min)	15	15	15	15
02: Fire On (min)	2	2	2	2
03: Interval between the cleaning of the grate (min)	30*	30*	30*	30*
04: Load wood feed screw ON (sec)	4,9	4,3	3,7	3,1
05: Fire On feed screw ON (sec)	4,9	4,3	3,7	3,1
06: Feed screw on in Power 1 (sec) **	2,3	2,0	1,7	1,5
07: Feed screw on in Power 2 (sec) **	3,5	3,1	2,7	2,3
08: Feed screw on in Power 3 (sec)	4,9	4,3	3,7	3,1
09: Feed screw on in Power 4 (sec)	6,4	5,6	4,8	4,1
10: Feed screw on in Power 5 (sec)	7,7	6,8	5,9	4,9
11:Smoke fan parameter shutting down	1500	1500	1500	1500
12: Duration of grate cleaning (sec)	30*	30*	30*	30*
13: Min temperature for the start-up phase (C°)	50	50	50	50
14: Max temperature for Eco phase modulation (C°)	210	210	210	210
15: Temp. to start up/shut down the exchanger (C°)	90	90	90	90
16: Smoke fan parameter in Load wood (rpm)	2300	2300	2300	2300
17: Smoke fan parameter in Fire On (rpm)	2300	2300	2300	2300
18: Smoke fan parameter in Power 1 (rpm)	1500	1500	1500	1500
19: Smoke fan parameter in Power 2 (rpm)	1750	1750	1750	1750
20: Smoke fan parameter in Power 3 (rpm)	2000	2000	2000	2000
21: Smoke fan parameter in Power 4 (rpm)	2250	2250	2250	2250
22: Smoke fan parameter in Power 5 (rpm)	2500	2500	2500	2500
23: Air exchanger speed in Power 1 (NOT AVAILABLE)	12	12	12	12
24: Air exchanger speed in Power 2 (NOT AVAILABLE)	14	14	14	14
25: Air exchanger speed in Power 3 (NOT AVAILABLE)	18	18	18	18
26: Air exchanger speed in Power 4 (NOT AVAILABLE)	22	22	22	22
27: Air exchanger speed in Power 5 (NOT AVAILABLE)	26	26	26	26
28: Pump activation temperature	50	50	50	50
Parameter in UT04 – Password P0:				
Extractor rpm calibration (acceptable values: -2,-1,0,1,2)	Default = 0			
Parameter in UT04 – Password P1:				
Reduction motor brake (1 active - 0 inactive)	Default = 1			
Parameter in UT04 – Password P2:				
Pressure transducer activation (1 active - 0 inactive)	Default = 1			

N.B. In **grey** are the parameters that we **strongly advise NOT** to modifiy   * In power **1** e power **2** the clearing of the combustion pot is **excluded**.

3. "EASY" ELECTRONICS

3.1.   Operating concept

Electronics defined "EASY" by MCZ consists of a simplified solution for regulating fuel which foresees a user-friendly control panel (similar to the "All Black" panel).

The operating concept is based on electronics basically identical to stoves using old "Pellet Box" technology, but in this case there is no possibility to choose the various "recipes" to regulate combustion. **There is, however, the possibility of adjusting the flow of pellets to the grate by percentage and the speed of the smoke exhaust fan in order to "calibrate" combustion.**

Exploiting the concepts of vision and adjustment of the flame already seen in section **2.2.5.** , it is possible, thanks to these user-friendly electronics, to increase or decrease the fundamental combustion parameters in terms of quantity of fuel (pellets) and combustion air (oxygen carried to the combustion chamber from the smoke fan).

The standard adjustment of the **pellet-oxygen mix** is already factory adjusted for installations or serious conditions and therefore in the majority of cases it is not necessary to make any adjustments, but in the event this should be necessary, we explain how to modify the mixtures by percentage but also the menu structure.

3.2.   Menu structure

The "Easy" product control panel like **FACE** or **KAIKA** presents 5 buttons dedicated to the following functions:
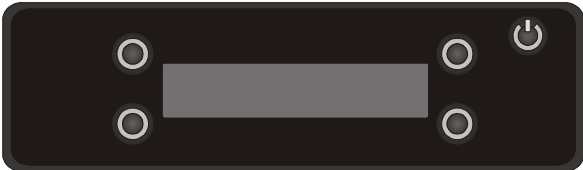
1.   Choice of operating mode MANUAL/AUTO
2.   Access to the main menu and submenu
3.   Choice of flame power in manual mode and temperature in automatic mode. Scrolling the menu.
4.   Choice of air fan speed and menu scrolling.
5.   On/Off and exiting the menu.

MENU

- **Time and date**
- **Chrono**
- **Sleep**
- **Settings**
  - Lenguage
  - Auto-Eco (ON - OFF)
  - Tone (ON - OFF)
  - Pellet recipe (-3 -2 -1 0 1 2 3)
  - Smoke fun RPM (a -30% to +50%)
  - Thermostat (ON - OFF)
  - Remote control (ON - OFF)
  - Screw loading (ON - OFF)
  - Technical menu (Password **A09**)
    - Stove type
    - Remain.hrs.
    - Off time Eco
    - Parameters
    - Test components
    - Status memory
- **INFO**
  - Stove type
  - Software
  - Total hrs.
  - Nr ignitions
  - Smoke fan RPM
  - Smoke temp.
  - Screw loading
  - Firepower

3.3.   Changing the pellet load

In the event that pellets tend to get blocked in the grate due to excessive load of fuel or in the case in which the flame is always high even at low powers it is possible to decrease the pellet feed rate into the grate:

EASY CONTROL PANEL	FUNCTION
	1. Press the button on the **TOP RIGHT** to access the **menu.**
	2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.**
	3. Press the button in correspondence to the word **SET.**
	4. Scroll through the various menus using the two bottom buttons until reaching the menu **PELLET COMPOSITION**.
	5. Confirm by pressing the button in correspondence to **SET.**
	6. Change the values with the lower keys corresponding to symbols **+** e **-**
	7. Confirm by pressing the button in correspondence to key **OK.**
	THE VALUES AVAILABLE ARE
	- 3 = Decrease of **30%** of pellets in all powers.
	- 2 = Decrease of **20%** of pellets in all powers.
	- 1 = Decrease of **10%** of pellets in all powers.
	0 = No variation
	1 = Increase of **5%** of pellets in all powers.
	2 = Increase of **10%** of pellets in all powers.
	3 = Increase of **15%** of pellets in all powers.

Display readings:

```
M o d e : M A N U       M e n u
F i r e : 1         F a n : 2
```
```
e s c               S e t
<     S e t t i n g       >
```
```
e s c     0       S e t
- P e l l e t   R e c i p e   +
```
```
e s c     - 2       O K
- P e l l e t   R e c i p e   +
```

3.4.   Change in smoke exhaust fan speed

In the case that the installation proves difficult and smoke evacuation is poor due to absent of draught or even pressure in the duct (wall exits), it is possible to increase the speed of smoke expulsion and ashes. Such modification is also the best way to solve all potential problems of pellet blockages in the grate and sediments on the bottom of the grate which are created by bad quality fuel or which release a lot of ash.

EASY CONTROL PANEL	FUNCTION
	1. Press the button on the**TOP RIGHT** to access the **menu.**
	2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.**
	3. Press the button in correspondence to the word **SET.**
	4. Scroll the various menus using the two bottom buttons until reaching the menu **VAR**. **SMOKE RPM**.
	5. Confirm by pressing the button in correspondence to **SET.**
	6. Change the value with the lower keys corresponding to symbols + e -
	7. Confirm by pressing the button in correspondence to key **OK.**
	THE VALUES AVAILABLE ARE
	From -30 % to +50%
	with variations of 5 percentage points per time

Display readings:

```
M o d e : M A N U       M e n u
F i r e : 1         F a n : 2
```
```
e s c               S e t
<     S e t t i n g       >
```
```
e s c     0 %       S e t
    V a r . S m o k e   R P M
```
```
e s c     0 %       O k
+   V a r . S m o k e   R P M   -
```

3.5. Parameters

Visualisation on the display	KAIKA / FACE - Integrated microprocessor TECHNICAL MENU - Password A9:	Unit	Values
Load wood	Load wood maximum time	(min)	15
Fire on	Flame stabilisation	(min)	5
cleaning schedule	Interval between cleaning the grate (not active in P1 and P2)	(min)	30
hopper LW	Hopper load wood time	(sec)	3
hopper FO	Time hopper in fire on	(sec)	3
extractor LW	Smoke extractor speed in load wood	(rpm)	1700
extractor FO	Smoke extractor speed in fire on	(rpm)	1400
T Exchanger ST	Temperature at which on shutdown the exchanger passes to V1 from the working setting	(°C)	100
T-off exchang	Temperature for switching the exchanger on and off	(°C)	50
T-max smoke	Pre-alarm smoke temperature, at which the stove starts to modulate power	(°C)	195
T-stove on	Smoke temperature to consider the stove on	(°C)	50
extractor P1	Smoke extractor speed in P1	(rpm)	1000
extractor P5	Smoke extractor speed in P5	(rpm)	1700
hopper P1	Hopper time in P1	(sec)	1,5
hopper P5	Hopper time in P5	(sec)	3,7
exchanger V1	Exchanger fan power supply voltage V1	(Volts)	160
exchanger V5	Exchanger fan power supply voltage V5	(Volts)	230
T-stove off	Smoke temperature to consider the stove off	(°C)	45
Cleaning duration	Grate cleaning duration	(sec)	30
Hopper brake	Parameter which inserts (S) or uninserts (N) the hopper brake	on/off	On
Load wood	Load wood maximum time	(min)	15

Visualisation on the display	KAIKA OYSTER TECHNICAL MENU - Password A9:	Unit	Values
Load wood	Load wood maximum time	(min)	15
Fire on	Flame stabilisation	(min)	5
cleaning schedule	Interval between cleaning the grate (not active in P1 and P2)	(min)	30
hopper LW	Hopper load wood time	(sec)	2
hopper FO	Time hopper in fire on	(sec)	2
extractor LW	Smoke extractor speed in load wood	(rpm)	1600
extractor FO	Smoke extractor speed in fire on	(rpm)	1600
T Exchanger ST	Temperature at which on shutdown the exchanger passes to V1 from the working setting	(°C)	100
T-off exchang	Temperature for switching the exchanger on and off	(°C)	50
T-max smoke	Pre-alarm smoke temperature, at which the stove starts to modulate power	(°C)	240
T-stove on	Smoke temperature to consider the stove on	(°C)	50
extractor P1	Smoke extractor speed in P1	(rpm)	1000
extractor P5	Smoke extractor speed in P5	(rpm)	1400
hopper P1	Hopper time in P1	(sec)	1,3
hopper P5	Hopper time in P5	(sec)	2,5
exchanger V1	Exchanger fan power supply voltage V1	(Volts)	200
exchanger V5	Exchanger fan power supply voltage V5	(Volts)	230
T-stove off	Smoke temperature to consider the stove off	(°C)	45
Cleaning duration	Grate cleaning duration	(sec)	30
Hopper brake	Parameter which inserts (S) or uninserts (N) the hopper brake	on/off	On
Load wood	Load wood maximum time	(min)	15

3.6. The alarms in "EASY"appliances

The classification of the alarms and the relative fault remedies is identical to that of Active System stoves equipped with the same control panel as EGO or STAR. For fault remedies therefore consult the flow diagrams relative to the aforesaid appliances.

ALARMS ON EASY CONTROL PANEL	
A01	Start-up failed
A02	Abnormal fire extinguishing
A03	Tank overheating T>110 °C
A05	Flue clogged up - OYSTER model -
A07	Fire door open - OYSTER model -
A08	Fume extraction fan damaged
A09	Fume temperature too high or sensor damaged
A19	Pellet tank door open - OYSTER model -

In order to verify the operation of the various components of the stove such as for example the reduction motor or the exhaust fan, it is possible to access the **TECHNICAL MENU** and proceed with switching on each single component to verify operation and efficiency.

EASY CONTROL PANEL	FUNCTION
(control panel display)	1. Press the button on the **TOP RIGHT** to access the **menu.**
	2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.**
	3. Press the button in correspondence to **SET.**
	4. Scroll with the two bottom buttons through the various menus, until reaching the menu **TECHNICAL MENU.**
	5. Press the button in correspondence to **SET,** and insert the password **A9** with the bottom keys, confirming with **OK** first the letter and then the number.
	6. Confirm by pressing the key **SET.**
	7. Scroll through the various menus until **TEST COMPONENTS** and confirm by pressing **SET**
	8. Choose the component to be fed using the bottom keys and confirm by pressing key **SET.**

Display screens:

```
M  o  d  e  :  M  A  N  U        M  e  n  u
F  i  r  e  :  1              F  a  n  :  2

e  s  c                          S  e  t
<           S  e  t  t  i  n  g        >

e  s  c                          S  e  t
<  T  e  c  h  n  i  c  a  l     M  e  n  u  >

e  s  c        C        9  3     S  e  t
<           P  a  s  s  w  o  r  d        >

e  s  c                          s  e  t
<  T  e  s  t     c  o  m  p  o  n  e  n  t  >
```

4. THE ACTIVE SYSTEM ELECTRONICS
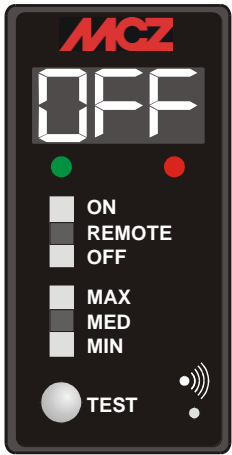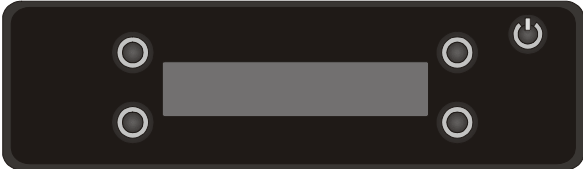
4.1.   Operating concept

The **ACTIVE SYSTEM** electronics, using a flow sensor assembled on the air inlet pipe Ø50 mm, calculates the amount of incoming oxidising air and balances the combustion by continuously varying the speed of the smoke extraction fan.
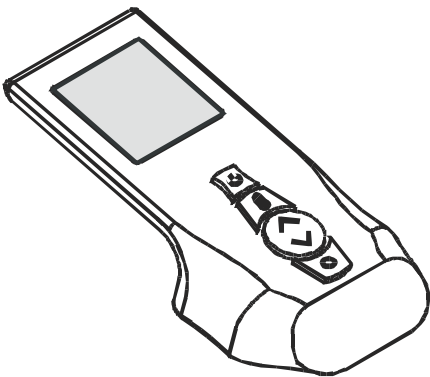
The operating base consists in always loading the same quantity of fuel in the grate (pellet) and only varying the quantity of air entering by varying the speed of the smoke expulsion fan. By doing so, the quantity and/or the quality of the fuel is almost unimportant, since by continuously adjusting the amount of incoming oxidising air, it is possible to dispose of the fuel and balance the combustion. The added value of this system consists in the fact that **it is no longer necessary to calibrate or adjust the combustion**.

4.2.   The ACTIVE SYSTEM control panels

EMERGENCY PANEL	FUNCTION
	Using the emergency panel it is possible to control the stove, when the ACTIVE remote control is out of order. **LEDS** • Flashing green = Stove starting up • Steady green = Stove on • Flashing red = Stove shutting down or in alarm condition. • Steady red = Stove off **ON-REMOTE-OFF SELECTOR** • **ON** = By turning the selector to **ON** the stove turns on WITHOUT the aid of the remote control. • **REMOTE** = The stove is integrally controlled by the REMOTE CONTROL • **OFF** = By turning the selector to **OFF** the stove turns on WITHOUT the aid of the remote control. By turning the selector to OFF also the alarms are cancelled. **MAX-MED-MIN SELECTOR** This selector has the function of setting the power of the flame when the stove is used without the aid of the remote control. The <u>minimum</u> power corresponds to speed 1 **(P-1)** The <u>medium</u> power corresponds to speed 3 **(P-3)** The <u>maximum</u> power corresponds to speed 5 **(P-5)** The air fan will have the power equal to the flame.
"ALL BLACK" CONTROL PANEL	**FUNCTION**
	LCD control panel - ACTIVE SYSTEM that includes the complete management of the device. The ACTIVE SYSTEM remote control is not included on the stoves that have this type of control panel but only a small remote control, **not standard with the product but can be bought separately as an option.**

REMOTE CONTROL FOR THE "ALL BLACK" PANEL	FUNCTION
	Remote control for stoves: **EGO – STAR Air** Function: • ON/OFF • FLAME SPEED ADJUSTMENT • FAN SPEED ADJUSTMENT

4.3. The ACTIVE SYSTEM remote control

	⏻	**ON/OFF** button By pressing this button in combination with ◯ it is possible to adjust the internal clock
	🌡	Button to select operating mode: **MANUAL – AUTOMATIC – ECO-STOP**
	◇	Button for scrolling up or down to adjust ventilation and flame power, fan, temperature and to set the SLEEP and the TIMER.
	◯	**MENU** button. Lets you access the setting menus to adjust the flame, fan, SLEEP and TIMER.

4.3.1. Choosing the number of air fans to be managed, with the remote control (Air or Comfort Air)

The **SUITE – CLUB – MUSA version COMFORT AIR** model stoves have the possibility of **separately** managing with the ACTIVE remote control, the two fans for the front outlet of hot air and for the rear outlet intended for the ducts. Since there is **one remote control for all the models**, it is possible to set it so that two fans can be managed in the **COMFORT AIR** models or just one fan in the case of all the other models of the stove with the **AIR** version. To do so, just:

• press **the buttons** ⏻ **and** ◯ at the same time for **10 seconds**

• press the button ◇ to choose on the display the value **1** to manage a fan (AIR version stoves) or the value **2** to manage two fans (COMFORT-AIR version stoves)

• press the button ⏻ to confirm or wait **10 seconds**
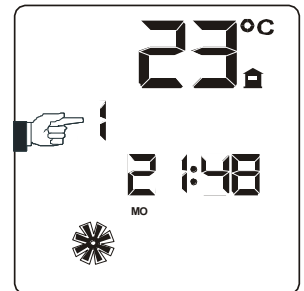
4.3.2. The TIMER programmes of the ACTIVE SYSTEM remote control.

Within the remote control the weekly and daily TIMER programmes are saved. The TIMER programmes have had changes over time and thus, the various remote controls, **report a number printed inside the battery compartment**, that identifies the types of programmes saved within.

The abbreviations of the versions are respectively:

(00) (01) (02) (03) (04) (05) (06)

Here are the versions of the various TIMER programmes, in order to avoid replacing a remote control, without informing the user of the changes made by MCZ.

Versions (00) (01)

Weekly programmes

N°	Days	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
P01	Mon-Fri																									
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P09	Mon-Fri																									
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P10	Fri																									
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Daily programmes

N°	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
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Version (02) (03)

Weekly programmes

N°	Days	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
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P09	Mon-Sat																									
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P10	Fri																									
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Daily programmes

N°	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
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Version (04) (05)

Transmission frequency 434.5 MHz - ΔT 1 °C for ECO STOP intervention

Weekly programmes

N°	Days	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
P01	Mon-Fri																									
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P02	Mon-Fri																									
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Daily programmes

N°	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
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REMOTE CONTROL INCOMPATIBLE WITH THE PRODUCTS MANUFACTURED BEFORE APRIL 2009. DIFFERENT TRANSMISSION FREQUENCY

Version (06)

Transmission frequency 434.5 MHz - ΔT 2 °C for ECO STOP intervention
10 weekly programmes 62 daily programmes
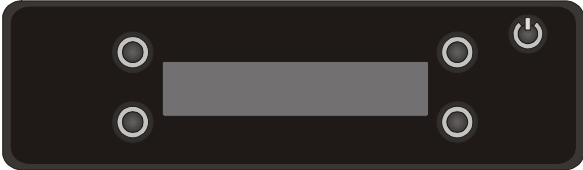
Weekly programmes

N°	Days	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	0.00
P01	Mon-Fri																									
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Daily programmes

N°	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	00:00
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4.4. Structure of the menus of the "ALL BLACK" LCD panel for the ACTIVE SYSTEM.

"ALL BLACK" LCD PANEL	FUNCTION
Illustration of the display in stand-by	1. By pressing one of the buttons it is possible to access the adjustment screen (*figure 1*).

Illustration of the display in stand-by

2	2	.	0		°	C					1	0	:	2	3
							O	F	F						

Figure 1

Illustration of the display in the adjustment phase

M	o	d	e	:	A	U	T	O			M	e	n	u
T	e	m	p	:	2	2	°	C			F	a	n	:	3

M	o	d	e	:	M	A	N	U			M	e	n	u
F	i	r	e	:	1						F	a	n	:	2

Figure 2

Internal MENU

e	s	c										S	e	t
<		D	a	t	e		s	e	t	t	i	n	g		>

e	s	c				O	F	F				S	e	t
<			C	h	r	o	n	o							>

e	s	c				O	f	f				S	e	t
<				S	l	e	e	p							>

e	s	c				6	0	°	C			S	e	t
<		S	e	t		T	e	m	p	.	H	2	O		>

ONLY FOR HYDRO STOVES

e	s	c										S	e	t
<				S	e	t	t	i	n	g					>

e	s	c										S	e	t
<					I	n	f	o							>

Figure 3

Settings MENU

e	s	c				E	n					S	e	t
<			L	a	n	g	u	a	g	e					>

e	s	c				O	n					S	e	t
<			A	u	t	o	-	E	c	o					>

e	s	c				O	f	f				S	e	t
<				T	o	n	e								>

e	s	c				0						S	e	t
-	P	e	l	l	e	t		R	e	c	i	p	e		+

e	s	c				O	f	f				S	e	t
<			T	h	e	r	m	o	s	t	a	t			>

e	s	c				O	f	f				S	e	t
<			C	o	c	h	l	e	a		S	t	o	p	>

e	s	c				O	f	f				S	e	t
<			C	l	e	a	n	i	n	g					>

e	s	c				A	u	t	o			S	e	t
<			°	C	/	°	F								>

e	s	c										S	e	t
<	T	e	c	h	n	i	c	a	l		M	e	n		>

Figura 4

FUNCTION (continued)

1. By pressing one of the buttons it is possible to access the adjustment screen (*figure 1*).

2. By pressing the button in the corner corresponding to the word it is possible to change the setting concerning that function (*figure 2*).

   - Adjust the mode from MANUAL to AUTOMATIC
   Press the **TOP LEFT button.**

   - Adjust the temperature or the speed of the flame is the operating mode is MANUAL or AUTOMATIC
   Press the **BOTTOM LEFT button.**

   - Adjust the speed of the air fan
   Press the **BOTTOM RIGHT button.**

   - Enter the MENU to access the other functions such as the setting of the **TIMER** or **SLEEP**
   Press the **TOP RIGHT** button.

3. By pressing the button corresponding to **MENU** in the **TOP RIGHT** hand corner, it is possible to enter the screens that allow the adjustment of the other functions (figure 3).
   To choose the desired function, press the **BOTTOM** buttons in correspondence to the arrows (**< >**).
   The menus are as follows:

   - **DATE and TIME**
   To set the time**.**

   - **TIMER**
   To set the timer programmes already saved in the motherboard**.** The programmes are identical to those saved in the ACTIVE SYSTEM remote control version (04)(05).

   - **SLEEP**
   Set it to turn off by setting a countdown in minutes or hours.

   - **SET H₂O TEMPERATURE**
   Set the temperature of the water desired in the boiler for the HYDRO models.

   - **SETTINGS***(figure 4)*
   Set some preferences or functions of the stove such as:
     - The LANGUAGE of the display
     - Set the ECO-STOP
     - Modify the TONES
     - Modify the pellet recipe
     - Activation outer thermostat
     - Activate pellet feed screw
     - Grate and exchanger selfcleaning (only for Hydro stoves)
     - °C / °F
     - Enter the TECHNICAL MENU to modify the parameters.

INFO MENU															
e	s	c		0	0	0	0		r	p	m				
		S	m	o	k	e			F	a	n				
e	s	c				O	F	F				S	e	t	
<	A	i	r		F	l	o	w		S	e	n	s	o	>
e	s	c			0	0	°	C							
S	m	o	k	e		T	m	p	e	r	a	t	u	r	e
e	s	c			0	.	0	s							
		C	o	c	h	l	e	a		T	i	m	e		
e	s	c			0	0	0		V	r	m	s			
E	x	c	h	a	n	g	e	r		V	o	l	t	a	g
e	s	c			0	0	0		V	r	m	s			
S	e	c	o	n	d		E	x	c	h	a	n	g	e	r
e	s	c			6	0	°	C				S	e	t	
<		S	e	t		T	e	m	p	.	H	2	O		>

Figure 5

- **INFO (see paragraph 4.6.)**
  From some information concerning the state of the stove such as the temperature of the smoke sensor, the number of smoke fan revolutions, the litres/minute detected by the flow sensor, the working hours and the voltage provided to the air fans (*figure* 5).

N.B. Pressing the on/off button, the display returns to the initial display.

4.5. Any adjustment in the ACTIVE SYSTEM from the emergency panel.
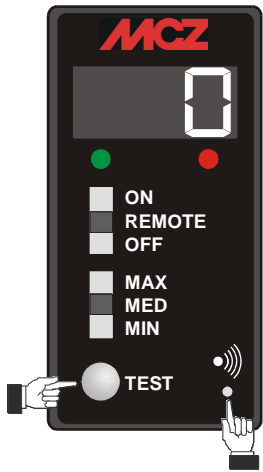
4.5.1. Modify the quantity of pellets

Although the **ACTIVE SYSTEM** system allows the adjustment of any combustion, there are limited cases where it is necessary to intervene.
E.g:

- Installations completely contrary to the instructions of the manufacturer.
- Pellet of a size that does not comply with the standards imposed by the certifications (length < 0.5 mm o > 3 cm)
- Installations with oversized chimney flues.

To prevent these problems, **the emergency side panel** allows an additional adjustment of the quantity of the pellet fed in the combustion chamber. Instead it is not possible to modify the operation of the smoke extraction fan, since it is controlled by the air flow sensor that requires more or less combustion air, based on the input values detected.
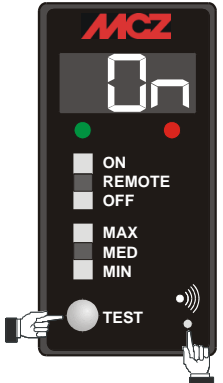
PANEL	INSTRUCTIONS
	1. Press the button **TEST** for **5 seconds** 2. On the display the figure **0** appears 3. Press the embedded button to choose whether to increase or decrease the quantity of pellets desired. **THE VALUES AVAILABLE ARE** **- 3** = 30% decrease of pellets in all the powers **- 2** = 20% decrease of pellets in all the powers **- 1** = 10% decrease of pellets in all the powers **0** = No variation **1** = 5% increase of pellets in all the powers **2** = 10% increase of pellets in all the powers **3** = 15% increase of pellets in all the powers

4.5.2. De-activating the combustion air flow sensor

There is the possibility of de-activating the flow sensor, in the case in which damage occurs and it is necessary to use the stove for domestic heating.
At the time when the flow sensor is inactive, the combustion is managed as in the stoves with the BOX PELLET electronics; however there is not possibility of modifying the recipe, only modifying the quantity of pellets fed into the combustion chamber as previously explained.

The smoke extraction fan works with the number of fixed revolutions for each power, whose values may be assimilated to the values of a **HORIZONTAL** recipe of the Pellet Box® electronics.

EMERGENCY PANEL	INSTRUCTIONS
	1. Press the button **TEST** for **10 seconds** 2. On the display **On** appears 3. Press the embedded button to modify the setting and activate or deactivate the sensor. **THE VALUES AVAILABLE ARE** **ON** = Flow sensor ACTIVE **OFF** = Flow sensor INACTIVE

4.5.3. Reset of Hours of Operation counter for scheduled maintenance.

The ACTIVE SYSTEM models made from 2009 onwards (**EGO-STAR-SUITE-CLUB-MUSA**) are equipped with an hours of operation counter, that advises the user when it is time to carry out scheduled maintenance. Scheduled maintenance must be carried out after **2000 hours of operation** (approx **8 months** of use for 8 hours a day).
When the 2000 hours of operation is reached, the emergency control panel or LCD display, will begin to beep and either **SEr** o **SERVICE** will appear in the display informing the user it is time to carry out maintenance (see cap. **6.**).
Once maintenance has been carried out it is necessary to rest the counter to zero and disactivate other maintenance warnings.
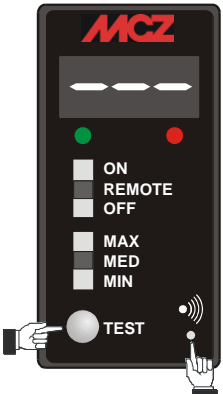
EMERGENCY CONTROL PANEL	INSTRUCTION
	1. Press and hold the **TEST** button for **15 seconds** 2. Thedisplay will show **SEr** 3. Press the button to reset the counter and to disactivate any other maintenance warnings. **VALUES AVAILABLE ARE** **SEr** = Necessary to carry out maintenance **000** = Reset the counter
LCD PANEL	**INSTRUCTION**
  	M	o	d	e	:	M	A	N	U				M	e	n	u
F	i	r	e	:	1						F	a	n	:	2 | | e	s	c											S	e	t
<			S	e	t	t	i	n	g						> | | e	s	c											S	e	t
<	T	e	c	h	n	i	c	a	l		M	e	n	u	> | | e	s	c			C			9	3				S	e	t
<			P	a	s	s	w	o	r	d					> | | e	s	c											S	e	t
<	H	e	u	r	s		S	e	r	v	i	c	e		>		1. Press the **TOP RIGHT** button to get to the **menu.** 2. Scroll with the two bottom buttons until you get to the **CONFIGURATION** menu**.** 3. Press the corresponding button to **SET.** 4. Scroll with the two bottom buttons until you get to the **TECHNICAL MENU** button 5. Press the corresponding button to **SET,** and enter the password **C 93** with the bottom buttons, confirm with **OK** the letter first and then the number. 6. Confirm pressing the corresponding button to **SET.** 7. Scroll between the different menus until you get to the **HOURS OF SERVICE** menu 8. Confirm pressing the corresponding button to **SET.** 9. Reset the hours by pressing the button corresponding to **OK.**

4.5.4. De-activating the pellet hopper level sensor

It is possible to de-activate the pellet hopper level sensor in the products in which it is installed (e.g. PowerBox and PowerSystem). This possibility may be necessary, should the sensor lose its sensitivity or calibration. It stops the regular function of the product. By de-activating the sensor it is possible to use the product without this control. Therefore the pellet level control must be made in sight as in the case of the stoves.
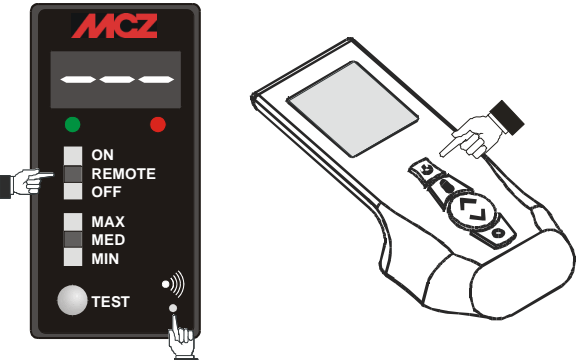
NOTE: The sensor has no longer been fitted on the PowerSystem and PowerBox products since January 2009

The method to disactivate the sensor, has been re-utilised for the resetting of the hours of operation counter for scheduled maintenance.

EMERGENCY PANEL	INSTRUCTIONS
	4. Press the button **TEST** for **15 seconds** 5. On the display **PEL LET** appears in two subsequent moments. 6. Press the embedded button ●))) to modify the setting and activate or deactivate the sensor. **THE VALUES AVAILABLE ARE** **PEL LET** = Flow sensor ACTIVE **▬ ▬ ▬** = Level sensor INACTIVE

4.5.5. ACTIVE remote control tuning

When replacing the remote control, the batteries or after the summer, it may be necessary to tune the frequency of the remote control with the device again.

EMERGENCY PANEL	INSTRUCTIONS
	1. Turn the first selector to **REMOTE** 2. Press the embedded button ●))) 3. On the display three lines ▬ ▬ ▬ appear 4. Press the on and off button of the remote control. 5. Three acoustic signals coming from the emergency panel indicating the recognition of the frequency.

4.6. Any adjustment in the ACTIVE SYSTEM from the "ALL BLACK" LCD panel.

4.6.1. Modify the quantity of pellets with the ALL BLACK panel.

PANEL	INSTRUCTIONS
	1. Press the button in **TOP RIGHT** to access the **menu.** 2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.** 3. Press the button in correspondence to **SET.** 4. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTING**. 5. Confirm pressing the corresponding button to **SET.**

M	o	d	e	:	M	A	N	U				M	e	n	u
F	i	r	e	:	1						F	a	n	:	2

e	s	c												S	e	t
<				S	e	t	t	i	n	g					>

e	s	c					0							S	e	t
-	P	e	l	l	e	t		R	e	c	i	p	e		+

e	s	c				-	2							O	K
-	P	e	l	l	e	t		R	e	c	i	p	e		+

6. Scroll through the various menus until **PELLET RECIPE.**
7. Confirm pressing the corresponding button to **SET.**
8. Modify the value with the lower keys.
9. Confirm by pressing the button **SET.**
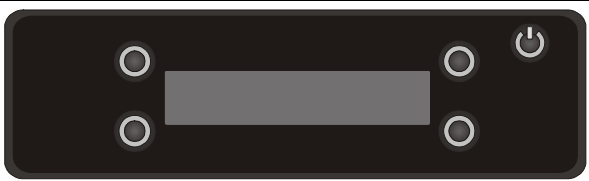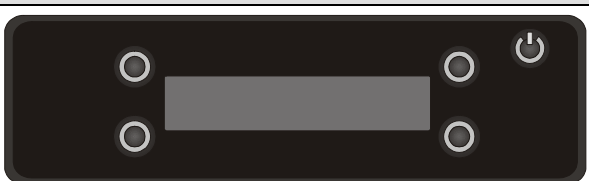
THE VALUES AVAILABLE ARE
- **- 3** = 30% decrease of pellets in all the powers
- **- 2** = 20% decrease of pellets in all the powers
- **- 1** = 10% decrease of pellets in all the powers
- **0** = No variation
- **1** = 5% increase of pellets in all the powers
- **2** = 10% increase of pellets in all the powers
- **3** = 15% increase of pellets in all the powers

4.6.2. De-activating the combustion air flow sensor with the ALL BLACK panel.

PANEL	INSTRUCTIONS

M	o	d	e	:	M	A	N	U				M	e	n	u
F	i	r	e	:	1						F	a	n	:	2

e	s	c												S	e	t
<				S	e	t	t	i	n	g					>

e	s	c												S	e	t
<	T	e	c	h	n	i	c	a	l		M	e	n	u	>

e	s	c			C		9	3				S	e	t
<			P	a	s	s	w	o	r	d				>

e	s	c			O	F	F				S	e	t
<	A	i	r		F	l	o	w		S	e	n	s	o	>

1. Press the button in **TOP RIGHT** to access the **menu.**
2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.**
3. Press the button in correspondence to **SET.**
4. Scroll with the two bottom buttons through the various menus, until **TECHNICAL MENU**.
5. Press the button in correspondence to **SET,** and insert the password **C 93** with the bottom keys, confirming with **OK** first the letter and then the number.
6. Confirm by pressing the button **SET.**
7. Scroll through the various menus until **AIR FLOW SENSOR.**
8. Confirm pressing the corresponding button to **SET.**
9. Modify the value with the lower keys.
10. Confirm pressing the corresponding button to **SET.**

4.6.3. The Activation/Deactivation of the remote control with the ALL BLACK panel.
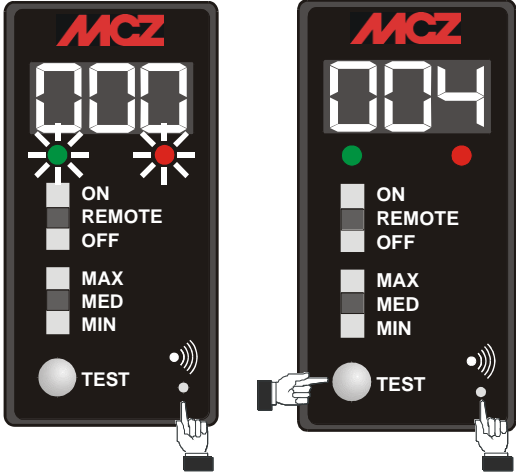
PANEL	INSTRUCTIONS

M	o	d	e	:	M	A	N	U				M	e	n	u
F	i	r	e	:	1						F	a	n	:	2

e	s	c												S	e	t
<				S	e	t	t	i	n	g					>

e	s	c												S	e	t
<	T	e	c	h	n	i	c	a	l		M	e	n	u	>

e	s	c			C		9	3				S	e	t
<			P	a	s	s	w	o	r	d				>

e	s	c			O	f	f				S	e	t
<	R	e	m	o	t	e		C	o	n	t	r	o	l	>

1. Press the button in **TOP RIGHT** to access the **menu.**
2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.**
3. Press the button in correspondence to **SET.**
4. Scroll with the two bottom buttons through the various menus, until **TECHNICAL MENU**.
5. Press the button in correspondence to **SET,** and insert the password **C 93** with the bottom keys, confirming with **OK** the letter and the number.
6. Confirm by pressing the button **SET.**
7. Scroll through the various menus until **REMOTE CONTROL.**
8. Confirm pressing the corresponding button to **SET.**
9. Modify the value with the lower keys.
10. Confirm pressing the corresponding button to **SET.**

4.6.4. Activation of outer thermostat as cylinder water sensor (only for HYDRO stoves).

PANNELLO	ISTRUZIONI
  	1. Press the button **TOP RIGHT** to access the **MENU.** 2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.** 3. Press the button in correspondence to **SET.** 4. Scroll with the two bottom buttons through the various menus, until reaching the **TECHNICAL MENU**. 5. Press the button in correspondence to **SET,** and insert the password **C 93** with the bottom keys, confirming with **OK** first the letter and then the number. 6. Confirm by pressing the button **SET.** 7. Scroll through the various menus until **CYLINDER** 8. Confirm by pressing the button **OK.** 9. Select the pump off temperature on the following page according to the water temperature in the storage tank (default temperature is 47 °C). **Note:** In case of changes, adjust the temperature close to the temperature set on the storage puffer. 10. Confirm by pressing the button **SET.**

4.7. Replacing the ACTIVE motherboard and programming the software from the emergency panel.

The ACTIVE SYSTEM motherboard is unique for all the models and contains the software for all the devices. Upon replacing the component, however, it is necessary to programme the software correctly based on the type of product on which the replacement is being carried out. Let's see how to programme the software.

EMERGENCY PANEL	INSTRUCTIONS
	1. Cut the power to the device using the main switch and disconnecting the power cord. 2. Replace the motherboard 3. Reconnect the power cord and turn on the device using the main switch. 4. Within the first 10 seconds (while the GREEN and RED LEDS flash), press and always keep pressed the button 5. On the display the **000** appears 6. Press the button **TEST** several times to select the software code corresponding to the device on which the replacement is being carried out. **The software codes are as follows:** **001** = Solar – Gea **002** = Polar – Nova – Athos version MULTAIR **003** = Polar – Nova version AIR **004** = Vega – Astra – Aurora – Modulo Pellet **005** = Antares **006** = Saturn – Omega – Planet **007** = PowerSystem **008** = Panorama **009** = PowerBox
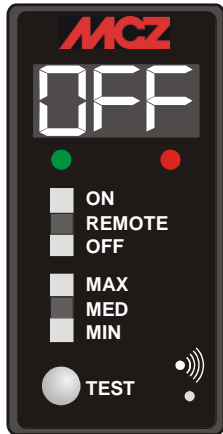
	The software codes for NEW ACTIVE models: **01 =** Ego – Star AIR **–** Sagar **02 =** Suite – Club – Musa AIR **03 =** Suite – Club – Musa – Nima COMFORT AIR **04 =** Ego – Star HYDRO **05 =** Suite – Club – Musa HYDRO **(15 Kw)** **06 =** PowerTherm – Vivo 80 Pellet **07 =** Suite – Club – Musa HYDRO **(15 Kw) – Only for the products built after april 2010 with smoke exhauste fun EBM cod. 14508016** **08 =** Suite – Club – Musa HYDRO **(22 Kw)** **09 =** Toba **10 =** Kama – Nasik **11 =** Ego-Star COMFORT AIR **12 =** Toba COMFORT AIR **13 =** Philo

7. Once the software is select release the key ●)))
8. Within a few second OFF will appear on the display. This means that the software has been loaded correctly.
9. If **000** persist, repeat the operation.
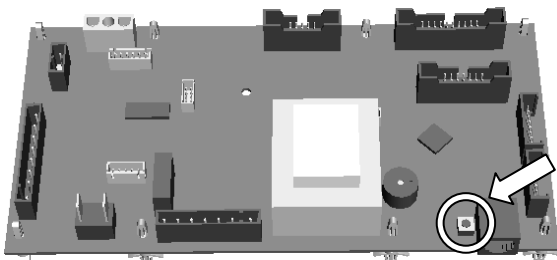
4.8. Replacing the ACTIVE motherboard and programming the software from the ALL BLACK panel.

EMERGENCY PANEL	INSTRUCTIONS
	1. Press the button in **TOP RIGHT** to access the **menu.** 2. Scroll with the two bottom buttons through the various menus, until reaching the menu **SETTINGS.** 3. Press the button in correspondence to **SET.** 4. Scroll with the two bottom buttons through the various menus, until reaching the **TECHNICAL MENU.** 5. Press the button in correspondence to **SET,** and insert the password **C 93** with the bottom keys, confirming with **OK** first the letter and then the number. 6. Confirm by pressing the button **SET.** 7. Scroll through the various menus until **STOVE TYPE.** 8. On the display the **00** appears 9. Confirm pressing the corresponding button to **SET.** 10. Modify the value with the lower keys. 11. Confirm pressing the corresponding button to **SET.**

M	o	d	e	:	M	A	N	U			M	e	n	u
F	i	r	e	:	1					F	a	n	:	2

e	s	c										S	e	t
<			S	e	t	t	i	n	g					>

e	s	c										S	e	t
<	T	e	c	h	n	i	c	a	l		M	e	n	u	>

e	s	c				C		9	3			S	e	t
<			P	a	s	s	w	o	r	d				>

e	s	c				0	0					S	e	t
-		S	t	o	v	e		T	y	p	e			+

The software codes are as follows:
01 = Ego – Star AIR **–** Sagar
02 = Suite – Club – Musa AIR
03 = Suite – Club – Musa – Nima COMFORT AIR
04 = Ego – Star HYDRO
05 = Suite – Club – Musa HYDRO **(15 Kw)**

	06 = PowerTherm – Vivo 80 Pellet
	07 = Suite – Club – Musa HYDRO **(15 Kw) – Only for the products built after april 2010 with smoke exhauste fun EBM cod. 14508016**
	08 = Suite – Club – Musa HYDRO **(22 Kw)**
	09 = Toba
	10 = Kama – Nasik
	11 = Ego-Star COMFORT AIR
	12 = Toba COMFORT AIR
	13 = Philo

4.9.   Coding the "STOVE TYPE" of the NEW ACTIVE motherboard
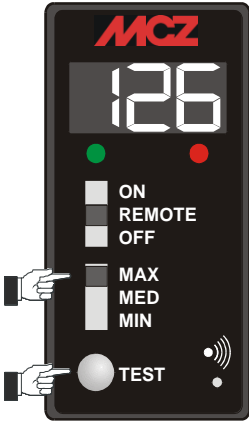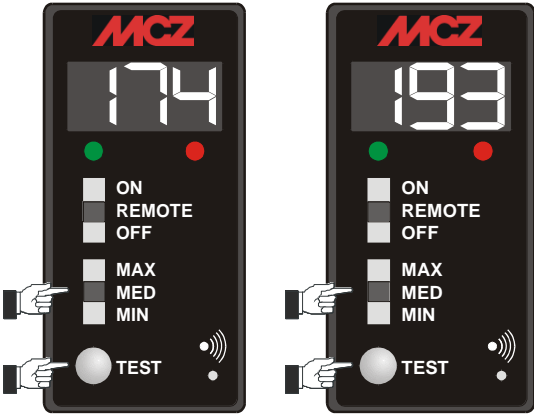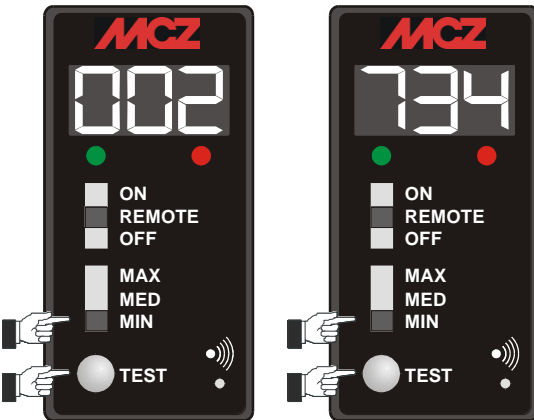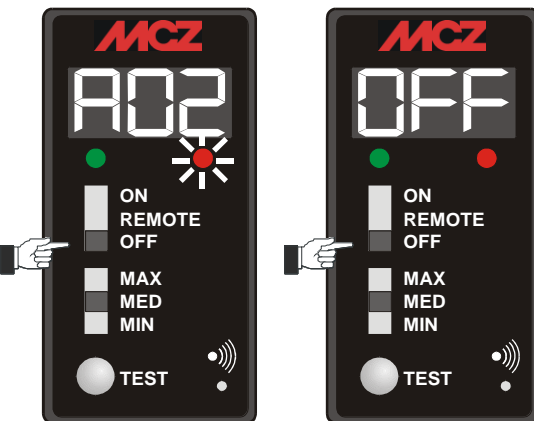
In case it is necessary to code a NEW ACTIVE motherboard which is not "virgin" due to a setting mistake, it will be necessary to **reset the hardware of the motherboard** to restore it to its original status.
This reprogramming procedure is not needed for previous version motherboards (Solar or Gea two-layer boards) because they can be reprogrammed directly from the control or emergency panel.
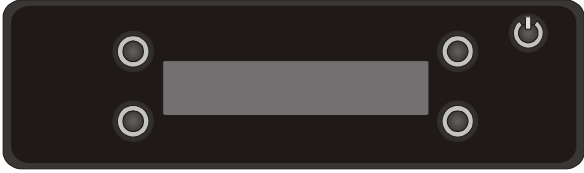
Once a "virgin" motherboard is reprogrammed, **it is not possible to re-code the motherboard via software** therefore in case of program mistake it must be reset via hardware.

To do so it is enough to carry out this procedure:

1. First unplug and then reconnect the stove to the power supply through the ON/OFF main switch.
2. **Within a very few seconds from the ignition locate and press the reset button on the motherboard (indicated with an arrow) until a first 'bip' is heard.**
3. **IMMEDIATELY** release the button until a **second** 'bip' is heard, confirming the reset (In case the second sound is not heard, repeat the whole operation).
4. Reprogram the motherboard by following the procedure indicated in the previous chapters.

4.10. Information on the operation of the ACTIVE SYSTEM device.

It is possible to recover information on the operation of the device, **while it is on** or during some particular operation phases.
This information is often fundamental to solve problems or to carry out a correct diagnosis of the faults.

EMERGENCY PANEL	INSTRUCTIONS
	Turn the stove off and then back on using the main switch. For the first 10 seconds the two **GREEN** and **RED** LEDS flash. Press the button **TEST** within these **10 seconds**. On the display the software version of the motherboard and the loaded software corresponding to the type of the device will appear alternatively.

EMERGENCY PANEL	INSTRUCTIONS
126	By pressing the button **TEST,** when the selector is on the position **MAX,** it is possible to check the current temperature of the smoke sensor. Example: **126 = 126°C** N.B. The position of the first selector (ON-REMOTE-OFF) is unimportant.
174 **193**	By pressing the button **TEST** when the selector is on the position **MED** it is possible to check the number of revolutions/minute of the smoke extractor detected by the encoder and the number of litres/minute of air that passes through the flow sensor. Example: **174 = 1740** revolutions/minute **193 = 193** litres/minute N.B. The position of the first selector (ON-REMOTE-OFF) is unimportant.
002 **734**	By pressing the button **TEST**, when the selector is on the position **MIN**, it is possible to check the number of working hours of the device. The information is illustrated at two subsequent times to have a numbering with 6 figures Example: **002 + 734 = 2,734 working hours** N.B. The position of the first selector (ON-REMOTE-OFF) is unimportant.
A02 **OFF**	⚠️ **IMPORTANT !!** **To cancel any type of alarm, it is compulsory to place the selector on OFF for 10 seconds or until OFF appears on the display.** If this operation is not carried out correctly, the device, despite being repaired, **WILL NOT TURN ON AGAIN.**

"ALL BLACK" CONTROL PANEL	INSTRUCTIONS

M	o	d	e	:	M	A	N	U			M	e	n	u
F	i	r	e	:	1					F	a	n	:	2
e	s	c										S	e	t
<					I	n	f	o						>

INFO MENU

e	s	c		0	0	0		r	p	m		
		S	m	o	k	e		F	a	n		

e	s	c			O	F	F			S	e	t
<	A	i	r		F	l	o	w		S	e	n	s	o	>

e	s	c		0	0	°	C					
S	m	o	k	e		T	m	p	e	r	a	t	u	r	e

e	s	c		0	.	0	s					
		C	o	c	h	l	e	a		T	i	m	e

e	s	c		0	0	0		V	r	m	s	
E	x	c	h	a	n	g	e	r		V	o	l	t	a	g

e	s	c		0	0	0		V	r	m	s	
S	e	c	o	n	d		E	x	c	h	a	n	g	e	r

e	s	c		6	0	°	C				S	e	t
<		S	e	t		T	e	m	p	.	H	2	O		>

1. Press any of the **4** buttons next to the display.
2. Press the **TOP RIGHT** button corresponding to **MENU**.
3. With the **BOTTOM** buttons access **INFO**
4. Press the **TOP RIGHT** button corresponding to **SET**.
5. With the buttons scroll down all the information on the operation of the stove.

N.B. Pressing the on/off button, the display returns to the initial display.

4.11. The technical parameters of the ACTIVE SYSTEM stoves

As for the Pellet Box appliance, ACTIVE SYSTEM devices are also controlled by operating parameters that determine the product's response in the various situations.

ACTIVE SYSTEM PARAMETERS CAN NOT BE CHANGED but knowing this information can certainly be useful to assess whether the product is reacting correctly.
The most important information certainly concerns the number of litres/minute read by the flow sensor and the number of revolutions/minute of the smoke fan to ensure the right supply of combustion air.
As already explained, the speed of the smoke fan changes continuously in order to keep the value measured by the air flow sensor as close as possible to the parameters.
The smoke extraction fan also has its own reference value, which we need to know to be able to understand whether the device is working correctly or an anomaly has occurred.

Example: If at **power 4,** in a **SOLAR** stove, the flow sensor must measure **160 lt/min** as minimum intake, the smoke exhaust fan will rotate more or less fast to guarantee this amount of incoming air to the combustion chamber.
Likewise, the smoke fan has a reference value equal to **1,500 rpm.**
In normal conditions of installation and fuel quality, the running values must remain close to the reference value with a tolerance of **~ 20 rpm**.
If the smoke exhaust fan must rotate at **1,900 rpm** (400 rpm more than normal) to ensure the value of **160 lt/min** required by the sensor, this installation condition makes the expulsion of smoke and the inlet of combustion air difficult. Alternatively, the grate is very dirty or the flue pipe is blocked, making the expulsion of smoke difficult.
If the smoke fan, at maximum speed (**2,500 rpm**), is unable to guarantee the value of **160 lt/min** required for **15 consecutive minutes**, the device triggers an **alarm A06** (abnormal ratio between the number of revolutions of the fan and the flow of incoming combustion air).

SOLAR / GEA

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1100	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1300	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1500	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1700	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	1900	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3,4	s
Feed screw on time during fire on phase.	3,4	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,9	s
Feed screw on time in power 3	3,8	s
Feed screw on time in power 4	4,7	s
Feed screw on time in power 5	5,6	s
Feed screw on time during grate cleaning	3,8	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

POLAR / NOVA / ATHOS MULTIAIR version

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1100	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1300	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1500	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1700	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	1900	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3,4	s
Feed screw on time during fire on phase.	4	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,9	s
Feed screw on time in power 3	3,8	s
Feed screw on time in power 4	4,7	s
Feed screw on time in power 5	5,6	s
Feed screw on time during grate cleaning	3,8	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

POLAR / NOVA AIR version

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1100	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1250	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1400	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1550	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	1700	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3,4	s
Feed screw on time during fire on phase.	4	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,7	s
Feed screw on time in power 3	3,3	s
Feed screw on time in power 4	3,9	s
Feed screw on time in power 5	4,5	s
Feed screw on time during grate cleaning	3,3	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	163	rms
Air exchanger voltage in load wood status	163	rms
Air exchanger voltage in fire on status	163	rms
Air exchanger voltage after a blackout	155	rms
Air exchanger voltage in power 1	155	rms
Air exchanger voltage in power 2	163	rms
Air exchanger voltage in power 3	170	rms
Air exchanger voltage in power 4	180	rms
Air exchanger voltage in power 5	190	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	155	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

VEGA / ASTRA / AURORA / MODULO PELLET

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	260	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	210	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	180	lpm
Minimum value of revolutions of the smoke fan in power 1	1250	rpm
Air flow in power 2	185	lpm
Minimum value of revolutions of the smoke fan in power 2	1380	rpm
Air flow in power 3	190	lpm
Minimum value of revolutions of the smoke fan in power 3	1500	rpm
Air flow in power 4	195	lpm
Minimum value of revolutions of the smoke fan in power 4	1630	rpm
Air flow in power 5	200	lpm
Minimum value of revolutions of the smoke fan in power 5	1750	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	2,6	s
Feed screw on time during fire on phase.	3	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,8	s
Feed screw on time in power 3	3,6	s
Feed screw on time in power 4	4,3	s
Feed screw on time in power 5	5,1	s
Feed screw on time during grate cleaning	3,3	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

ANTARES

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	260	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	210	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	180	lpm
Minimum value of revolutions of the smoke fan in power 1	1250	rpm
Air flow in power 2	185	lpm
Minimum value of revolutions of the smoke fan in power 2	1400	rpm
Air flow in power 3	190	lpm
Minimum value of revolutions of the smoke fan in power 3	1540	rpm
Air flow in power 4	195	lpm
Minimum value of revolutions of the smoke fan in power 4	1690	rpm
Air flow in power 5	200	lpm
Minimum value of revolutions of the smoke fan in power 5	1830	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	2,6	s
Feed screw on time during fire on phase.	3	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,9	s
Feed screw on time in power 3	3,8	s
Feed screw on time in power 4	4,6	s
Feed screw on time in power 5	5,5	s
Feed screw on time during grate cleaning	3,7	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

SATURN / OMEGA / PLANET

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1100	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1250	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1400	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1550	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	1700	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3,2	s
Feed screw on time during fire on phase.	2,4	s
Feed screw on time in power 1	1,8	s
Feed screw on time in power 2	2,475	s
Feed screw on time in power 3	3,15	s
Feed screw on time in power 4	3,825	s
Feed screw on time in power 5	4,5	s
Feed screw on time during grate cleaning	3,2	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	230	°C
Alarm threshold for smoke temperature	250	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	163	rms
Air exchanger voltage in load wood status	163	rms
Air exchanger voltage in fire on status	163	rms
Air exchanger voltage after a blackout	155	rms
Air exchanger voltage in power 1	155	rms
Air exchanger voltage in power 2	163	rms
Air exchanger voltage in power 3	170	rms
Air exchanger voltage in power 4	180	rms
Air exchanger voltage in power 5	190	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	155	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

POWER SYSTEM

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	210	lpm
Minimum value of revolutions of the smoke fan in load wood phase	2300	rpm
Air flow in fire on phase	170	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1900	rpm
Air flow in power 1	130	lpm
Minimum value of revolutions of the smoke fan in power 1	1500	rpm
Air flow in power 2	135	lpm
Minimum value of revolutions of the smoke fan in power 2	1700	rpm
Air flow in power 3	140	lpm
Minimum value of revolutions of the smoke fan in power 3	1900	rpm
Air flow in power 4	145	lpm
Minimum value of revolutions of the smoke fan in power 4	2100	rpm
Air flow in power 5	150	lpm
Minimum value of revolutions of the smoke fan in power 5	2300	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	25	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time in power 1	2	s
Feed screw on time in power 2	2,8	s
Feed screw on time in power 3	3,6	s
Feed screw on time in power 4	4,4	s
Feed screw on time in power 5	5,2	s
Feed screw on time during grate cleaning	3	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	240	°C
Alarm threshold for smoke temperature	260	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
Air flow in load wood phase	20	min
Minimum value of revolutions of the smoke fan in load wood phase	1 (active)	
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

PANORAMA

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	210	lpm
Minimum value of revolutions of the smoke fan in load wood phase	2300	rpm
Air flow in fire on phase	170	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1900	rpm
Air flow in power 1	128	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	rpm
Air flow in power 2	131	lpm
Minimum value of revolutions of the smoke fan in power 2	1600	rpm
Air flow in power 3	134	lpm
Minimum value of revolutions of the smoke fan in power 3	1800	rpm
Air flow in power 4	137	lpm
Minimum value of revolutions of the smoke fan in power 4	2000	rpm
Air flow in power 5	140	lpm
Minimum value of revolutions of the smoke fan in power 5	2200	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	25	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time in power 1	1,7	s
Feed screw on time in power 2	2,3	s
Feed screw on time in power 3	2,9	s
Feed screw on time in power 4	3,4	s
Feed screw on time in power 5	4	s
Feed screw on time during grate cleaning	2,5	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	240	°C
Alarm threshold for smoke temperature	260	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	20	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	20	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

POWERBOX

Revolution and flow parameters	Values	Unit
Air flow in load wood phase	220	lpm
Minimum value of revolutions of the smoke fan in load wood phase	2100	rpm
Air flow in fire on phase	170	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1700	rpm
Air flow in power 1	140	lpm
Minimum value of revolutions of the smoke fan in power 1	1200	rpm
Air flow in power 2	145	lpm
Minimum value of revolutions of the smoke fan in power 2	1400	rpm
Air flow in power 3	150	lpm
Minimum value of revolutions of the smoke fan in power 3	1600	rpm
Air flow in power 4	155	lpm
Minimum value of revolutions of the smoke fan in power 4	1800	rpm
Air flow in power 5	160	lpm
Minimum value of revolutions of the smoke fan in power 5	2000	rpm
Air flow during thermal shutdown	350	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	350	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	40	lpm
Rev/flow ratio to detect anomalies	20	
Pellet loading parameters	**Values**	**Unit**
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time in power 1	1,6	s
Feed screw on time in power 2	2,1	s
Feed screw on time in power 3	2,7	s
Feed screw on time in power 4	3,2	s
Feed screw on time in power 5	3,7	s
Feed screw on time during grate cleaning	2,5	s
Smoke temperature parameters	**Values**	**Unit**
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	240	°C
Alarm threshold for smoke temperature	260	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage	**Values**	**Unit**
Air exchanger voltage in pre-lighting status	183	rms
Air exchanger voltage in load wood status	183	rms
Air exchanger voltage in fire on status	183	rms
Air exchanger voltage after a blackout	170	rms
Air exchanger voltage in power 1	170	rms
Air exchanger voltage in power 2	183	rms
Air exchanger voltage in power 3	196	rms
Air exchanger voltage in power 4	209	rms
Air exchanger voltage in power 5	225	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	170	rms
System time-control	**Values**	**Unit**
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of the load wood phase	20	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	20	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	min
Duration of grate cleaning	30	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	10	min
Maximum duration of the distance between revolutions and flow	15	min
Maximum time before detecting an open door	5	s
Duration of open door status	16	s
Duration of the feed screw shutdown following an open door.	30	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
Air flow in load wood phase	20	min
Pellet level sensor	1 (active)	
System power	**Values**	**Unit**
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm	1	

EGO - STAR - SAGAR AIR version

Release Software	0101 0103	0204 0209 0401 0404	0210 0405	0406	0407 0408	0409 0411	
	Values	Values	Values	Values	Values	Values	Unit
Revolution and flow parameters							
Air flow in load wood phase	210	230	230	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	1900	1900	1900	rpm
Air flow in fire on phase	170	180	180	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	1500	1500	1500	rpm
Air flow in power 1	170	150	150	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	1400	1400	1400	1400	1400	rpm
Air flow in power 2	175	155	155	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1550	1550	1550	1550	1550	1550	rpm
Air flow in power 3	180	160	160	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1700	1700	1700	1700	1700	1700	rpm
Air flow in power 4	185	165	165	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1850	1850	1850	1850	1850	1850	rpm
Air flow in power 5	190	170	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2000	2000	2000	2000	2000	2000	rpm
Air flow during thermal shutdown	350	150	150	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase.	350	150	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	----	----	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	----	----	2500	2500	2500	2500	rpm
Minimum revolutions to detect a flow	500	500	500	500	500	500	rpm
Minimum operating flow	100	120	90	90	90	90	lpm
Rev/flow ratio to detect anomalies	20	20	27	27	27	27	
Pellet loading parameters							
Feed screw operation period.	8	8	8	8	8	8	s
Feed screw on time during load wood phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during fire on phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during pre-lighting when cold	----	----	3	3	3	3	s
Feed screw on time in power 1	2,2	2,2	2,2	2,2	2,2	2,2	s
Feed screw on time in power 2	2,9	2,9	2,7	2,7	3	2,9	s
Feed screw on time in power 3	3,8	3,8	3,5	3,5	3,9	3,8	s
Feed screw on time in power 4	4,7	4,7	4,3	4,3	4,7	4,7	s
Feed screw on time in power 5	5,6	5,6	5	5	5,5	5,6	s
Feed screw on time during grate cleaning	3,8	3,8	2,7	2,7	2,7	2,7	s
Smoke temperature parameters							
Minimum smoke temperature to consider the stove on	50	50	50	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	55	55	55	°C
Pre-alarm threshold for smoke temperature	200	200	200	200	200	200	°C
Alarm threshold for smoke temperature	220	220	220	220	220	220	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	5	5	°C
Air Exchanger voltage							
Air exchanger voltage in pre-lighting status	182	182	182	182	182	182	rms
Air exchanger voltage in load wood status	182	182	182	182	182	182	rms
Air exchanger voltage in fire on status	182	182	182	182	182	182	rms
Air exchanger voltage after a blackout	174	174	174	174	174	174	rms
Air exchanger voltage in power 1	174	174	174	174	174	174	rms
Air exchanger voltage in power 2	182	182	182	182	182	182	rms
Air exchanger voltage in power 3	197	197	197	197	197	197	rms
Air exchanger voltage in power 4	213	213	213	213	213	213	rms
Air exchanger voltage in power 5	228	228	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	174	174	174	rms
System time-control							
Duration of reset status	16	16	16	16	16	16	s
Duration of lighting display status	5	5	5	5	5	5	s
Maximum duration of cold pre-igniction	----	----	30	30	30	30	s
Maximum duration of the load wood phase	18	18	18	18	18	18	min
Duration of the fire on phase	5	5	5	5	5	5	min
Duration of the sparkplug ignition	18	18	18	18	18	18	min
Temperature filtering time window	16	16	16	16	16	16	s
Minimum time interval between two grate cleaning processes	---	---	---	20	30	30	s
Minimum time interval between two short grate cleaning processes	30	30	20	20	20	20	min
Duration of short grate cleaning	---	---	---	20	10	10	s
Duration of grate cleaning	---	---	---	45	45	45	s
Duration of the pre-lighting status	30	30	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	15	15	20	20	20	20	min
Duration of open door status	16	10	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	30	20	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	10	10	min
System power							
Minimum power level for grate cleaning	3	3	1	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	1	1	

MUSA-SUITE-CLUB AIR version

Release Software	0101 0103	0204 0209 0401 0404	0210 0405	0406	0407 0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Values	Values	Values	Unit
Air flow in load wood phase	230	230	230	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	1900	1900	1900	rpm
Air flow in fire on phase	180	180	180	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	1500	1500	1500	rpm
Air flow in power 1	170	150	150	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	1400	1400	1400	1400	1400	rpm
Air flow in power 2	175	155	155	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1650	1650	1650	1650	1650	1650	rpm
Air flow in power 3	180	160	160	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1800	1800	1800	1800	1800	1800	rpm
Air flow in power 4	185	165	165	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1950	1950	1950	1950	1950	1950	rpm
Air flow in power 5	190	170	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2100	2100	2100	2100	2100	2100	rpm
Air flow during thermal shutdown	350	150	150	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase.	350	150	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	----	----	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	----	----	2500	2500	2500	2500	rpm
Minimum revolutions to detect a flow	600	600	600	600	600	600	rpm
Minimum operating flow	100	120	90	90	90	90	lpm
Rev/flow ratio to detect anomalies	20	20	27	27	27	27	
Pellet loading parameters							
Feed screw operation period.	8	8	8	8	8	8	s
Feed screw on time during load wood phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during fire on phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during pre-lighting when cold	----	----	3	3	3	3	s
Feed screw on time in power 1	2,2	2,2	2,2	2,2	2,2	2,2	s
Feed screw on time in power 2	3,1	3,1	2,8	2,8	3,1	3,1	s
Feed screw on time in power 3	4,1	4,1	3,7	3,7	4,1	4,1	s
Feed screw on time in power 4	5	5	4,5	4,5	5	5	s
Feed screw on time in power 5	6	6	5,4	5,4	5,9	6	s
Feed screw on time during grate cleaning	3,8	3,8	2,8	2,8	2,8	2,8	s
Smoke temperature parameters							
Minimum smoke temperature to consider the stove on	50	50	50	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	55	55	55	°C
Pre-alarm threshold for smoke temperature	200	200	200	200	200	200	°C
Alarm threshold for smoke temperature	220	220	220	220	220	220	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	5	5	°C
Air Exchanger voltage							
Air exchanger voltage in pre-lighting status	197	197	197	197	197	197	rms
Air exchanger voltage in load wood status	197	197	197	197	197	197	rms
Air exchanger voltage in fire on status	197	197	197	197	197	197	rms
Air exchanger voltage after a blackout	174	174	174	174	174	174	rms
Air exchanger voltage in power 1	182	182	182	182	182	182	rms
Air exchanger voltage in power 2	197	197	197	197	197	197	rms
Air exchanger voltage in power 3	205	205	205	205	205	205	rms
Air exchanger voltage in power 4	213	213	213	213	213	213	rms
Air exchanger voltage in power 5	228	228	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	182	182	182	182	182	182	rms
System time-control							
Duration of reset status	16	16	16	16	16	16	s
Duration of lighting display status	5	5	5	5	5	5	s
Maximum duration of cold pre-igniction	----	----	30	30	30	30	s
Maximum duration of the load wood phase	18	18	18	18	18	18	min
Duration of the fire on phase	5	5	5	5	5	5	min
Duration of the sparkplug ignition	18	18	18	18	18	18	min
Temperature filtering time window	16	16	16	16	16	16	s
Minimum time interval between two grate cleaning processes	---	---	---	20	30	30	s
Minimum time interval between two short grate cleaning processes	30	30	20	20	20	20	min
Duration of short grate cleaning	---	---	---	20	10	10	s
Duration of grate cleaning	---	---	---	45	45	45	s
Duration of the pre-lighting status	30	30	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	15	15	20	20	20	20	min
Duration of open door status	16	10	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	30	20	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	10	10	min
System power							
Minimum power level for grate cleaning	3	3	1	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	1	1	

MUSA-SUITE-CLUB-NIMA - COMFORT AIR

Release Software	0101 0103	0204 0209 0401 0404	0210 0405	0406	0407 0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Values	Values	Values	Unit
Air flow in load wood phase	230	230	230	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	1900	1900	1900	rpm
Air flow in fire on phase	180	180	180	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	1500	1500	1500	rpm
Air flow in power 1	170	150	150	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	1400	1400	1400	1400	1400	rpm
Air flow in power 2	175	155	155	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1600	1600	1600	1600	1600	1600	rpm
Air flow in power 3	180	160	160	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1800	1800	1800	1800	1800	1800	rpm
Air flow in power 4	185	165	165	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	2000	2000	2000	2000	2000	2000	rpm
Air flow in power 5	190	170	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2200	2200	2200	2200	2200	2200	rpm
Air flow during thermal shutdown	350	150	150	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase.	350	150	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	----	----	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	----	----	2500	2500	2500	2500	rpm
Minimum revolutions to detect a flow	600	600	600	600	600	600	rpm
Minimum operating flow	100	120	90	90	90	90	lpm
Rev/flow ratio to detect anomalies	20	20	27	27	27	27	
Pellet loading parameters							
Feed screw operation period.	8	8	8	8	8	8	s
Feed screw on time during load wood phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during fire on phase.	3,4	3,4	3	3	3	3	s
Feed screw on time during pre-lighting when cold	----	----	3	3	3	3	s
Feed screw on time in power 1	2,6	2,6	2,4	2,4	2,4	2,4	s
Feed screw on time in power 2	3,8	3,8	3,3	3,3	3,3	3,8	s
Feed screw on time in power 3	4,9	4,9	4,4	4,4	4,4	4,9	s
Feed screw on time in power 4	6,1	6,1	5,4	5,4	5,4	6,1	s
Feed screw on time in power 5	7,2	7,2	6,5	6,5	6,5	7,2	s
Feed screw on time during grate cleaning	3,8	3,8	3,3	3,3	3,3	3,3	s
Smoke temperature parameters							
Minimum smoke temperature to consider the stove on	50	50	50	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	55	55	55	°C
Pre-alarm threshold for smoke temperature	200	200	200	200	200	220	°C
Alarm threshold for smoke temperature	220	220	220	220	220	240	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	5	5	°C
Air Exchanger voltage							
Air exchanger voltage in pre-lighting status	166	166	166	166	166	166	rms
Air exchanger voltage in load wood status	166	166	166	166	166	166	rms
Air exchanger voltage in fire on status	166	166	166	166	166	166	rms
Air exchanger voltage after a blackout	151	151	151	151	151	151	rms
Air exchanger voltage in power 0	---	---	---	---	136	136	rms
Air exchanger voltage in power 1	151	151	151	151	151	151	rms
Air exchanger voltage in power 2	166	166	166	166	166	166	rms
Air exchanger voltage in power 3	174	174	174	174	174	174	rms
Air exchanger voltage in power 4	205	205	205	205	205	205	rms
Air exchanger voltage in power 5	228	228	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	151	151	151	151	151	151	rms
System time-control							
Duration of reset status	16	16	16	16	16	16	s
Duration of lighting display status	5	5	5	5	5	5	s
Maximum duration of cold pre-igniction	----	----	30	30	30	30	s
Maximum duration of the load wood phase	18	18	18	18	18	18	min
Duration of the fire on phase	5	5	5	5	5	5	min
Duration of the sparkplug ignition	18	18	18	18	18	18	min
Temperature filtering time window	16	16	16	16	16	16	s
Minimum time interval between two grate cleaning processes	---	---	---	20	30	30	s
Minimum time interval between two short grate cleaning processes	30	30	20	20	20	20	min
Duration of short grate cleaning	---	---	---	20	10	10	s
Duration of grate cleaning	---	---	---	45	45	45	s
Duration of the pre-lighting status	30	30	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	15	15	20	20	20	20	min
Duration of open door status	16	10	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	30	20	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	10	10	min
System power							
Minimum power level for grate cleaning	3	3	1	3	**3**	**3**	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	1	1	

EGO - STAR Versione HYDRO

Release Software	0204 0209 0401 0404	0210 0405	0406 0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Values	Unit
Air flow in load wood phase	230	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	1900	rpm
Air flow in fire on phase	180	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	1500	rpm
Air flow in power 1	150	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1300	1300	1300	1300	rpm
Air flow in power 2	155	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1500	1500	1500	1500	rpm
Air flow in power 3	160	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1700	1700	1700	1700	rpm
Air flow in power 4	165	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1900	1900	1900	1900	rpm
Air flow in power 5	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2100	2100	2100	2100	rpm
Air flow during thermal shutdown	150	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase.	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	----	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	----	2500	2500	2500	rpm
Minimum revolutions to detect a flow	600	600	600	600	rpm
Minimum operating flow	120	80	80	80	lpm
Rev/flow ratio to detect anomalies	20	30	30	30	
Pellet loading parameters					
Feed screw operation period.	8	8	8	8	s
Feed screw on time during load wood phase.	2	1,8	1,8	1,8	s
Feed screw on time during fire on phase.	2	1,8	1,8	1,8	s
Feed screw on time during pre-lighting when cold	----	1,8	1,8	1,8	s
Feed screw on time in power 1	1,4	1,2	1,2	1,2	s
Feed screw on time in power 2	2,1	1,6	1,6	1,6	s
Feed screw on time in power 3	2,8	2,2	2,2	2,2	s
Feed screw on time in power 4	3,5	2,8	2,8	2,8	s
Feed screw on time in power 5	4,2	3,4	3,4	3,4	s
Feed screw on time during grate cleaning	2,1	1,8	1,8	1,8	s
Smoke temperature parameters					
Minimum smoke temperature to consider the stove on	50	45	45	45	°C
Maximum smoke temperature to consider the stove off	40	40	40	40	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	----	----	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	----	----	°C
Maximum smoke temperature to shut down the exchanger.	55	55	----	----	°C
Pre-alarm threshold for smoke temperature	200	200	200	200	°C
Alarm threshold for smoke temperature	220	220	220	220	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	°C
Air Exchanger voltage					
Air exchanger voltage in pre-lighting status	----	----	----	----	rms
Air exchanger voltage in load wood status	----	----	----	----	rms
Air exchanger voltage in fire on status	----	----	----	----	rms
Air exchanger voltage after a blackout	----	----	----	----	rms
Air exchanger voltage in power 1	----	----	----	----	rms
Air exchanger voltage in power 2	----	----	----	----	rms
Air exchanger voltage in power 3	----	----	----	----	rms
Air exchanger voltage in power 4	----	----	----	----	rms
Air exchanger voltage in power 5	----	----	----	----	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	----	----	----	----	rms
System time-control					
Duration of reset status	16	16	16	16	s
Duration of lighting display status	5	5	5	5	s
Maximum duration of cold pre-igniction	----	2	2	2	s
Maximum duration of the load wood phase	20	16	16	16	min
Duration of the fire on phase	5	5	5	5	min
Duration of the sparkplug ignition	20	18	18	18	min
Temperature filtering time window	16	16	16	16	s
Minimum time interval between two grate cleaning processes	---	---	20	20	s
Minimum time interval between two short grate cleaning processes	20	15	15	15	min
Duration of short grate cleaning	---	---	10	10	s
Duration of grate cleaning	---	---	45	45	s
Duration of the pre-lighting status	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	15	20	20	20	min
Duration of open door status	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	min
System power					
Minimum power level for grate cleaning	3	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	

MUSA – CLUB – SUITE Ver. HYDRO (15 Kw)

Release Software	0406	0407	0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Values	Unit
Air flow in load wood phase	230	250	250	250	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1600	1600	1600	1600	rpm
Air flow in fire on phase	180	200	200	200	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1200	1200	1200	1200	rpm
Air flow in power 1	150	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 1	900	900	900	900	rpm
Air flow in power 2	155	175	175	175	lpm
Minimum value of revolutions of the smoke fan in power 2	1150	1100	1100	1100	rpm
Air flow in power 3	160	180	180	180	lpm
Minimum value of revolutions of the smoke fan in power 3	1400	1250	1250	1250	rpm
Air flow in power 4	165	185	185	185	lpm
Minimum value of revolutions of the smoke fan in power 4	1650	1450	1450	1450	rpm
Air flow in power 5	170	190	190	190	lpm
Minimum value of revolutions of the smoke fan in power 5	1900	1600	1600	1600	rpm
Air flow during thermal shutdown	150	150	150	190	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2300	rpm
Air flow during grate cleaning	350	350	350	190	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2300	rpm
Air flow during pre-lighting phase.	150	150	150	190	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2300	rpm
Air flow during pre-lighting phase when cold	150	150	150	190	lpm
Minimum value of revolutions during pre-lighting when cold	2500	2500	2500	2300	rpm
Minimum revolutions to detect a flow	600	600	600	600	rpm
Minimum operating flow	90	90	120	120	lpm
Rev/flow ratio to detect anomalies	27	27	21	21	
Pellet loading parameters					
Feed screw operation period.	8	8	8	8	s
Feed screw on time during load wood phase.	1,8	1,8	1,8	1,8	s
Feed screw on time during fire on phase.	1,8	1,8	1,8	1,8	s
Feed screw on time during pre-lighting when cold	1,8	1,8	1,8	1,8	s
Feed screw on time in power 1	1,2	1,2	1,2	1,2	s
Feed screw on time in power 2	2	2	2	2	s
Feed screw on time in power 3	2,8	2,8	2,8	2,8	s
Feed screw on time in power 4	3,6	3,6	3,6	3,6	s
Feed screw on time in power 5	4,4	4,4	4,4	4,4	s
Feed screw on time during grate cleaning	1,9	1,9	1,9	1,9	s
Smoke temperature parameters					
Minimum smoke temperature to consider the stove on	45	45	45	45	°C
Maximum smoke temperature to consider the stove off	40	40	40	40	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	----	----	----	----	°C
Smoke temperature to reduce the exchanger to minimum in ST.	----	----	----	----	°C
Maximum smoke temperature to shut down the exchanger.	----	----	----	----	°C
Pre-alarm threshold for smoke temperature	200	200	200	220	°C
Alarm threshold for smoke temperature	220	220	220	240	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	°C
Air Exchanger voltage					
Air exchanger voltage in pre-lighting status	182	182	182	182	rms
Air exchanger voltage in load wood status	182	182	182	182	rms
Air exchanger voltage in fire on status	182	182	182	182	rms
Air exchanger voltage after a blackout	174	174	174	174	rms
Air exchanger voltage in power 1	174	174	174	174	rms
Air exchanger voltage in power 2	182	182	182	182	rms
Air exchanger voltage in power 3	197	197	197	197	rms
Air exchanger voltage in power 4	213	213	213	213	rms
Air exchanger voltage in power 5	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	174	rms
System time-control					
Duration of reset status	16	16	16	16	s
Duration of lighting display status	5	5	5	5	s
Maximum duration of cold pre-ignition	2	2	2	2	s
Maximum duration of the load wood phase	16	16	16	16	min
Duration of the fire on phase	5	5	5	5	min
Duration of the sparkplug ignition	18	18	18	18	min
Temperature filtering time window	16	16	16	16	s
Minimum time interval between two grate cleaning processes	30	30	30	30	s
Minimum time interval between two short grate cleaning processes	30	30	20	30	min
Duration of short grate cleaning	10	10	10	10	s
Duration of grate cleaning	30	30	30	60	s
Duration of the pre-lighting status	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	20	20	20	20	min
Duration of open door status	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	min
System power					
Minimum power level for grate cleaning	3	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	

POWERTHERM – VIVO 80 PELLET

Release Software	0204 – 0209 0401 – 0404	0210 – 0405	0406 0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Values	Unit
Air flow in load wood phase	210	210	210	210	lpm
Minimum value of revolutions of the smoke fan in load wood phase	2300	2300	2300	2300	rpm
Air flow in fire on phase	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1900	1900	1900	1900	rpm
Air flow in power 1	130	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1500	1500	1500	1400	rpm
Air flow in power 2	135	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1700	1700	1700	1600	rpm
Air flow in power 3	140	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1900	1900	1900	1800	rpm
Air flow in power 4	145	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	2100	2100	2100	2000	rpm
Air flow in power 5	150	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2300	2300	2300	2200	rpm
Air flow during thermal shutdown	150	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase.	150	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	----	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	----	2500	2500	2500	rpm
Minimum revolutions to detect a flow	600	600	600	600	rpm
Minimum operating flow	100	90	90	90	lpm
Rev/flow ratio to detect anomalies	25	27	27	27	
Pellet loading parameters					
Feed screw operation period.	8,0	8,0	8,0	8	s
Feed screw on time during load wood phase.	3,0	3,0	3,0	3	s
Feed screw on time during fire on phase.	3,0	3,0	3,0	3	s
Feed screw on time during pre-lighting when cold	----	3,0	3,0	3	s
Feed screw on time in power 1	2,0	2,0	2,0	2	s
Feed screw on time in power 2	2,8	2,8	2,8	2,8	s
Feed screw on time in power 3	3,6	3,6	3,6	3,6	s
Feed screw on time in power 4	4,4	4,4	4,4	4,4	s
Feed screw on time in power 5	5,2	5,2	5,2	5,2	s
Feed screw on time during grate cleaning	3,0	3,0	3,0	3	s
Smoke temperature parameters					
Minimum smoke temperature to consider the stove on	50	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	55	°C
Pre-alarm threshold for smoke temperature	210	210	210	210	°C
Alarm threshold for smoke temperature	230	230	230	230	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	°C
Air Exchanger voltage					
Air exchanger voltage in pre-lighting status	182	182	182	182	rms
Air exchanger voltage in load wood status	182	182	182	182	rms
Air exchanger voltage in fire on status	182	182	182	182	rms
Air exchanger voltage after a blackout	182	182	182	182	rms
Air exchanger voltage in power 0	---	---	136	136	rms
Air exchanger voltage in power 1	174	174	174	174	rms
Air exchanger voltage in power 2	182	182	182	182	rms
Air exchanger voltage in power 3	197	197	197	197	rms
Air exchanger voltage in power 4	205	205	205	205	rms
Air exchanger voltage in power 5	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	174	rms
System time-control					
Duration of reset status	16	16	16	16	s
Duration of lighting display status	5	5	5	5	s
Maximum duration of cold pre-igniction	----	30	30	30	s
Maximum duration of the load wood phase	22	22	22	22	min
Duration of the fire on phase	5	5	5	5	min
Duration of the sparkplug ignition	22	22	22	22	min
Temperature filtering time window	16	16	16	16	s
Minimum time interval between two grate cleaning processes	---	---	20	30	s
Minimum time interval between two short grate cleaning processes	30	20	20	20	min
Duration of short grate cleaning	---	---	20	10	s
Duration of grate cleaning	---	---	45	45	s
Duration of the pre-lighting status	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	15	20	20	20	min
Duration of open door status	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	min
System power					
Minimum power level for grate cleaning	3	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	

MUSA – CLUB – SUITE Ver. HYDRO (22 Kw)

Release Software	0406	0407	0408	0409	0410 0411	
Revolution and flow parameters	Values	Values	Values	Values	Values	Unit
Air flow in load wood phase	230	250	250	250	250	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1600	1600	1600	1600	1600	rpm
Air flow in fire on phase	180	200	200	200	200	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1200	1200	1200	1200	1200	rpm
Air flow in power 1	150	170	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 1	900	900	900	900	900	rpm
Air flow in power 2	155	175	175	175	175	lpm
Minimum value of revolutions of the smoke fan in power 2	1200	1100	1100	1100	1100	rpm
Air flow in power 3	160	180	180	180	180	lpm
Minimum value of revolutions of the smoke fan in power 3	1500	1300	1300	1300	1300	rpm
Air flow in power 4	165	185	185	185	185	lpm
Minimum value of revolutions of the smoke fan in power 4	1800	1600	1600	1600	1600	rpm
Air flow in power 5	170	190	190	190	190	lpm
Minimum value of revolutions of the smoke fan in power 5	2100	1800	1800	1800	1800	rpm
Air flow in DOMESTIC WATER production	175	175	175	175	200	lpm
Minimum value of revolutions of the smoke fan in DOMESTIC WATER production	2300	2300	2300	2300	2000	rpm
Air flow during thermal shutdown	150	150	150	190	190	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	2300	2300	rpm
Air flow during grate cleaning	350	350	350	190	190	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	2300	2300	rpm
Air flow during pre-lighting phase.	150	150	150	190	190	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	2300	2300	rpm
Air flow during pre-lighting phase when cold	150	150	150	190	190	lpm
Minimum value of revolutions during pre-lighting when cold	2500	2500	2500	2300	2300	rpm
Minimum revolutions to detect a flow	600	600	600	600	600	rpm
Minimum operating flow	90	90	120	120	120	lpm
Rev/flow ratio to detect anomalies	27	27	21	21	21	
Pellet loading parameters						
Feed screw operation period.	8	8	8	8	8	s
Feed screw on time during load wood phase.	1,8	1,8	1,8	1,8	1,8	s
Feed screw on time during fire on phase.	1,8	1,8	1,8	1,8	1,8	s
Feed screw on time during pre-lighting when cold	1,8	1,8	1,8	1,8	1,8	s
Feed screw on time in power 1	1,2	1,2	1,2	1,2	1,2	s
Feed screw on time in power 2	2,3	2,3	2,3	2,3	2,3	s
Feed screw on time in power 3	3,5	3,5	3,5	3,5	3,5	s
Feed screw on time in power 4	4,6	4,6	4,6	4,6	4,6	s
Feed screw on time in power 5	5,7	5,7	5,7	5,7	5,7	s
Feed screw on time in DOMESTIC WATER production	6,3	6,3	6,3	6,3	6,3	
Feed screw on time during grate cleaning	2,3	2,3	2,3	2,3	2,3	s
Smoke temperature parameters						
Minimum smoke temperature to consider the stove on	45	45	45	45	45	°C
Maximum smoke temperature to consider the stove off	40	40	40	40	40	°C
Temperature increase when lighting flame LW when hot	5	5	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	100	100	100	100	100	°C
Smoke temperature to reduce the exchanger to minimum in ST.	110	110	110	110	110	°C
Maximum smoke temperature to shut down the exchanger.	90	90	90	90	90	°C
Pre-alarm threshold for smoke temperature	220	220	220	250	250	°C
Alarm threshold for smoke temperature	240	240	240	270	270	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	5	5	°C
Air Exchanger voltage						
Air exchanger voltage in pre-lighting status	182	182	182	182	174	rms
Air exchanger voltage in load wood status	182	182	182	182	174	rms
Air exchanger voltage in fire on status	182	182	182	182	174	rms
Air exchanger voltage after a blackout	174	174	174	174	174	rms
Air exchanger voltage in power 1	174	174	174	174	174	rms
Air exchanger voltage in power 2	182	182	182	182	182	rms
Air exchanger voltage in power 3	197	197	197	197	197	rms
Air exchanger voltage in power 4	213	213	213	213	213	rms
Air exchanger voltage in power 5	228	228	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	174	174	rms
System time-control						
Duration of reset status	16	16	16	16	16	s
Duration of lighting display status	5	5	5	5	5	s
Maximum duration of cold pre-ignition	2	2	2	2	2	s
Maximum duration of the load wood phase	16	16	16	16	16	min
Duration of the fire on phase	5	5	5	5	5	min
Duration of the sparkplug ignition	18	18	18	18	18	min
Temperature filtering time window	16	16	16	16	16	s
Minimum time interval between two grate cleaning processes	30	30	30	30	30	s
Minimum time interval between two short grate cleaning processes	30	30	20	30	30	min
Duration of short grate cleaning	10	10	10	10	10	s
Duration of grate cleaning	30	30	30	60	60	s
Duration of the pre-lighting status	30	30	30	30	30	s
Duration of the shutdown standby status	10	10	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	10	10	min
Duration of the smoke pre-alarm status	10	10	10	20	20	min
Maximum duration before detecting a difference between RPM / LPM	20	20	20	20	20	min
Duration of open door status	10	10	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	20	20	s
Time window of the watchdog function.	10	10	10	10	10	s
Interval between series of acoustic signals	60	60	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	10	10	min
System power						
Minimum power level for grate cleaning	3	3	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	1	1	

MUSA – CLUB – SUITE Ver. HYDRO (15 Kw) – Da APRILE 2010

Release Software	0407	0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Unit
Air flow in load wood phase	250	250	250	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1600	1600	1600	rpm
Air flow in fire on phase	200	200	200	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1200	1200	1200	rpm
Air flow in power 1	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 1	900	900	900	rpm
Air flow in power 2	175	175	175	lpm
Minimum value of revolutions of the smoke fan in power 2	1100	1100	1100	rpm
Air flow in power 3	180	180	180	lpm
Minimum value of revolutions of the smoke fan in power 3	1250	1250	1250	rpm
Air flow in power 4	185	185	185	lpm
Minimum value of revolutions of the smoke fan in power 4	1450	1450	1450	rpm
Air flow in power 5	190	190	190	lpm
Minimum value of revolutions of the smoke fan in power 5	1600	1600	1600	rpm
Air flow during thermal shutdown	150	150	190	lpm
Minimum value of revolutions during shutdown	2500	2500	2300	rpm
Air flow during grate cleaning	350	350	190	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2300	rpm
Air flow during pre-lighting phase.	150	150	190	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2300	rpm
Air flow during pre-lighting phase when cold	150	150	190	lpm
Minimum value of revolutions during pre-lighting when cold	2500	2500	2300	rpm
Minimum revolutions to detect a flow	600	600	600	rpm
Minimum operating flow	90	120	120	lpm
Rev/flow ratio to detect anomalies	27	21	21	
Pellet loading parameters				
Feed screw operation period.	8	8	8	s
Feed screw on time during load wood phase.	1,8	1,8	1,8	s
Feed screw on time during fire on phase.	1,8	1,8	1,8	s
Feed screw on time during pre-lighting when cold	1,8	1,8	1,8	s
Feed screw on time in power 1	1,2	1,2	1,2	s
Feed screw on time in power 2	2	2	2	s
Feed screw on time in power 3	2,8	2,8	2,8	s
Feed screw on time in power 4	3,6	3,6	3,6	s
Feed screw on time in power 5	4,4	4,4	4,4	s
Feed screw on time during grate cleaning	1,9	1,9	1,9	s
Smoke temperature parameters				
Minimum smoke temperature to consider the stove on	45	45	45	°C
Maximum smoke temperature to consider the stove off	40	40	40	°C
Temperature increase when lighting flame LW when hot	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	----	----	----	°C
Smoke temperature to reduce the exchanger to minimum in ST.	----	----	----	°C
Maximum smoke temperature to shut down the exchanger.	----	----	----	°C
Pre-alarm threshold for smoke temperature	200	200	220	°C
Alarm threshold for smoke temperature	220	220	240	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	°C
Air Exchanger voltage				
Air exchanger voltage in pre-lighting status	182	182	182	rms
Air exchanger voltage in load wood status	182	182	182	rms
Air exchanger voltage in fire on status	182	182	182	rms
Air exchanger voltage after a blackout	174	174	174	rms
Air exchanger voltage in power 1	174	174	174	rms
Air exchanger voltage in power 2	182	182	182	rms
Air exchanger voltage in power 3	197	197	197	rms
Air exchanger voltage in power 4	213	213	213	rms
Air exchanger voltage in power 5	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	rms
System time-control				
Duration of reset status	16	16	16	s
Duration of lighting display status	5	5	5	s
Maximum duration of cold pre-ignition	2	2	2	s
Maximum duration of the load wood phase	16	16	16	min
Duration of the fire on phase	5	5	5	min
Duration of the sparkplug ignition	18	18	18	min
Temperature filtering time window	16	16	16	s
Minimum time interval between two grate cleaning processes	30	30	30	s
Minimum time interval between two short grate cleaning processes	30	20	30	min
Duration of short grate cleaning	10	10	10	s
Duration of grate cleaning	30	30	60	s
Duration of the pre-lighting status	30	30	30	s
Duration of the shutdown standby status	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	min
Duration of the smoke pre-alarm status	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	20	20	20	min
Duration of open door status	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	s
Time window of the watchdog function.	10	10	10	s
Interval between series of acoustic signals	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	min
System power				
Minimum power level for grate cleaning	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	

TOBA

Release Software	0406	0407 0408	0409 0411	
Revolution and flow parameters	Values	Values	Values	Unit
Air flow in load wood phase	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	rpm
Air flow in fire on phase	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	rpm
Air flow in power 1	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	1400	1400	rpm
Air flow in power 2	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1550	1550	1550	rpm
Air flow in power 3	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1700	1700	1700	rpm
Air flow in power 4	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1850	1850	1850	rpm
Air flow in power 5	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2000	2000	2000	rpm
Air flow during thermal shutdown	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	rpm
Air flow during pre-lighting phase.	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	2500	2500	2500	rpm
Minimum revolutions to detect a flow	500	500	500	rpm
Minimum operating flow	90	90	90	lpm
Rev/flow ratio to detect anomalies	27	27	27	
Pellet loading parameters				
Feed screw operation period.	8	8	8	s
Feed screw on time during load wood phase.	3	3	3	s
Feed screw on time during fire on phase.	3	3	3	s
Feed screw on time during pre-lighting when cold	3	3	3	s
Feed screw on time in power 1	2,2	2,2	2,2	s
Feed screw on time in power 2	2,7	3	3	s
Feed screw on time in power 3	3,5	3,9	3,9	s
Feed screw on time in power 4	4,3	4,7	4,7	s
Feed screw on time in power 5	5	5,5	5,5	s
Feed screw on time during grate cleaning	2,7	2,7	2,7	s
Smoke temperature parameters				
Minimum smoke temperature to consider the stove on	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	°C
Pre-alarm threshold for smoke temperature	200	200	200	°C
Alarm threshold for smoke temperature	220	220	220	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	°C
Air Exchanger voltage				
Air exchanger voltage in pre-lighting status	184	184	184	rms
Air exchanger voltage in load wood status	184	184	184	rms
Air exchanger voltage in fire on status	184	184	184	rms
Air exchanger voltage after a blackout	184	184	184	rms
Air exchanger voltage in power 1	184	184	184	rms
Air exchanger voltage in power 2	199	199	199	rms
Air exchanger voltage in power 3	212	212	212	rms
Air exchanger voltage in power 4	218	218	218	rms
Air exchanger voltage in power 5	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	174	174	rms
System time-control				
Duration of reset status	16	16	16	s
Duration of lighting display status	5	5	5	s
Maximum duration of cold pre-ignition	30	30	30	s
Maximum duration of the load wood phase	18	18	18	min
Duration of the fire on phase	5	5	5	min
Duration of the sparkplug ignition	18	18	18	min
Temperature filtering time window	16	16	16	s
Minimum time interval between two grate cleaning processes	30	30	30	s
Minimum time interval between two short grate cleaning processes	20	20	20	min
Duration of short grate cleaning	10	10	10	
Duration of grate cleaning	45	45	45	s
Duration of the pre-lighting status	30	30	30	s
Duration of the shutdown standby status	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	min
Duration of the smoke pre-alarm status	10	10	20	min
Maximum duration before detecting a difference between RPM / LPM	20	20	20	min
Duration of open door status	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	s
Time window of the watchdog function.	10	10	10	s
Interval between series of acoustic signals	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	min
System power				
Minimum power level for grate cleaning	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	

KAMA - NASIK

Release Software	0406 0408	0409 0410	0411	
Revolution and flow parameters	Values	Values	Values	Unit
Air flow in load wood phase	230	230	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	1900	1900	rpm
Air flow in fire on phase	180	180	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	1500	1500	rpm
Air flow in power 1	150	150	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	1400	1400	rpm
Air flow in power 2	155	155	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1530	1530	1530	rpm
Air flow in power 3	160	160	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1650	1650	1650	rpm
Air flow in power 4	165	165	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1780	1780	1780	rpm
Air flow in power 5	170	170	170	lpm
Minimum value of revolutions of the smoke fan in power 5	1900	1900	1900	rpm
Air flow during thermal shutdown	150	150	150	lpm
Minimum value of revolutions during shutdown	2500	2500	2500	rpm
Air flow during grate cleaning	350	350	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	2500	2500	rpm
Air flow during pre-lighting phase.	150	150	150	lpm
Minimum value of revolutions during pre-lighting	2500	2500	2500	rpm
Air flow during pre-lighting phase when cold	150	150	150	lpm
Minimum value of revolutions during pre-lighting when cold	2500	2500	2500	rpm
Minimum revolutions to detect a flow	600	600	600	rpm
Minimum operating flow	90	90	90	lpm
Rev/flow ratio to detect anomalies	27	27	27	
Pellet loading parameters				
Feed screw operation period.	8	8	8	s
Feed screw on time during load wood phase.	3	3	3	s
Feed screw on time during fire on phase.	3	3	3	s
Feed screw on time during pre-lighting when cold	3	3	3	s
Feed screw on time in power 1	2,2	2,2	2,2	s
Feed screw on time in power 2	2,7	2,7	3	s
Feed screw on time in power 3	3,2	3,2	3,7	s
Feed screw on time in power 4	3,7	3,7	4,5	s
Feed screw on time in power 5	4,2	4,2	5,2	s
Feed screw on time during grate cleaning	2,7	2,7	2,7	s
Smoke temperature parameters				
Minimum smoke temperature to consider the stove on	50	50	50	°C
Maximum smoke temperature to consider the stove off	45	45	45	°C
Temperature increase when lighting flame LW when hot	5	5	5	°C
Minimum smoke temperature to start up the exchanger.	60	60	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	100	100	°C
Maximum smoke temperature to shut down the exchanger.	55	55	55	°C
Pre-alarm threshold for smoke temperature	200	200	200	°C
Alarm threshold for smoke temperature	220	220	220	°C
Hysteresis for smoke temperature alarm thresholds	5	5	5	°C
Air Exchanger voltage				
Air exchanger voltage in pre-lighting status	166	166	166	rms
Air exchanger voltage in load wood status	166	166	166	rms
Air exchanger voltage in fire on status	166	166	166	rms
Air exchanger voltage after a blackout	151	151	151	rms
Air exchanger voltage in power 1	151	151	151	rms
Air exchanger voltage in power 2	166	166	166	rms
Air exchanger voltage in power 3	174	174	174	rms
Air exchanger voltage in power 4	205	205	205	rms
Air exchanger voltage in power 5	228	228	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	151	151	151	rms
System time-control				
Duration of reset status	16	16	16	s
Duration of lighting display status	5	5	5	s
Maximum duration of cold pre-igniction	30	30	30	s
Maximum duration of the load wood phase	18	18	18	min
Duration of the fire on phase	5	5	5	min
Duration of the sparkplug ignition	18	18	18	min
Temperature filtering time window	16	16	16	s
Minimum time interval between two grate cleaning processes	30	30	30	s
Minimum time interval between two short grate cleaning processes	20	20	20	min
Duration of short grate cleaning	10	10	10	s
Duration of grate cleaning	45	45	45	s
Duration of the pre-lighting status	30	30	30	s
Duration of the shutdown standby status	10	10	10	s
Duration of the fast thermal shutdown	10	10	10	min
Duration of the smoke pre-alarm status	10	20	20	min
Maximum duration before detecting a difference between RPM / LPM	20	20	20	min
Duration of open door status	10	10	10	s
Duration of the feed screw shutdown following an open door.	20	20	20	s
Time window of the watchdog function.	10	10	10	s
Interval between series of acoustic signals	60	60	60	s
Duration of the acoustic signal in case of alarm	10	10	10	min
System power				
Minimum power level for grate cleaning	3	3	3	
Value of the power in smoke pre-alarm (switching)	1	1	1	

EGO-STAR COMFORT AIR

Release Software	0410 - 0411	
Revolution and flow parameters	**Values**	**Unit**
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1400	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1550	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1700	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1850	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2000	rpm
Air flow during thermal shutdown	150	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	150	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Air flow during pre-lighting phase when cold	150	lpm
Minimum value of revolutions during pre-lighting when cold	2500	rpm
Minimum revolutions to detect a flow	500	rpm
Minimum operating flow	90	lpm
Rev/flow ratio to detect anomalies	27	
Pellet loading parameters		
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time during pre-lighting when cold	3	s
Feed screw on time in power 1	2,2	s
Feed screw on time in power 2	2,9	s
Feed screw on time in power 3	3,8	s
Feed screw on time in power 4	4,7	s
Feed screw on time in power 5	5,6	s
Feed screw on time during grate cleaning	2,7	s
Smoke temperature parameters		
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	200	°C
Alarm threshold for smoke temperature	220	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage		
Air exchanger voltage in pre-lighting status	182	rms
Air exchanger voltage in load wood status	182	rms
Air exchanger voltage in fire on status	182	rms
Air exchanger voltage after a blackout	174	rms
Air exchanger voltage in power 1	174	rms
Air exchanger voltage in power 2	182	rms
Air exchanger voltage in power 3	197	rms
Air exchanger voltage in power 4	213	rms
Air exchanger voltage in power 5	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	rms
System time-control		
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of cold pre-igniction	30	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	s
Minimum time interval between two short grate cleaning processes	20	min
Duration of short grate cleaning	10	s
Duration of grate cleaning	45	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	20	min
Maximum duration before detecting a difference between RPM / LPM	20	min
Duration of open door status	10	s
Duration of the feed screw shutdown following an open door.	20	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power		
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm (switching)	1	

TOBA COMFORT AIR

Release Software	0410 - 0411	
Revolution and flow parameters	**Values**	**Unit**
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	*1900*	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	*1500*	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	*1400*	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	*1550*	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	*1700*	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	*1850*	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	*2000*	rpm
Air flow during thermal shutdown	150	lpm
Minimum value of revolutions during shutdown	*2500*	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	*2500*	rpm
Air flow during pre-lighting phase.	150	lpm
Minimum value of revolutions during pre-lighting	*2500*	rpm
Air flow during pre-lighting phase when cold	150	lpm
Minimum value of revolutions during pre-lighting when cold	*2500*	rpm
Minimum revolutions to detect a flow	500	rpm
Minimum operating flow	90	lpm
Rev/flow ratio to detect anomalies	27	
Pellet loading parameters		
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time during pre-lighting when cold	3	s
Feed screw on time in power 1	2,2	s
Feed screw on time in power 2	2,9	s
Feed screw on time in power 3	3,8	s
Feed screw on time in power 4	4,7	s
Feed screw on time in power 5	5,6	s
Feed screw on time during grate cleaning	2,7	s
Smoke temperature parameters		
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	200	°C
Alarm threshold for smoke temperature	220	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage		
Air exchanger voltage in pre-lighting status	182	rms
Air exchanger voltage in load wood status	182	rms
Air exchanger voltage in fire on status	182	rms
Air exchanger voltage after a blackout	174	rms
Air exchanger voltage in power 1	174	rms
Air exchanger voltage in power 2	182	rms
Air exchanger voltage in power 3	193	rms
Air exchanger voltage in power 4	197	rms
Air exchanger voltage in power 5	203	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	174	rms
System time-control		
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of cold pre-igniction	30	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	s
Minimum time interval between two short grate cleaning processes	20	min
Duration of short grate cleaning	10	s
Duration of grate cleaning	45	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	20	min
Maximum duration before detecting a difference between RPM / LPM	20	min
Duration of open door status	10	s
Duration of the feed screw shutdown following an open door.	20	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power		
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm (switching)	1	

PHILO

Release Software	0411	
Revolution and flow parameters	Values	Unit
Air flow in load wood phase	230	lpm
Minimum value of revolutions of the smoke fan in load wood phase	1900	rpm
Air flow in fire on phase	180	lpm
Minimum value of revolutions of the smoke fan in fire on phase	1500	rpm
Air flow in power 1	150	lpm
Minimum value of revolutions of the smoke fan in power 1	1500	rpm
Air flow in power 2	155	lpm
Minimum value of revolutions of the smoke fan in power 2	1650	rpm
Air flow in power 3	160	lpm
Minimum value of revolutions of the smoke fan in power 3	1800	rpm
Air flow in power 4	165	lpm
Minimum value of revolutions of the smoke fan in power 4	1950	rpm
Air flow in power 5	170	lpm
Minimum value of revolutions of the smoke fan in power 5	2100	rpm
Air flow during thermal shutdown	150	lpm
Minimum value of revolutions during shutdown	2500	rpm
Air flow during grate cleaning	350	lpm
Minimum value of revolutions of smoke fan during grate cleaning	2500	rpm
Air flow during pre-lighting phase.	150	lpm
Minimum value of revolutions during pre-lighting	2500	rpm
Air flow during pre-lighting phase when cold	150	lpm
Minimum value of revolutions during pre-lighting when cold	2500	rpm
Minimum revolutions to detect a flow	600	rpm
Minimum operating flow	90	lpm
Rev/flow ratio to detect anomalies	27	
Pellet loading parameters		
Feed screw operation period.	8	s
Feed screw on time during load wood phase.	3	s
Feed screw on time during fire on phase.	3	s
Feed screw on time during pre-lighting when cold	3	s
Feed screw on time in power 1	2,5	s
Feed screw on time in power 2	3,7	s
Feed screw on time in power 3	4,9	s
Feed screw on time in power 4	6,1	s
Feed screw on time in power 5	7,3	s
Feed screw on time during grate cleaning	3,3	s
Smoke temperature parameters		
Minimum smoke temperature to consider the stove on	50	°C
Maximum smoke temperature to consider the stove off	45	°C
Temperature increase when lighting flame LW when hot	5	°C
Minimum smoke temperature to start up the exchanger.	60	°C
Smoke temperature to reduce the exchanger to minimum in ST.	100	°C
Maximum smoke temperature to shut down the exchanger.	55	°C
Pre-alarm threshold for smoke temperature	250	°C
Alarm threshold for smoke temperature	270	°C
Hysteresis for smoke temperature alarm thresholds	5	°C
Air Exchanger voltage		
Air exchanger voltage in pre-lighting status	166	rms
Air exchanger voltage in load wood status	166	rms
Air exchanger voltage in fire on status	166	rms
Air exchanger voltage after a blackout	151	rms
Air exchanger voltage in power 0	136	rms
Air exchanger voltage in power 1	151	rms
Air exchanger voltage in power 2	166	rms
Air exchanger voltage in power 3	174	rms
Air exchanger voltage in power 4	205	rms
Air exchanger voltage in power 5	228	rms
Air exchanger voltage in thermal shutdown when TFScOff < Tfumi < TFScST	151	rms
System time-control		
Duration of reset status	16	s
Duration of lighting display status	5	s
Maximum duration of cold pre-ignition	30	s
Maximum duration of the load wood phase	18	min
Duration of the fire on phase	5	min
Duration of the sparkplug ignition	18	min
Temperature filtering time window	16	s
Minimum time interval between two grate cleaning processes	30	s
Minimum time interval between two short grate cleaning processes	20	min
Duration of short grate cleaning	10	s
Duration of grate cleaning	45	s
Duration of the pre-lighting status	30	s
Duration of the shutdown standby status	10	s
Duration of the fast thermal shutdown	10	min
Duration of the smoke pre-alarm status	20	min
Maximum duration before detecting a difference between RPM / LPM	20	min
Duration of open door status	10	s
Duration of the feed screw shutdown following an open door.	20	s
Time window of the watchdog function.	10	s
Interval between series of acoustic signals	60	s
Duration of the acoustic signal in case of alarm	10	min
System power		
Minimum power level for grate cleaning	3	
Value of the power in smoke pre-alarm (switching)	1	

4.12. Boot-loader

The boot-loader is a small electronic device created exclusively for reprogramming and updating electronic board software and firmware (INCLUDED IN MCZ AUTHORISED SERVICE CENTRE EQUIPMENT). The device contains eight internal memory positions in which software/firmware of the various electronic boards is stored. In the MCZ boot-loader only two memory positions are used (1 and 2) corresponding to the two different motherboards (ACTIVE SYSTEM and NEW ACTIVE SYSTEM). Memory positions can be recognised and selected by means of small switches on the device itself.

Software reprogramming may be very useful for correcting software errors notified by the manufacturer (bugs), for editing device operating parameters (loading, etc.) or for restoring faulty electronic boards.

Reprogramming cancels all data stored on motherboard and restores default settings to guarantee complete solution of all software problems. A fault that persists after resetting the software/firmware can only be caused by a hardware fault (e.g. blown relay, faulty transformer, etc.).

In the parameter tables above, each column indicates a firmware version (e.g. 0408, 0410, etc.). The increasing digits indicate an increasingly more updated software/firmware version.

To check whether the motherboard actually needs to be updated, read the firmware version in the INFO menu of the ALL BLACK control panel or press the emergency panel TEST button within the first 10 seconds after turning on the general power supply of the stove.

Operating and using the device is very simple. Just plug the boot-loader into the motherboard when this is not powered. The boot-loader will automatically start the motherboard reprogramming cycle when the motherboard is powered up.

4.12.1. Update the motherboard by means of boot-loader

⚠	**Important: All operations must be carried out in the sequence shown. Electronic components could be damaged if the procedure is not carefully respected step by step.**

Check the code of the board fitted on the stove in one of the following manners:
- by reading the code written on the label on the motherboard
- by means of the All-Black panel display (go to MENU > INFO > BOARD CODE)
- by reading the code on the emergency panel: set switch to MAX, turn power of the stove off and back on (by pressing the orange main switch) and immediately press and hold the TEST button.

Set switch of required software to lower position
Lower the switch corresponding to the firmware to be loaded on the boot-loader according to the previously identified board code (all other switches must be up).

Firmware	Firmware update	Switch to be lowered	
M5401XX	from M540**01** to M540**1**03	**1**	
M5402XX	from M5402**01** to M5402**XX**	**1**	
M5404XX	from M5404**01** to M5404**XX**	**2**	

Disconnect stove power (rear button 0/1)

⚠	**Caution:** Cut the device off before connecting and disconnecting the boot-loader to avoid damaging the components.

Connect boot-loader wire
Access motherboard from right side of product. Plug the boot-loader into the white connector "A" near the motherboard transformer (see arrow).

CAUTION: THERE ARE TWO IDENTICAL CONNECTORS: PLUG INTO CONNECTOR "A".
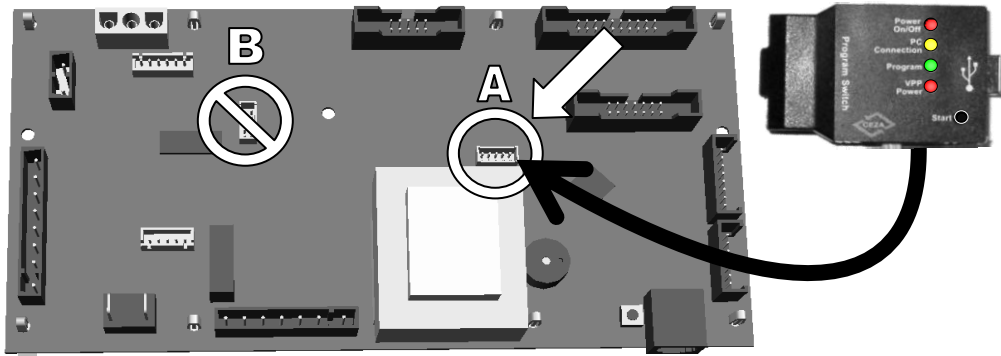
Turn stove on

Turn power on by means of the orange main switch (O/I switch to **I**).
The red "**POWER ON/OFF**" LED will blink on the boot-loader. The red and green LEDs will blink in synch on the motherboard.

Start reprogramming

- Press the "**START**" button on the boot-loader. The reprogramming procedure will start (during this step, the LEDs of the motherboard and of the boot-loader will light up in various combinations).
- **During this step, simply wait for the boot-loader to complete reprogramming without touching the device (approximately 2 minutes).**
- Programming is completed when the green **"PROGRAM"** LED lights up fixed and the red **"POWER ON/OFF"** LED blinks on the boot-loader. The red and green LEDs will blink on the motherboard at the same time.
- Repeat the programming procedure to be sure in case of other LED combinations.

Turn power off and disconnect boot-loader

After programming, turn the device off again by means of the main switch (O/I switch to **0**), and then unplug the boot-loader from the motherboard.
After updating, simply turn the device back on without any other operation.

Set the stove type

As previously mentioned, reprogramming will reset all stored data. Consequently, the software code of the appliance where the motherboard is installed must be reset. Set the "STOVE TYPE" code following the instructions contained in this manual.
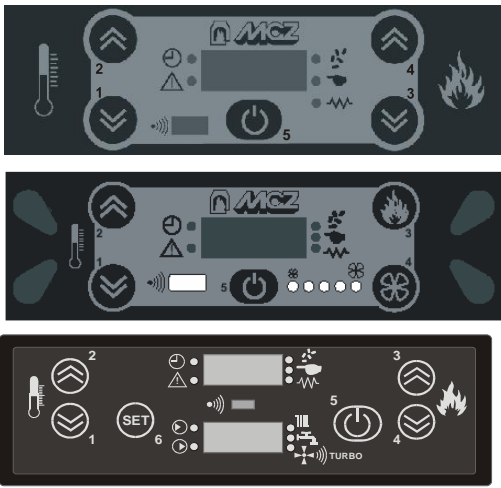
4.12.2. Boot-loader update

The boot-loader may and must be updated whenever MCZ notifies that a software update is available. To update the boot-loader, simply download the most recent available software package and the software for managing and updating the boot-loader from the "NEWS" section of the web site at www.mczservice.it.
Connect the boot-loader to your PC using a standard USB cable (identical to that used for normal printers) and start the management program containing the new software. A quick guide to help you update the device is included in the downloaded software package.
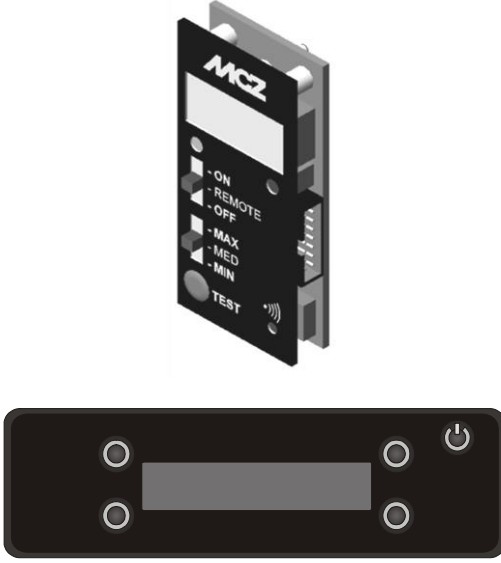
5. THE ALARMS AND TROUBLE SHOOTING

5.1. The alarms in the PELLET BOX device

TYPE OF PANEL	ALARMS ON THE LED PANEL	
	NO ACC	Failure to light
	NO FIRE	Fire extinguishes abnormally
	SIC FAIL	Hopper overheats T>110°C
	HOT TEMP	Smoke temperature high
	DEP FAIL	Flue pipe blocked.
	FAN FAIL	Smoke exhaust fan damaged
	SOND FUMI	Smoke temperature sensor broken.
	ALARMS VALID ONLY FOR THE HYDRO STOVES	
	SIC FAIL	Overheating of the water in the boiler T>90°C
	PRES H2O	System pressure < 0.5 bar > 2.5 bar
	ALARMS ON THE LCD PANEL	
	NO START	Failure to light
	NO FIRE	Fire extinguishes abnormally
	PELLET TEMP	Hopper overheats
	SMOKE TEMP	Smoke temperature high
	SMOKE DEPRESS	Flue pipe blocked
	SMOKE FAN	Smoke exhaust fan damaged
	SMOKE PROBE	Smoke temperature sensor broken.

5.2. The alarms in the ACTIVE SYSTEM device

	ALARMS ON THE EMERGENCY and LCD PANEL	
	A01	Failure to light
	A02	Fire extinguishes abnormally
	A03	Hopper overheats T>110°C
	A04	Smoke temperature high
	A05	Flue pipe blocked
	A06	The number of litres of incoming air is insufficient. Often signifies problems with a blocked grate.
	A07	Door door or no air passage for the sensor
	A08	Smoke exhaust fan damaged
	A09	Smoke temperature sensor broken.
	A10	Sparkplug broken
	A11	Reduction motor defective
	A12	The remote control is out of range for more than 3 hours
	A13	No communication of a component with the board
	A14	Flow sensor defective
	A17	Water overheating in the boiler T>110°C (Mod. Ego-Star-Musa-Club-Suite HYDRO)
	A18	Water pump stuck (Ego-Star-Musa-Club-Suite HYDRO)
	PELLETS	No pellets in the hopper

5.3. Trouble shooting

5.3.1. A01 / NO ACC / NO START

The alarm **FAILURE TO LIGHT** of the device is signalled when within **15 minutes** predicted for the lighting, the smoke temperature sensor does not reach **50°C**.
This problem may occur for the following causes:

- Infiltration of air from the seal gaskets of the door and the cleaning compartment.
- Problems in loading the fuel.
- In the cases of lighting, starting with feed screw empty
- Malfunction in the ignition plug
- Incorrect position or presence of dirt in the grate

⚠️ **ATTENTION!!**
The stove only lights if all the gaskets guarantee the perfect seal of the combustion chamber.

- Check that the opening panels for special cleaning are well closed and do not have leaks.
- Check that seal of the gasket in the panel to inspect the smoke fan
- Check the hermetic seal of the door seal by using a sheet of paper.
  Place the sheet of paper between the fire door and the structure, close the door, and try to remove the sheet of paper. If the sheet of paper moves easily, it is necessary to check or replace the door seal. On the contrary the seal still complies with the specifications. Carry out this check along the entire perimeter of the door seal
- Check the seal of the gasket of the door and the ash drawer, with the same method described above.
- Check that the eccentric bush of the handle of the door is well blocked.
- Check the correct position of the grate and that its holes are all clean
- Check that the hopper is full of pellets

 CARRY OUT THESE CHECKS, PROCEED WITH THE SUBSEQUENT FAULT DETECTION DIAGRAM

DIAGRAM no°1
ALARMS: **A01 / NO ACC / NO START**

```
START ──── Is the combustion chamber hermetic
            and is the grate clean and well placed ──── NO ──── Clean and correctly
            in the grate?                                        place the grate and
                                                                 close the fire door
                                                                 well.
                    │
                   YES
                    │
                LIGHTING
                   ⏻
                    │
            Does the
            sparkplug turn on? ──── NO ──── Does the
                    │                        motherboard ──── NO ──── REPLACE THE
                   YES                       power the                 MOTHERBOARD
                    │                        component?
            Do the pellets                       │
   NO ──── fall into the                        YES
            grate?                               │
    │            │                        REPLACE THE
   Does the     YES                       SPARKPLUG
   reduction     │
   motor
   work? ──── Does the flame
    │          light? ──── NO ──── SOLUTION 1
NO  YES                              See next page
    │    │
Does the  Does the feed
motherboard  screw run? ──── YES
power the      │          YES  Does the flame
component?    NO           │    light?
    │          │          Was the hopper   YES
   YES   Empty the hopper and  empty or was it the
    │    remove the feed       first lighting?
REPLACE THE  screw to unlock it.        │
MOTHERBOARD  Grease the bushes    YES   NO      The temperature of the
    │                              │     │      smoke sensor rises
REPLACE THE                        │     │      (check the temp. probe)
REDUCTION                          │     │          │         │
MOTOR.                          REPEAT  SOLUTION 1  YES       NO
                                IGNITION  See next page        │
                                                    SOLUTION 2
                                                    See next page
```

SOLUTION 1

If electronic and mechanical components are all working perfectly and the combustion chamber is perfectly sealed, **the fault must be sought in the assembly formed by brazier, igniter duct and air intake duct**.

The most likely causes are determined by excessive distance between igniter duct and brazier hole. In this case, it may be useful to:

- Eliminate spacers from igniter duct on models where this is possible (ANTARES-VEGA-ASTRA-AURORA-MODULO). Eliminate as many spacers needed until the tip of the duct nearly touches the brazier.

- Widen the hole of the brazier to Ø 12 mm.

- Check that the holes of the igniter duct are free and allow easy introduction of air to be heated and start-up.

- On NEW ACTIVE SYSTEM appliances (Ego-Star-Suite-Musa-Club) make sure that ignition duct is present with rear intake holes outside the brazier pocket (code **41200903900).**

- On POLAR and NOVA PELLET BOX models, check for presence of the combustion air reduction flange code **43640499G**. This is mandatory on air models but not on HYDRO models and may solve start-up problems.

SOLUTION 2

In this case, the fume sensor only is responsible for the problem. The fume sensor temperature does not increase and thus the sensor is not indicating the correct temperature to the motherboard even if the flame is lit; therefore, "START-UP FAILED" alarm is triggered at the end of the start-up process (15 minutes).

To check fume sensor temperature simply hold the ❶ button pressed or press the **TEST** button on the emergency panel with the switch on **MAX** or on the **INFO** menu on ALL BLACK panels.

In this case, check whether:
- the fume sensor is correctly positioned and consequently not in contact with hot fumes
- the fume sensor is insulated by too much silicon contained in the well
- the fume sensor is wired incorrectly; reversing the polarity, the sensor always indicates minimum value **(30 °C)**

Note: The fume sensor in this case is not damaged: the alarm on the panel would be different if it were (i.e. FUME SENS ALARM or A09).

5.3.2. A02 / NO FIRE / NO FIRE

This type of alarm occurs when the fume sensor drops **under the minimum temperature threshold set in parameters** (e.g. 45 °C or 50 °C). Possible causes are:
- Poor fuel rate in the grate due to an incorrect setting of the recipe and, therefore, extinguishing of the fire due to the absence of pellets to be burnt.
- Excessive fuel rate in the grate due to an incorrect setting of the recipe and therefore suffocating the flame.
- Pellet hopper empty
- Smoke sensor that does not correctly detect the temperature of the smoke.

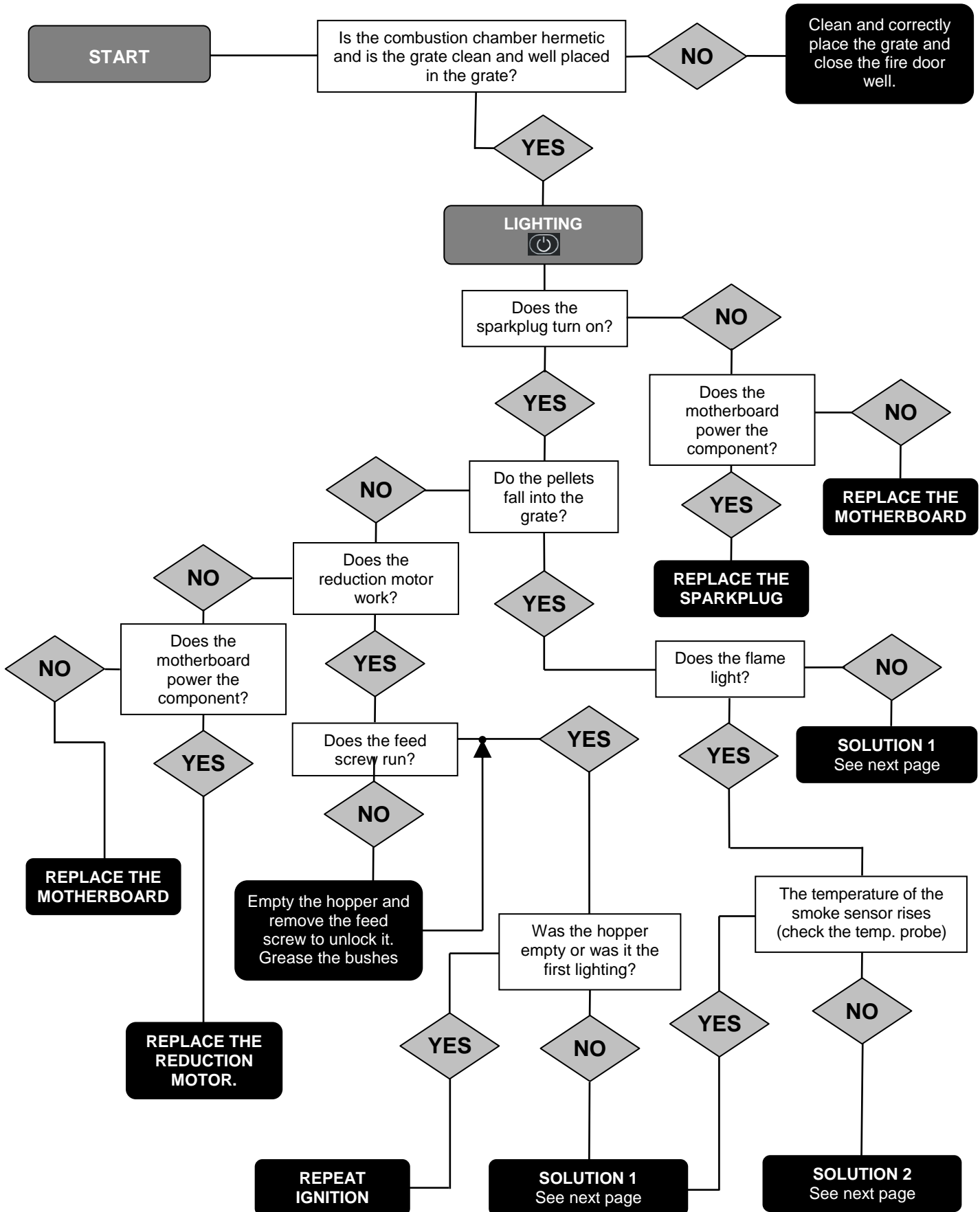The stove works correctly and the combustion is regular, only if all the gaskets guarantee the perfect seal of the combustion chamber.
- Check that the opening panels for special cleaning are well closed and do not have leaks.
- Check that seal of the gasket in the panel to inspect the smoke fan
- Check the hermetic seal of the door seal by using a sheet of paper.
  Place the sheet of paper between the fire door and the structure, close the door, and try to remove the sheet of paper. If the sheet of paper moves easily, it is necessary to check or replace the door seal. On the contrary the seal still complies with the specifications. Carry out this check along the entire perimeter of the door seal.
- Check the seal of the gasket of the door and the ash drawer, with the same method described above.
- Check that the eccentric bush of the handle of the door is well blocked.
- Check the correct position of the grate and that its holes are all clean
- Check that the hopper is full of pellets.

CARRY OUT THESE CHECKS, PROCEED WITH THE SUBSEQUENT FAULT DETECTION DIAGRAM

DIAGRAM no. 2
ALARM: **A 02 / NO FIRE / NO FIRE**

START

Is the pellet hopper empty?

YES → Refill the pellet hopper, reset the alarm and re-light the device.

NO

Is the grate overloaded with pellets?

NO ← → **YES**

Is the grate completely empty?

Is the grate dirty and encrusted?

YES

NO

When re-lighting the stove, do the pellets fall into the

YES

Clean the grate and check the quality of pellets and/or the recipe because it is incorrect!!
See **SOLUTION 1**

Check the dimension of the pellet. If too short (L<0.5 cm), the feed screw loads too little and the flame is suffocated.

NO

Do the reduction motor and/or feed screw run?

YES

Check the dimension of the pellet. If too long (L>3 cm), the feed screw has difficulty loading.

Does the flame light?

YES

Does the temperature of the smoke sensor rise to 50°?

YES

NO

NO

Does the motherboard power the reduction motor?

NO → **REPLACE MOTHERBOARD**

Go to **DIAGRAM 1** for the solution of lighting problems.

NO → **REPLACE SMOKE SENSOR**

Clean the grate and check the recipe because it is incorrect!!
See **SOLUTION 2**

YES

Does the reduction motor work?

NO → **REPLACE REDUCTION MOTOR**

YES

Remove and/or free the feed screw blocked by the sawdust.

SOLUTION 1

In this case the problem is due to an incorrect choice of the recipe that causes:

- Excessive high load of fuel
- Incorrect interpretation of the type of installation (VERTICAL or HORIZONTAL)
- Poor quality of the fuel that releases material and obstructs the holes of the grate.

In this case it may be worth:

- Change the fuel with a certified type (DIN +, etc…)
- If the clogging and the consequent extinguishing of the fire occur in the long term (7-8 hours), it may be sufficient **to increase** the recipe (e.g.: from M6 to M7) to slightly decrease the quantity of pellets entering the combustion chamber. If available, it may be worthwhile also considering increasing the recipe by two points, to solve more serious clogging problems.
- If the clogging and consequent extinguishing of the fire occur in the short term (2-3 hours), it is necessary to modify the recipe from VERTICAL to HORIZONTAL to increase the speed of the smoke fan and therefore the combustion air in the combustion chamber. Pass to the corresponding recipe (e.g.: from M2 to M6). Assess whether to decrease the load of fuel by subsequently raising the recipe (e.g.: from M6 to M7).

Should the problems not be solved, the solutions are:

- Modify the technical parameters to further increase the fan and decrease the pellet load.
- Modify the installation

SOLUTION 2

In this case the problem is due to an incorrect choice of the recipe that causes:

- Poor load of fuel
- Incorrect interpretation of the type of installation (HORIZONTAL or VERTICAL)
- Poor quality of the fuel that releases material and obstructs the holes of the grate.

In this case it may be worth:

- Change the fuel with a certified type (DIN +, etc…)
- If the flame always remains low also at maximum power it means it is necessary to **decrease** the recipe (e.g.: from M7 to M6) to increase the quantity of pellets entering the combustion chamber.
- For more serious situations, which also involve poor efficiency and heating, **modify** the recipe from HORIZONTAL to VERTICAL to decrease the combustion air in the combustion chamber and especially the drive of the smoke to the exterior. The excessive drive, in certain cases also assisted by a flue pipe with a good draught, may cause the leakage of the smoke, and therefore heat, too quickly.

5.3.3. A03 / SIC FAIL / PELLET TEMP and H2O TEMP

This type of alarm occurs when the bulb thermostat or the contact thermostat placed on the hopper, exceed the safety temperature set at 110°C.
This alarm may also intervene in the case in which the temperature of the water in the boiler exceeds the temperature of 90°C. In the HYDRO stoves there is a second safety bulb thermostat to avoid that the water in the boiler boils.
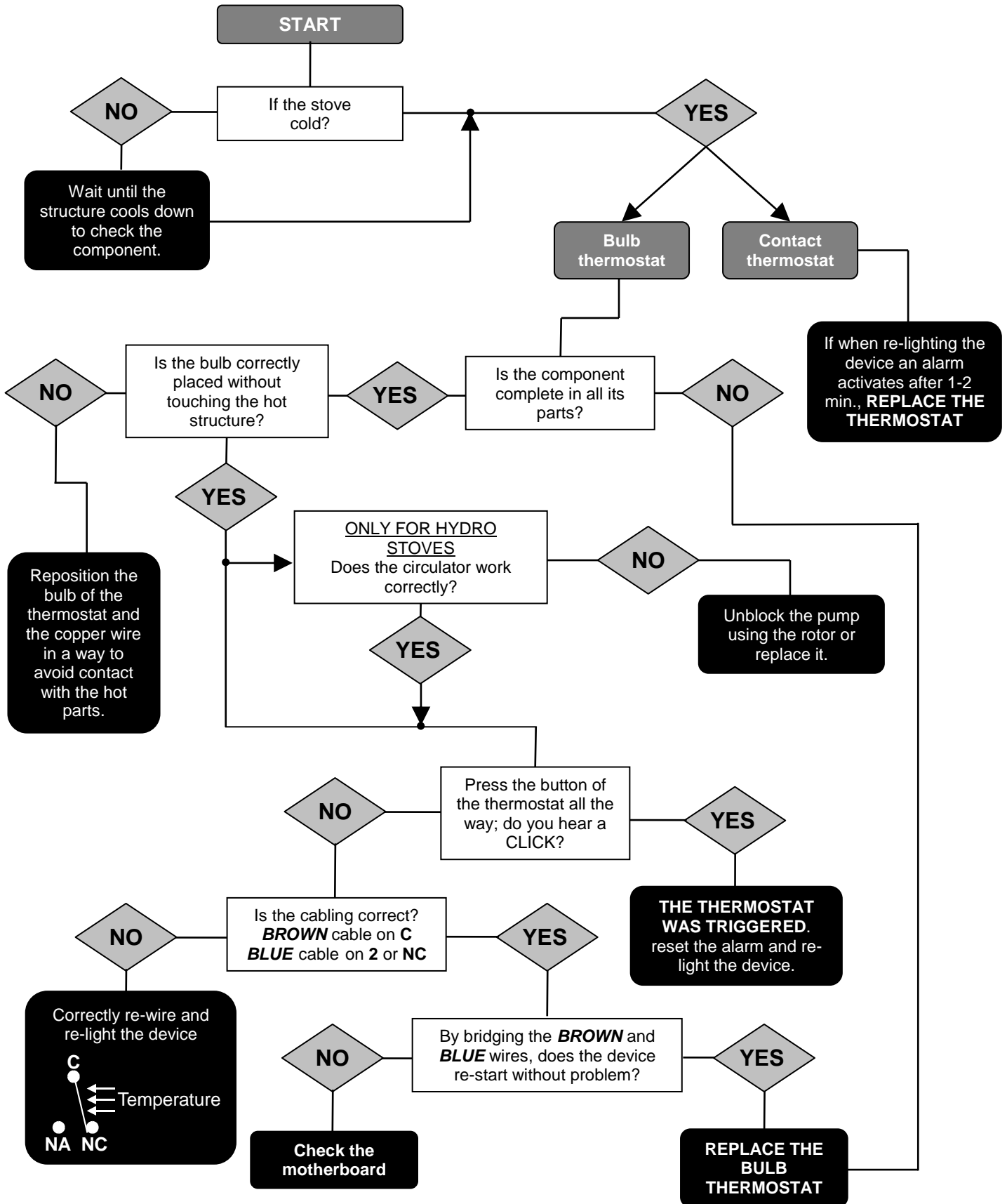This safety may intervene in the case in which:

FOR ALL THE DEVICES
1. The device has worked for too many hours at maximum power and with the hot air fan at low levels.
2. The mediocre quality of pellets causes the overheating of the structure.
3. The recipe or the calibration of the combustion is incorrect and the flame is always very high because of excess of fuel.
4. Blocking or breakdown of the hot air fan that also deals with the cooling of the structure.
5. Damaging the bulb / contact thermostat

FOR ALL HYDRO DEVICES
6. The water does not circulate in the system and remains in the boiler overheating it.
7. The thermostat is placed out of the well and touches the metal parts.

MCZ service

DIAGRAM no. 3
ALARM: **A 03 / SIC FAIL / TEMP PELLET and/or H$_2$O**

START

NO — If the stove cold? — **YES**

Wait until the structure cools down to check the component.

Bulb thermostat

Contact thermostat

If when re-lighting the device an alarm activates after 1-2 min., **REPLACE THE THERMOSTAT**

NO — Is the bulb correctly placed without touching the hot structure? — **YES** — Is the component complete in all its parts? — **NO**

Reposition the bulb of the thermostat and the copper wire in a way to avoid contact with the hot parts.

YES

ONLY FOR HYDRO STOVES
Does the circulator work correctly? — **NO**

YES

Unblock the pump using the rotor or replace it.

NO — Press the button of the thermostat all the way; do you hear a CLICK? — **YES**

THE THERMOSTAT WAS TRIGGERED. reset the alarm and re-light the device.

NO — Is the cabling correct?
BROWN cable on **C**
BLUE cable on **2** or **NC** — **YES**

Correctly re-wire and re-light the device

C
Temperature
NA   NC

NO — By bridging the *BROWN* and *BLUE* wires, does the device re-start without problem? — **YES**

Check the motherboard

REPLACE THE BULB THERMOSTAT

5.3.4. A04 / HOT TEMP / SMOKE TEMP

Overheating of the smoke over a certain safety temperature that may range between **250°C and 280°C** based on the product type. The causes of this problem may be:

- Uncertified pellets containing chemical substances (glue, thickening agents, etc..) that raise the temperature.
- High levels of dirt and ash within the smoke passageway chamber. The ash insulates the heat-exchange walls and does not allow the disposal of the heat. **COMPLETELY CLEAN THE DEVICE.**
- Incorrect recipe and constant overloading of fuel that causes the temperature to rise.

5.3.5. A05 / DEP FAIL / SMOKE NEGATIVE PRESSURE

Difficulty in expelling the smoke due to:

- Clogging of the flue pipe
- Presence of a foreign object in the flue pipe (birds, nests, grills, leaves, etc..)
- Wind enters the flue pipe because it is not protected or because an installation was carried out with a wall outlet with flue pipe.
- Descent of cold air from the flue pipe
- Damage of the pressure switch
- Blocking of the internal membrane in the pressure switch because soot entering or ash inside.

CARRY OUT THESE CHECKS, PROCEED WITH THE SUBSEQUENT FAULT DETECTION DIAGRAM

DIAGRAM no. 4
ALARMS: **A05 / DEP FAIL** / **SMOKE DEPRESS**

START

By disconnecting the stove from the smoke connection or by disconnecting the plastic tube of the pressure switch from the smoke outlet tube, does the stove re-light without problems?

YES → The problem is in the flue pipe:
- Clean the flue or the connection
- Clean the anti-condensation **"T"**
- Protect the outlet from wind
- Remove any foreign objects

NO

The pressure switch is correctly connected:
- Tube connected on **+**
- Filo *MARRONE* su **C**
- Filo *BLU* su **2** o **NC**

NO → Correctly connect the pressure switch. The pressure switch **NORMALLY FUNCTIONS** with a closed contact.

C

Pressure

NA   NC

YES

Gently blowing into the entrance **+** of the pressure switch, can you hear the membrane move?

NO → REPLACE THE PRESSURE SWITCH

YES

By bridging the *BROWN* and *BLUE* wires, does the device re-start without problem?

NO → CHECK THE MOTHERBOARD

YES → REPLACE THE PRESSURE SWITCH

5.3.6. A06 (Only for the ACTIVE SYSTEM devices)

The causes of this alarm are due to the **difficulty by the device in drawing the quantity of combustion air necessary to guarantee a correct combustion**. The correct wording of the alarm is: ERROR IN THE RATIO BETWEEN SMOKE EXHAUST FAN REVOLUTION/MINUTE AND DRAWN LITRE/MINUTE.
By consulting the technical parameters of each device, it is possible to check that for a given speed of the smoke exhaust fan, a given quantity of litres/minute of air must enter and pass through the sensor.
If this does not occur for more than **15 minutes**, the device will go into alarm condition.

Example: If at **power 4,** in a **SOLAR** stove, the flow sensor must measure **160 lt/min,** as minimum intake, the smoke exhaust fan will rotate more or less fast to guarantee this amount of incoming air to the combustion chamber.

Also the smoke fan has a reference value equal to **1,500 rpm.**

In normal conditions of installation and fuel quality, the running values must remain close to these values with a maximum tolerance of **5-10%.**

If the smoke fan must rotate at **1,900 rpm** to ensure the value of **160 lt/min** required by the sensor, this installation condition makes the expulsion of smoke and the inlet of air difficult. Alternatively, the grate is very dirty or the flue pipe is blocked, making the expulsion of smoke difficult.

If the smoke fan at maximum speed (**2.500 rpm**) is unable to guarantee the value of **160 lt/min** required, the device triggers an **alarm A06** (abnormal ratio between the number of revolutions of the fan and the flow).

The intervention of this alarm may occur for the following causes:

- Installation non compliant
- Poor quality pellet that tends to clog the grate.
- No air intake in the room.
- Difficulty in drawing combustion air because the product has been installed in a niche or inside an existing fireplace (e.g. PowerBox, PowerSystem) without a sufficient air intake.
- There is a consistent alternative opening, through which the air is drawn, which therefore does not pass by the sensor. E.g.: a cleaning and inspection panel has been closed badly or the hermetically sealed fire door and the gaskets are mediocre.
- The air sensor is dirty and therefore incorrectly detects the number of litres/minute. The sensor is delicate and must not be covered by dust, hair or pollen. For this reason **never use the device without the pollen filter provided**. The sensor **MUST NEVER BE TOUCHED WITH FINGERS OR CLEANED WITH COMPRESSED AIR.** To clean and remove dust, just use a paint bush or something delicate.
- The sensor is damaged and incorrectly detects the number of litres/minute. In this case the sensor is not defective and is correctly powered by the motherboard (otherwise the stove would show alarm **A14**). In any case it is necessary to replace the component. In the case in which after replacing the component, the same problem occurs, the problem is to be found in the first **5 points** above.

5.3.7. A07 (Only for ACTIVE SYSTEM devices)

This alarm, also called **"OPEN DOOR ALARM",** signals that the smoke exhaust fan works correctly but less than 40 litres/minute pass through the air sensor.

The smoke exhaust fan runs at maximum speed but despite this, very little air passes through the sensor. To compensate for this lack, there must be the possibility of drawing a large volume of air from another part but this opening must be very consistent. For this reason, one of the situations in which this alarm intervenes, is when the door is open or ajar without blocking the handle.

The intervention of this alarm therefore may occur for the following causes:

- Door open or ajar
- Impossibility of drawing the air through the Ø 50 mm pipe due to a complete blockage of the same tube. Example: if the intake of air was channelled at the outside, the connecting tube may be choked/squashed.
- All the open inspection panels. On devices such as POLAR, NOVA or ATHOS, the inspection panel of the smoke fan is of a considerable dimension and the failure to install this panel seriously compromises its operation.
- High quantity of dirt on the sensor that makes it almost insensitive.

On NEW ACTIVE SYSTEM appliances (Ego-Star-Suite-Club-Musa etc.) **alarm A07 was eliminated, combined with alarm A05** and managed entirely by the intake air flow sensor.

This is because the pressure switch was replaced by the flow rate sensor fitted in the Ø 50 mm tube on newer appliances. If the air sensor does not detect intake air it automatically detects either difficult exhaust fume evacuation or existence of another opening through which the air taken in by the fume fan may pass (open door).

USE THE SUBSEQUENT DIAGRAMS FOR THE SOLUTION OF THE ALARMS A06 AND A07

MCZ service

DIAGRAM no. 5
ALARM: **A06**

active system

START

Is the combustion chamber perfectly hermetically sealed? (gaskets, inspection panels...)

NO → Redo the seals and check the gaskets. Also check the seal and the closing of the inspection panels.

YES

**CREATE THE AIR INTAKE** and ensure that the device has no difficulty in drawing. ← **NO** — Is there the air intake?

YES

Check that the flow sensor is clean!

NO ← Are the grate and/or the product dirty and encrusted? → **YES**

Is the sensor well placed, cabled and are there no foreign objects that stop the intake of air?

NO →

Correctly place the sensor and/or remove the foreign objects

Check the quality of the pellet !!

Does the installation require a difficult smoke outlet? (E.g.: many curves, very long Ø80 connection, without flue pipe, wall outlet)

NO →

YES

YES

By replacing the air sensor, are the flow value in *lt/min* and the *rpm* of the smoke fan almost the same?

NO →

REPLACE THE SENSOR

YES

Checking the *rpm* of the smoke fan and the number of *lt/min* of the sensor, is there a substantial difference compared to the parameters? **(> 10-15%)**

NO →

By replacing the motherboard, are the flow value in *lt/min* and the *rpm* of the smoke fan about the same?

NO →

REPLACE THE MOTHERBOARD

YES →

YES

DECREASE THE FALL OF THE PELLETS IN THE GRATE. (-10% - 20% -30%)

IMPROVE THE INSTALLATION and re-check the running by keeping the ratio between the *rpm* of the smoke fan and the *lt/min* of the sensor under control

DIAGRAM no. 6
ALARM: **A07**

START

Are the fire door and the handle well closed?

NO → **CLOSE THE FIRE DOOR**

YES

Is the combustion chamber perfectly hermetically sealed? (gaskets, inspection panels...)

NO → Redo the seals and check the gaskets. Also check the seal and the closing of the inspection panels.

YES

Is the air intake Ø 50 mm pipe connected to the outside?

NO / **YES**

Are there any foreign objects or obstructions along the channel pipe?

NO → Is the sensor well placed, cabled and are there no foreign objects that stop the intake of air?

YES → **REMOVE THE BLOCKAGE** and re-check the running of the flow sensor keeping the ratio between the **rpm** of the smoke fan and the **lt/min** of the sensor under control

NO → **Correctly place the sensor and/or remove the foreign objects**

YES

By replacing the air sensor, are the flow values in **lt/min** still very low? (< 40 lt/min)

NO → **REPLACE THE SENSOR**

YES

By replacing the motherboard, are the flow values in **lt/min** still very low? (< 40 lt/min)

NO → **REPLACE THE MOTHERBOARD**

YES → **RECHECK THE ENTIRE CIRCUIT OF AIR PASSAGE**

5.3.8.   A08 / FAN FAIL / SMOKE FAN

The cause of this alarm is due to the smoke fan not working. This can be proven by checking the number of revolutions/minute detected by the encoder. In the case of the Pellet Box devices, the alarm FAN FAIL or SMOKE FAN also intervenes when the number of revolutions/minute deviates from the values set in the parameters of 10%. The intervention of this alarm may occur for the following causes:

- The smoke extraction fan is defective.
- The encoder is damaged.
- Overheating. The safety probe has intervened due to excessive temperature.
- A foreign object or soot stops the rotation of the blades of the fan.

DIAGRAM no. 7
ALARM: **A08 / FAN FAIL / SMOKE FAN**
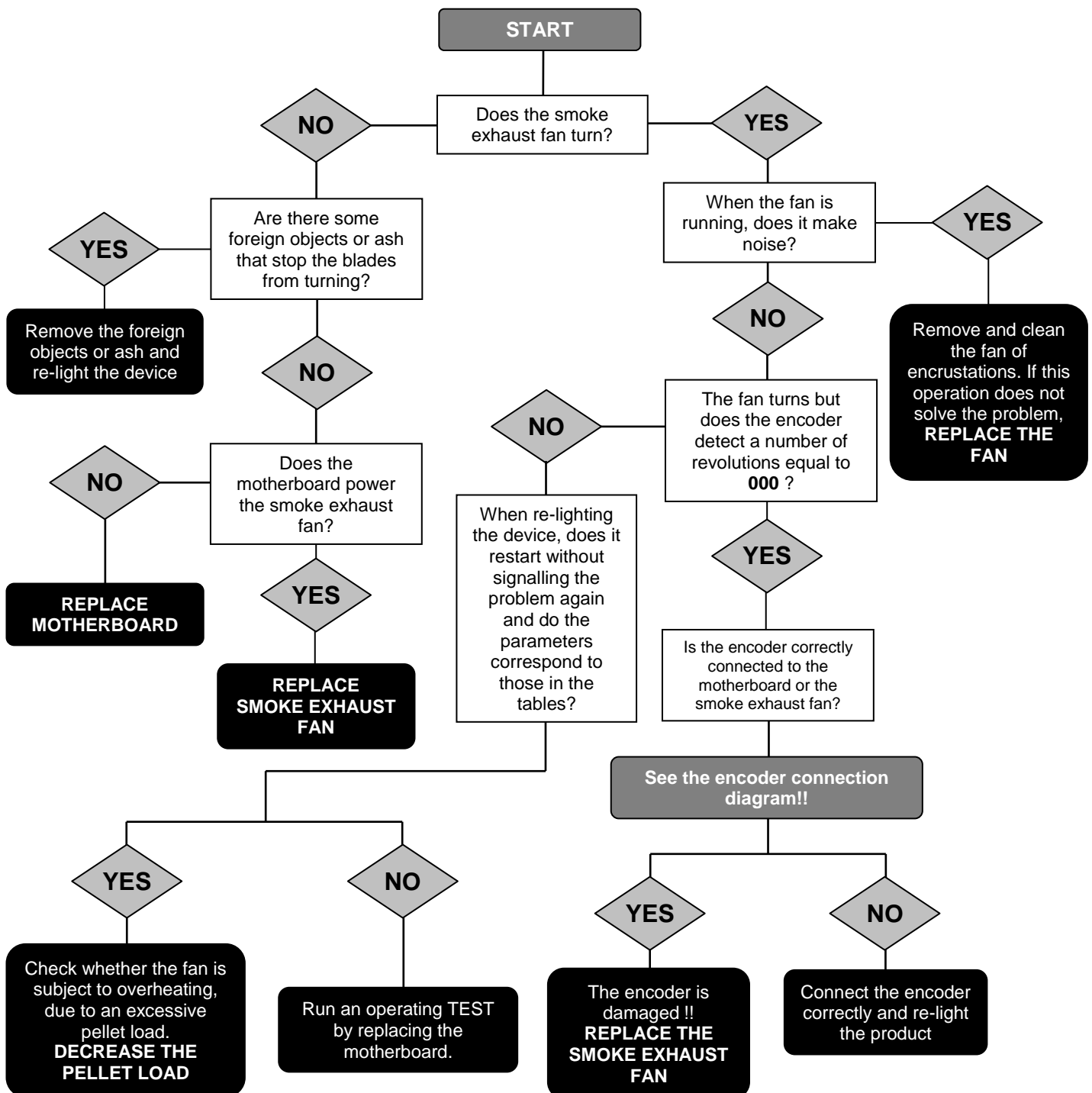
ENCODER CONNECTION

Concerning the **ACTIVE SYSTEM** devices, there is no possibility of an incorrect wiring since the cable that connects the fan to the motherboard is provided with two connectors that may only be connected in the correct way.

In the **PELLET BOX®** stoves instead it is necessary to carefully check the connection of the 3 cables of the fan encoder, to the motherboard. This connection is carried out on a GREEN 4 position terminal also if there are only 3 wires to be wired. The order of the wires is as indicated in figure: starting from the right to arrive at the left of the connector **WHITE - RED – BLACK.**

The last position to the left of the connector **MUST remain EMPTY** !!!

In the case of HYDRO PELLET BOX® pellet stoves there is a 4th **BROWN** cable that must be cabled in the same terminal. **The BROWN cable must be cabled together with the RED cable**. The WHITE - RED – BLACK cables must be cabled as indicated above

Concerning the connection from the motherboard to the smoke fan code 4160234, the encoder is already cabled internally to the fan and therefore no control is necessary.

In the case of the fan code 4160429 or similar, the connection cable is cabled through an already predisposed connector that must be inserted in the suitable terminal on the motor body.
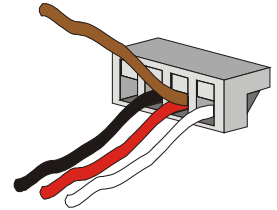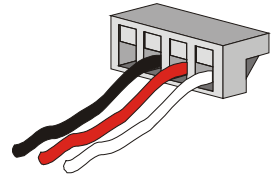
5.3.9. A09 / SOND FUMI / SMOKE SENSOR

The cause of this alarm is due to:
- **90% breakage of the SMOKE SENSOR**. The cause of this fault may simply be of an electrical nature and therefore it is worthwhile, given the importance of this device, to replace the component.
- **10% anomalies in the cabling**. In the cases in which the alarm is not due to the breakage of the component, the responsibility may be due to its incorrect cabling. **Therefore check that the smoke sensor is well connected to the motherboard.**

⚠️ **ATTENTION!**
The two cables of the smoke sensor (**BLUE** and **RED**) have polarity (**+** and **–**); thus pay attention that the cables are inserted correctly (see the electrical diagram of the stove on which you are operating)

Concerning the ACTIVE SYSTEM devices, the smoke sensor is provided with a special connector to be inserted in the motherboard, which eliminates the possibility of making mistakes. Concerning the PELLET BOX stove, the smoke sensor is directly cabled in the motherboard and potentially there may be a wiring defect.

To test the correct operation of the smoke sensor, view the temperature on the display of the device.

5.3.10. A10 (Only for ACTIVE SYSTEM devices)

This alarm signals that **THE SPARKPLUG DOES NOT WORK**. The motherboard detects the component's failure to absorb power and signals the fault.
Proceed to the replacement of the sparkplug after a short control test is carried out with an electric tester.

5.3.11. A11 (Only for ACTIVE SYSTEM devices)

This alarm signals that **THE REDUCTION MOTOR DOES NOT WORK**. The motherboard detects the component's failure to absorb power and signals the fault.
Proceed to the replacement of the reduction motor after a short control test is carried out with an electric tester.

5.3.12. A12 (Only for ACTIVE SYSTEM devices)

This alarm signals that **the remote control is out of the range of the device for more than 3 hours**.

Service Manual – cod. 89070072 – UK

The device does not stop, as it is the case with all the other alarms, but only communicates to the user that it is no longer able to manage the temperature or the other CRONO, ECO-STOP or SLEEP commands since the remote control is out of range.

To solve the problem it should be sufficient to move the remote control nearer to device, press a button and give any command. In this way the alarm should disappear automatically (30 seconds)

The alarm **A12** is the only one that does not need to be cancelled from the emergency panel and that does not turn off the device but makes it work in the same mode set by the last command received from the remote control.

The causes of this alarm may be:
- The user has moved the remote control more than 5 metres from the device.
- The batteries are almost dead (battery low symbol on the display of the remote control) and the remote control does not have sufficient energy to communicate with the receiver.
- The remote control is turned off due to dead batteries.
- Loss of transmission frequency (See paragraph 4.5.5.
- The antenna of the internal receiver is bent or broken.
- The onboard receiver of the device is damaged: the remote control does not manage to send the running information to the device.

5.3.13. A13 (Only for ACTIVE SYSTEM devices)

The alarm **A13** identifies a **generic communication problem between the motherboard and the other components of the device.**

The motherboard is able to carry out the diagnosis on the components and on itself, in the moment when the communication is interrupted with the various elements (reduction motor, sensors, fans, etc..). In the case of parts such as the reduction motor or the sparkplug, the motherboard communicates a specific alarm (A10, A11, etc..); in other cases, instead, the fault has a more complex and generic nature and for this reason alarm **A13** exists. The clearest example of the complex nature of the fault may be identified with the electromagnetic interference at the level of the wiring.

⚠️ **A13 DOES NOT MEAN THAT THE MOTHERBOARD IS BROKEN AND CERTAINTY NEEDS TO BE REPLACED** but it is necessary to check the presence of possible communication problems. Sometimes the replacement has positive effects only because of the disconnection and reconnection of the flat cable, and the connection problem is solved.

The causes of this alarm may be:
- Defective motherboard.
- The motherboard cannot suitably communicate with the other components, due to electromagnetic interference that is created between the cables where the high voltage passes (220 Volt cables that power the fans, the sparkplug, the reduction motor) and the low voltage cables (12 or 5 Volts: flat cables, cable of the smoke sensor, encoder, command/receiver panel). In this case it is necessary to rewire the device's electric system, paying attention not to strap together the two types of cables (especially those of the encoder and receiver)
- Overheating of a component that functions abnormally and therefore does not suitably respond to the motherboard. The components that may potentially produce this type of fault are the smoke extraction fan and the flow sensor.
  These cases can easily occur since, with the device cold, the latter lights without signalling the alarm any more, given that the running temperatures have returned to normal.
  The nature of the overheating may be due to:
  - The smoke exhaust fan always turns at maximum power (2500 rpm) because it is extremely stressed by an abnormal combustion. The cause of the alarm A13 is therefore the smoke fan, even if it is not directly responsible. It is necessary to check the combustion or, for safety, significantly decrease the quantity of pellets entering the combustion chamber **(-20% or – 30%)**
  - The air sensor works at temperatures exceeding those advised **(55°C)** since the product is connected to the inside of a niche or something else. The sensor working a high temperatures, incorrectly communicates with the motherboard that is blocked in alarm **A13.**
- The pressure switch may be another cause of alarm when it repeatedly and quickly trips due to a gust of wind from the outside. The repeated and sudden electrical signals transmitted to the motherboard communicate an external problem and thus alarm **A13** activates. In this case the cause is external but it is **FUNDAMENTAL TO MODIFY THE INSTALLATION** to protect the pressure switch and solve the problem.

DIAGRAM no. 8
ALARM: **A13**

START

Reset the alarm !!

By re-lighting the device when it is cold, does the alarm **A13** active again?

YES

NO

Are the electrical connections all connected correctly?

YES

Is the stove installed with a wall outlet exposed to the wind?

NO

NO

REPLACE MOTHERBOARD

Is the smoke fan almost always at maximum power **(~2500 rpm)**?

YES

YES

REDO THE WIRING as in the diagram and perform another operation test of the device of at least 30 minutes.

POTENTIAL OVERHEATING Modify the installation and decrease the pellet load by **20-30%**.

Protect the smoke outlet to avoid that the pressure switch trips repeatedly. **MODIFY THE INSTALLATION**

NO

When low and high voltage pass the cabling, are they divided as in the diagram?

YES

NO

NO

Does the product draw **hot air** because it is installed in a niche or something else?

REDO THE WIRING as in the diagram and perform another operation test of the device of at least 30 minutes.

REPLACE MOTHERBOARD and perform another operation test of the device of at least 30 minutes.

YES

Channel the air to the outside or enlarge the air intakes to release the heat in the niche.

5.3.14. A14 (Only for ACTIVE SYSTEM devices)

This alarm signals that **THE AIR FLOW SENSOR DOES NOT WORK**. The motherboard detects the lack of dialogue and exchange of information by the component and signals the problem.
It is advisable to:
- Check the electric connection and if defective restore it.
- Check that the sensor has not been inserted twisted. as it has its own position to carry out the detections when it is hit by the air flow.
- In case of doubt replace the component, given the importance that it holds in the correct management of the combustion in the ACTIVE SYSTEM devices.

5.3.15. A17 (Only for ACTIVE SYSTEM devices)

DIAGRAM n°9
ALARM: **A 17**
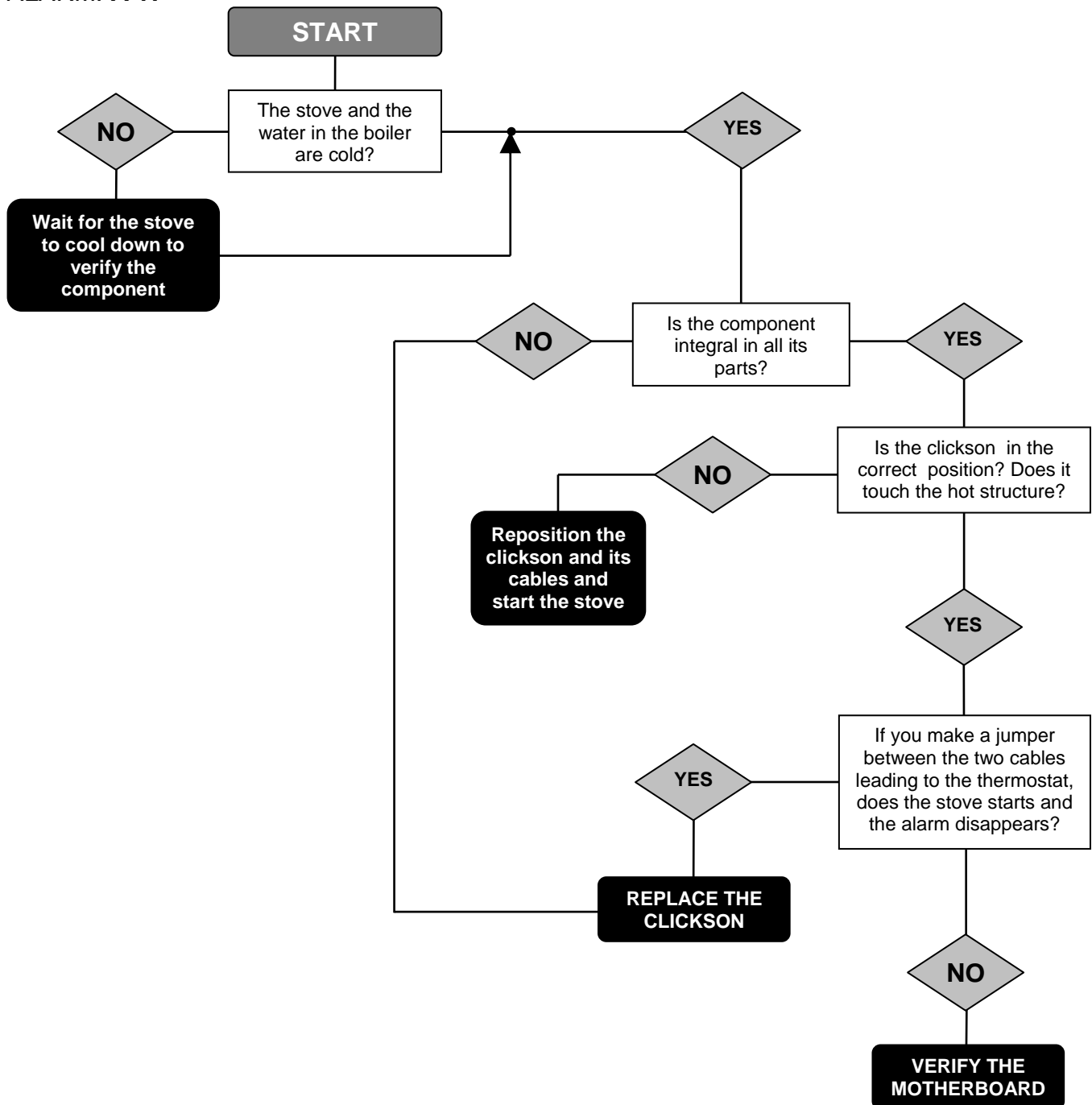
5.3.16. A18 (Only for ACTIVE SYSTEM devices)

DIAGRAM no 10
ALARM: **A 18**

START

Is the temperature in the boiler over 50°C

NO → Start the stove and wait until water temperature warms up or heat the water sensor to carry out a test

YES → Measuring with a tester, is the pump fed?

YES → Si sente il rumore della pompa sotto sforzo, ma il rotore non gira?

NO → **Replace the pump**

YES → **Unblock the pump through the rotor or replace it if it doesn't unblock**

NO → Check the STOVE TYPE in the display; is it the correct code for the stove you are working on?

NO → **Verify the motherboard and in case replace it**

NO → **Select the correct STOVE TYPE but provide for a software update asap**

5.3.17. A19 (KAIKA OYSTER appliances only)

This alarm indicates that the pellet tank lid was kept open for longer than 1 minute, thus for too long. The appliance may not be perfectly sealed with respect to the installation environment.
The alarm is tripped by a simple button which remains constantly pressed when the tank lid is closed correctly and perfectly adheres to the magnets withholding it onto the pellet tank seals.

Faults to this alarm may be due to:
- the pellet tank lid is open or not closed correctly (i.e. correct closing of the lid may not be possible because the tank has been overloaded or a pellet has got caught between lid and structure)
- faulty button
- button fixed incorrectly to the structure and is not consequently actuated by the pellet tank lid
- electric wiring not connected correctly or damaged in any point, and electric continuity is interrupted as a consequence.

5.3.18. Alarm PRES H2O

The cause of this alarm is due to lacking or excessive pressure in the hydraulic system. The alarm **PRES H2O** activates when the pressure is **lower than 0.5 bar** or **higher than 2.5 bar.**

DIAGRAM no. 9
ALARM: **PRES H2O**

START

By pressing and keeping pressed the button **3**, is the pressure of the system within **(> 0.5 bar and < 2.5 bar)** ?

NO

YES

Is the wiring to the motherboard correctly connected and carried out?

NO

Restore the wiring as in the electric diagram.

YES

Run an operating TEST by replacing the motherboard.

Is there another pressure gauge along the system to compare the pressure?

NO

YES

Is the pressure detected by the pressure gauge similar to the one detected by the stove?

YES

Take the pressure to 1.0 bar when cold or 1.5 bar when hot by reintegrating or discharging the system

NO

Is the problem solved by rechecking the pressure and/or re-lighting the stove?

NO

Is the transducer obstructed? (control the water entrance hole)

YES

YES

NO

REPLACE TRANSDUCER

Clean and refit the transducer and restore the pressure in the system.

If the transducer still does not read the pressure, **REPLACE IT.**

Problem linked to the system.
Check that there are no leaks along the system and that the expansion tank is working correctly

5.4. The most common generic problems and the solutions.

5.4.1. Display PELLET BOX that is turned on or off or illustrates incomprehensible symbols.

This problem frequently occurs in stoves that include the control display, fitted **on the cover of the pellet hopper**.
The display is connected to the motherboard through a "flat cable", i.e. a very thin and flexible cable with 16 poles. With time, the heat and the frequent opening and closing of the cover, this electric cable may be damaged and not power the display correctly.
In certain cases the bad contacts procured by the damaged cable also cause false information to be communicated (alarm type or impossible temperatures).

Solutions:
- Replace the flat cable.
- After replacing the cable, if necessary check if the display has suffered damage caused by bad electric contacts produced by the cable.

5.4.2. Reception difficulty of the ACTIVE remote control and no automatic function.

This problem is caused by **electromagnetic interference** in the environment of installation (other WI-FI radio, internet networks, cord-less telephones), that may disturb the receiver installed on the stove.

Solutions:
- The first control to do is to check the position of the antenna of the receiver. Its position (antenna pointed to high) is important for a good reception of the radio signals coming from the remote control. In more difficult cases, we advise making the antenna come out of the receiver, to the exterior of the structure of the device.
- This problem may also be due to interference generated internally in the product, in the case in which the cables where 220 Volt pass (air and smoke fans, capacitors, etc..) are wired together or close to cables where 12Volt pass (encoder, flat cables, smoke sensor). Therefore separate all the cables, especially keeping the cable of the encoder, the flat cable that connects the motherboard to the emergency panel and the receiver and finally the cable of the smoke sensor, insulated from all the others.
- Replace the emergency panel with a newer one (**cod. *414509003***) that has a higher interference filter.

5.4.3. Fast appearance of ON-OFF on the emergency panel.

The problem is closely correlated to the phenomenon of electromagnetic interference and, though not causing any operational problem (the product works without any problem by ignoring this signal), it may worry the user who sees this signal appear on the display of the emergency panel.

Solutions:
- Divide the "high voltage" cables from the "low voltage" ones (especially the flat connection cable of the emergency panel) following the specifications illustrated above.
- Replace the emergency panel with a newer one (**cod. *414509003***) that has a higher interference filter.

5.4.4. Appearance of the PELLET alarm with the hopper full.

This problem is closely correlated to the electromagnetic interference at the electrical wiring level that causes the incorrect signalling of the sensor. It is instantly obvious that this type of alarm is false, since the device is blocked immediately without waiting for the appropriate 20 minutes of pre-alarm that warn the user of the effective lack of fuel.

Solutions:
- Adjust the sensor by using the screw placed at the rear of the same sensor. By turning the screw, a small green LED placed next to it will turn on or off, depending on whether the sensor detects the pellet in the hopper or not (ON = presence of pellets / OFF = hopper empty)
- Divide the "high voltage" cables from the "low voltage" ones (especially the sensor cable)
- Given the difficulty in carrying out the calibration or in avoiding the problems linked to interference, MCZ advises completely eliminating the sensor. Deactivate the sensor via software and disconnect its wiring.

6. SCHEDULED MAINTENANCE.

6.1.   What and when ?

At the basis of a good working of a pellet stove, periodical maintenance must be carried out that controls the efficiency and the cleaning of the individual components, replaces the parts subject to wear (gaskets, deflectors, etc..), and eliminates all the ash residues and encrustation from the exchange chamber.

Components to check	Daily	Every 2-3 days	Every 30 days	Every 60-90 days	Every end of season	Every 2 seasons
Clean the grate	☑					
Clean the ash collection compartment with a vacuum cleaner		☑				
Cleaning the ash drawer		☑				
Clean the fire door glass		☑				
Remove the ash from the lower heat exchanger.				☑		
Clean all the heat exchangers and remove ash and encrustations					☑	
Clean the discharge "T"			☑			
Clean the smoke connection				☑		
Control and replace the door seal						☑
Control and replace the ignition plug						☑
Control and clean the pollen filter (ACTIVE SYSTEM)			☑			
Replace the remote control batteries (especially for ACTIVE stoves)					☑	

6.2.   How ?

REMOVAL AND CONTROL OF THE CERAMICS
- Remove the ceramics of the stove and place them in a safe place away from the product to avoid them breaking
- Check whether there are cracks or breakages (inform the customer in advance if defects were found)

DISCONNECTION FROM THE FLUE PIPE
- Disconnect the stove from the flue pipe
- Clean with a brush or with the vacuum cleaner the anti-condensation **"T"** connection
- Clean the smoke connection

CHECK THE POLLEN FILTER (only for ACTIVE SYSTEM stoves)
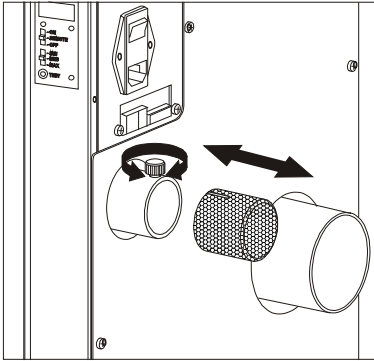
Remove the pollen filter by unscrewing the blocking screw and delicately clean it with a dry brush or compressed air.

Pay attention not to deform the filter and check the integrity of the metal mesh. The filter must be refitted in a way that the slot corresponds with the blocking screws. The filter, once fitted, must protrude externally from the tube by about 5-6 cm. If the filter is broken or deformed, it must be replaced. The pollen filter has the code 4120889 and costs € 10.00+VAT in the price list

⚠️ Any damage to the components caused by the lack of this component is on the account of the user or the person who neglected to fit this component.

CLEANING THE COMBUSTION AIR FLOW SENSOR (only for ACTIVE SYSTEM stoves)

In the Ø 50 mm air intake pipe at about half its length, the sensor is placed that detects the flow of incoming combustion air.

Air flow direction
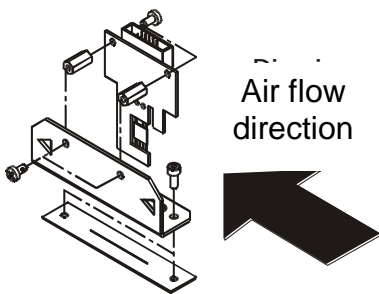
⚠️ Pay attention when moving this device since it is very delicate; especially the part of the sensor.
DO NOT TOUCH IT WITH YOUR FINGERS.
DO NOT BEND THE ELECTRICAL CONNECTORS. PRIOR TO LOOSENING THE SENSOR PAY ATTENTION TO THE SIDE IN WHICH IT IS INSERTED.
NOTE: There is an arrow in the sensor that indicates the direction of the flow of air

To loosen the board containing the sensor, loosen the screws that block it and extract it putting pressure from the top downwards (see figure)
Clean delicately at the level of the sensor with a dry and clean brush.

CLEANING THE EXCHANGE CHAMBER

- As usual open the inspection panels starting from the upper ones and with a brush and/or an wire brush scrape all the walls of the exchange chambers in a way that all the soot falls in the lower ash pit.
- Open the lower inspection panel and remove all the soot with the vacuum cleaner perhaps with the aid of a brush or a thin attachment for the cleaning.
- Once the inspection panels are removed, before closing them, replace the seal gaskets of the same panels to guarantee a perfect adherence and seal.

CLEANING THE VOLUTE AND THE SMOKE FAN

After cleaning the lower exchange chamber that often coincides with the smoke fan compartment, assess whether it is necessary to clean the volute and/or the smoke fan.
The volute, for its conformation, has dark corners whose cleaning requires the removal of the smoke fan. The smoke fan is cleaned with a dry brush or a small brush in order to remove the soot and encrustations.

⚠️ **ATTENTION**

Once the smoke fan or the volute is removed, it is compulsory to replace all the seals and redo any silicon.

The volute must be perfectly airtight. Pay attention not to act with too much force on the blades since if these twist or the blade become unbalanced, the fan will vibrate when running normally.

CHECK THE SEAL OF THE FIRE DOOR
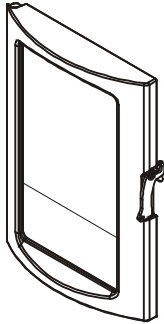
The seal of the fire door is very important for the correct running of the stove. If this makes air draw, the stove completely changes its operating power given that the air sensor must require a greater quantity of oxygen to balance the combustion.

To check the seal, place the sheet of paper between the fire door and the structure. Close the door and try to remove the sheet of paper. If it easily comes away it is necessary to adjust or replace the seal; if instead it remains blocked the seal is still integral.

Alternatively it is possible to adjust the handle by unscrewing the eccentric bush and re-setting it, checking that the handle is more solid. Redo the test with the sheet of paper until it does not come away at any point.

CLEANING AND CHECKING THE COMBUSTION CHAMBER.
- Clean the entire combustion chamber of ash built up during winter again
- Empty the ash drawers and all the collection compartments, also below the grate.
- Check that the combustion air intake point (below the grate) is free and clean.
- If deemed necessary, remove the refractory interiors to also remove the ash built up behind these components.
- Carefully clean the grate and check the integrity.
- Any small deformations in the grate can be repaired with pliers or a hammer.
- If the grate has large deformations it is necessary to replace it.

CLEANING THE DEFLECTORS IN THE COMBUSTION CHAMBER.
- On some models there are deflectors that must ABSOLUTELY be removed and carefully cleaned.
- In the case of perforated deflectors (see Vega model) the deflectors are to be brushed in a way that all the holes are free and clean.
- In case of fixed deflectors (See Polar/Nova model) they must be removed, cleaned and put back.
- In case there are deflectors in "Calorite" (old Polar/Nova Air-Multi models), they are to be eliminated and no longer refitted.

CHECKING THE PRESSURE SWITCH
- Check that the silicon tube that connects the pressure switch to the volute is integral and clean.
- Check that the pressure switch trips if you blow into the silicon tube.

CHECKING THE SPARKPLUG
- Try to light the stove and check that the sparkplug heats up.
- If the sparkplug has been working for more than a few months, it is likely that the point will not become hot but this does not mean that the sparkplug is inefficient.

RECONNECTING THE FLUE PIPE
Prior to removing the connection to the flue pipe:
- Check the cleanliness in all the parts
- Check that the smoke outlet pipe of the stove is free and clean.
- Check the cleanliness of the "T"

TEST LIGHTING
- **It is compulsory** to carry out a test lighting to check whether everything is perfectly functional or there are problems following cleaning.
- For the purpose of this test clean the combustion chamber of residues again.

CLEANING THE PELLET HOPPER AND THE FEED SCREW
- Remove the entire pellet from the hopper with a vacuum cleaner and subsequently remove the shaft of the feed screw in order to eliminate all the sawdust.
- Clean the shaft of the feed screw and grease the two tips with a little high temperature fat
- Clean the pellet feeder channel with a brush.
- Clean the two bushes and grease them with high temperature fat
- Refit the feed screw and check that the rotation is fluid making it turn by hand.

LCD REMOTE CONTROL
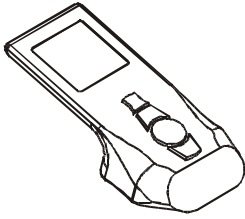
At the end of the season there is no reason to keep the remote control active.

- Check that the LCD display is integral.
- Remove the batteries that may damage the remote control with their acids after long inactivity.
- Advise the customer to insert new batteries at the beginning of each new season

SHUTTING THE STOVE DOWN

- Once all the reinstallation operations are completed, cut the power to the stove with the rear button
- Remove the electrical cable
- Remove the ceramics and clean their exterior with a damp cloth.

6.3.   Why?

Suitable and planned cleaning of the device allows a better efficiency and especially a better operation.

The ash builds up inside the exchange chambers, act as thermal insulation and decreases the heating capacity of the product. A part from the heat, unable to be absorbed by the structure, leaves the flue pipe or remains trapped in the same structure that has excessive running temperatures.

The lack of cleaning also causes frequent combustion and fuel clogging problems in the grate and large difficulties in calibrating the recipe.

The glass and the combustion chamber (Alutec$^{®}$) will frequently get dirty or blackened and the deposits of ash will increase notably.

7. ELECTRICAL DIAGRAMS

7.1. Electric diagram of a Pellet Box stove version AIR

Key:
1. Main board
2. "Flat" cable
3. Control panel
4. Serial connector for external thermostat
5. Bulb thermostat
6. Ambient temperature sensor
7. Pressure gauge
8. Reduction motor
9. Pellet ignition sparkplug
10. Grate
11. Smoke extraction fan
12. Smoke temperature sensor
13. Silencer card
14. Warm air fan
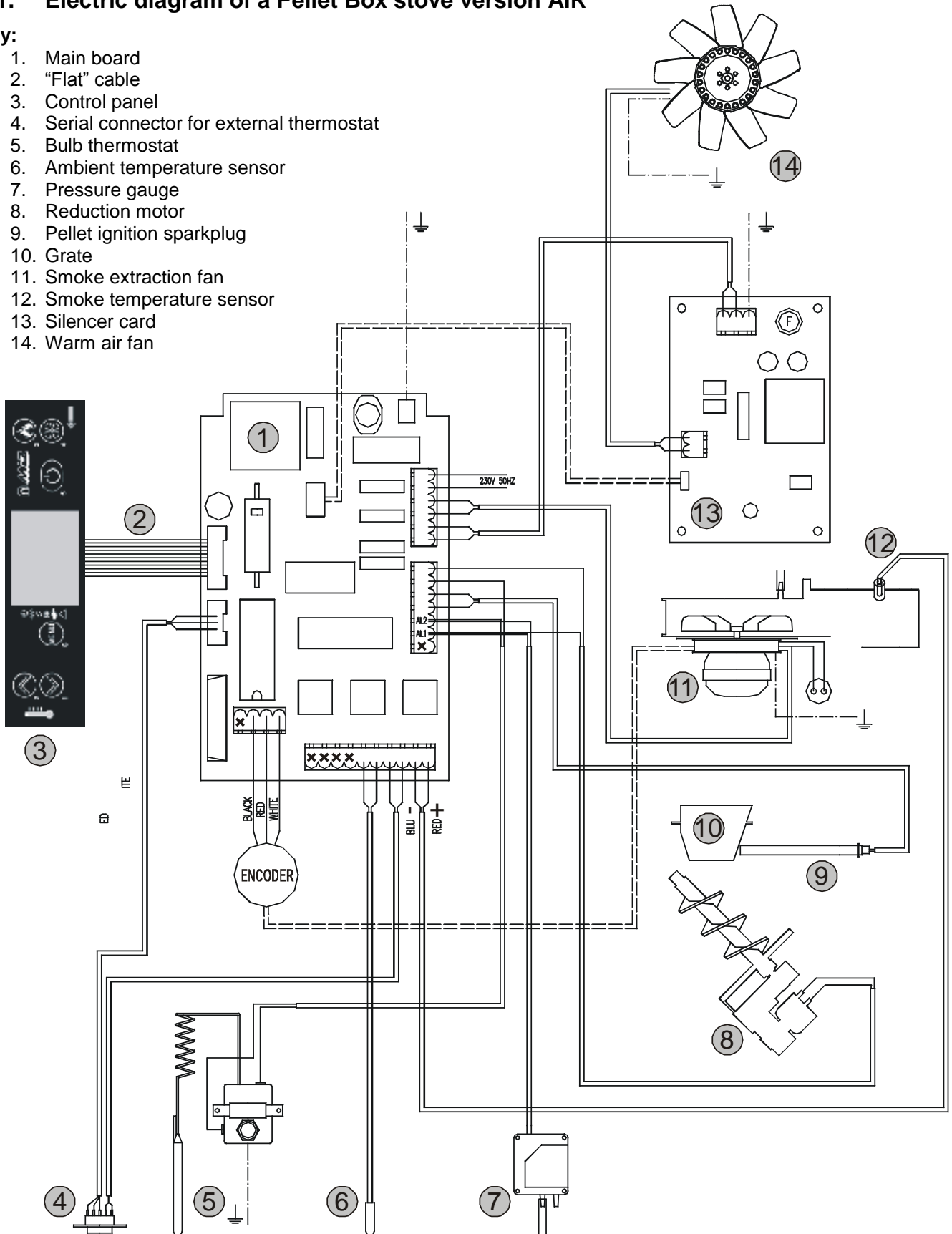
7.2. Electric diagram of a Pellet Box stove version HYDRO <u>without</u> KIT ACS

Legend
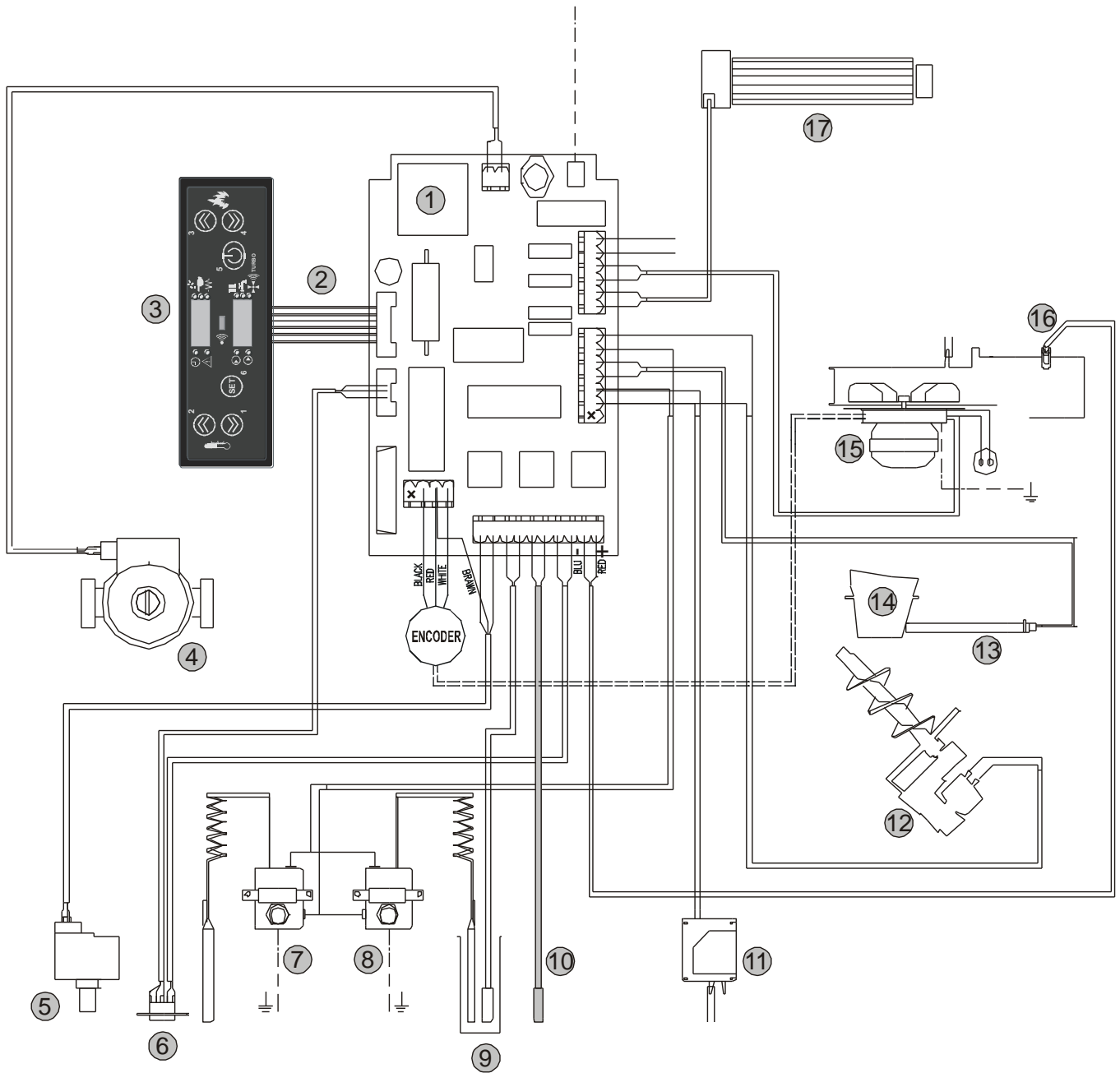
1. Main board
2. Flat cable connection control panel
3. Control panel
4. Water circulation pump
5. Pressure transducer
6. Serial connector for external thermostat
7. Bulb thermostat for the safety pellet hopper (can also be replaced with clickson)
8. Bulb thermostat for the water safety
9. Water in boiler temperature probe
10. Room temperature probe
11. Pressure gauge
12. Reduction motor
13. Pellet lighting Sparkplug
14. Grate
15. Smoke exhaust fan
16. Smoke sensor
17. Hot air fan.

7.3. Electric diagram of a Pellet Box stove version HYDRO <u>with</u> KIT ACS

Legend

1. Main board
2. Board connection flat cable
3. Domestic water kit management board
4. Display connection flat cable
5. Control panel
6. Water circulation pump
7. Domestic water production kit
8. Pressure transducer
9. Ext. thermostat connector
10. Pellet bulb thermostat
11. Boiler bulb thermostat
12. Water temperature probe
13. Room temperature probe
14. Pressure gauge
15. Reduction motor
16. Pellet ignition sparkplug
17. Grate
18. Smoke extraction fan
19. Smoke temperature sensor
20. Warm air fan
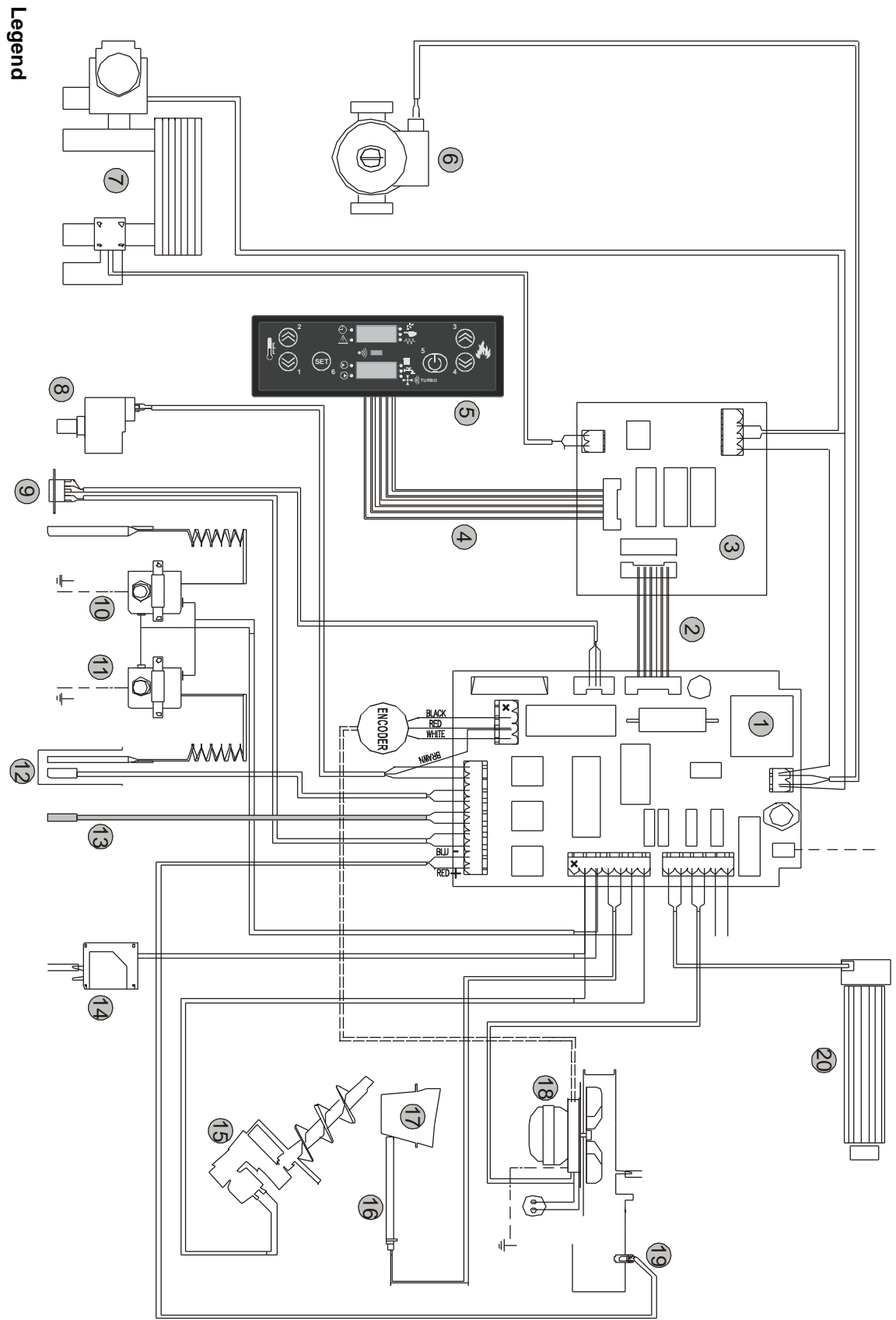
7.4.   Electrical diagram of an ACTIVE SYSTEM device

Cod. 41450902300

Cod. 41450907601
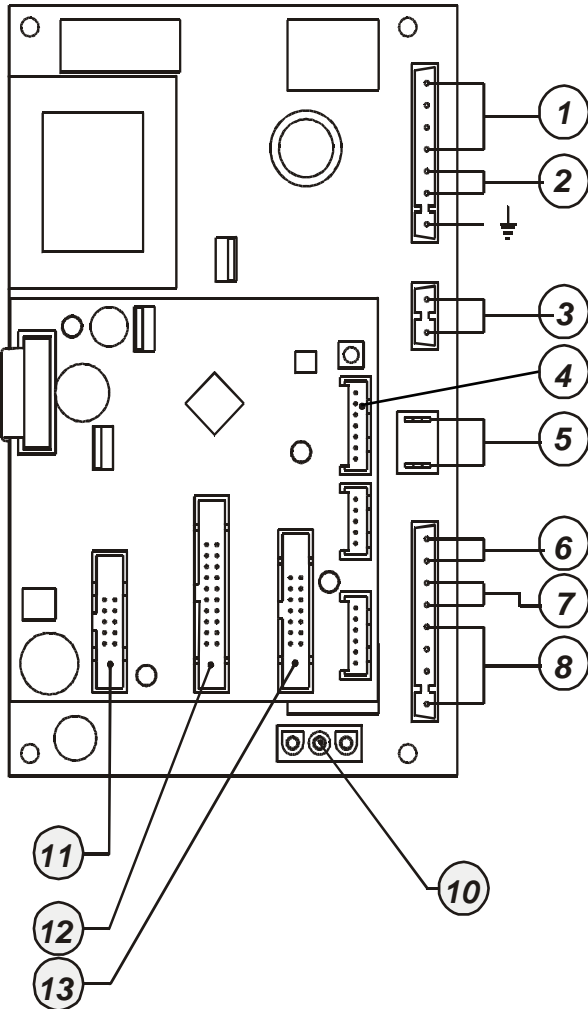
1.   Pellet ignition sparkplug
2.   Main switch that provides voltage to the motherboard.
3.   Hot air expulsion fan
4.   Smoke temperature measurement probe
5.   Smoke expulsion fan power cable
6.   Bulb thermostat / Clickson
7.   Pressure gauge
8.   Reduction motor
9.   ENCODER white connector of the smoke expulsion fan.
10.   Air flow sensor
11.   Services interface panel
12.   Emergency panel
13.   Old model RF receiver connector (blue) (now unused following the introduction of the emergency panel with an integrated receiver).
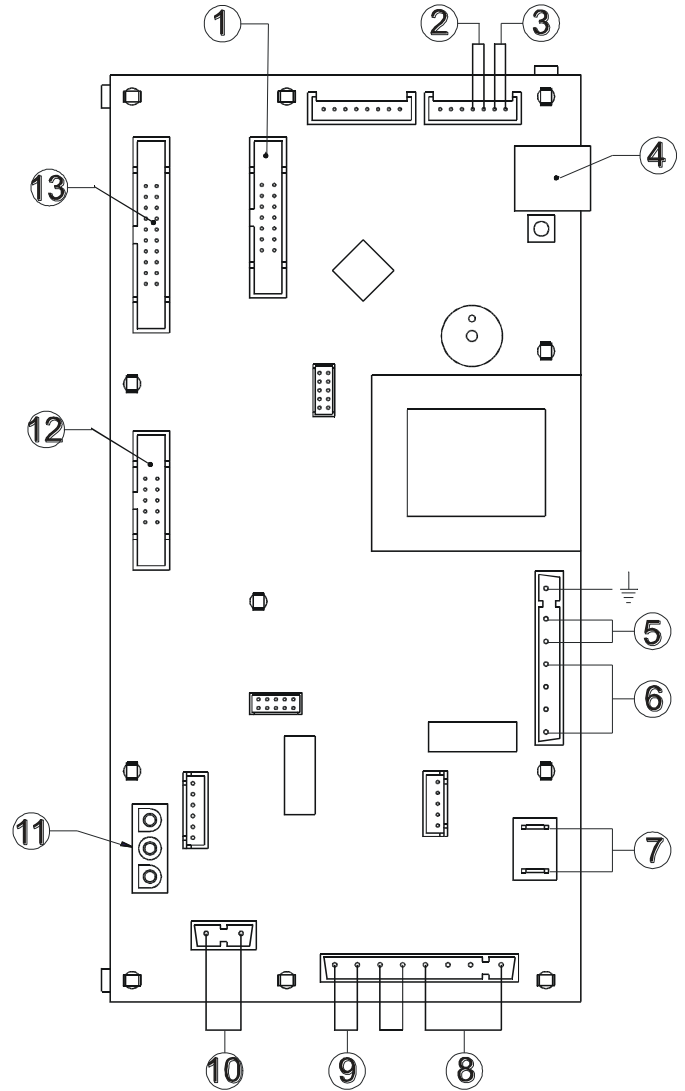
1.   Control panel
2.   Room sensor
3.   Smoke sensor
4.   Modem connection
5.   Switch
6.   Ignition plug
7.   Flue-gas extractor fan
8.   Reduction motor
9.   Contact thermostat
10.   1Air fan
11.   1Flue-gas extractor fan revolutions control
12.   Air flow sensor
13.   Manifold for environment thermostat interface

N.B. The electrical wiring of the single components is fitted with pre-wired connectors whose measurement is different from one another in order to avoid inverting the wires or assembly mistakes.

Service Manual – cod. 89070072 – UK

8. EXAMPLES OF HYDRAULIC DIAGRAMS (examples only)

8.1.   Pellet stove/boiler + ACS
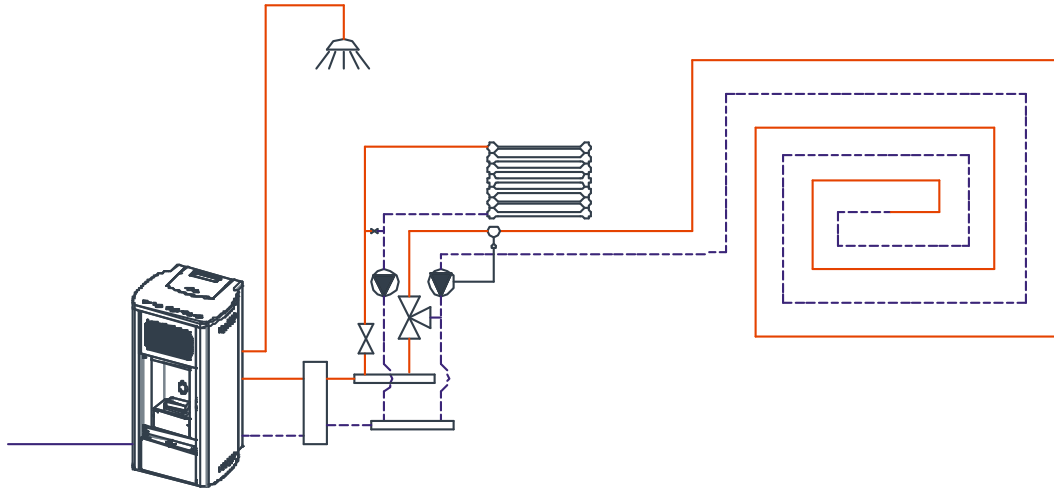
8.2.   Pellet stove/boiler + ACS + storage tank
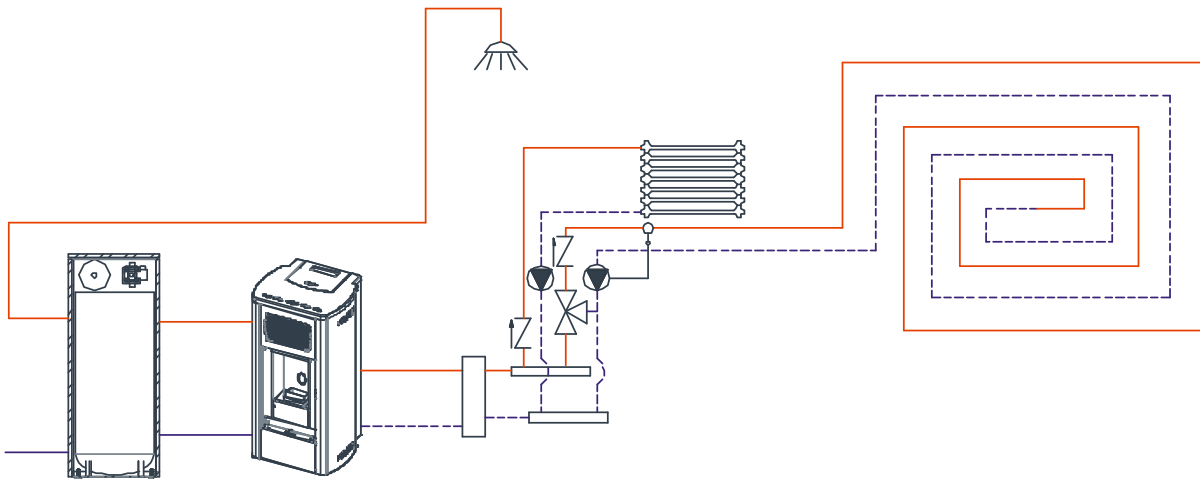
8.3.   Pellet stove/boiler + gas/diesel boiler
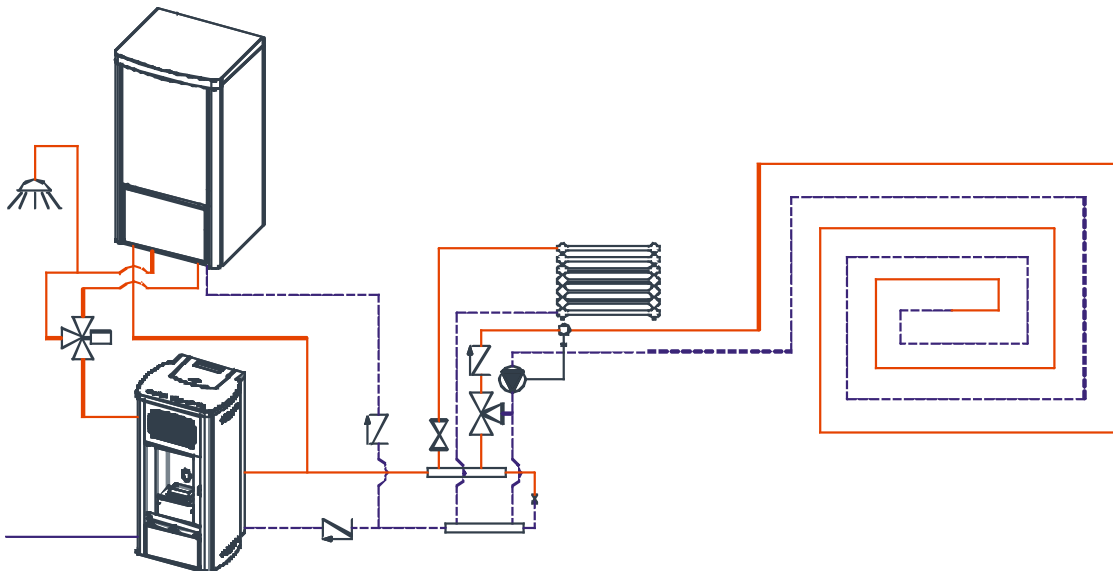
8.4. Pellet stove/boiler + gas/diesel boiler + storage tank + ACS
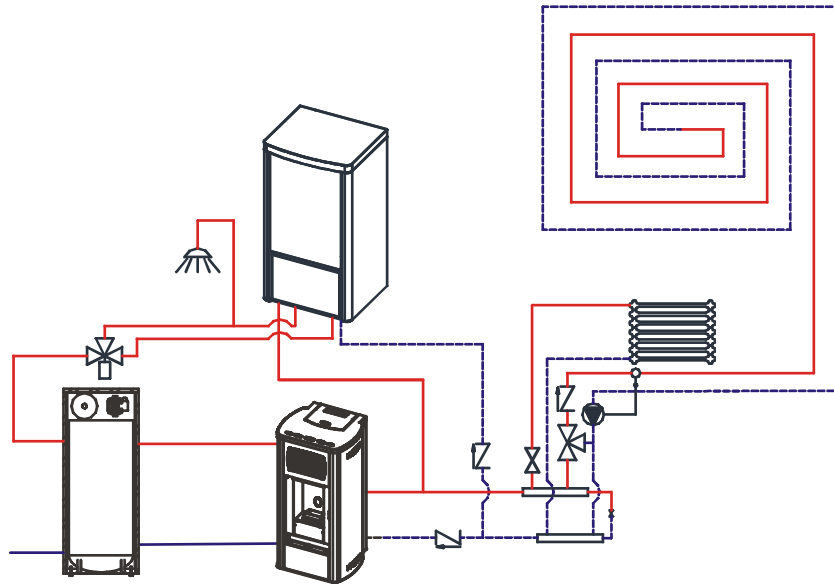
8.5. Pellet stove/boiler + ACS boiler + solar system
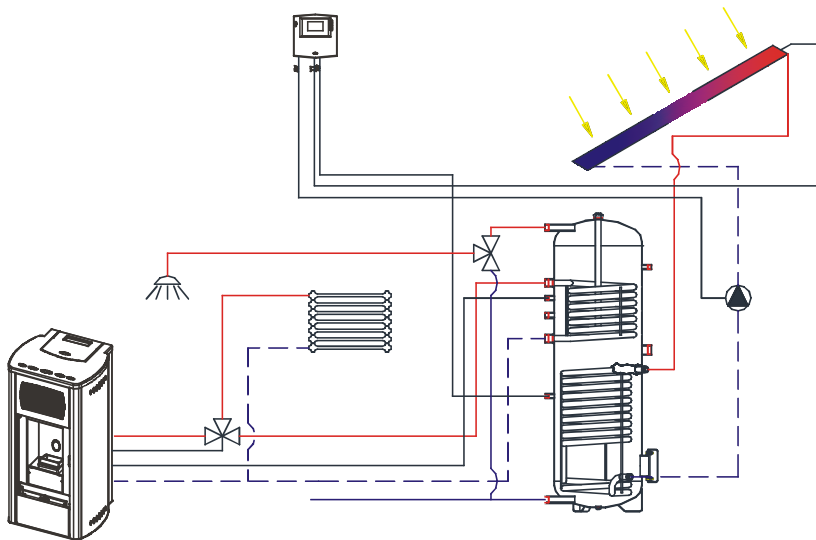
8.6. Pellet stove/boiler + ACS + ACS boiler + solar system
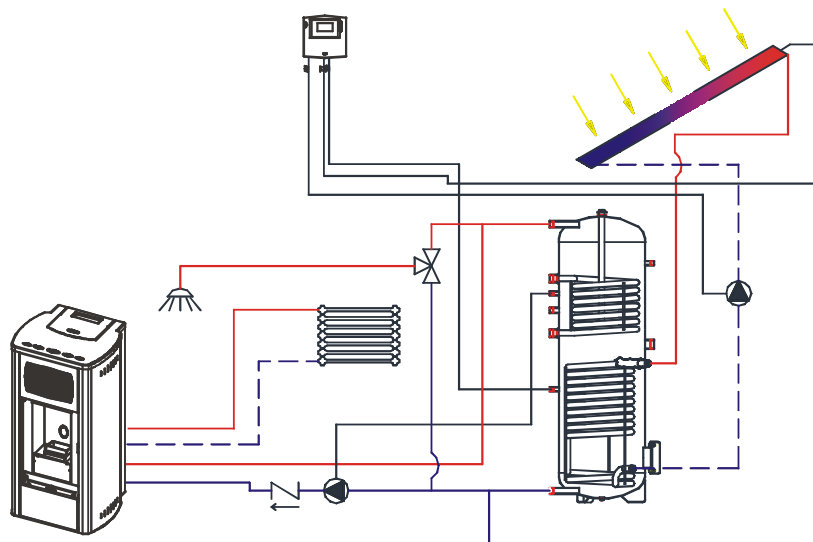
8.7. Pellet stove/boiler + "tank in tank" puffer + solar system
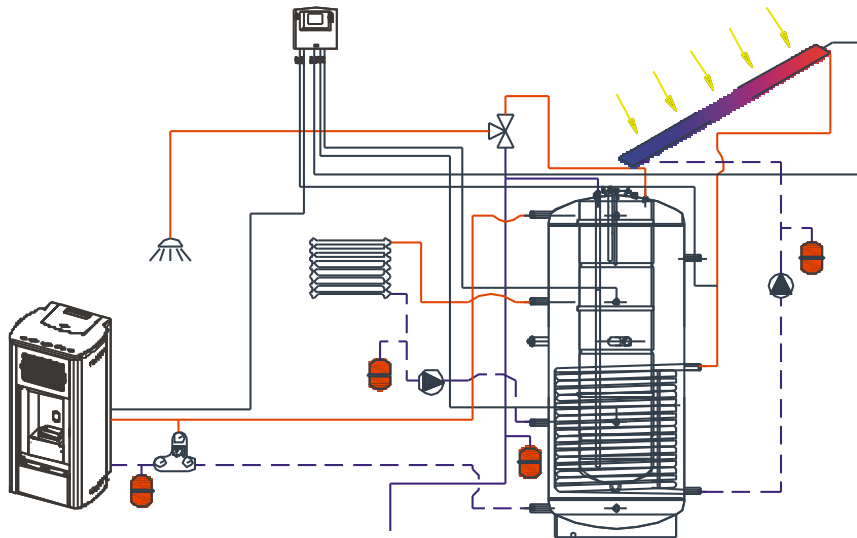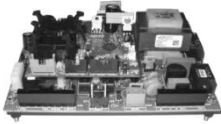
8.8. Pellet stove/boiler + "pipe in tank" puffer + solar system
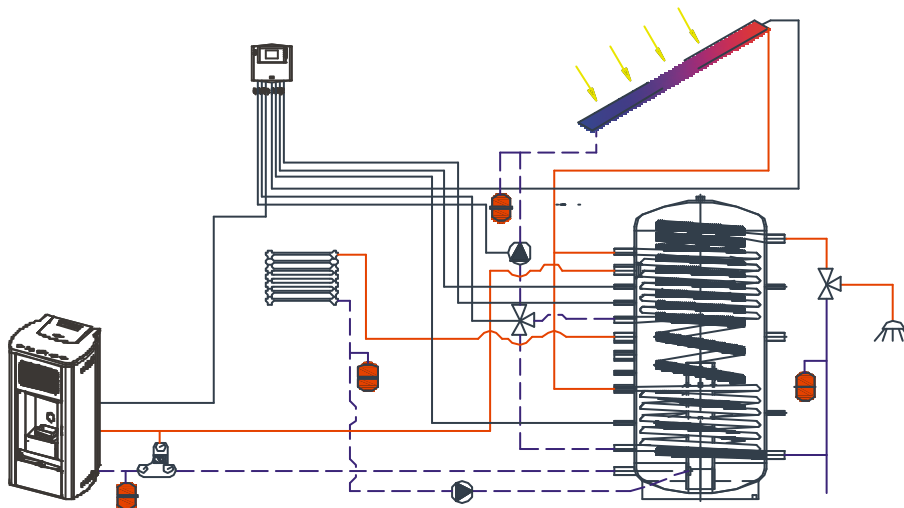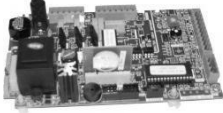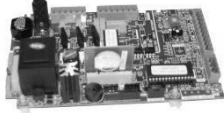
8.9. Pellet stove/boiler + gas/diesel boiler + "pipe in tank" puffer + solar system
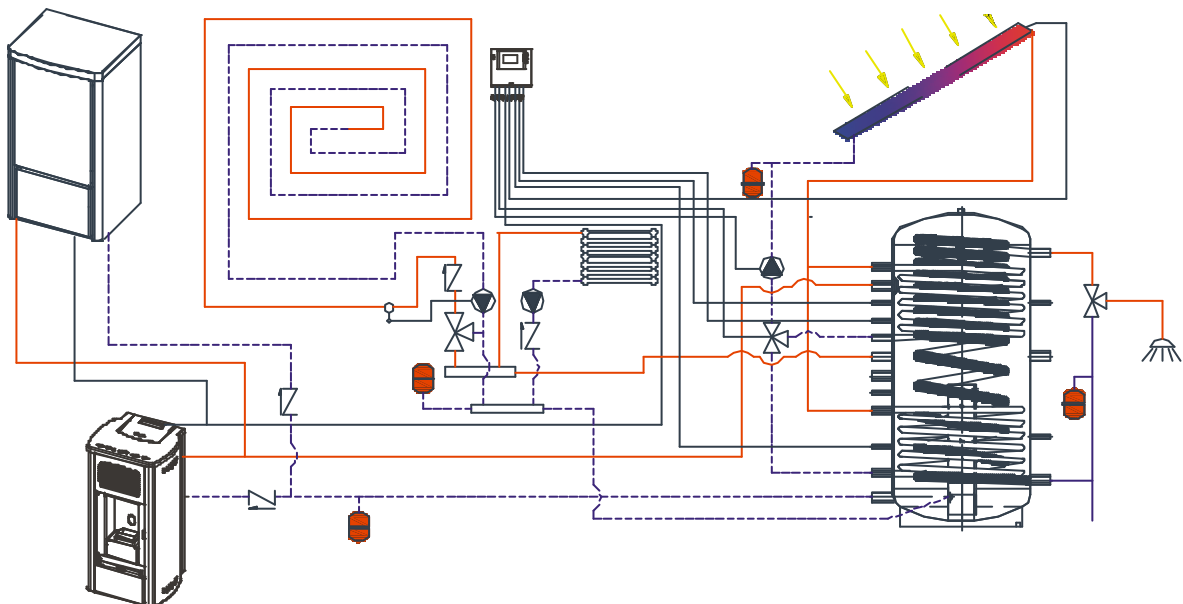
9. ACTIVE PRODUCTS AND RELATED ELECTROMECHANICAL COMPONENTS

	Vega - Astra Aurora	Antares	Saturn - Omega Planet	Solar – Gea Polar - Nova AIR	Polar - Nova MULTIAIR	Athos MULTIAIR	PowerSystem	PowerBox	Ego - Star AIR e COMFORT AIR	Suite - Club Musa – Nima Powertherm Vivo 80 – Toba COMFORT AIR Kama – Nasik Sagar Philo	Ego - Star HYDRO	Suite Club Musa HYDRO 15 Kw	Suite Club Musa HYDRO 21 Kw
ACTIVE SYSTEM Motherboard	41450902300						41450902400			41450907601	41450904450		
Emergency or control panel	414509003								414508022	41450900700	414508022		
Remote control	414508025 (00) – (01) – (02) – (03)								Optional	41450901500 (04) (05) (06)	X		
Reduction motor	MARKLE-KORFF **1,5 rpm** 4160278										MARKLE-KORFF **3,3 rpm** 41450901600		
Air sensor	414508036												
Sparkplug	41450905000	41450902600				41450905000							
Smoke exhaust fan	4160429								414508024		414508016		
Security thermostats	412007004 **110°C** Pellet										41450901100 95°C **H$_2$O**		
Smoke sensor	4160469						41450901700		41450901800		41450901700		

10. "EASY" PRODUCTS AND RELATED ELECTROMECHANICAL COMPONENTS

	Face Kaika	Kaika OYSTER
Motherboard	41451001200	41451003000
Control panel	41450907900	
Pressostat	X	41451003700
Reduction motor	4160278	
Hot air fan	41450907800	41451001701
Sparkplug	41450902600	
Smoke exhaust fan	414508024	41451003200
Security thermostats	412007004 110°C	
temperature sensor	4160386	
Smoke sensor	4160239	

NOTES

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For additional information:

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www.mcz.it

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