SERVICE MANUAL 2020

Lcd grafic display

EN

SUMMARY

FOR INSTALLATION AND REPAIRS ALSO REFER TO THE MANUAL ATTACHED TO THE STOVE

1 BASIC INSTALLATION RULES

SUITABILITY OF PREMISES	AIR VENT	FLUE GAS FITTING	FLUE	CHIMNEY
An open chimney uses about 45 m^3 of air for every kg of fuel. The installation premises must assure as much air as the appliance is able to use. Refer to the manufacturer's technical data concerning fuel consumption to establish the minimum size of the installation premises. Comply with safety distances from walls and/or from flammable surfaces, as required by the manufacturer. Keep safety distances from furniture or other furnishings that may be damaged by heat. Insulate the flue gas duct near flammable materials. Installation is forbidden in premises where there is already a type A appliance or extraction hoods.	It is obligatory to assure correct air flow to replenish the oxygen used by the appliance in the installation premises. It is important to install an air vent in direct contact with the outside environment. Correctly size the air vent, according to the dimensions required by the manufacturer. The air vent has a dual purpose: to provide an adequate air supply for the proper operation of the appliance and to supply air in the room to make up for that used by the combustion. For an airtight stove installation, the combustion air must be taken directly from the outside with maximum 2 metres of piping.	The flue gas fitting is the section of piping connecting the flue to the appliance. This fitting must comply with fundamental safety and heat resistance requirements. It is forbidden to use flexible hoses. Therefore the fitting may only be made with rigid pipes, either in stainless steel or in aluminised steel. Forced exhaust appliances must be connected with hermetic pipes fitted with suitable gasket. In connecting hydro stoves ,only use direction changes with a maximum tilt of 45°. With pellet stoves use a maximum of three 90° elbows. The fittings must NEVER be smaller than the appliance's flue gas outlet.	The flue is the essential element to dispose of the smoke and must therefore meet the following requirements: Be waterproof and thermally insulated. Be made with materials able to withstand heat, the action of combustion products and any condensate. Have a vertical structure with deviations from the axis not exceeding 45° and without bottlenecks. It must exhaust the flue gas at the highest point of the house. Comply with the requirements set out in the technical table type, internal flue section and height. The internal section should preferably be round. If it is pre-existing and has been in operation, it must be cleaned. Wall outlet on pellet stoves is forbidden.	The chimney is the end part of the flue. Its proper draught depends on it. The chimney must comply with the following requirements: Its internal section must be equivalent to that of the flue. Its outlet section must not be less than double the internal one of the flue. It must be constructed in a way that prevents ingress in the flue of rain, snow and any other foreign matter. It must be positioned in such a way as to assure adequate flue gas dispersal and in any case outside the backflow zone where negative pressure may form.

2 FLUE TYPE

2.1 INSTALLATION INTERPRETATION

One of the first operations to be performed to correctly choose our stove's combustion parameters, is to identify and understand whether the installation you are carrying out or dealing with has any issues in flue gas exhaust. Installations are therefore divided into three main categories:

ACTIVE where the flue gas connection is very short, almost or completely without elbows and which supports virtually a direct connection into an "active" flue, i.e. which has minimum natural hot draft of 0.10 mbar. These installations do not normally required supplementary adjustments because the basic recipe, with which the stove is supplied by the manufacturer, is designed for installation in a flue with minimum natural draft of 0.10 mbar as set out in the appliance's use and maintenance manual.

PASSIVE where the flue gas connection is more long-winded as it features elbows and/or some metres of piping.
In the event of carrying out or dealing with an installation of this kind, we would like to remind you that there are still threshold parameters to be complied with, beyond which stove operation is not assured:

- Never fit more than three 90° elbows.
- Never lay more than 2 metres of Ø80 mm horizontal piping, which must in any case have a minimum gradient of 3-5%.
- Never install countersloping connections (sloping downwards).
- Never install a connection with more than 6 metres of Ø80 mm pipe.
- Always install an inspection "T" on the appliance outlet (avoid 90° or 45° elbows).

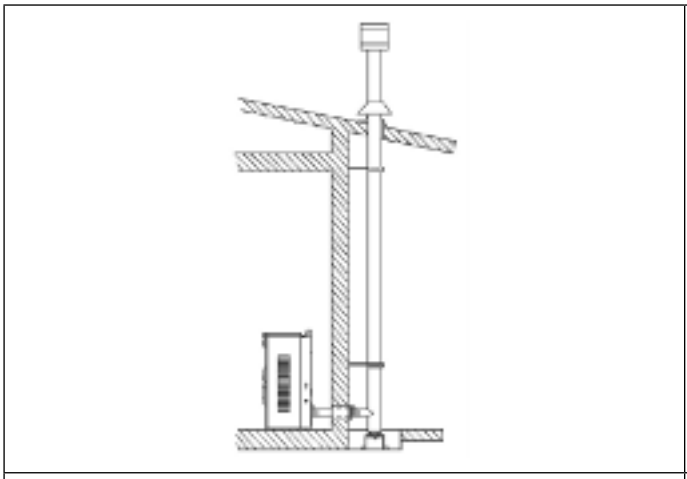
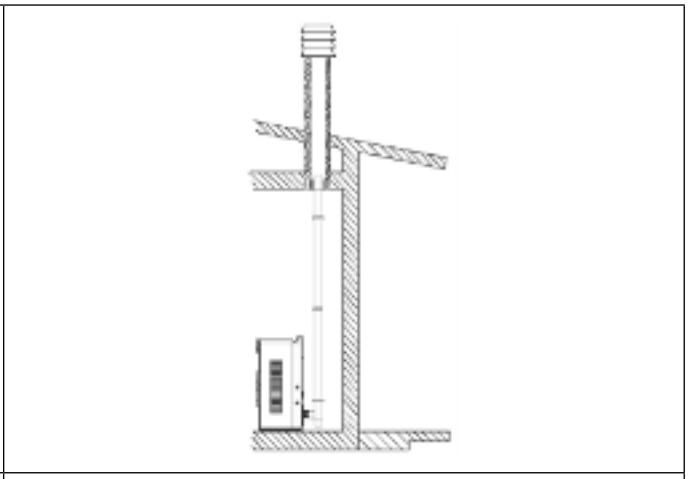
So-called **WALL** installations - forbidden by current laws in Italy, Germany, Austria, Switzerland but still permissible in some European countries - is very risky. Should you decide to implement it, we recommend following these instructions:

- Protect the piping outlet from the wind as much as possible.
- Always install a windproof cowl (which should be high quality, not just a windproof cap for boilers).
- Do not use 90° elbows or "Ts" in place of windproof cowls. Most of the time these stratagems worsen operation.
- Always make the connection as short as possible.
- Avoid sections of piping with non insulated outer diameter.
- Avoid vertically climbing against walls, as they might get soiled.
- Strictly avoid exhausting the flue gas underneath balconies, terraces and roof eaves on the assumption that the outlet would be more protected from the wind. The opposite is true: these parts of houses are very windy and smoke outlet is very difficult. Furthermore, there is a very high likelihood of significantly staining the building.

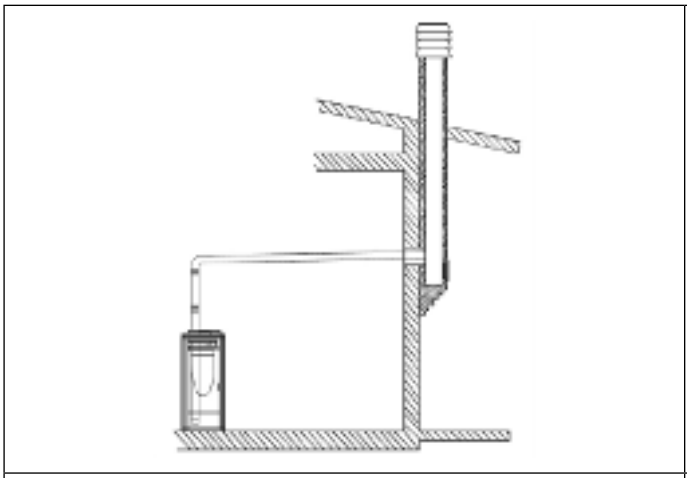
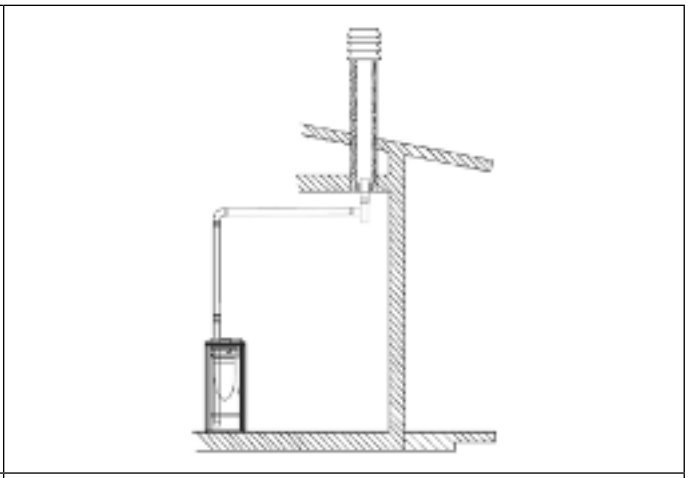
The manufacturer disclaims any liability in the event of malfunctioning or damage to property or harm to people. Furthermore, this type of installation may even forfeit the warranty.

These installations normally require additional adjustments, either changing the fuel supply or the combustion air supply. To make these changes, follow the general flame appearance concepts detailed in the previous paragraph and the instructions set out in the following chapter related to changing pellet metering or flue gas extraction fan speed.
In order to further assist in identifying the different types of installations, here are some examples:

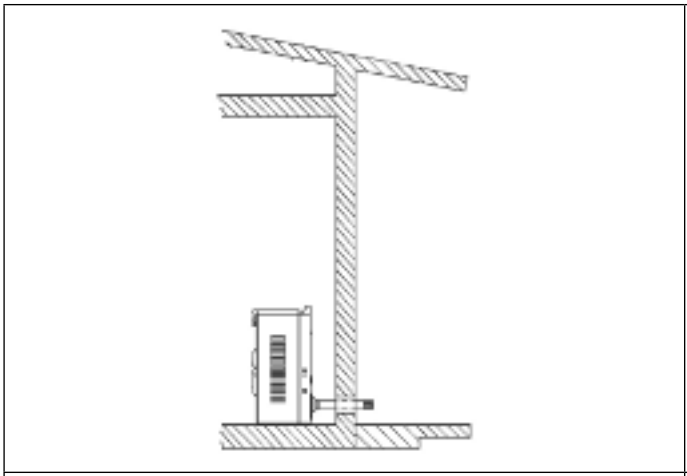
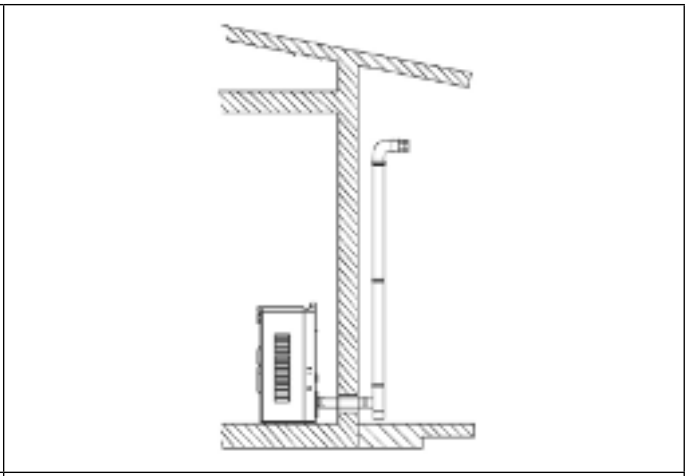
ACTIVE INSTALLATIONS

	
50-70 cm connection to the flue insulated without elbows	Connection to existing flue with minimum 10 Pa hot draft

PASSIVE INSTALLATIONS

	
Very long connections to the flue	Connections with various elbows and several metres of piping

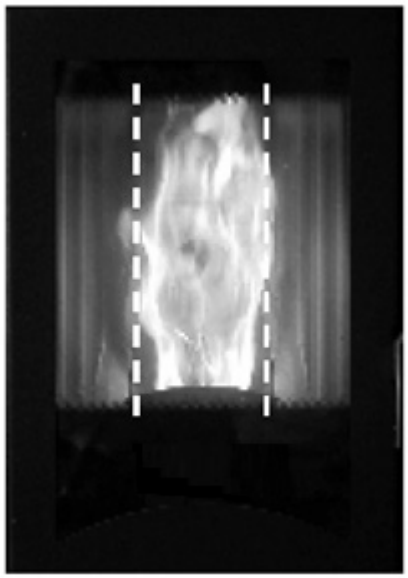
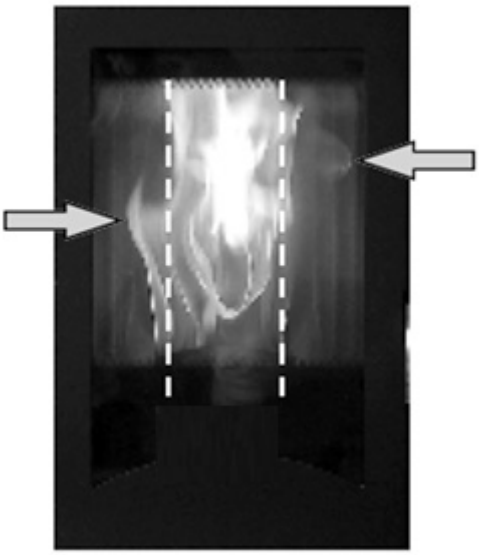
WALL INSTALLATIONS

	
Direct wall outlets (not recommended and forbidden)	Wall outlets with elbows and several metres of piping + chimney (not recommended and forbidden)

3 COMBUSTION ADJUSTMENT

3.1 COMBUSTION CONTROL

To be sure that the selected recipe is the correct one, switch on the appliance and check combustion when the flame has settled and is regular.
The flame must be yellow on the sides and white in the middle, not excessively slow nor too oxygenated. Watch the flame to ensure the upper tip is sucked to the top of the combustion chamber and also, it must remain within the outline of the burn pot and not overflow at the sides. The bottom of the burn pot must almost always be visible, to prove that all the pellets that drop during a gear motor cycle burn completely before the next filling cycle.
Furthermore, the flame must "pulse" (rise and fall) to prove that the filled pellets are burnt immediately.

	
CORRECT FLAME	IRREGULAR FLAME

3.2 CHANGE PARAMETERS AFTER CHECKING COMBUSTION

The excessively oxygenated flame is low, very white and flickery and the pellet embers tend to spill out of the burn pot. The most evident anomaly is the flame is always low and the fire tends to go out especially at lower power.
The following changes must be made:
- Decrease the flue gas extractor speed.

An insufficiently oxygenated flame is orange, sluggish and tends to produce wisps of smoke. The inner glass and refractory material get stained and blacken quickly.
The most evident anomaly is the accumulated pellets in the burn pot. The quicker the build-up time, the more significant the changes to be made to the recipe.
The following changes must be made:
- Decrease the percentage of the amount of pellets dropping in the burn pot.
- Increase the flue gas extractor speed.

ANY OTHER SOLUTIONS TO THE CALIBRATION ISSUE:
- If the problem persists, carefully check the door and ash pan gaskets to ensure they are tight, all combustion chamber cleaning caps are closed and there are no obstructions in the flue.
- We would like to remind you that pellet quality is essential for proper combustion and is at the basis of the combustion rules set out above.

PROBLEMS CAUSED BY A PASSIVE FLUE:

- Overheating of the front of the stove with gaskets likely to break and door colour change.
- Increase of the temperature inside the burn pot up to the melting point, with possible ruptures.
- The burn pot burns the pellets with difficulty, until it gets filled up. In some cases, pellets can build up to the pipe they drop from, and the fire might creep into the tank.
- Since it burns poorly, a thick black smoke is produced, with large amounts of unburned material which is deposited along all the walls of the boiler and flue, restricting smoke passages. The more the flue diameter is reduced, the worse the stove burns.

3.3 THE RECIPES

Fig. 1 - LCD display

PELLET RECIPE: it allows you to adjust the quality of combustion i.e. of the flame based on the fuel quality or draft of the flue. Thanks to this adjustment the fuel supply in the burn pot may be modified by an amount between -30% and +15%.
In the same way, the RPM of the flue gas extractor fan may be changed as a percentage through the FLUE GAS RPM % CHANGE to counter some draft issues or reduce extraction in case of flues with excess draft. The flue gas extractor adjustment can vary between -30 % and +50%.

4 AIR SERIES 3 STOVES

4.1 FIRST IGNITION: WHAT TO CHECK

- Check whether the flue and flue gas duct installation is adequate for the installed stove and whether it complies with the requirements.
- Check whether the combustion air flow complies with the requirements.
- Ensure that with all appliances on (stoves, extraction hoods, etc.) the pressure drop between the room and the outside does not exceed 4Pa.
- If there is an external thermostat, ensure it is correctly connected to the boiler.

4.2 THE CONTROL DISPLAY: MENU KEYS AND DIAGRAM

CONTROL BOARD	KEYS	INSTRUCTIONS
		Boiler switch on/off.
		Scrolling the programming menu down.
		Menu.
		Scrolling the programming menu up.
		Decrease set temperature/programming functions.
		Increase set temperature/programming functions.

4.3 BASIC ADJUSTMENTS

Press keys and of the panel to modify basic operation parameters without entering the menus:

CONTROL BOARD	INSTRUCTIONS
	**Set Room T** = setting room temperature if the internal thermostat is activated. If however the internal thermostat is disabled, T ON is displayed i.e. external thermostat active. The values may be modified by pressing key and increasing or decreasing the readings with and .
	Fire = The values may be modified by pressing key and increasing or decreasing the readings with and .
	Air Fan Speed 1 = setting hot air fan speed. The values may be modified by pressing key and increasing or decreasing the readings with and .

5 THE MOTHERBOARD (AIR SERIES 3 STOVES)

In order to carry out a correct summary of all existing motherboards in the CADEL - FREEPOINT - PEGASO range as of 2013 and avoid matching or part order errors, here is a list of all versions based on type of stove.

5.1 MOTHERBOARD TYPE

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	N100-64K motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	W001 motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

5.2 MAIN OR 1ST LEVEL MENU

Press key  in any display status to obtain a first list of possible adjustments:

TIME and DATE	Date and time adjustment (see appliance's use and maintenance manual).
TIMER	Adjust time bands for stove switching on and off through the internal chronostat (see appliance's use and maintenance manual).
SLEEP	Programmed boiler switching off according to a countdown set by the user (see appliance's use and maintenance manual).
SETTINGS	A 2nd level sub-menu is accessed where you can adjust all boiler operation settings.
INFO	For all the information on the appliance and its operation.

5.3 SETTINGS OR 2ND LEVEL MENU

To access the settings sub-menu press the  key after scrolling all the items of the 1st level menu and finding SETTINGS. Here is another list of items:

LANGUAGE	Change display language.
CLEANING	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. This function has the purpose of activating the flue gas extraction fan in order to expel the suspended ash during turbolator cleaning and excess ash. It is therefore recommended to perform turbolator cleaning when the appliance is cold and actuating the flue gas extraction fan from the cleaning menu. Just press any key in the display to turn off the fan upon completing turbolator shaking and cleaning operations.
SCREW LOADING	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. With this menu you can activate the pellet loading gear motor and fill the feed screw when it is completely empty (e.g.: in case of first ignition or ignition after completely emptying the pellet tank). This operation saves time due to possible failed ignition since the feed screw is completely empty and it takes a few minutes to fill it.
TONE	Enable/Disable display keypad tones.
EXT. THERMOSTAT	Enable/Disable the internal thermostat against an external thermostat or NTC probe, which must be suitably connected to the connectors located at the rear of the stove (see appliance manual). In the event of disabling the internal thermostat and failed connection of an external thermostat or probe, the stove will consider the external thermostat contact as always OPEN and will therefore only adjust its power by checking water temperature set in the boiler. Simply connecting an external thermostat **is not enough for the boiler to recognise its presence**. **The external thermostat must be activated through this menu.**
AUTO-ECO	Enable/Disable ECO-STOP. Please note that the ECO-STOP switches the boiler/stove upon reaching the desired temperature and after a waiting time, which can be set by the user, useful to allow temperatures to settle and to be met. The factory set time is 10 minutes. To change this time interval you need to access the next menu ECO-OFF T.
OFF TIME ECO	As previously indicated this menu is required to set the appliance's switching off delay in ECO-STOP upon reaching the temperature. It is possible to select from minimum 1 minute to maximum 20 minutes. It is recommended to opt for very short times (1 minute) where there are zone valves that, upon reaching the temperature, completely cut out the boiler/stove from the system and where prolonged operation with no heat absorption may lead to the water in the boiler to boil. Likewise, longer switching off times are recommended in cases where the appliance is directly connected to a system not controlled by zone thermostats and where room insulation can cause rapid temperature changes.

PELLET RECIPE	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the pellets dropping into the burn pot, possible settings are: -30 = 30% reduction with respect to the default setting. -25 = 25% reduction with respect to the default setting. -20 = 20% reduction with respect to the default setting. -15 = 15% reduction with respect to the default setting. -10 = 10% reduction with respect to the default setting. - 5 = 5% reduction with respect to the default setting. 0 = No variation. + 5 = 5% increase with respect to the default setting. +10 = 10% increase with respect to the default setting. +15 = 15% increase with respect to the default setting.
SMOKE FAN RPM	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the flue gas extraction fan speed in order to address situations where flue gas cannot be extracted easily or situations of poor yield in the event of flues with excessive draft. Available settings are from +27% to -27% of the RPM set in the standard factory parameters.
COMPONENTS TEST	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. Through this menu it is possible to electrically power the various electronic and mechanical components to test their operation (igniter, gear motor, fans, etc.).
CHIMNEY SW.	This feature may only be activated when the stove is in operation and disables all internal and external probes to take combustion to peak power, regardless of system status. In this stage it is possible to make the sampling to check the appliance's emissions and relevant performance. It is recommended to perform this operation ensuring the suitable heat absorption by the heating system otherwise the boiler will rapidly reach boiling temperature making all sampling useless.
TECHNICAL MENU	Special adjustments can be made within this menu, for this reason access to the sub-menu is password protected (PASSWORD = A9). In addition to the technical parameters listed below, here it is possible to: Choose the PRODUCT TYPE during any repairs requiring motherboard replacement. Reset SERVICE hours. TECHNICAL PARAMETERS = list of all settings that may be modified with the display keypad. COUNTER MEMORIES = all internal appliance counters (e.g.: last 5 alarms triggered, etc.).

5.4 N100-64K AND W001 BOARD PARAMETERS

Fig. 2 - Board N100-64K

Fig. 3 - Board W001

GEAR MOTORS

In the event of gear motor replacement, install one of the following models depending on stove model (see **DATABASE: N100-64K a pag. 13**):

Fig. 4 - 1.5 RPM gear motor

Fig. 5 - 3.3 RPM gear motor

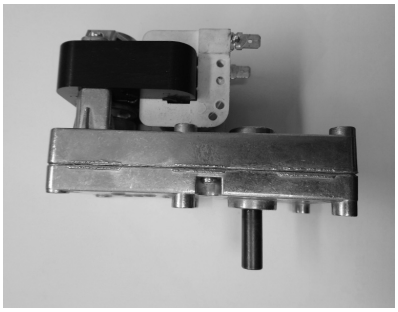


Fig. 6 - 1 RPM gear motor

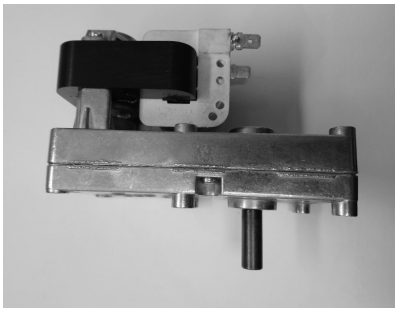


Fig. 7 - 2 RPM gear motor

FIRMWARE CODE				20170724	20170724	20170724	20170724	20170724	20170724	20170724
FIRMWARE VERSION				07	07	07	07	07	07	07
MODELS				TECNA[3] EVO[3] KRISS[3]	TECNA[3] EVO[3] KRISS[3] ERICA	ELISE[3] SHELL[3]	KRISS[3]	EASY SILENCE SWEET[3]	BISTROT[3] RONDO[3] FLUTE	WALL[3] PLUS LEAN[3] PLUS
				From 01.07.2015 to 01.05.2018	From 01.07.2015 to 01.05.2018	From 28.09.2015 to 01.05.2018	From 28.09.2015 to 01.05.2018	From 04.07.2016 to 01.05.2018	From 06.04.2017 to 20.04.2019	From 01.07.2017 to 01.07.2018
NOMINAL POWER KW				7 kW	8,5 kW	8,5 kW	9 kW	6,5 kW	6,5 kW	10 kW
PRODUCT TYPE				01	02	03	04	05	06	07
MOTHER BOARD				N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K
BOARD + FIRMWARE CODE				4D145157020	4D145157020	4D145157020	4D145157020	4D145157020	4D145157020	4D145157020
GEAR MOTOR				3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	1,5 rpm	1,5 rpm	3,3 rpm
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	18	18	18	18	16	20	21
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.6	2.6	2.6	2.6	4	3.0	1.2
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1600	1600	1600	1600	2000	1700	1500
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	70	70	70	70	46	70	60
Pr05	Start-up delta	*DELTA FIRE ON*	°C	5	5	5	5	5	5	5
Pr06	Start-up time	*FIRE ON TIME*	min	6	6	6	6	4	3	3
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	2.4	2.4	2.4	2.4	5.6	4.5	2.0
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	2000	2000	2000	2000	2150	2100	1700
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600	2600	2600	2600	2600	2400	2600
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	65	65	65	65	42	60	60
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	1.5	1.5	1.5	1.5	2.8	2.6	1.9
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	2.1	2.1	2.1	2.1	4.0	4	2.6
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	2.9	3.2	3.2	3.2	5.5	5.2	3.6
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	3.5	3.9	3.9	3.9	6.8	6.5	4.6
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	3.9	4.6	4.6	5	8	8	5.2
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	900	900	900	900	1000	1050	980
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1150	1150	1150	1150	1300	1400	1250
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1500	1600	1600	1600	1600	1600	1600
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	1700	1850	1850	1850	1850	1850	1900
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	1850	2100	2100	2200	2080	2050	2150
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	190	200	190	205	210	200	210
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	110	110	110	110	100	100	70
Pr17	Exchanger 1 speed	*AIR FAN V1*	Volt	165	165	165	165	160	160	65
Pr17_2	Exchanger 2 speed	*AIR FAN V2*	Volt	175	175	175	175	170	170	175
Pr17_3	Exchanger 3 speed	*AIR FAN V3*	Volt	200	200	200	200	180	180	190
Pr17_4	Exchanger 4 speed	*AIR FAN V4*	Volt	210	210	210	210	190	200	205
Pr18	Exchanger 5 speed	*AIR FAN V5*	Volt	220	220	230	230	200	220	225
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	1	1	1	1	1	1	1
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	1	1	1	1	1	1	1
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600	2600	2600	2600	2500	2600	2600
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	3	3	3	3	4.5	2	2.4
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	60	60	60	60	30	60	45
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	90	90	90	90	60	60	50
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2450	2450	2450	2450	2500	2600	1800
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	2.5	2.5	2.5	2.5	3.2	2	1.7
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	90	90	90	90	45	60	30
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500	1500	1500	1500	1500	1500
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1300	1300	1300	1300	1300	1350	1350

FIRMWARE CODE				20180502	20180502	20180502	20180502	20180502	20180502	20180502	20180502
FIRMWARE VERSION				02	02	02	02	02	02	02	02
MODELS (aluminum screw)				TECNA³ - EVO³ KRISS³	TECNA³ - EVO³ KRISS³ - ELISE³ SHELL³ - CRISTAL³ PRETTY AT VERVE AT - GLASS VENERE AT TITANIA AT	SHARP PERLA³	KRISS³ SHELL³ UP SHELL³ PS BREEZE AT	EASY SILENCE SWEET³	RONDO³	FLUTE AT	SFERA³ 11 PRINCE³ 11 DOGE³ 11 GLOBE AT
				From 02.05.2018	From 02.05.2018	From 02.05.2018	From 02.05.2018 to 21.06.2020	From 02.05.2018	From 08.04.2019 to 21.06.2020	From 08.04.2019	From 12.02.2019
NOMINAL POWER KW				7,15 kW	8,67 kW	7 kW	9,1 kW	6,5 kW	6,5 kW	6,5 kW	11 kW
PRODUCT TYPE				01	02	03	04	05	06	06	07
MOTHER BOARD				N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K
BOARD + FIRMWARE CODE				4D145157020A	4D145157020A	4D145157020A	4D145157020A	4D145157020A	4D145157020A	4D145157020A	4D145157020A
GEAR MOTOR				1,5 rpm	1,5 rpm	1,0 rpm	1,5 rpm	1,0 rpm	1,0 rpm	1,0 rpm	2,0 rpm
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	MAX LOAD WOOD	min	18	18	16	18	16	20	20	18
Pr02	Feed screw ignition time	PELLET FEED SCREW LW	sec	2.2	2.2	3.8	2.2	3.8	3.8	3.8	2.2
Pr03	Ignition gas extractor speed	SMOKE FAN LW	rpm	1700	1700	2000	1700	2000	1700	1700	2200
Pr04	Ignition threshold temperature	T STOVE ON	°C	65	65	46	65	46	70	70	42
Pr05	Start-up delta	DELTA FIRE ON	°C	5	5	5	5	5	5.0	5.0	5.0
Pr06	Start-up time	FIRE ON TIME	min	3	3	4	3	4	3	3	4
Pr07	Feed screw start-up time	PELLET FEED SCREW FO	sec	3.5	3.5	5.5	3.5	5.5	5.5	5.5	1.5
Pr08	Start-up gas aspirator speed	SMOKE FAN FO	rpm	2000	2000	2150	2000	2150	2100	2100	2400
Pr09	Switch-off gas extractor speed	SMOKE FAN AT SWITCH OFF	rpm	2600	2600	2600	2600	2600	2400	2400	2600
Pr10	Switch-off gas extractor temperature	T.SMOKE FAN AT SWITCH OFF	°C	70	70	42	70	42	60	60	55
Pr11	P1 feed screw time	PELLET FEED SCREW P1	sec	2.0	2.0	2.7	2.0	2.7	2.7	2.7	2.1
Pr11_2	P2 feed screw time	PELLET FEED SCREW P2	sec	3.1	3.1	3.9	3.1	3.9	3.9	3.9	3.0
Pr11_3	P3 feed screw time	PELLET FEED SCREW P3	sec	4.1	4.5	5.3	4.5	5.3	5.3	5.3	4.2
Pr11_4	P4 feed screw time	PELLET FEED SCREW P4	sec	5.0	5.7	6.5	5.7	6.5	6.5	6.5	5.4
Pr12	P5 feed screw time	PELLET FEED SCREW P5	sec	5.7	6.9	8	7.6	7.8	7.8	7.8	6.7
Pr13	P1 gas extractor speed	SMOKE FAN P1	rpm	900	900	1000	900	1000	1050	1050	980
Pr13_2	P2 gas extractor speed	SMOKE FAN P2	rpm	1150	1150	1300	1150	1300	1400	1400	1300
Pr13_3	P3 gas extractor speed	SMOKE FAN P3	rpm	1500	1600	1600	1750	1600	1600	1600	1550
Pr13_4	P4 gas extractor speed	SMOKE FAN P4	rpm	1700	1750	1850	1850	1850	1850	1850	1900
Pr14	P5 gas extractor speed	SMOKE FAN P5	rpm	1750	1850	2100	2100	2080	2050	2050	2150
Pr15	Maximum gas temperature threshold	T MAX SMOKE	°C	190	200	200	205	200	200	200	200
Pr16	Exchanger start-up threshold	T.AIR FAN ON	°C	105	105	100	105	100	100	100	80
Pr17	Exchanger 1 speed	AIR FAN V1	Volt	165	165	160	165	160	160	160	160
Pr17_2	Exchanger 2 speed	AIR FAN V2	Volt	175	175	170	175	170	170	170	175
Pr17_3	Exchanger 3 speed	AIR FAN V3	Volt	200	200	180	200	180	180	180	190
Pr17_4	Exchanger 4 speed	AIR FAN V4	Volt	210	210	190	210	190	200	200	200
Pr18	Exchanger 5 speed	AIR FAN V5	Volt	220	220	200	230	200	220	220	215
Pr19	Auto lower eco hysteresis	D AUTO-ECO DOWN	°C	1	1	1	1	1	01	01	01
Pr20	Auto higher eco hysteresis	D AUTO-ECO UP	°C	1	1	1	1	1	01	01	01
Pr21	Burning pot cleaning gas extractor speed	SMOKE FAN AT CLEANING	rpm	2600	2600	2500	2600	2500	2600	2600	2500
Pr22	Burning pot cleaning time	PELLET FEED SCREW AT CLEANING	sec	3.1	3.1	4.3	3.1	4.3	4.5	4.5	2.0
Pr23	Burning pot cleaning interval	CLEANING FREQUENCY	min	60	60	30	60	30	60	60	45
Pr24	Burning pot cleaning duration	CLEANING DURACY	sec	90	90	60	90	60	60	60	30
Pr25	Reduced burning pot cleaning gas extractor speed	SMOKE FAN-REDUCED CLEAN.	rpm	2450	2450	2500	2450	2500	2600	2600	2500
Pr26	Reduced burning pot cleaning time	FEED SCREW- REDUCED CLEAN.	sec	1.9	1.9	3.0	1.9	3.0	3.0	3.0	1.6
Pr27	Reduced cleaning duration	REDUCED CLEANING DURACY	sec	90	90	45	90	45	60	60	40
Pr28	Flue gas extractor speed for pressure switch reset	FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET	rpm	1500	1500	1500	1500	1500	1500	1500	1500
Pr29	Flue gas extractor speed for pressure switch control	FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL	rpm	1300	1300	1300	1300	1300	1350	1350	1450

FIRMWARE CODE				20200709	20200709	20200709	20200709	20200709	20200709	
FIRMWARE VERSION				03	03	03	03	03	03	
MODELS				GRACE[3]	SPIRIT[3] SPIRIT[3] - 5,2KW	TALAS[3]	SWEET[3] 7 - SWEET[3] 7.0 PERLA[3] 7 - PERLA[3] 7.0 CRISTAL[3] 7 - CRISTAL[3] 7.0 CRISTAL[3] 7.0 UP ONE AT - BEAM AT ACCENT AT - ACCENT K AT	GRACE[3]	SPIRIT[3] - 5,2KW	
				From 01.06.2019 at 31.01.2021	From 01.06.2019 at 31.01.2021	From 01.06.2019	From 20.07.2020	From 01.02.2021	From 01.02.2021	
NOMINAL POWER KW				7 kW	4,9 - 5,2 kW	7 kW	7 kW	7 kW	5,2 kW	
PRODUCT TYPE				01	02	03	04	05	06	
MOTHER BOARD				N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	N100-64K	
BOARD + FIRMWARE CODE				4D145157020B	4D145157020B	4D145157020B	4D145157020B	4D145157020B	4D145157020B	
GEAR MOTOR				1,0 rpm	1,0 rpm	1,0 rpm	2,0 rpm	2,0 rpm	2,0 rpm	
AUGER DIAMETER				Ø70 mm	Ø70 mm	Ø70 mm	Ø55 mm	Ø55 mm	Ø55 mm	
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	16	16	16	16	16	16	
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.2	2.2	3	2.5	2.5	2.5	
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	2100	2100	2200	2100	2100	2100	
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	54	54	54	54	54	54	
Pr05	Start-up delta	*DELTA FIRE ON*	°C	5	5	5	5	5	5	
Pr06	Start-up time	*FIRE ON TIME*	min	4	4	4	3	4	4	
Pr07	Feed screw start-up time	*PELLET FEED SCREW F0*	sec	1.8	1.8	2	1.8	2.0	2.0	
Pr08	Start-up gas aspirator speed	*SMOKE FAN F0*	rpm	2400	2400	2000	2200	2400	2400	
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2500	2500	2200	2400	2500	2500	
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	50	50	50	50	50	50	
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.7	2.7	2.6	2.5	2.5	2.5	
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.6	3.1	3.6	3.7	3.7	3.3	
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.7	3.8	4.6	4.9	4.9	4.0	
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	5.7	4.5	5.6	6.1	6.1	4.8	
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	6.9	5.3	6.6	7.3	7.3	5.6	
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	950	950	950	1000	950	950	
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1300	1100	1150	1250	1300	1100	
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1600	1250	1370	1500	1600	1250	
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	1900	1450	1600	1750	1900	1450	
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2200	1650	1800	2000	2200	1650	
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	280	240	230	265	280	240	
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	80	55	80	80	80	55	
Pr17	Exchanger 1 speed	*AIR FAN V1*	Volt	130	130	145	145	130	130	
Pr17_2	Exchanger 2 speed	*AIR FAN V2*	Volt	150	150	165	160	150	150	
Pr17_3	Exchanger 3 speed	*AIR FAN V3*	Volt	175	175	185	175	175	175	
Pr17_4	Exchanger 4 speed	*AIR FAN V4*	Volt	200	200	205	190	200	200	
Pr18	Exchanger 5 speed	*AIR FAN V5*	Volt	225	225	225	200	225	225	
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	1	1	1	1	1	1	
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	1	1	1	1	1	1	
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2500	2000	2200	2400	2500	2000	
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	5	4	4	4	4	4	
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	30	30	40	30	30	30	
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	30	30	30	30	30	30	
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2300	2000	2200	2400	2300	2000	
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	3.6	2.5	4	4	4	4	
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	30	30	30	30	30	30	
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500	1500	1500	1500	1500	
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1300	1300	1300	1350	1300	1300	

FIRMWARE CODE				**20200622**	**20200622**					
FIRMWARE VERSION				01	01					
MODELS				***SHELL³ UP SHELL³ PS BREEZE AT***	***RONDO³***					
				From 22.06.2020	From 22.06.2020					
NOMINAL POWER KW				9,1 kW	6,5 kW					
PRODUCT TYPE				**04**	**06**					
MOTHER BOARD				W001	W001					
BOARD + FIRMWARE CODE				4D1452002300	4D1452002300					
GEAR MOTOR				1,5 rpm	1,0 rpm					
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	18	20					
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.2	3.8					
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1700	1700					
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	65	70					
Pr05	Start-up delta	*DELTA FIRE ON*	°C	5.0	5.0					
Pr06	Start-up time	*FIRE ON TIME*	min	3	3					
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	3.5	5.5					
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	2000	2100					
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600	2400					
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	70	60					
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.0	2.7					
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.1	3.9					
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.5	5.3					
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	5.7	6.5					
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.6	7.8					
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	900	1050					
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1150	1400					
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1750	1600					
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	1850	1850					
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2100	2050					
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	205	200					
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	105	100					
Pr17	Exchanger 1 speed	*AIR FAN V1*	Volt	165	160					
Pr17_2	Exchanger 2 speed	*AIR FAN V2*	Volt	175	170					
Pr17_3	Exchanger 3 speed	*AIR FAN V3*	Volt	200	180					
Pr17_4	Exchanger 4 speed	*AIR FAN V4*	Volt	210	200					
Pr18	Exchanger 5 speed	*AIR FAN V5*	Volt	230	220					
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01	01					
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01	01					
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600	2600					
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	3.1	4.5					
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	60	60					
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	90	60					
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2450	2600					
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.9	3.0					
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	90	60					
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500					
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1300	1350					

5.6 ELECTRICAL CONNECTIONS DIAGRAM

5.6.1 BOARD N100-64K

Models involved:

- **7 kW = TECNA³ - EVO³ - KRISS³ - ELISE³ - SHELL³**
- **8,5 kW = TECNA³ - EVO³ - KRISS³ - ELISE³ - SHELL³ - ERICA - GLASS - VERVE AIRTIGHT - CENTHRA - ESPRIT - CRISTAL³ - PRETTY AIRTIGHT - TITANIA AIRTIGHT - VENERE AIRTIGHT**
- **9,1 kW = KRISS³ - SHELL³ UP - SHELL³ PS - BREEZE AIRTIGHT**
- **BISTROT³ - RONDO³ - FLUTE**
- **EASY - SILENCE - SWEET³ - SHARP - PERLA³**
- **WALL³ PLUS - LEAN³ PLUS**
- **SFERA³ 11KW - PRINCE³ 11KW - GLOBE AIRTIGHT**
- **GRACE³ - SPIRIT³ - SPIRIT³ 5KW**
- **TALAS³**
- **SWEET³ 7 - PERLA³ 7 - CRISTAL³ 7**
- **SWEET³ 7.0 - PERLA³ 7.0 - CRISTAL³ 7.0 - CRISTAL³ 7.0 UP - ONE AIRTIGHT - BEAM AIRTIGHT - ACCENT AIRTIGHT - ACCENT K AIRTIGHT**

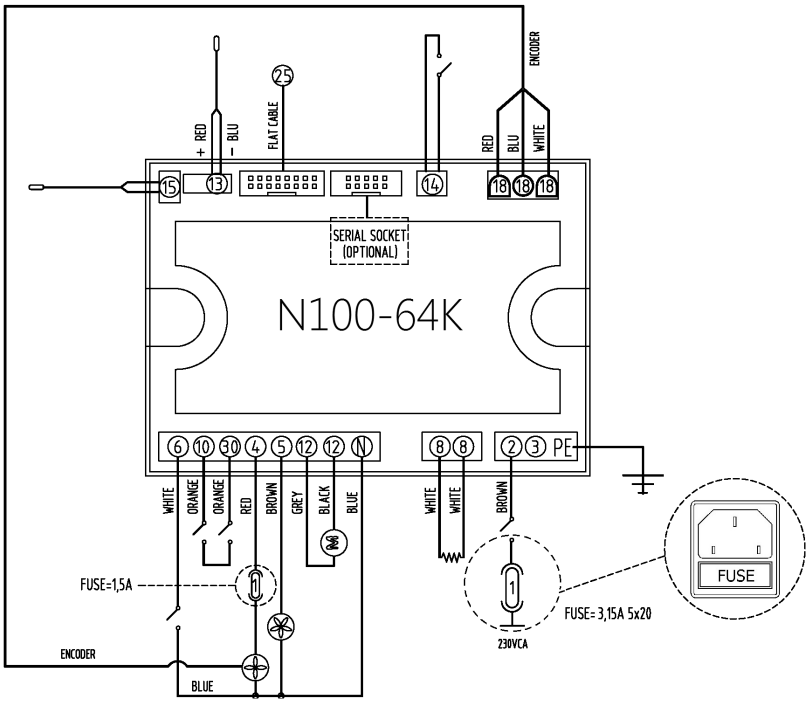


Fig. 8 - N100-64K board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 -*
16 -	*32 -*

5.6.2 BOARD W001

Models involved:

- **SHELL³ UP - SHELL³ PS - BREEZE AIRTIGHT**
- **RONDO³**
- **SOUND³ 5 UP - CHROME 5 AIRTIGHT - ROUND 5 AIRTIGHT**
- **SOUND³ 7 UP - CHROME 7 AIRTIGHT - ROUND 7 AIRTIGHT - SHARP AIRTIGHT - LEE AIRTIGHT**

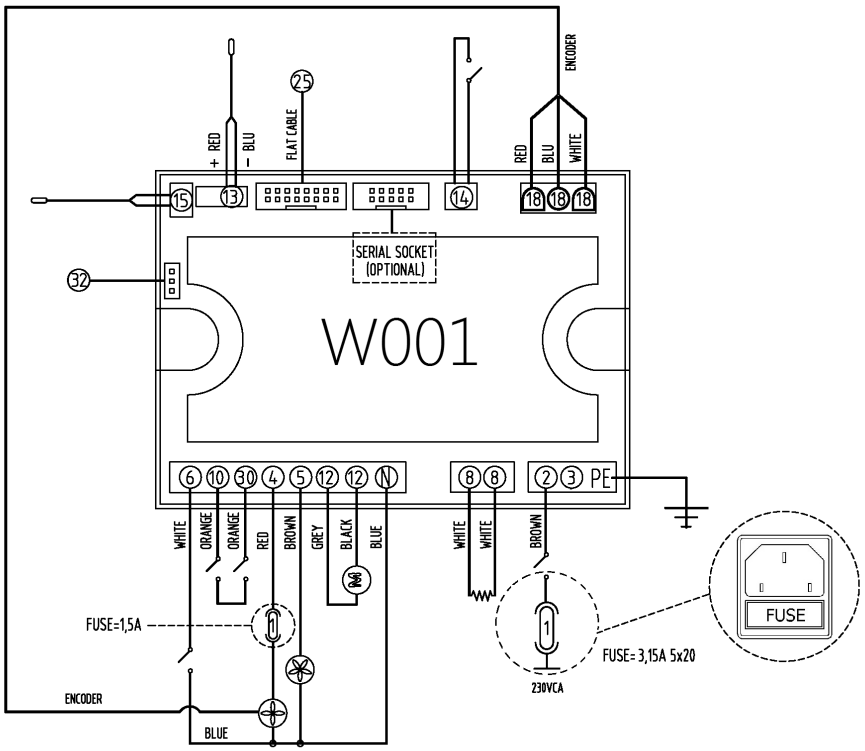


Fig. 9 - W001 board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 -*
16 -	*32 - Wifi (optional)*

6 AIR SERIES 3 PLUS STOVES

6.1 FIRST IGNITION: WHAT TO CHECK

- Check whether the flue and flue gas duct installation is adequate for the installed stove and whether it complies with the requirements.
- Check whether the combustion air flow complies with the requirements.
- Ensure that with all appliances on (stoves, extraction hoods, etc.) the pressure drop between the room and the outside does not exceed 4Pa.
- If there is an external thermostat, ensure it is correctly connected to the boiler.

6.2 THE CONTROL DISPLAY: MENU KEYS AND DIAGRAM

CONTROL BOARD	KEYS	INSTRUCTIONS
		Boiler switch on/off.
		Scrolling the programming menu down.
		Menu.
		Scrolling the programming menu up.
		Decrease set temperature/programming functions.
		Increase set temperature/programming functions.

6.3 BASIC ADJUSTMENTS

Press keys and of the panel to modify basic operation parameters without entering the menus:

CONTROL BOARD	INSTRUCTIONS
	**Set Room T** = setting room temperature if the internal thermostat is activated. If however the internal thermostat is disabled, T ON is displayed i.e. external thermostat active. The values may be modified by pressing key and increasing or decreasing the readings with and .
	Fire = The values may be modified by pressing key and increasing or decreasing the readings with and .
	Air Fan Speed 1 = setting hot air fan speed. The values may be modified by pressing key and increasing or decreasing the readings with and .
	Air Fan Speed 2 = (if any) setting hot air fan speed. The values may be modified by pressing key and increasing or decreasing the readings with and .

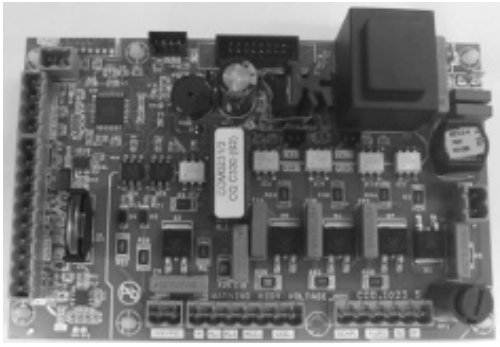
7 THE MOTHERBOARD (AIR SERIES 3 PLUS STOVES)

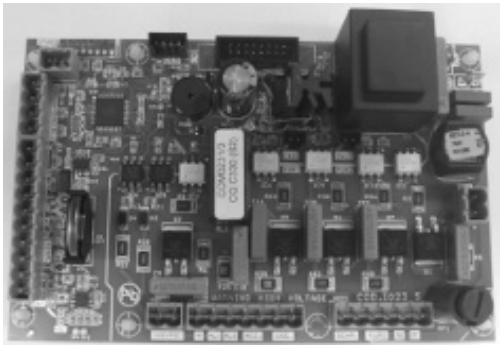
In order to carry out a correct summary of all existing motherboards in the CADEL - FREEPOINT - PEGASO range as of 2013 and avoid matching or part order errors, here is a list of all versions based on type of stove.

7.1 MOTHERBOARD TYPE

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	0047 EVO motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	W002 motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	L023-V.5 64K motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel
	W003 motherboard containing the appliances' software. Each type of appliance corresponds to a DATABASE code. Order the board with the specific software.

7.2 MAIN OR 1ST LEVEL MENU

Press key  in any display status to obtain a first list of possible adjustments:

TIME and DATE	Date and time adjustment (see appliance's use and maintenance manual).
TIMER	Adjust time bands for stove switching on and off through the internal chronostat (see appliance's use and maintenance manual).
SLEEP	Programmed boiler switching off according to a countdown set by the user (see appliance's use and maintenance manual).
SETTINGS	A 2nd level sub-menu is accessed where you can adjust all boiler operation settings.
INFO	For all the information on the appliance and its operation.

7.3 SETTINGS OR 2ND LEVEL MENU

To access the settings sub-menu press the  key after scrolling all the items of the 1st level menu and finding SETTINGS. Here is another list of items:

LANGUAGE	Change display language.
CLEANING	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. This function has the purpose of activating the flue gas extraction fan in order to expel the suspended ash during turbolator cleaning and excess ash. It is therefore recommended to perform turbolator cleaning when the appliance is cold and actuating the flue gas extraction fan from the cleaning menu. Just press any key in the display to turn off the fan upon completing turbolator shaking and cleaning operations.
SCREW LOADING	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. With this menu you can activate the pellet loading gear motor and fill the feed screw when it is completely empty (e.g.: in case of first ignition or ignition after completely emptying the pellet tank). This operation saves time due to possible failed ignition since the feed screw is completely empty and it takes a few minutes to fill it.
TONE	Enable/Disable display keypad tones.
EXT. THERMOSTAT	Enable/Disable the internal thermostat against an external thermostat or NTC probe, which must be suitably connected to the connectors located at the rear of the stove (see appliance manual). In the event of disabling the internal thermostat and failed connection of an external thermostat or probe, the stove will consider the external thermostat contact as always OPEN and will therefore only adjust its power by checking water temperature set in the boiler. Simply connecting an external thermostat **is not enough for the boiler to recognise its presence**. **The external thermostat must be activated through this menu.**
AUTO-ECO	Enable/Disable ECO-STOP. Please note that the ECO-STOP switches the boiler/stove upon reaching the desired temperature and after a waiting time, which can be set by the user, useful to allow temperatures to settle and to be met. The factory set time is 10 minutes. To change this time interval you need to access the next menu ECO-OFF T.
OFF TIME ECO	As previously indicated this menu is required to set the appliance's switching off delay in ECO-STOP upon reaching the temperature. It is possible to select from minimum 1 minute to maximum 20 minutes. It is recommended to opt for very short times (1 minute) where there are zone valves that, upon reaching the temperature, completely cut out the boiler/stove from the system and where prolonged operation with no heat absorption may lead to the water in the boiler to boil. Likewise, longer switching off times are recommended in cases where the appliance is directly connected to a system not controlled by zone thermostats and where room insulation can cause rapid temperature changes.
PELLET RECIPE	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the pellets dropping into the burn pot, possible settings are: -30 = 30% reduction with respect to the default setting. -25 = 25% reduction with respect to the default setting. -20 = 20% reduction with respect to the default setting. -15 = 15% reduction with respect to the default setting. -10 = 10% reduction with respect to the default setting. - 5 = 5% reduction with respect to the default setting. 0 = No variation. + 5 = 5% increase with respect to the default setting. +10 = 10% increase with respect to the default setting. +15 = 15% increase with respect to the default setting.
SMOKE FAN RPM	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the flue gas extraction fan speed in order to address situations where flue gas cannot be extracted easily or situations of poor yield in the event of flues with excessive draft. Available settings are from +27% to -27% of the RPM set in the standard factory parameters.

COMPONENTS TEST	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. Through this menu it is possible to electrically power the various electronic and mechanical components to test their operation (igniter, gear motor, fans, etc.).
CHIMNEY SW.	This feature may only be activated when the stove is in operation and disables all internal and external probes to take combustion to peak power, regardless of system status. In this stage it is possible to make the sampling to check the appliance's emissions and relevant performance. It is recommended to perform this operation ensuring the suitable heat absorption by the heating system otherwise the boiler will rapidly reach boiling temperature making all sampling useless.
TECHNICAL MENU	Special adjustments can be made within this menu, for this reason access to the sub-menu is password protected (PASSWORD = A9). In addition to the technical parameters listed below, here it is possible to: Choose the PRODUCT TYPE during any repairs requiring motherboard replacement. Reset SERVICE hours. TECHNICAL PARAMETERS = list of all settings that may be modified with the display keypad. COUNTER MEMORIES = all internal appliance counters (e.g.: last 5 alarms triggered, etc.).
PELLET RESERVE ENABLING	**(if any)** The appliance is equipped with a software system that warns when the pellet is about to end. Message on display PELLET RESERVE, the appliance goes into energy saving and goes to power P1. After having filled the pellet tank, press key 3 to reset the PELLET RESERVE and ensure that the product can reach the set power. The duration (in minutes) of the PELLET RESERVE is indicated at the top of the display. Every 3' an acoustic warning (beep) reminds to reload the pellet tank. Unsuitable pellet causes bad combustion and may not correctly operate the PELLET RESERVE function.
COMFORT MODE	This function allows activating-deactivating the fans at power 1.
LOAD TIME-OUT	**(if any)** The loading system stops when the tank door is opened. LOAD TIME-OUT: the control unit is equipped with a timer that acoustically warns (with 3 beeps) that the load time available is over. If the user requires more time to finish loading the tank, after the acoustic signal, he/she must quickly close the tank cover and wait 5-6 seconds. In this way the timer resets and the screw starts to let the pellet down again. After those 5-6 seconds, open the tank lid again and proceed to load the pellet. During this operation, check that the flame is present on the brazier.

7.4 0047 EVO AND W002 BOARD PARAMETERS

Fig. 10 - Board 0047 EVO

Fig. 11 - Board W002

GEAR MOTORS
In the event of gear motor replacement, install one of the following models depending on stove model (see **DATABASE: 0047 EVO, W002, L023-V.5 64K AND W003 a pag. 25**):

Fig. 12 - 1.5 RPM gear motor

7.5 L023-V.5 64K AND W003 BOARD PARAMETERS

Dedicated board for the new stoves with 2 ducts.

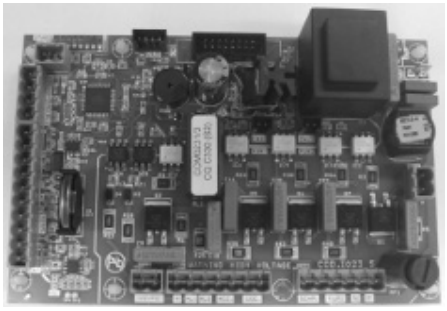


Fig. 13 - Board L023-V.5 64K

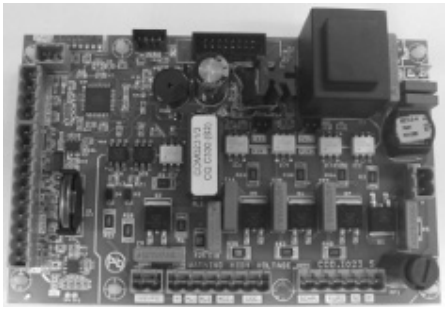


Fig. 14 - Board W003

GEAR MOTORS

In the event of gear motor replacement (see **DATABASE: 0047 EVO, W002, L023-V.5 64K AND W003 a pag. 25**):

Fig. 15 - 2.0 RPM gear motor

It is recommended not to excessively lower ducting ventilation values (at powers 4 and 5), because the reset probe might trip due to tank overheating.

FIRMWARE CODE				20180724	20180724	20180724	20180724	20180724	20180724
FIRMWARE VERSION				01	01	01	01	01	01
MODELS (aluminum screw)				ZEFIRO³ 9KW ZEN AT	ZEFIRO³ 9KW PLUS	FRAME³ 7KW	FRAME³ 7KW PLUS	FRAME³ 9KW MODO AT	FRAME³ 9KW PLUS
				From 24.07.2018 to 21.06.2020	From 24.07.2018 to 21.06.2020	From 24.07.2018 to 21.06.2020	From 24.07.2018 to 21.06.2020	From 24.07.2018 to 21.06.2020	From 24.07.2018 to 21.06.2020
NOMINAL POWER KW				9,3 kW	9,3 kW	7,2 kW	7,2 kW	9,3 kW	9,3 kW
PRODUCT TYPE				01	02	04	05	06	07
MOTHER BOARD				0047-64K	0047-64K	0047-64K	0047-64K	0047-64K	0047-64K
BOARD + FIRMWARE CODE				4D145185010B	4D145185010B	4D145185010B	4D145185010B	4D145185010B	4D145185010B
GEAR MOTOR				1,5 rpm	1,5 rpm	1,5 rpm	1,5 rpm	1,5 rpm	1,5 rpm
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	20	20	20	20	20	20
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.7	2.7	2.7	2.7	2.7	2.7
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1800	1800	1650	1650	1650	1650
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	70	70	70	70	70	70
Pr05	Start-up delta	*DELTA FIRE ON*	°C	05.0	05.0	05.0	05.0	05.0	05.0
Pr06	Start-up time	*FIRE ON TIME*	min	04	04	04	04	04	04
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	6.5	6.5	6.5	6.5	6.5	6.5
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	2300	2300	1900	1900	1900	1900
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600	2600	2600	2600	2600	2600
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	68	68	68	68	68	68
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.4	2.4	2.4	2.4	2.4	2.4
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.7	3.7	3.7	3.7	3.7	3.7
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	5.3	5.3	4.7	4.7	5.3	5.3
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	6.5	6.5	5.3	5.3	6.5	6.5
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.6	7.6	6.5	6.5	7.6	7.6
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	950	950	900	900	900	900
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1350	1350	1350	1350	1350	1350
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1700	1700	1500	1500	1650	1650
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	2000	2000	1600	1600	1850	1850
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2200	2200	1850	1850	2000	2000
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	225	225	200	200	215	215
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	90	90	90	90	90	90
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	140	140	140	140	140	140
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	160	160	160	160	160	160
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	190	190	180	180	190	190
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	200	200	190	190	200	200
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	220	220	200	200	210	210
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01	01	01	01	01	01
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01	01	01	01	01	01
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600	2600	2600	2600	2600	2600
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	2.2	2.2	3.2	3.2	3.2	3.2
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	60	60	60	60	60	60
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	30	30	30	30	30	30

Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2600	2600	2450	2450	2450	2450
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.9	1.9	1.9	1.9	1.9	1.9
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	60	60	60	60	60	60
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500	1500	1500	1500	1500
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1400	1400	1400	1400	1400	1400
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	140	170	140	170	140	170
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	160	190	160	190	160	190
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	190	200	180	200	190	200
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	200	210	190	205	200	210
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	220	230	200	210	210	230
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	Off	On	Off	On	Off	On
Pr32	Activation temperatures for powers 1 and 2	*RESERVE TEMPERATURE 1-2*	°C	92	92	92	92	92	92
Pr33	Activation temperatures for powers 3, 4 and 5	*RESERVE TEMPERATURE 3-4-5*	°C	130	130	130	130	130	130
OTHER SETTINGS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
User menu - Setting		*PELLET RESERVE ENABLING*	On/Off	On	On	Off	Off	Off	Off
User menu - Setting		*COMFORT MODE*	On/Off	Off	Off	Off	Off	Off	Off
User menu - Setting		*LOAD TIME-OUT*	On/Off	On	On	Off	Off	Off	Off

FIRMWARE CODE				**20180509**	**20180509**				
FIRMWARE VERSION				01	01				
MODELS (aluminum screw)				***PRINCE³PLUS 11 SFERA³PLUS 11 DOGE³PLUS 11 SIRE³PLUS 11 ELISE³PLUS 11 TREND AT VEGA AT***	***WALL³ PLUS TILE³ PLUS MOON***				
				From 12.02.2019	From 01.07.2018 to 21.06.2020				
NOMINAL POWER KW				11 kW	10 kW				
PRODUCT TYPE				**01**	**06**				
MOTHER BOARD				0047-64K	0047-64K				
BOARD + FIRMWARE CODE				4D145185010A	4D145185010A				
GEAR MOTOR				2,0 rpm	1,5 rpm				
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	18	21				
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.2	3.4				
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	2200	1500				
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	42	60				
Pr05	Start-up delta	*DELTA FIRE ON*	°C	05.0	05.0				
Pr06	Start-up time	*FIRE ON TIME*	min	04	03				
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	1.5	3.2				
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	2400	1700				
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600	2600				
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	55	60				
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.1	2.4				
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.0	3.4				
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.2	4.9				
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	5.4	6.1				
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	6.7	7.5				
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	980	980				
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1300	1250				
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1550	1600				
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	1900	1900				
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2150	2150				
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	220	210				
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	80	70				
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	160	165				
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	175	175				
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	190	190				
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	200	205				
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	215	230				
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01	01				
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01	01				
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600	2600				

Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	2.0	3.2				
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	45	45				
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	30	50				
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2500	1800				
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.6	2.0				
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	40	30				
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500				
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1450	1400				
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	170	165				
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	185	175				
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	195	190				
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	205	205				
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	230	230				
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	On	On				

FIRMWARE CODE				**20190218**					
FIRMWARE VERSION				01					
MODELS (aluminum screw)				***VENUS³ PLUS 12,5 JOY AIRTIGHT***					
				From 12.02.2019					
NOMINAL POWER KW				12,5 kW					
PRODUCT TYPE				**01**					
MOTHER BOARD				L023-V.5 64K					
BOARD + FIRMWARE CODE				4D145181060					
GEAR MOTOR				2,0 rpm					
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	18					
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.2					
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	2200					
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	42					
Pr05	Start-up delta	*DELTA FIRE ON*	°C	05.0					
Pr06	Start-up time	*FIRE ON TIME*	min	04					
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	1.5					
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	2400					
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600					
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	55					
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.1					
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.0					
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.2					
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	6.7					
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.8					
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	980					
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1300					
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1550					
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	2150					
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2450					
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	220					
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	80					
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	160					
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	175					
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	190					
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	200					
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	215					
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01					
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01					
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2500					
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	2.0					
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	45					
Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	30					

Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2500					
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.6					
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	40					
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500					
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1450					
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	170					
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	185					
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	195					
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	205					
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	220					
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	On					
Pr35	Exchanger 3_1 speed	*AIR FAN 3 V1*	Volt	170					
Pr36	Exchanger 3_2 speed	*AIR FAN 3 V2*	Volt	185					
Pr37	Exchanger 3_3 speed	*AIR FAN 3 V3*	Volt	195					
Pr38	Exchanger 3_4 speed	*AIR FAN 3 V4*	Volt	205					
Pr39	Exchanger 3_5 speed	*AIR FAN 3 V5*	Volt	220					

FIRMWARE CODE				**20200625**	**20200625**	**20200625**	**20200625**		
FIRMWARE VERSION				01	01	01	01		
MODELS (aluminum screw)				***ZEFIRO³ 9KW ZEN AT***	***ZEFIRO³ 9KW PLUS***	***FRAME³ 9KW FRAME³ UP 9KW MODO AT QUASIMODO³ UP***	***FRAME³ 9KW PLUS***		
				Da 22.06.2020	Da 22.06.2020	Da 22.06.2020	Da 22.06.2020		
NOMINAL POWER KW				9,3 kW	9,3 kW	9,3 kW	9,3 kW		
PRODUCT TYPE				**01**	**02**	**06**	**07**		
MOTHER BOARD				W002	W002	W002	W002		
BOARD + FIRMWARE CODE				4D1452002400B	4D1452002400B	4D1452002400B	4D1452002400B		
GEAR MOTOR				1,5 rpm	1,5 rpm	1,5 rpm	1,5 rpm		
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	20	20	20	20		
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.7	2.7	2.7	2.7		
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1800	1800	1650	1650		
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	70	70	70	70		
Pr05	Start-up delta	*DELTA FIRE ON*	°C	05.0	05.0	05.0	05.0		
Pr06	Start-up time	*FIRE ON TIME*	min	04	04	04	04		
Pr07	Feed screw start-up time	*PELLET FEED SCREW F0*	sec	6.5	6.5	6.5	6.5		
Pr08	Start-up gas aspirator speed	*SMOKE FAN F0*	rpm	2300	2300	1900	1900		
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600	2600	2600	2600		
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	68	68	68	68		
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.4	2.4	2.4	2.4		
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.7	3.7	3.7	3.7		
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	5.3	5.3	5.3	5.3		
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	6.5	6.5	6.5	6.5		
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.6	7.6	7.6	7.6		
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	950	950	900	900		
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1350	1350	1350	1350		
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1700	1700	1650	1650		
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	2000	2000	1850	1850		
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2200	2200	2000	2000		
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	225	225	215	215		
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	90	90	90	90		
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	140	140	140	140		
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	160	160	160	160		
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	190	190	190	190		
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	200	200	200	200		
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	220	220	210	210		
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01	01	01	01		
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01	01	01	01		
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600	2600	2600	2600		
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	2.2	2.2	3.2	3.2		
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	60	60	60	60		

Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	30	30	30	30		
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2600	2600	2450	2450		
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.9	1.9	1.9	1.9		
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	60	60	60	60		
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500	1500	1500		
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1400	1400	1400	1400		
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	140	170	140	170		
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	160	190	160	190		
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	190	200	190	200		
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	200	210	200	210		
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	220	230	210	230		
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	Off	On	Off	On		
Pr32	Activation temperatures for powers 1 and 2	*RESERVE TEMPERATURE 1-2*	°C	92	92	92	92		
Pr33	Activation temperatures for powers 3, 4 and 5	*RESERVE TEMPERATURE 3-4-5*	°C	130	130	130	130		
OTHER SETTINGS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
User menu - Setting		*PELLET RESERVE ENABLING*	On/Off	On	On	Off	Off		
User menu - Setting		*COMFORT MODE*	On/Off	Off	Off	Off	Off		
User menu - Setting		*LOAD TIME-OUT*	On/Off	On	On	Off	Off		

FIRMWARE CODE				**20200701**					
FIRMWARE VERSION				01					
MODELS (aluminum screw)				***WALL³ PLUS TILE³ PLUS MOON***					
				From 22.06.2020					
NOMINAL POWER KW				10 kW					
PRODUCT TYPE				**06**					
MOTHER BOARD				W002					
BOARD + FIRMWARE CODE				4D1452002400A					
GEAR MOTOR				1,5 rpm					
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	21					
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	3.4					
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1500					
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	60					
Pr05	Start-up delta	*DELTA FIRE ON*	°C	05.0					
Pr06	Start-up time	*FIRE ON TIME*	min	03					
Pr07	Feed screw start-up time	*PELLET FEED SCREW FO*	sec	3.2					
Pr08	Start-up gas aspirator speed	*SMOKE FAN FO*	rpm	1700					
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2600					
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	60					
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	2.4					
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.4					
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.9					
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	6.1					
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.5					
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	980					
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1250					
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1600					
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	1900					
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2150					
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	210					
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	70					
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	165					
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	175					
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	190					
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	205					
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	230					
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01					
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01					
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2600					
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	3.2					
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	45					

Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	50					
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	1800					
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	2.0					
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	30					
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500					
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1400					
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	165					
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	175					
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	190					
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	205					
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	230					
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	On					
Pr32	Enable/disable“pellet reserve enabling”	*PELLET RESERVE ENABLING*	On/Off	Off					
Pr33	Activation temperatures for powers 1 and 2	*RESERVE TEMPERATURE 1-2*	°C	50					
Pr34	Activation temperatures for powers 3, 4 and 5	*RESERVE TEMPERATURE 3-4-5*	°C	50					

FIRMWARE CODE				**20200615**	**20200615**	**20200615**	**20200615**		
FIRMWARE VERSION				03	03	03	03		
MODELS				***ATENA³ PLUS 14 DUKE 14 AIRTIGHT SABA 14***	***ATENA³ PLUS 12 DUKE 12 AIRTIGHT SABA 12***	***MITHOS³ PLUS 14***	***MITHOS³ PLUS 12***		
				From 02.11.2020	*From 02.11.2020*	*From 01.02.2021*	*From 01.02.2021*		
NOMINAL POWER KW				14 kW	12 kW	14 kW	12 kW		
PRODUCT TYPE				**01**	**02**	**03**	**04**		
MOTHER BOARD				W003	W003	W003	W003		
BOARD + FIRMWARE CODE				4D1452002600	4D1452002600	4D1452002600	4D1452002600		
GEAR MOTOR				2,0 rpm	2,0 rpm	2,0 rpm	2,0 rpm		
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Ignition time	*MAX LOAD WOOD*	min	20	20	20	20		
Pr02	Feed screw ignition time	*PELLET FEED SCREW LW*	sec	2.0	2.0	2.8	2.8		
Pr03	Ignition gas extractor speed	*SMOKE FAN LW*	rpm	1900	1900	2000	2000		
Pr04	Ignition threshold temperature	*T STOVE ON*	°C	57	57	57	57		
Pr05	Start-up delta	*DELTA FIRE ON*	°C	5.0	5.0	5	5		
Pr06	Start-up time	*FIRE ON TIME*	min	4	4	4	4		
Pr07	Feed screw start-up time	*PELLET FEED SCREW F0*	sec	2.0	2.0	2.3	2.3		
Pr08	Start-up gas aspirator speed	*SMOKE FAN F0*	rpm	1900	1900	2000	2000		
Pr09	Switch-off gas extractor speed	*SMOKE FAN AT SWITCH OFF*	rpm	2500	2500	2500	2500		
Pr10	Switch-off gas extractor temperature	*T.SMOKE FAN AT SWITCH OFF*	°C	50	50	50	50		
Pr11	P1 feed screw time	*PELLET FEED SCREW P1*	sec	1.6	1.6	1.9	1.9		
Pr11_2	P2 feed screw time	*PELLET FEED SCREW P2*	sec	3.0	2.8	3.3	3.0		
Pr11_3	P3 feed screw time	*PELLET FEED SCREW P3*	sec	4.5	4.0	4.7	4.1		
Pr11_4	P4 feed screw time	*PELLET FEED SCREW P4*	sec	6.0	5.2	6.1	5.2		
Pr12	P5 feed screw time	*PELLET FEED SCREW P5*	sec	7.5	6.3	7.5	6.3		
Pr13	P1 gas extractor speed	*SMOKE FAN P1*	rpm	800	800	800	800		
Pr13_2	P2 gas extractor speed	*SMOKE FAN P2*	rpm	1200	1100	1250	1200		
Pr13_3	P3 gas extractor speed	*SMOKE FAN P3*	rpm	1600	1400	1650	1600		
Pr13_4	P4 gas extractor speed	*SMOKE FAN P4*	rpm	2000	1700	2100	2000		
Pr14	P5 gas extractor speed	*SMOKE FAN P5*	rpm	2200	2000	2500	2300		
Pr15	Maximum gas temperature threshold	*T MAX SMOKE*	°C	260	240	260	240		
Pr16	Exchanger start-up threshold	*T.AIR FAN ON*	°C	80	80	80	80		
Pr17	Exchanger 1_1 speed	*AIR FAN 1 V1*	Volt	160	160	160	160		
Pr17_2	Exchanger 1_2 speed	*AIR FAN 1 V2*	Volt	175	175	170	170		
Pr17_3	Exchanger 1_3 speed	*AIR FAN 1 V3*	Volt	195	190	180	180		
Pr17_4	Exchanger 1_4 speed	*AIR FAN 1 V4*	Volt	215	210	190	190		
Pr18	Exchanger 1_5 speed	*AIR FAN 1 V5*	Volt	230	230	200	200		
Pr19	Auto lower eco hysteresis	*D AUTO-ECO DOWN*	°C	01	01	01	01		
Pr20	Auto higher eco hysteresis	*D AUTO-ECO UP*	°C	01	01	01	01		
Pr21	Burning pot cleaning gas extractor speed	*SMOKE FAN AT CLEANING*	rpm	2400	2400	2500	2500		
Pr22	Burning pot cleaning time	*PELLET FEED SCREW AT CLEANING*	sec	4.0	4.0	4	4		
Pr23	Burning pot cleaning interval	*CLEANING FREQUENCY*	min	45	45	45	45		

Pr24	Burning pot cleaning duration	*CLEANING DURACY*	sec	45	45	45	45		
Pr25	Reduced burning pot cleaning gas extractor speed	*SMOKE FAN-REDUCED CLEAN.*	rpm	2200	2200	2200	2200		
Pr26	Reduced burning pot cleaning time	*FEED SCREW- REDUCED CLEAN.*	sec	1.6	1.6	1.6	1.6		
Pr27	Reduced cleaning duration	*REDUCED CLEANING DURACY*	sec	30	30	30	30		
Pr28	Flue gas extractor speed for pressure switch reset	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH RESET*	rpm	1500	1500	1500	1500		
Pr29	Flue gas extractor speed for pressure switch control	*FLUE GAS EXTRACTOR SPEED FOR PRESSURE SWITCH CONTROL*	rpm	1450	1450	1450	1450		
Pr30	Exchanger 2_1 speed	*AIR FAN 2 V1*	Volt	160	160	60	60		
Pr30_2	Exchanger 2_2 speed	*AIR FAN 2 V2*	Volt	175	175	170	170		
Pr30_3	Exchanger 2_3 speed	*AIR FAN 2 V3*	Volt	195	190	180	180		
Pr30_4	Exchanger 2_4 speed	*AIR FAN 2 V4*	Volt	215	210	190	190		
Pr30_5	Exchanger 2_5 speed	*AIR FAN 2 V5*	Volt	230	230	200	200		
Pr31	Enable/disable ducting ventilation	*DUCTING ENABLING*	On/Off	On	On	On	On		
Pr35	Exchanger 3_1 speed	*AIR FAN 3 V1*	Volt	160	160	160	160		
Pr36	Exchanger 3_2 speed	*AIR FAN 3 V2*	Volt	175	175	170	170		
Pr37	Exchanger 3_3 speed	*AIR FAN 3 V3*	Volt	195	190	180	180		
Pr38	Exchanger 3_4 speed	*AIR FAN 3 V4*	Volt	215	210	190	190		
Pr39	Exchanger 3_5 speed	*AIR FAN 3 V5*	Volt	230	230	200	200		

7.7 ELECTRICAL CONNECTIONS DIAGRAM

7.7.1 BOARD 0047 EVO

Models involved:

- **FRAME³ 7 KW - FRAME³ PLUS 7 KW - FRAME³ 9 KW - FRAME³ PLUS 9 KW - MODO AIRTIGHT**
- **ZEFIRO³ 9 KW - ZEFIRO³ PLUS 9 KW -ZEN AIRTIGHT**
- **WALL³ PLUS - TILE³ PLUS - MOON**
- **PRINCE³ PLUS 11KW - SFERA³ PLUS 11 - DOGE³ PLUS 11KW - SIRE³ PLUS 11KW - ELISE³ PLUS 11KW**
- **TREND AIRTIGHT - VEGA AIRTIGHT**

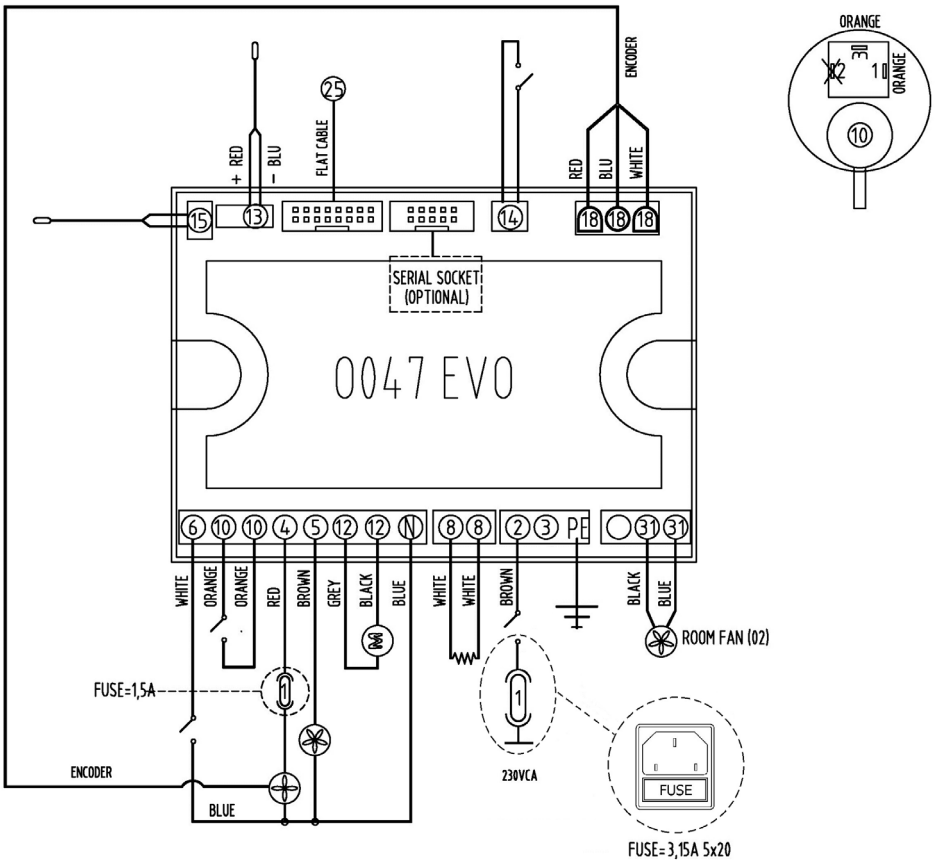


Fig. 16 - 0047 EVO board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 - Ducting room fan*
16 -	*32 -*

7.7.2 BOARD W002

Models involved:

- **FRAME³ 9 KW - FRAME³ PLUS 9 KW - FRAME³ UP 9 KW - MODO AIRTIGHT - QUASIMODO³ UP**
- **ZEFIRO³ 9 KW - ZEFIRO³ PLUS 9 KW -ZEN AIRTIGHT**
- **WALL³ PLUS - TILE³ PLUS - MOON**

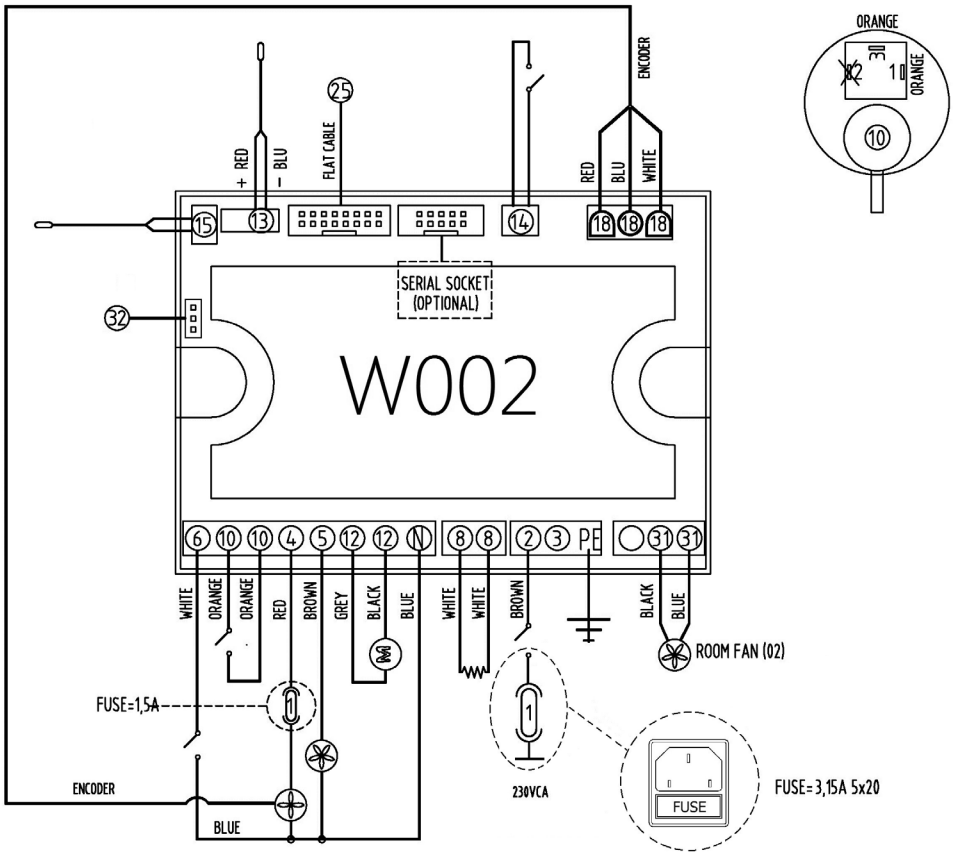


Fig. 17 - W002 board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 - Ducting room fan*
16 -	*32 - Wifi (optional)*

7.7.3 BOARD L023-V.5 64K

Models involved:

- **VENUS³ PLUS 12,5KW - JOY AIRTIGHT**

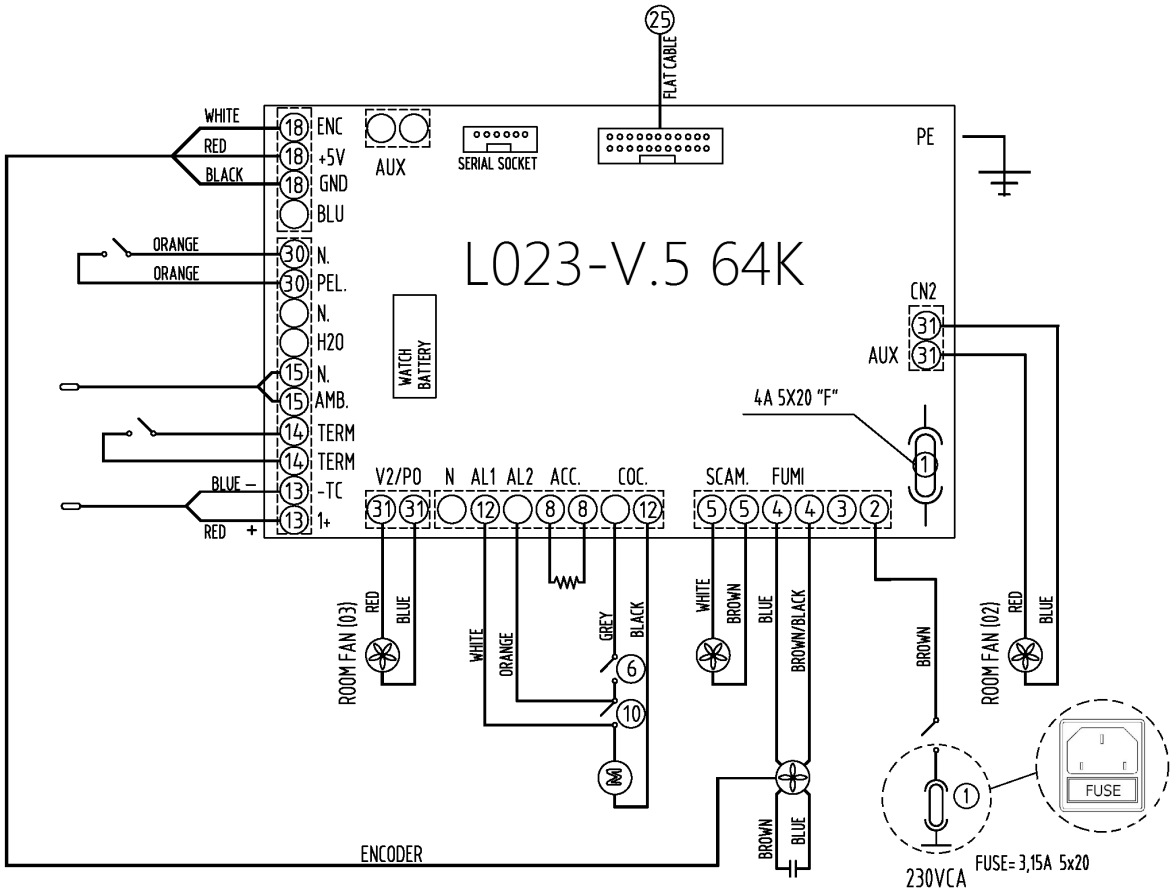


Fig. 18 - L023-V.5 64K board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 - Ducting room fan*
16 -	*32 -*

7.7.4 BOARD W003

Models involved:

- **ATENA³ PLUS 12 - DUKE 12 AIRTIGHT - SABA 12 - MITHOS³ PLUS 12**
- **ATENA³ PLUS 14 - DUKE 14 AIRTIGHT - SABA 14 - MITHOS³ PLUS 14**

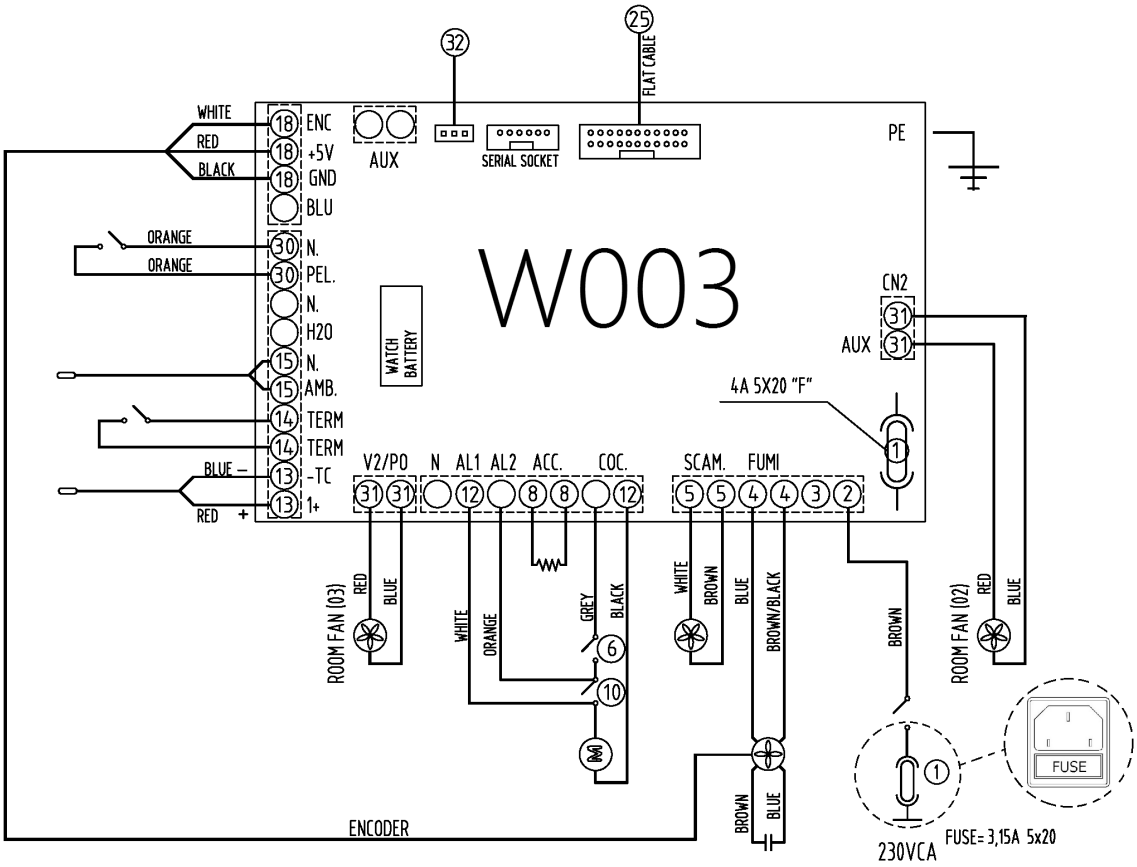


Fig. 19 - W003 board electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 -*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 -*
7 -	*23 -*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 -	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 - Ducting room fan*
16 -	*32 - Wifi (optional)*

8 HYDRO STOVES

From the control panel there is the option to select 5 different types of system diagrams for faster and more simplified setting of all boiler operation parameters, in order to best interact with the home's plumbing.

8.1 FIRST IGNITION: WHAT TO CHECK

- Check whether the flue and flue gas duct installation is adequate for the installed stove and whether it complies with the requirements.
- Check whether the combustion air flow complies with the requirements.
- Ensure that with all appliances on (stoves, extraction hoods, etc.) the pressure drop between the room and the outside does not exceed 4Pa.
- Perform system washing before installing and starting up the system.
- Always perform a pre-emptive check of the number of radiators and absorption potential of the system.
- Check flow and return piping, both from the point of view of diameter and insulation.
- Ensure all system shut off valves are open or that the thermostats that control zone solenoid valves enable opening (request for heat by the thermostat).
- The thermostove must be connected within the plumbing system preferably by using **flexible stoves** and inserting shutoff valves, in order to isolate the appliance from the system in the event of maintenance.
- Load the system with cold water through a filling cock.
- **Take pressure to 1.5 bar**.
- The system pressure may be checked through the pressure gauge provided or the one on the system such as the one on the gas boiler.
- Ensure there are no leaks from the plumbing connections.
- Ensure the system's safety valve is connected to a sewage outlet.
- Vent air from the circuit through the suitable valves that must be fitted along the system.
- If there is an external thermostat, ensure it is correctly connected to the Hydro stove.
- Check correct system configuration choices, calibration of the Hydro stove water temperature and internal/external thermostat.

Let's see now how to interact with the control panel and how to set operation parameters.

8.2 THE CONTROL DISPLAY: MENU KEYS AND DIAGRAM

CONTROL BOARD	KEYS	INSTRUCTIONS
		Boiler switch on/off.
		Scrolling the programming menu down.
		Menu.
		Scrolling the programming menu up.
		Decrease set temperature/programming functions.
		Increase set temperature/programming functions.

8.3 BASIC ADJUSTMENTS

Press keys and of the panel to modify basic operation parameters without entering the menus:

CONTROL BOARD	INSTRUCTIONS
	**Set Room T** = setting room temperature if the internal thermostat is activated. If however the internal thermostat is disabled, T ON is displayed i.e. external thermostat active. The values may be modified by pressing key and increasing or decreasing the readings with and .
	Set Water T = setting water temperature in boiler. The values may be modified by pressing key and increasing or decreasing the readings with and .
	Air V. Speed = setting hot air fan speed. The values may be modified by pressing key and increasing or decreasing the readings with and .

8.4 MAIN OR 1ST LEVEL MENU

Press key in any display status to obtain a first list of possible adjustments:

TIME and DATE	Date and time adjustment (see appliance's use and maintenance manual).
TIMER	Adjust time bands for Hydro stove switching on and off through the internal chronostat (see appliance's use and maintenance manual).
SLEEP	Programmed boiler switching off according to a countdown set by the user (see appliance's use and maintenance manual).
SETTINGS	A 2nd level sub-menu is accessed where you can adjust all boiler operation settings.
INFO	For all the information on the appliance and its operation.

8.5 SETTINGS OR 2ND LEVEL MENU

To access the settings sub-menu press the key after scrolling all the items of the 1st level menu and finding SETTINGS. Here is another list of items:

LANGUAGE	Change display language.
CLEANING	This item is displayed only with Hydro stove off, that is when the combustion gas temperature probe is cold. This function has the purpose of activating the flue gas extraction fan in order to expel the suspended ash during turbolator cleaning and excess ash. It is therefore recommended to perform turbolator cleaning when the appliance is cold and actuating the flue gas extraction fan from the cleaning menu. Just press any key in the display to turn off the fan upon completing turbolator shaking and cleaning operations.

SCREW LOADING	This item is displayed only with Hydro stove off, that is when the combustion gas temperature probe is cold. With this menu you can activate the pellet loading gear motor and fill the feed screw when it is completely empty (e.g.: in case of first ignition or ignition after completely emptying the pellet tank). This operation saves time due to possible failed ignition since the feed screw is completely empty and it takes a few minutes to fill it.
TONE	Enable/Disable display keypad tones.
EXT. THERMOSTAT	Enable/Disable the internal thermostat against an external thermostat or NTC probe, which must be suitably connected to the connectors located at the rear of the Hydro stove (see appliance manual). In the event of disabling the internal thermostat and failed connection of an external thermostat or probe, the Hydro stove will consider the external thermostat contact as always OPEN and will therefore only adjust its power by checking water temperature set in the boiler. Simply connecting an external thermostat **is not enough for the boiler to recognise its presence**. **The external thermostat must be activated through this menu.**
AUTO-ECO	Enable/Disable ECO-STOP. Please note that the ECO-STOP switches the boiler/stove upon reaching the desired temperature and after a waiting time, which can be set by the user, useful to allow temperatures to settle and to be met. The factory set time is 10 minutes. To change this time interval you need to access the next menu ECO-OFF T.
OFF TIME ECO	As previously indicated this menu is required to set the appliance's switching off delay in ECO-STOP upon reaching the temperature. It is possible to select from minimum 1 minute to maximum 20 minutes. It is recommended to opt for very short times (1 minute) where there are zone valves that, upon reaching the temperature, completely cut out the boiler/stove from the system and where prolonged operation with no heat absorption may lead to the water in the boiler to boil. Likewise, longer switching off times are recommended in cases where the appliance is directly connected to a system not controlled by zone thermostats and where room insulation can cause rapid temperature changes.
PUMP T-ON	Menu required to adjust the switching on and off temperature of the water circulation pump fitted inside the Hydro stove. The factory setting is **50 °C** but it may be changed through this menu. This change may be required in case of boiler connection to a puffer, where there is the need to adjust the pump start/stop temperature so it is as similar as possible to the value set in the storage tank's thermostat to prevent the pump from circulating water in the system or appliance even when it is not necessary, causing faster cooling of the water in the puffer. The pump switching on and off hysteresis is ± 2°C.
AUXILIARY BOILER	Active default contact required to control another boiler. The electrical connection must be made through the suitable rear connectors. This contact allows another device to be switched on or off based on the internal water temperature in the Hydro stove boiler.
PELLET RECIPE	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the pellets dropping into the burn pot, possible settings are: +3 = +15% of pellets +2 = +10 % of pellets +1 = +5% of pellets 0 = factory setting (no change) -1= -10% of pellets -2 = -20% of pellets -3 = -30% of pellets
SMOKE FAN RPM	As for all pellet appliances, it is also possible in this case to adjust, as a percentage, the flue gas extraction fan speed in order to address situations where flue gas cannot be extracted easily or situations of poor yield in the event of flues with excessive draft. Available settings are from +50% to -30% of the RPM set in the standard factory parameters.
MAXIMUM POWER	With this menu you can select maximum boiler/stove operation power when it must reach the desired room or boiler water temperatures. The standard setting is 5 i.e. the maximum possible power. Should you opt for a lower power please note that the boiler will never exceed the set power, hence the boiler's performance will be lower than the peak one stated by the manufacturer. This function may be useful in cases where the appliance is oversized with respect to the premises, hence lower power is sufficient or fewer kW are enough to heat a domestic hot water storage tank (for instance in the summer period).

COMPONENTS TEST	This item is displayed only with stove off, that is when the combustion gas temperature probe is cold. Through this menu it is possible to electrically power the various electronic and mechanical components to test their operation (igniter, gear motor, fans, etc.).
CHIMNEY SW.	This feature may only be activated when the stove is in operation and disables all internal and external probes to take combustion to peak power, regardless of system status. In this stage it is possible to make the sampling to check the appliance's emissions and relevant performance. It is recommended to perform this operation ensuring the suitable heat absorption by the heating system otherwise the boiler will rapidly reach boiling temperature making all sampling useless.
SYSTEM CONFIGURATION	This feature obliges the installer to select a system configuration among the 5 possible pre-set ones. These 5 configurations take into consideration systems of varying complexity, namely:
	Configuration 1 = Hydro stove directly connected to a heating system with temperature control through an internal or external room thermostat. This configuration is standard on Hydro stoves without domestic hot water kit.
	Configuration 2 = Hydro stove directly connected to a heating system with temperature control through an internal or external room thermostat. In this configuration domestic hot water production is provided through the internal plate exchanger or through an external storage tank with coil and thermostat connected to the boiler/stove (optional feature). This configuration is the standard one on Hydro stoves with domestic hot water kit.
	Configuration 3 = Hydro stove directly connected to a heating system with temperature control through an internal or external room thermostat. In this configuration domestic hot water production is provided through an external domestic hot water storage tank and NTC probe connected to the boiler/stove (optional feature).
	Configuration 4 = Hydro stove directly connected to a puffer whose operation is controlled through a thermostat controlling water temperature in the puffer.
	Configuration 5 = Hydro stove directly connected to a puffer whose operation is controlled through an NTC probe controlling water temperature in the puffer.
	The choice of configuration automatically sets certain internal operating parameters for the boiler which can no longer be modified through the menus described above. (E.g.: ECO STOP cannot be disabled in configurations 4 and 5 for obvious reasons to do with boiler operation with puffer or the external thermostat cannot be disabled to enable the internal one since it is required to detect the water temperature in the puffer for proper operation.)
SEASON	Through this menu you can choose the appliance's operation season between SUMMER and WINTER. WINTER operation entails complete appliance operation both for heating the home's system and for domestic hot water production (if the boiler/stove is equipped with this accessory). SUMMER operation disables heating functions in order to respond more promptly to demands for domestic hot water production. The SUMMER/WINTER functions can obviously be activated only if configuration 2 or 3 has been opted for among the ones indicated above. In the other cases, in fact, the boiler cannot impose summer/winter operation if the system provides domestic hot water production through systems outside the boiler/stove. E.g. in configuration 1 there is not an internal domestic hot water kit, hence the SUMMER function cannot be activated. If you try activating this function, the parameter automatically goes back to the WINTER setting.
TECHNICAL MENU	Special adjustments can be made within this menu, for this reason access to the sub-menu is password protected (PASSWORD = A9). In addition to the technical parameters listed below, here it is possible to: Choose the PRODUCT TYPE during any repairs requiring motherboard replacement. Reset SERVICE hours. TECHNICAL PARAMETERS = list of all settings that may be modified with the display keypad. DHW OPERATION TECHNICAL PARAMETERS = list of all settings reserved to the hot water production stage (only for boilers/stoves fitted with internal domestic hot water production kit). COUNTER MEMORIES = all internal appliance counters (e.g.: last 5 alarms triggered, etc.). ENABLE FAN = to enable connection fan. PUFFER DATA = temperature data detected by the external puffer.

9 SYSTEM CONFIGURATIONS

Following the explanations of the previous chapter, here are the various system configurations in order to make it easier to recognise the system the boiler is installed on and avoid an incorrect selection. For each configuration we indicate which parameters are automatically activated, de-activated or locked.

9.1 SYSTEM WITH: DIRECT VENT PELLET STOVE AND ROOM PROBE

Settable settings

SETTING	VALUES
ROOM TEMP.	5°C - 35°C
WATER TEMP.	30°C - 80°C

Parameters to set

SETTING	VALUES
Configuration	1

Hydraulic diagram

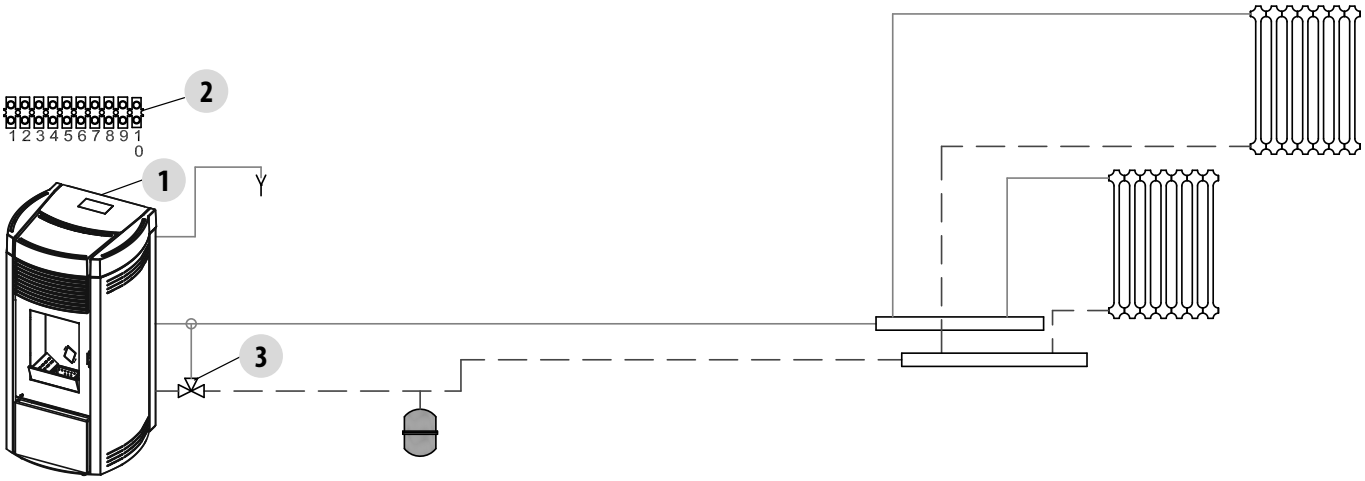


Fig. 20 - System with: direct vent pellet stove and room probe

LEGEND	*Fig. 20*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*

9.2 SYSTEM WITH: DIRECT VENT PELLET STOVE AND ROOM THERMOSTAT

Settable settings

SETTING	VALUES
WATER TEMP.	30°C - 80°C

Parameters to set

SETTING	VALUES
Configuration	1
External thermostat	ON

Hydraulic diagram

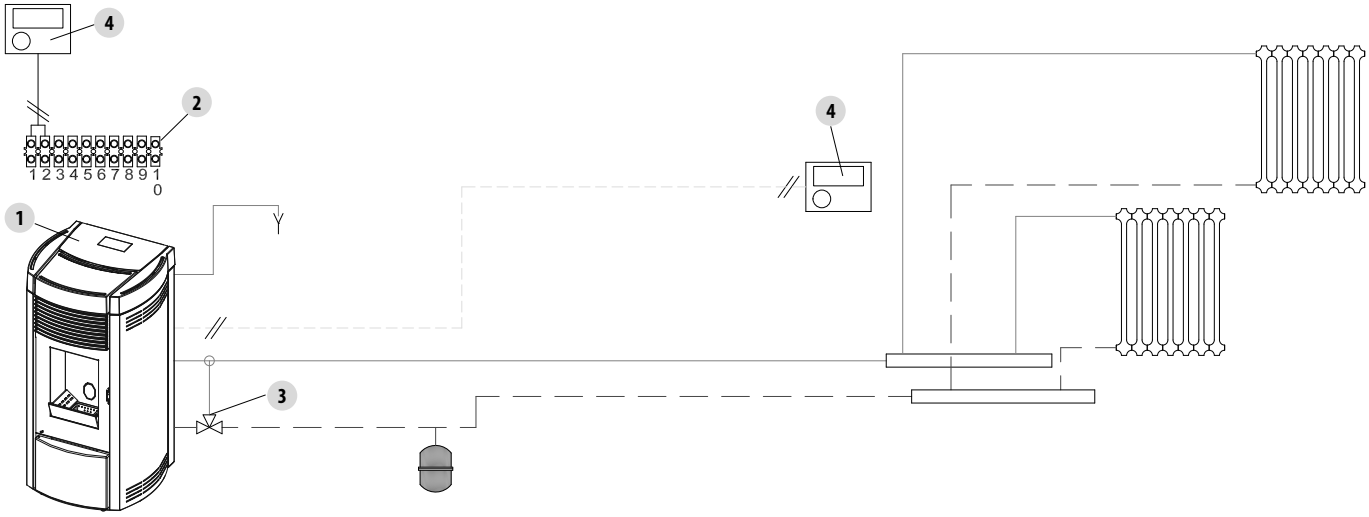


Fig. 21 - System with: direct vent pellet stove and room thermostat

LEGEND	*Fig. 21*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*
4	*Room thermostat*

9.3 CONFIGURATION 2

Stove/boiler directly connected to a heating system with temperature control through an internal or external room thermostat. In this configuration domestic hot water production is provided through the internal plate exchanger or through an external storage tank with coil and thermostat connected to the boiler/stove (optional feature). This configuration is the standard one on Hydro stoves with domestic hot water kit.

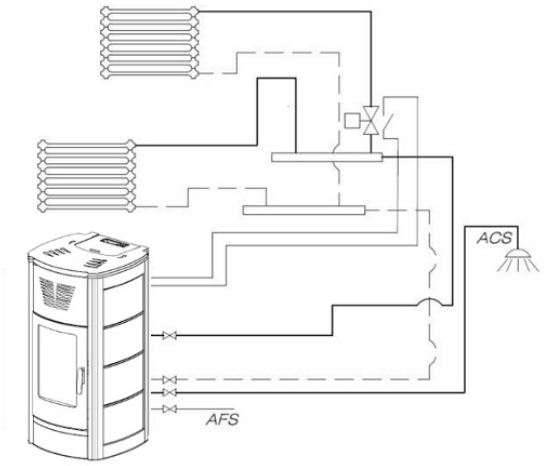


Fig. 22 - Configuration 2

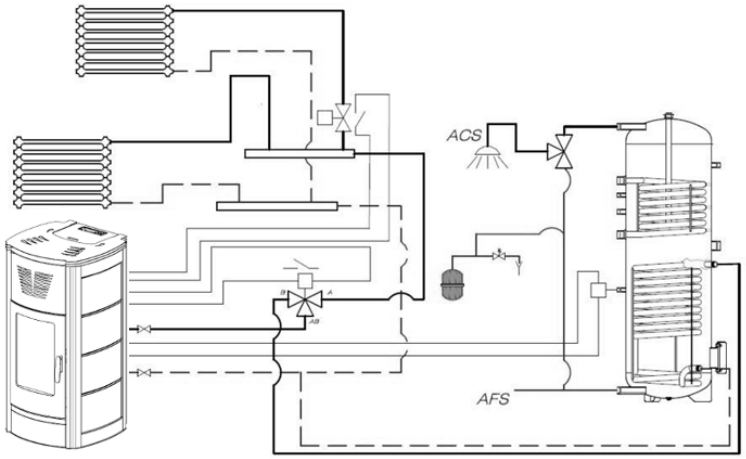


Fig. 23 - Configuration 2 with storage tank

Internal thermostat	ON (Temperature reading disabled if SUMMER season is set)
External thermostat	OFF (may be activated from the menu)
Season	WINTER (Summer may be activated)
Auto ECO	OFF (if WINTER season is set and may be activated from the menu)
	ON (it may not be disabled if SUMMER season is set)

9.4 SYSTEM WITH: DIRECT VENT PELLET STOVE, ROOM PROBE, AND DHW BOILER

Settable settings

SETTING	VALUES
ROOM TEMP.	5° C - 35°C
WATER TEMP.	30° C - 80°C
BOILER TEMP.	30° C - 80°C

Parameters to set

SETTING	VALUES
Configuration	3

Hydraulic diagram

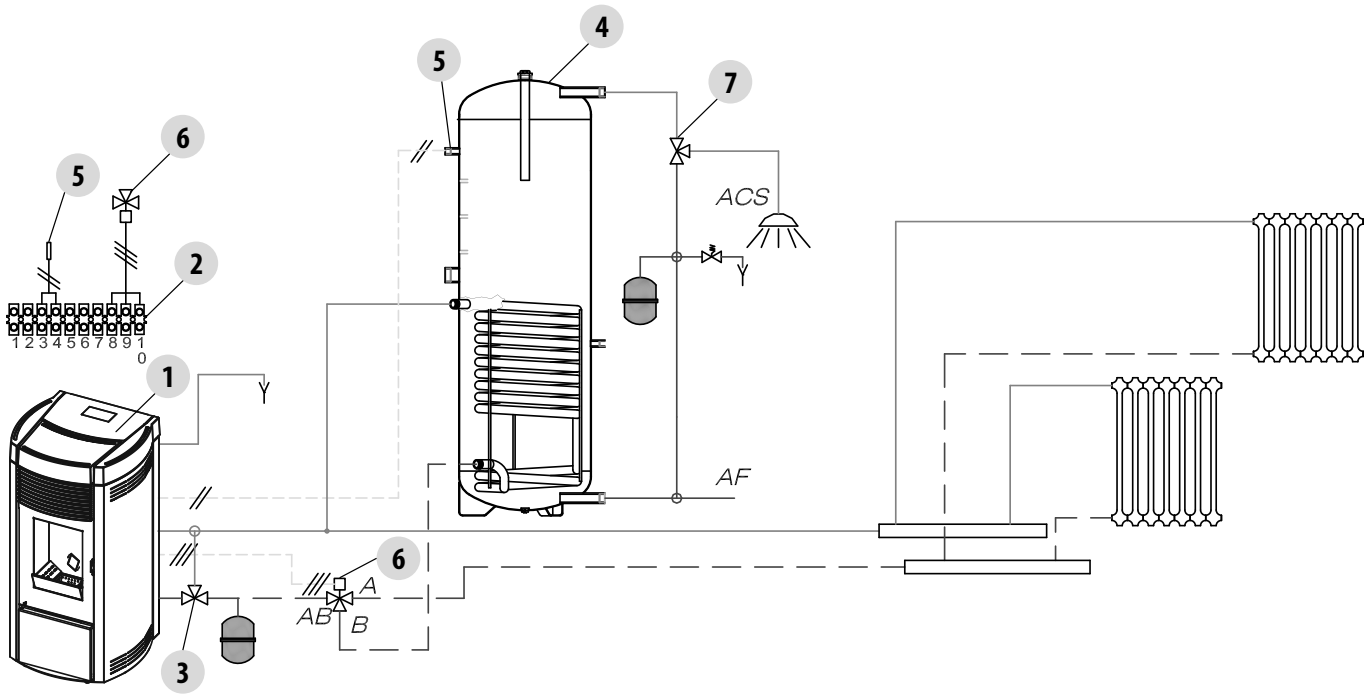


Fig. 24 - System with: direct vent pellet stove, room probe, and DHW boiler

LEGEND	*Fig. 24*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*
4	*DHW boiler*
5	*Boiler probe*
6	*3-way diverter valve*
7	*DHW Thermostatic Valve*

9.5 SYSTEM WITH: DIRECT VENT PELLET STOVE, ROOM THERMOSTAT, AND DHW BOILER

Settable settings

SETTING	VALUES
WATER TEMP.	30° C - 80°C
BOILER TEMP.	30° C - 80°C

Parameters to set

SETTING	VALUES
Configuration	3
External thermostat	ON

Hydraulic diagram

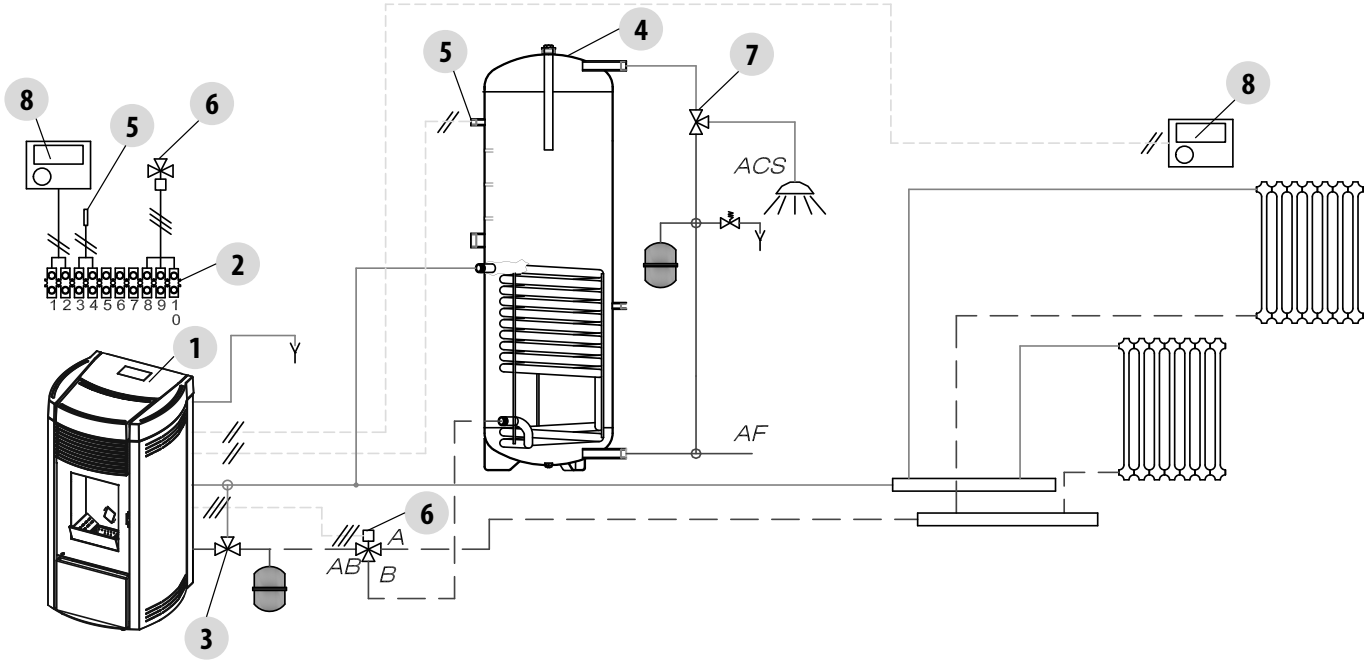


Fig. 25 - System with: direct vent pellet stove, room thermostat, and DHW boiler

LEGEND	*Fig. 25*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*
4	*DHW boiler*
5	*Boiler probe*
6	*3-way diverter valve*
7	*DHW Thermostatic Valve*
8	*Room thermostat*

9.6 CONFIGURATION 4

Hydro stove directly connected to a puffer whose operation is controlled through a thermostat controlling water temperature in the puffer.

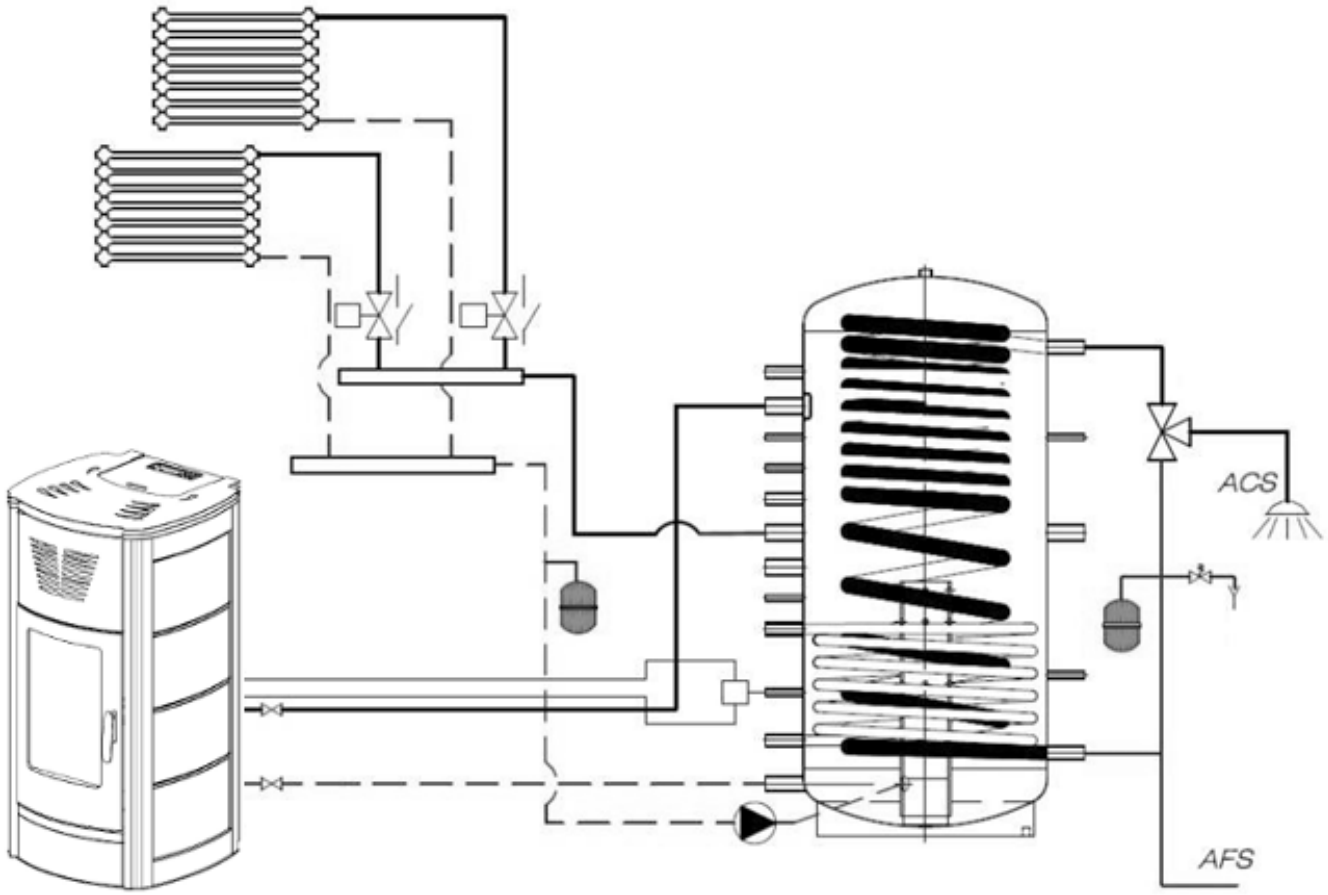


Fig. 26 - Configuration 4

Internal thermostat	OFF (It may not be enabled)
External thermostat	ON (It may not be disabled - Connect outside thermostat to the puffer)
Season	WINTER (Summer MAY NOT be activated)
Auto ECO	ON (It may not be disabled)
SET Water temperature in the boiler	80°C (The temperature must in any case be adjusted based on the temperature selected on the puffer)

9.7 SYSTEM WITH: PELLET STOVE AND PUFFER

Settable settings

SETTING	VALUES
PUFFER TEMP.	55° C - 75°C

Parameters to set

SETTING	VALUES
Configuration	5

Hydraulic diagram

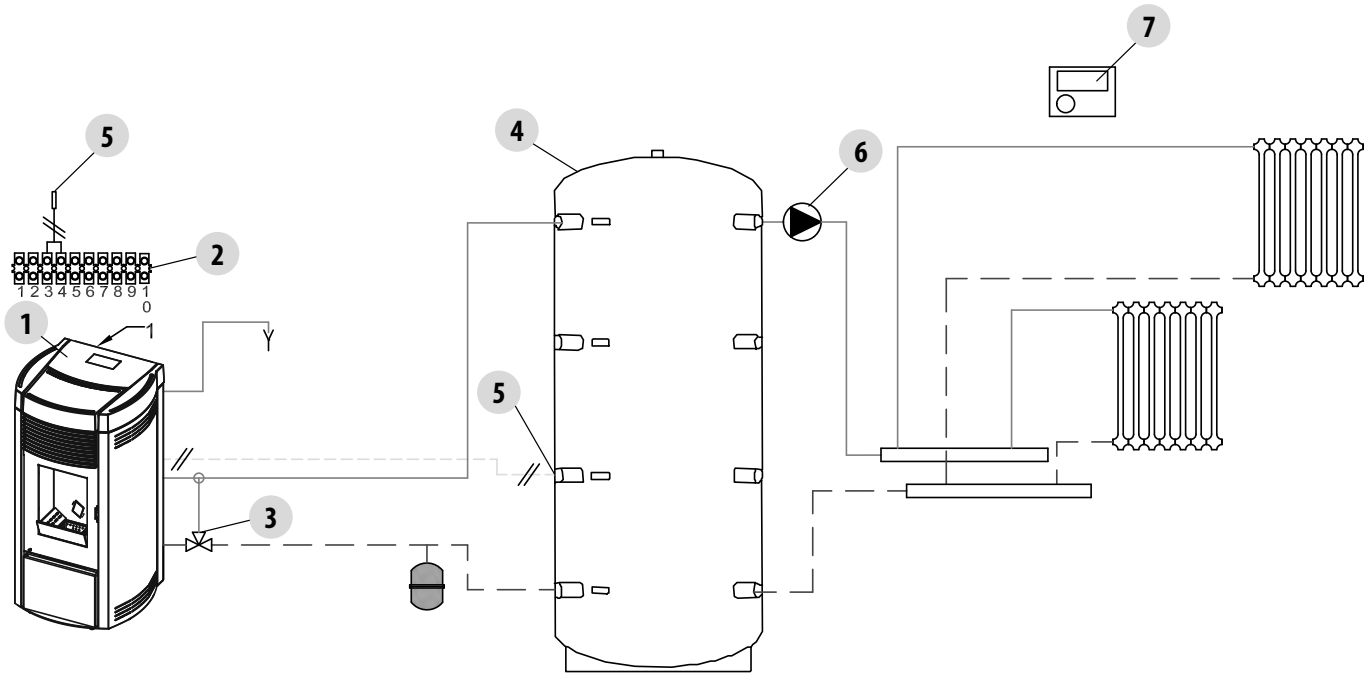


Fig. 27 - System with: pellet stove and puffer

LEGEND	*Fig. 27*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*
4	*Puffer*
5	*Puffer probe*
6	*System pump*
7	*Room thermostat*

9.8 SYSTEM WITH: PELLET STOVE, PUFFER, AND AUXILIARY BOILER (WALL MOUNTED)

Settable settings

SETTING	VALUES
PUFFER TEMP.	55° C - 75°C

Parameters to set

SETTING	VALUES
Configuration	5
Auxiliary Boiler	ON

Hydraulic diagram

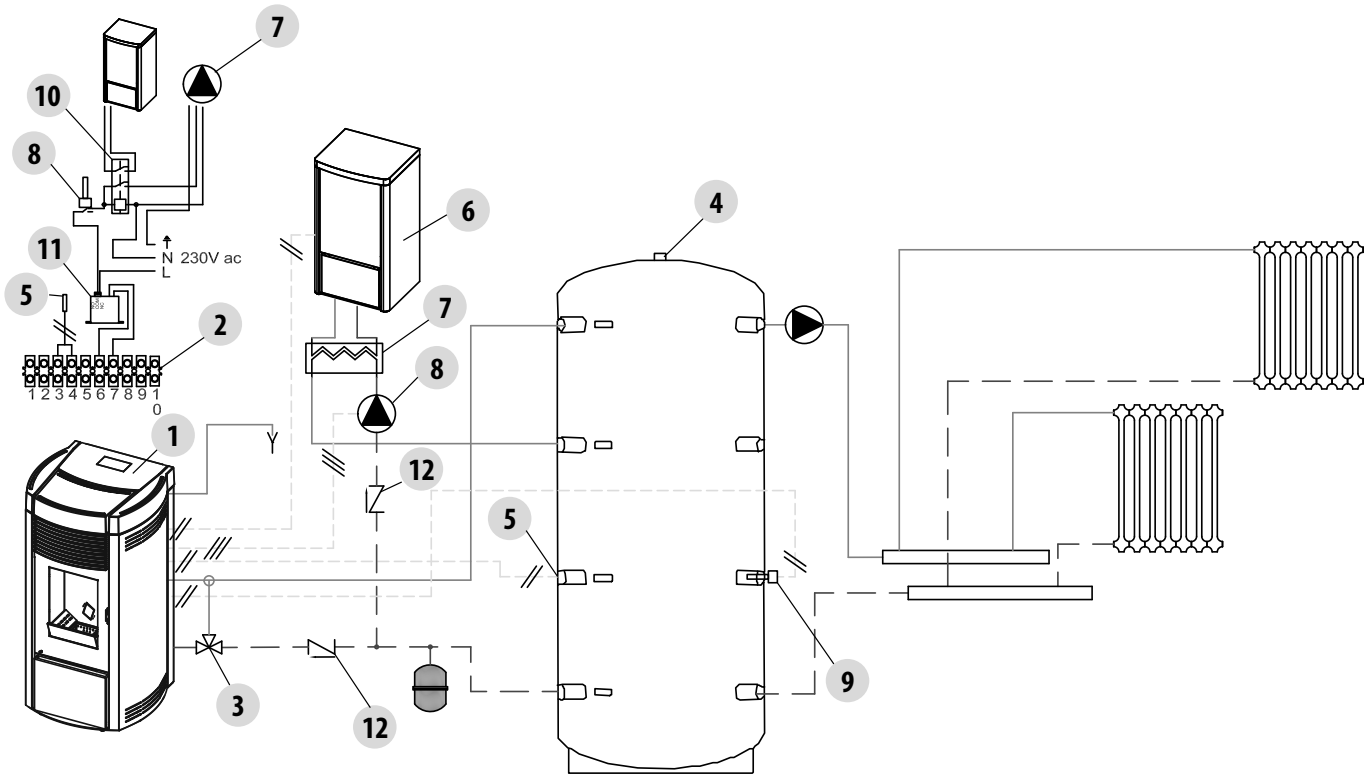


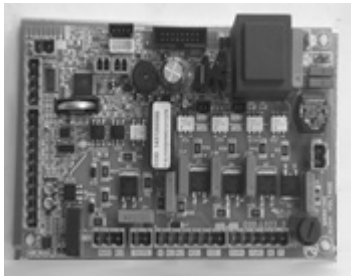
Fig. 28 - System with: pellet stove, puffer, and auxiliary boiler (wall mounted)

LEGEND	*Fig. 28*
1	*Pellet Boiler*
2	*Rear terminal board*
3	*Anti-condensate valve*
4	*Puffer*
5	*Puffer Probe*
6	*Auxiliary boiler*
7	*Plate exchanger*
8	*System pump*
9	*Auxiliary boiler thermostat*
10	*Activation relay*
11	*Aux boiler connection module*
12	*Non-return valve*

10 THE MOTHERBOARD (HYDRO STOVES)

In order to carry out a correct summary of all existing motherboards in the CADEL - FREEPOINT - PEGASO range as of 2013 and avoid matching or part order errors, here is a list of all versions based on type of stove.

10.1 MOTHERBOARD TYPE

CONTROL BOARD	MOTHERBOARD TYPE
	LCD Panel.
	L023 motherboard containing the appliance software. Each type of appliance corresponds to a PRODUCT TYPE code. Order the board with the specific software.

10.2 MOTHERBOARD REPLACEMENT AND HYDRO STOVE TYPE SOFTWARE PROGRAMMING

If you are replacing the motherboard that contains all the appliance software, you need to select the type of appliance on which the board is being installed in order to correctly load the data.

CONTROL BOARD	INSTRUCTIONS
	As soon as the new board has been installed, the display will show a message (PRODUCT TYPE) to request entry of the code corresponding to the product. 1. Press the key corresponding to the menu item. 2. With the navigation keys and scroll the menu to SETTINGS. 3. Press the button to confirm. 4. With the navigation keys and scroll the menu to item ENGINEER SETTINGS. 5. Press the button to confirm. 6. Press until you find password "A9". 7. Press the button to confirm. 8. The first item requests PRODUCT TYPE (01,02,...) corresponding to stove model. 9. Press the button twice to confirm. 10. With key and scroll to find the product code following the list mentioned above. 11. Press the button to confirm.

10.3 TECHNICAL PARAMETERS

The technical parameters represent all the information and timeframes the appliance needs to comply with in order to operate properly. It is possible to make changes to improve various operation aspects such as consumptions, frequency of periodic cleaning, flue gas ejection, etc. but we recommend carrying out these changes only if you are actually certain of the consequences. Below is an explanation of how to access these parameters protected by a password and how to change them if necessary.

CONTROL BOARD	INSTRUCTIONS
	1. Press the key corresponding to the menu item. 2. With the navigation keys and scroll the menu to SETTINGS. 3. Press the button to confirm. 4. With the navigation keys and scroll the menu to TECHNICAL MENU. 5. Press the button to confirm. 6. Press until you find password "A9". 7. Press to confirm. 8. To scroll through the various parameters, use button and .

10.4 L023 AND W003 X HYDRO BOARD PARAMETERS

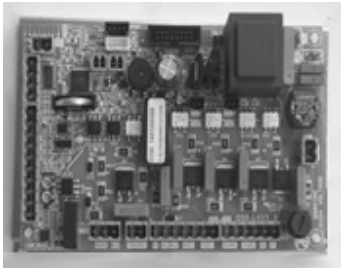


Fig. 29 - L023 Board

Fig. 30 - W003 x hydro board

GEAR MOTORS

In the event of gear motor replacement, install the following model:

Fig. 31 - 3.3 RPM gear motor

FIRMWARE CODE				20181019	20181019	20181019	20181019	20181019	
FIRMWARE VERSION				20	20	20	20	20	
MODELS				*AQUOS 24 AQUOS 24 H_2O*	*AQUOS 22 IBIS 22 IDRON 22 PROMETEO*	*AQUOS 22 H_2O IBIS 22 H_2O IDRON 22 H_2O*	*IBIS 11 IDRON 11*	*AQUOS 15 IBIS 15 IDRON 15*	
				From 01.06.2015	*From 09.05.2013*	*From 20.01.2014*	*From 18.04.2014*	*From 14.05.2013*	
NOMINAL POWER KW				24,8 kW	22 kW	22 kW	11,6 kW	15 kW	
PRODUCT TYPE				**01**	**04**	**05**	**06**	**10**	
MOTHER BOARD				L023	L023	L023	L023	L023	
BOARD CODE (BOARD+FIRMWARE+ADDITIONAL BOARD)				41451200500	41451200500	41451200500	41451200500	41451200500	
GEAR MOTOR				3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Maximum ignition cycle time in minutes	*LOAD WOOD*	min	22	15	15	15	15	
Pr02	Flame settling time in minutes	*FIRE ON*	min	2	2	2	2	2	
Pr03	Time interval between burn pot clean ups	*CLEANING FREQUENCY*	min	60	20	20	20	20	
Pr04	Feed screw motor on time, load wood	*PELLET FEED SCREW LOAD WOOD*	sec	3	1,8	1,8	1,6	1,8	
Pr05	Feed screw motor on time on, startup stage	*PELLET FEED SCREW FIRE ON*	sec	2,5	1,8	1,8	1,6	1,8	
Pr06	Flue gas extraction speed on switch on	*SMOKE FAN LW*	rpm	1800	1600	1600	2000	1600	
Pr07	Flue gas extraction speed on switch on	*SMOKE FAN FO*	rpm	1600	1600	1600	1800	1600	
Pr08	Temperature at which during switch off the exchanger switches to V1 from the work setting	*T EXCHANGER ST*	°C	100	150	150	150	100	
Pr09	Temperature threshold to switch on exchanger	*T EXCHANGER OFF*	°C	50	100	100	100	100	
Pr10	Flue gas early warning temperature to modulate power	*T MAX SMOKE*	°C	150	230	230	230	200	
Pr11	Flue gas temperature to consider stove on	*T STOVE ON*	°C	45	50	50	50	50	
Pr12	Flue gas extraction speed at power 1	*SMOKE FAN P1*	rpm	1000	1000	1000	1300	1000	
Pr13	Flue gas extraction speed at power 5	*SMOKE FAN P5*	rpm	1750	1800	1800	2100	1500	
Pr14	Feed screw motor time on, at power 1	*PELLET FEED SCREW P1*	sec	1,6	1,2	1,2	1,2	1,2	
Pr15	Feed screw motor time on, at power 5	*PELLET FEED SCREW P5*	sec	5,2	4,1	4,1	2,7	3,5	
Pr16	Hot air exchanger motor voltage in V1	*EXCHANGER V1*	V	160	160	160	160	160	
Pr17	Hot air exchanger motor voltage in V5	*EXCHANGER V5*	V	230	230	230	230	230	
Pr18	Min. temperature to consider stove off	*T STOVE OFF*	°C	42	45	45	45	45	
Pr19	Burn pot cleaning duration	*CLEANING DURACY*	sec	30	30	30	30	30	
Pr20	Parameter which engages (S) or releases (N) the feed screw brake	*PELLET FEED SCREW STOP*	On/Off	On	On	On	On	On	
Pr21	Reduced cleaning interval	*REDUCED CLEANING FREQUENCY*	min	30	30	30	30	30	
Pr22	Reduced cleaning duration	*REDUCED CLEANING DURATION*	sec	10	10	10	10	10	
Pr23	Power for reduced cleaning. Default P2, selectable from 0 to 5, setting to 0 they all do std. cleaning	*REDUCED CLEANING POWER*	n°	2	2	2	2	2	
Pr24	Pump time off	*T-PUMP OFF*	min	10	10	10	10	10	
Pr25	Pump activation temperature at cold temperatures	*PUMP HYSTERES.*	°C	3	3	3	3	3	
DHW PARAMETER		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr48	Domestic hot water temperature min 55° max 80°C	*DHW TEMP.ADJ*	°C	75	75	75	75	75	
Pr49	Flue gas extractor speed in DHW power	*DHW SMOKE SPEED*	rpm	1750	1800	1800	2100	1500	
Pr50	Feed screw time in DHW power	*DHW FEED SCREW*	sec	5,2	4,1	4,1	2,7	3,5	
MENU PUFFER		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr51	PUFFER hysteresis restart Eco-Stop from 1° to 15°C	*PUFFER HYSTERES.*	°C	05	05	05	05	05	

FIRMWARE CODE				20181019	20181019	20181019	20190828	20201109	20201109	20201109	20201109
FIRMWARE VERSION				20	20	20	07	10	10	10	10
MODELS				*IDRO PRINCE³ 16 AQUOS³ 16 IDRON 16 AT MIRA 16 TESIS 16 AT*	*IDRO PRINCE³ 23 IDRO PRINCE³ 23 H₂O AQUOS³ 23 AQUOS³ 23 H₂O IDRON 22 AT HIDROFIRE 22.8 MIRA 22 TESIS 23 AT*	*IDRO PRINCE³ 12*	*IDRO PRINCE 30 IDRO PRINCE 30 H₂O*	*MAYA³ 24*	*MAYA³ 16*	*SATURNO 16*	*SATURNO 24*
				From 10.07.2017	*From 10.07.2017*	*From 10.07.2017*	*From 03.09.2018*	*From 01.09.2020*	*From 01.09.2020*	*From 02.11.2020*	*From 02.11.2020*
NOMINAL POWER KW				16,2 kW	22,8 kW	11,8 kW	28,62 kW	22,8 kW	16,2 kW	18 kW	24,7 kW
PRODUCT TYPE				**11**	**12**	**13**	**3**	**10**	**11**	**14**	**15**
MOTHER BOARD				L023	L023	L023	L023	W003	W003	W003	W003
BOARD CODE (BOARD+FIRMWARE+ADDITIONAL BOARD)				41451200500	41451200500	41451200500	41451200500C	41452004400C	41452004400C	41452004400C	41452004400C
GEAR MOTOR				3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm	3,3 rpm
PARAMETERS		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr01	Maximum ignition cycle time in minutes	*LOAD WOOD*	min	22	22	22	22	22	22	22	22
Pr02	Flame settling time in minutes	*FIRE ON*	min	2	2	2	2	2	2	2	2
Pr03	Time interval between burn pot clean ups	*CLEANING FREQUENCY*	min	60	60	45	45	60	60	30	30
Pr04	Feed screw motor on time, load wood	*PELLET FEED SCREW LOAD WOOD*	sec	2,5	2,5	4,2	3,5	2,3	2,3	3	3
Pr05	Feed screw motor on time on, startup stage	*PELLET FEED SCREW FIRE ON*	sec	2,5	2,5	3,3	3	2	2	2,3	2,3
Pr06	Flue gas extraction speed on switch on	*SMOKE FAN LW*	rpm	1800	1800	2100	2500	2500	2500	2500	2500
Pr07	Flue gas extraction speed on switch on	*SMOKE FAN FO*	rpm	1600	1600	1600	1800	2500	2500	2500	2500
Pr08	Temperature at which during switch off the exchanger switches to V1 from the work setting	*T EXCHANGER ST*	°C	100	100	-	-	100	100	100	100
Pr09	Temperature threshold to switch on exchanger	*T EXCHANGER OFF*	°C	50	50	-	-	50	50	100	100
Pr10	Flue gas early warning temperature to modulate power	*T MAX SMOKE*	°C	280	280	280	350	300	300	280	280
Pr11	Flue gas temperature to consider stove on	*T STOVE ON*	°C	45	45	45	45	50	50	50	50
Pr12	Flue gas extraction speed at power 1	*SMOKE FAN P1*	rpm	850	850	1100	750	600	600	800	800
Pr13	Flue gas extraction speed at power 5	*SMOKE FAN P5*	rpm	1650	2500	2400	2100	2500	1700	2200	2600
Pr14	Feed screw motor time on, at power 1	*PELLET FEED SCREW P1*	sec	1,5	1,5	2,2	1,8	1,8	1,8	1,4	1,4
Pr15	Feed screw motor time on, at power 5	*PELLET FEED SCREW P5*	sec	5	7	6,2	6,8	7	5	4,8	7,3
Pr16	Hot air exchanger motor voltage in V1	*EXCHANGER V1*	V	170	170	-	-	160	160	160	160
Pr17	Hot air exchanger motor voltage in V5	*EXCHANGER V5*	V	230	230	-	-	230	230	230	230
Pr18	Min. temperature to consider stove off	*T STOVE OFF*	°C	60	60	70	60	60	60	60	60
Pr19	Burn pot cleaning duration	*CLEANING DURACY*	sec	30	30	45	45	45	45	30	30
Pr20	Parameter which engages (S) or releases (N) the feed screw brake	*PELLET FEED SCREW STOP*	On/Off	On	On	On	On	On	On	On	On
Pr21	Reduced cleaning interval	*REDUCED CLEANING FREQUENCY*	min	20	20	30	30	10	10	10	10
Pr22	Reduced cleaning duration	*REDUCED CLEANING DURATION*	sec	20	20	30	20	20	20	20	20
Pr23	Power for reduced cleaning. Default P2, selectable from 0 to 5, setting to 0 they all do std. cleaning	*REDUCED CLEANING POWER*	n°	2	2	2	2	2	2	2	2
Pr24	Pump time off	*T-PUMP OFF*	min	10	10	10	10	10	10	10	10
Pr25	Pump activation temperature at cold temperatures	*PUMP HYSTERES.*	°C	3	3	3	3	3	3	3	3
DHW PARAMETER		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr48	Domestic hot water temperature min 55° max 80°C	*DHW TEMP.ADJ*	°C	75	75	75	75	75	75	75	75
Pr49	Flue gas extractor speed in DHW power	*DHW SMOKE SPEED*	rpm	2500	2500	2500	2150	2500	1700	2200	2600
Pr50	Feed screw time in DHW power	*DHW FEED SCREW*	sec	7	7	7	7,3	7	5	4,8	7,3
MENU PUFFER		DISPLAY MESSAGE	UNIT OF MEASUREMENT	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
Pr51	PUFFER hysteresis restart Eco-Stop from 1° to 15°C	*PUFFER HYSTERES.*	°C	10	10	05	05	10	10	10	10

10.6 ELECTRICAL CONNECTIONS DIAGRAM

10.6.1 BOARD L023 WITHOUT DOMESTIC HOT WATER KIT

Models involved:

- **IDRON 11, IBIS 11**
- **AQUOS 15, IDRON 15, IBIS 15**
- **AQUOS 22, IDRON 22, IBIS 22**
- **AQUOS 24**
- **IDRO PRINCE³ 12**
- **IDRO PRINCE³ 16 - AQUOS³ 16 - IDRON 16 AIRTIGHT - MIRA 16 - TESIS 16 AIRTIGHT**
- **IDRO PRINCE³ 23 - AQUOS³ 23 - IDRON 22 AIRTIGHT - MIRA 22 - TESIS 23 AIRTIGHT - HIDROFIRE 22.8**
- **IDRO PRINCE 30**

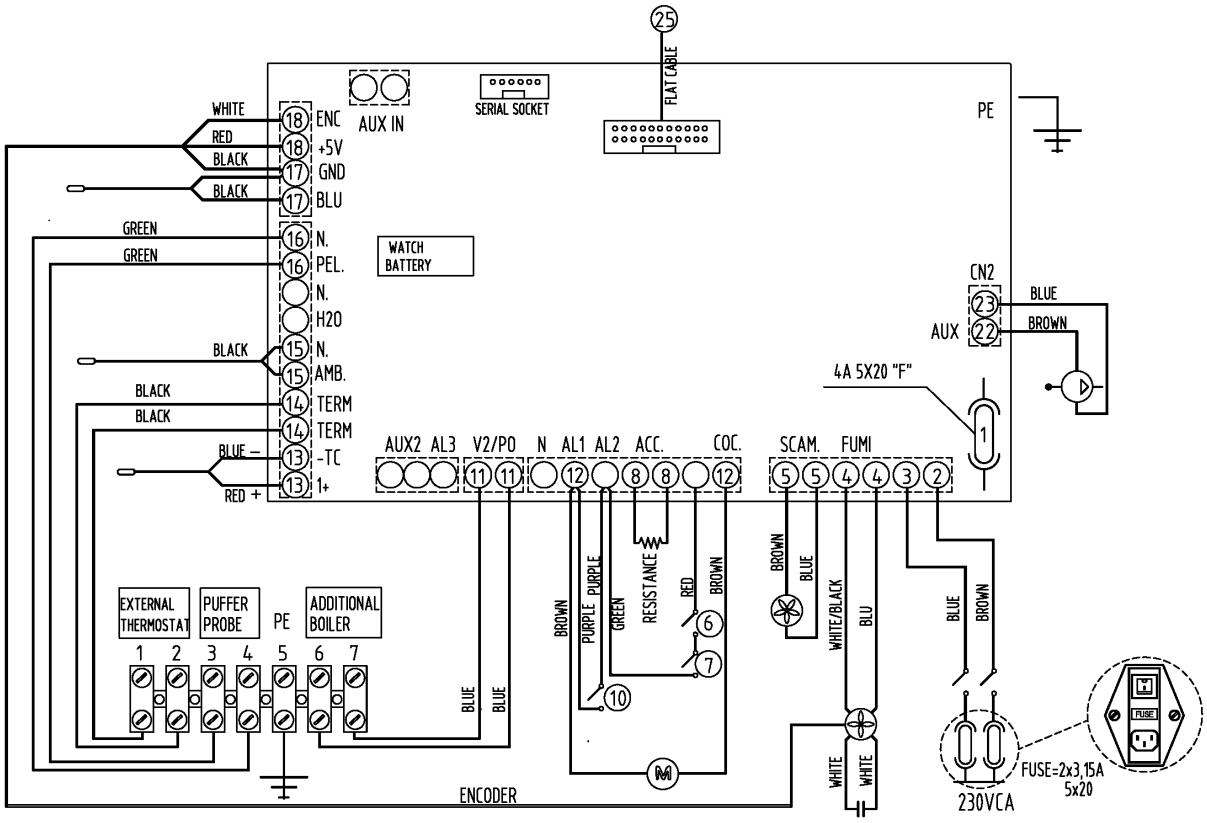


Fig. 32 - L023 Board electrical connections (without domestic hot water kit)

MOTHERBOARD WIRING KEY

1 - Fuse	*17 - Boiler water temperature probe*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 - Pump phase*
7 - Water thermal protector	*23 - Pump neutral*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 - Supplementary boiler connection (terminal board)	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 -*
16 - Puffer/storage tank probe connection (terminal board)	*32 -*

10.6.2 BOARD L023 WITH DOMESTIC HOT WATER KIT

Models involved:

- **AQUOS 22 H2O - IDRON 22 H2O - IBIS 22 H2O**
- **AQUOS 24 H2O**
- **IDRO PRINCE³ 23 H2O - AQUOS³ 23 H2O**
- **IDRO PRINCE 30 H2O**

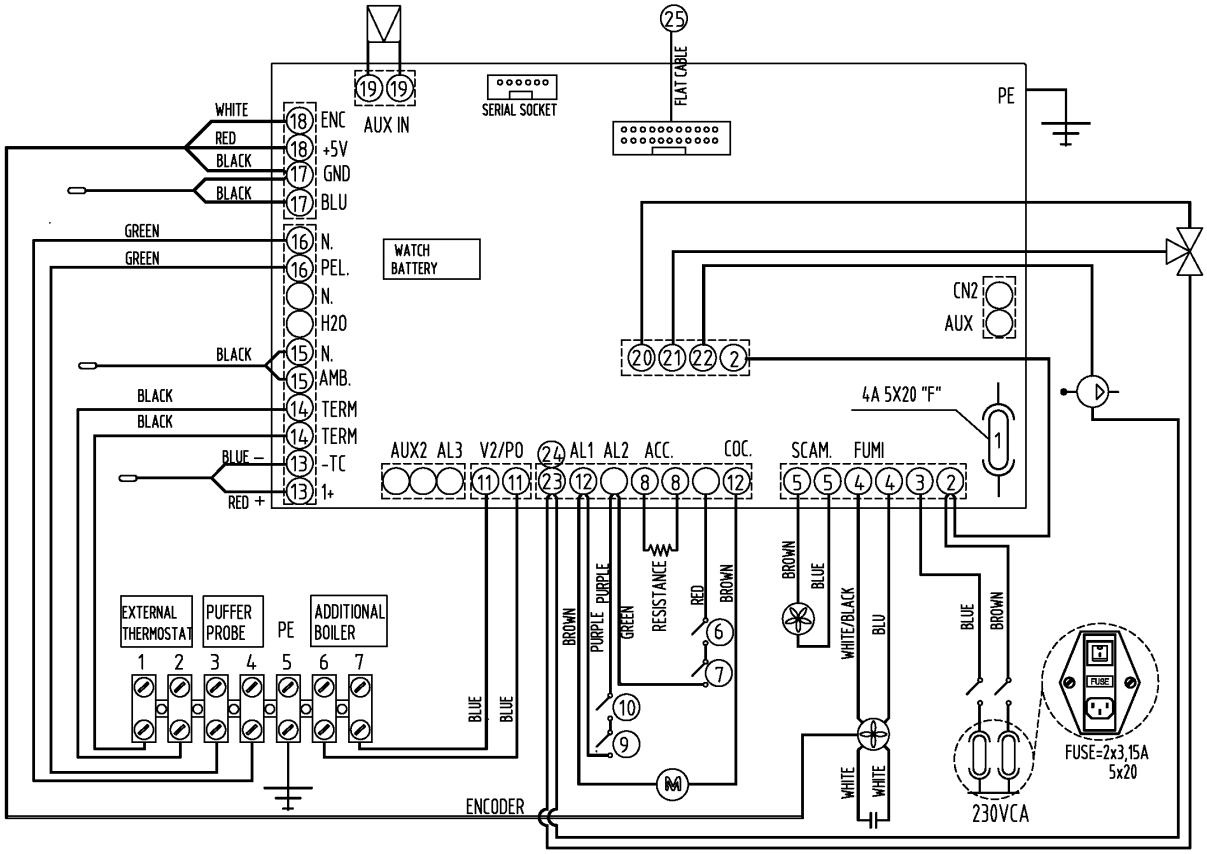


Fig. 33 - L023 Board electrical connections (with domestic hot water kit)

MOTHERBOARD WIRING KEY

2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 - Flow switch*
4 - Flue gas extraction fan	*20 - 3-way valve phase (heating)*
5 - Room fan	*21 - 3-way valve phase (DHW)*
6 - Safety pellet thermostat	*22 - Pump phase*
7 - Water thermal protector	*23 - Pump neutral*
8 - Igniter	*24 - 3-way valve neutral*
9 - Water pressure switch	*25 - Control board*
10 - Air pressure switch	*26 -*
11 - Supplementary boiler connection (terminal board)	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 -*
16 - Puffer/storage tank probe connection (terminal board)	*32 -*

10.6.3 BOARD W003 FOR HYDRO

Models involved:

- **MAYA³ 16**
- **MAYA³ 24**
- **SATURNO 16**
- **SATURNO 24**

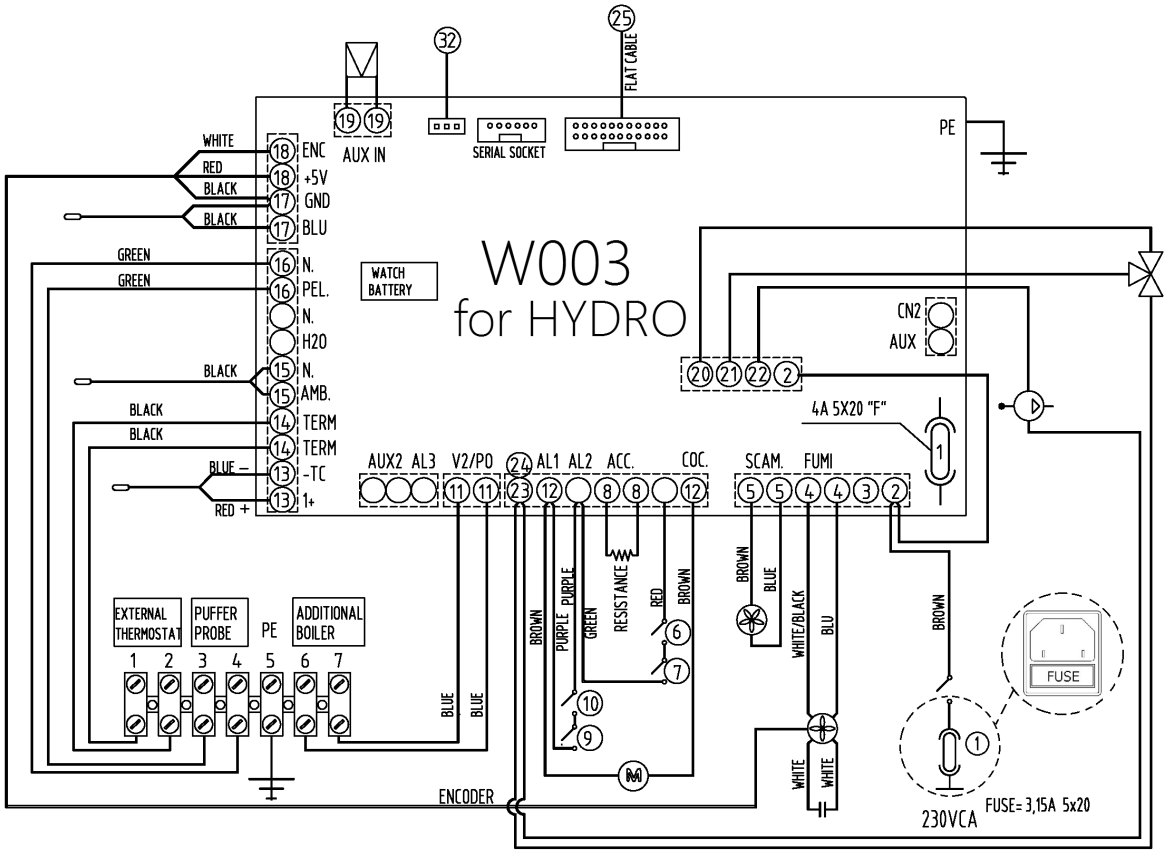


Fig. 34 - W003 board for hydro electrical connections

MOTHERBOARD WIRING KEY

1 - Fuse	*17 - Boiler water temperature probe*
2 - Board phase	*18 - Flue gas extraction fan RPM control*
3 - Board neutral	*19 -*
4 - Flue gas extraction fan	*20 -*
5 - Room fan	*21 -*
6 - Safety pellet thermostat	*22 - Pump phase*
7 - Water thermal protector	*23 - Pump neutral*
8 - Igniter	*24 -*
9 -	*25 - Control board*
10 - Air pressure switch	*26 -*
11 - Supplementary boiler connection (terminal board)	*27 -*
12 - Feed screw	*28 -*
13 - Flue gas probe	*29 -*
14 - External thermostat connection (optional)	*30 -*
15 - Internal room probe	*31 -*
16 - Puffer/storage tank probe connection (terminal board)	*32 - Wifi (optional)*

11 FAULT SIGNALLING

11.1 ALARMS

11.1.1 AIR SERIES 3 AND AIR SERIES 3 PLUS STOVE APPLIANCE ALARMS

AIR SERIES 3 STOVES APPLIANCES


MESSAGE	TYPE OF PROBLEM	SOLUTION
A01	Failed fire ignition.	Check pellet level in the tank. Ensure the burn pot is correctly lodged in its housing and there is no conspicuous unburned scaling. Check whether the igniter heats. Pressure switch does not trigger.
A02	Abnormal fire extinguishing.	Arises from extinguishing caused by lack of fuel (empty tank).
A03 Thermostat alarm	The pellet tank temperature the set safety threshold.	Overheating has occurred due to a malfunction or fuel overload. Back ventilation grid clogged by dust. Check parameters of the recipe used.
A04	Flue gas over-temperature.	The set flue gas threshold has been exceeded. Reduce pellet filling (SETTINGS menu - Pellet recipe).
A05 Pressure switch alarm	Flue gas pressure switch trip	Check for chimney obstructions/fire door opening pellet tank opening, gasket seals, side fire ducts cleaning.
A08	Faulty operation of the flue gas extraction fan.	Check cleanliness of the flue gas fan to ensure it is not seized up by dirt. If not sufficient, the flue gas fan is faulty.
A09	Flue gas probe fault.	Flue gas probe detached / interrupted / faulty / not recognised.
Service	Periodic maintenance warning (not blocking).	When this flashing word is displayed upon switching on, this means the pre-set operation hours before maintenance have expired.

11.1.2 HYDRO STOVES APPLIANCE ALARMS

HYDRO STOVES APPLIANCES


MESSAGE	TYPE OF PROBLEM	SOLUTION
A01	Failed fire ignition.	Check pellet level in the tank. Ensure the burn pot is correctly lodged in its housing and there is no conspicuous unburned scaling. Check whether the igniter heats.
A02	Abnormal fire extinguishing.	Arises from extinguishing caused by lack of fuel (empty tank).
A03 Thermostat alarm	The pellet tank temperature or the water temperature exceed the set safety threshold.	Overheating has occurred due to a malfunction or fuel overload. Check parameters of the recipe used. The boiler is used for too long at maximum performance. Some zone valves prevent water circulation.
A04	Flue gas over-temperature.	The set flue gas threshold has been exceeded. Reduce pellet filling (SETTINGS menu - Pellet recipe).
A05 Pressure switch alarm	Flue gas pressure switch trip or insufficient water pressure.	Check for flue obstructions/door opening or the plumbing system pressure is insufficient.
A08	Faulty operation of the flue gas extraction fan.	Check cleanliness of the flue gas fan to ensure it is not seized up by dirt. If not sufficient, the flue gas fan is faulty. Call an authorised service centre to make the replacement.
A09	Flue gas probe fault.	Flue gas probe detached / interrupted / faulty / not recognised. Check and if necessary call an authorised service centre to make the replacement.
A19	Water probe fault.	Water probe detached / interrupted / faulty / not recognised. Check and if necessary call an authorised service centre to make the replacement.
A20	Puffer probe alarm.	Puffer probe detached / interrupted / faulty / not recognised. Check and if necessary call an authorised service centre to make the replacement.
Service	Periodic maintenance warning (not blocking).	When this flashing word is displayed upon switching on, this means the pre-set operation hours before maintenance have expired. Call the service centre.

11.2 TROUBLESHOOTING ON AIR AND HYDRO STOVES

11.2.1 A01 / AL5 = FAILED IGNITION ALARM

- Air leaks from the door and cleaning compartment sealing gaskets.
- Anomalies in fuel filling.
- In cases of ignition with empty feed screw start.
- Igniter malfunction.
- Incorrect positioning or presence of dirt in the burn pot.
- Room temperature too low.

ATTENTION!!
The stove only ignites if all gaskets assure perfect tightness of the combustion chamber.

- Ensure the opening sections for extraordinary cleaning are properly closed and have no leaks.
- Check gasket seal in the flue gas fan inspection section.
- Check hermetic seal of the door gasket using a paper sheet. Place the paper sheet between the fire door and the structure, close the door and try extracting the paper sheet. If it is easily extracted, the gasket must be checked or replaced. If it is not the gasket is still compliant with specifications, perform this check along the entire perimeter of the door gasket.
- Check gasket tightness of the ash pan door, with the same method illustrated above.
- Ensure the eccentric bush of the door handle is properly locked.
- Check correct positioning of the burn pot and that its holes are all clean.
- Ensure the tank is full of pellets.

AFTER PERFORMING THESE CHECKS, PROCEED WITH THE SUBSEQUENT TROUBLESHOOTING DIAGRAM.

Diagram no.1
ALARM: A01 / AL5 = Failed ignition

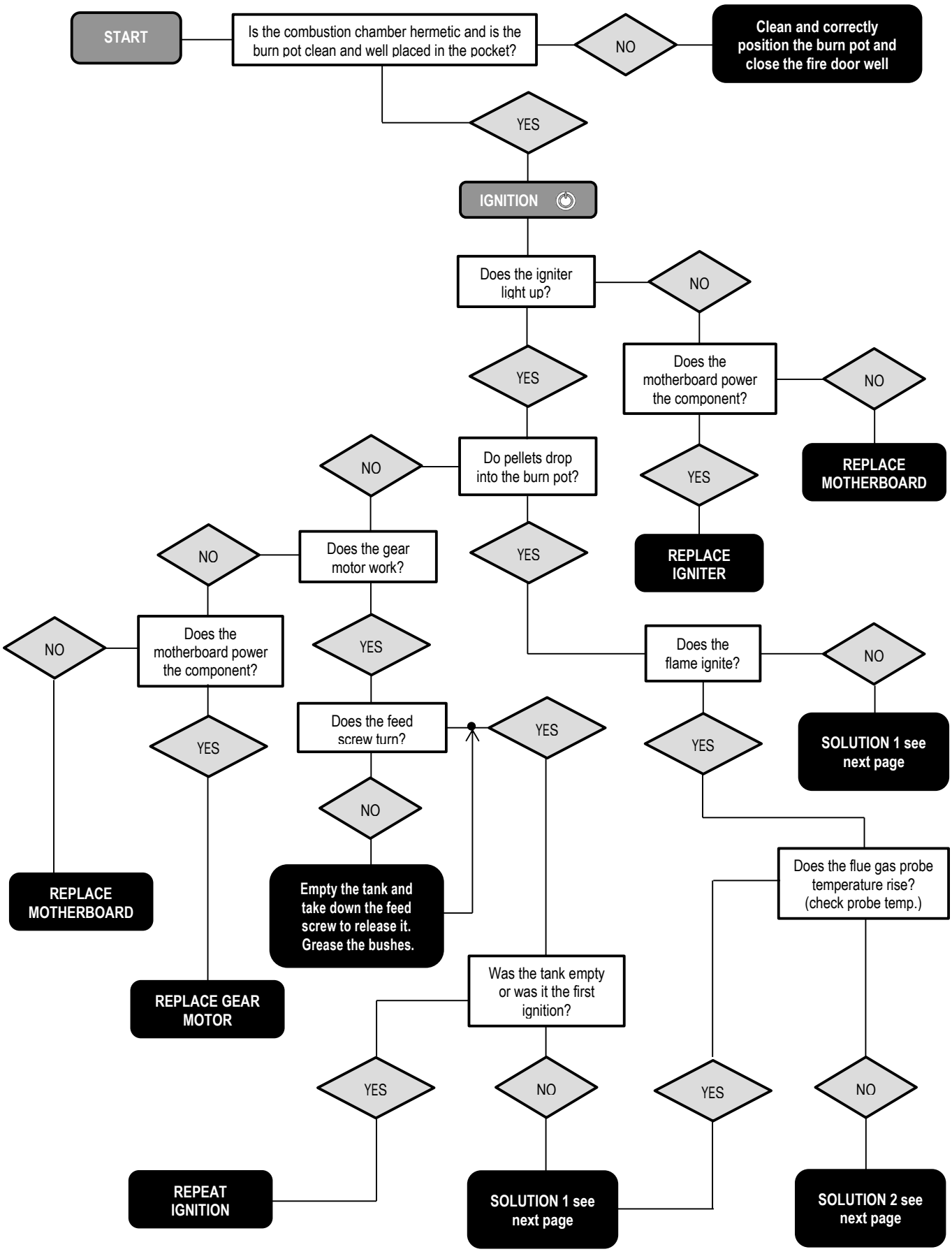


Fig. 35 - Diagram no.1

SOLUTION 1

If the electronic and mechanical components are all working perfectly and the combustion chamber is perfectly tight, **the fault must be sought in the assembly consisting of the burn pot, igniter duct and air inlet to the duct**.
The most likely cause, in fact, is to do with excessive distance between the igniter duct and burn pot hole. In this case it may be useful to:
- Ensure the igniter duct holes are free and allow for easy air inlet, which must be heated and support ignition.
- Ensure the air inlet has not been ducted using a pipe that is too long-winded.

SOLUTION 2

In this case the cause of the problem lies with the flue gas probe. In fact, because the temperature does not rise, it does not provide the correct temperature reading to the motherboard, even if the flame is on therefore at the end of the ignition process (15 minutes), the stove goes into FAILED IGNITION alarm.
In this case, you need to ensure that:
- The flue gas probe is not off position hence not in contact with the hot flue gas.
- The flue gas probe is isolated by too much silicone in the pit.
- The flue gas probe has been poorly wired at motherboard level: if the blue and red wires have been inverted, the probe will read 0-30°C. If, however, the wires have been disconnected from the board, the probe will read 300-400°C.

Note: In this case the flue gas probe cannot be damaged otherwise the alarm signalled by the panel would be different i.e. **AL2 / A04 = Flue gas alarm**.

11.2.2 A02 / AL6 = ABNORMAL FIRE EXTINCTION

This type of alarm occurs when the flue gas probe goes below 50°C and this may occur due to the following causes:
- Poor fuel supply in the burn pot due to incorrect recipe setting therefore the fire goes out due to absence of pellets to burn.
- Excessive fuel supply in the burn pot due to incorrect recipe setting therefore the flame is smothered.
- Empty pellet tank.
- The flue gas probe does not correctly detect the flue gas temperature.

The stove operates correctly and combustion is even, only if all the gaskets assure perfect seal of the combustion chamber.
- Ensure the opening sections for extraordinary cleaning are properly closed and have no leaks.
- Check gasket seal in the flue gas fan inspection section.
- Check hermetic seal of the door gasket using a paper sheet. Place the paper sheet between the fire door and the structure, close the door and try extracting the paper sheet. If it is easily extracted, the gasket must be checked or replaced. Otherwise the gasket still complies with the specifications. Perform this check along the entire perimeter of the door gasket.
- Check gasket tightness of the ash pan door, with the same method illustrated above.
- Ensure the eccentric bush of the door handle is properly locked.
- Check correct positioning of the burn pot and that its holes are all clean.
- Ensure the tank is full of pellets.

AFTER PERFORMING THESE CHECKS, PROCEED WITH THE SUBSEQUENT TROUBLESHOOTING DIAGRAM.

Diagram No.2
ALARM: A02 / AL6 = Abnormal fire extinction

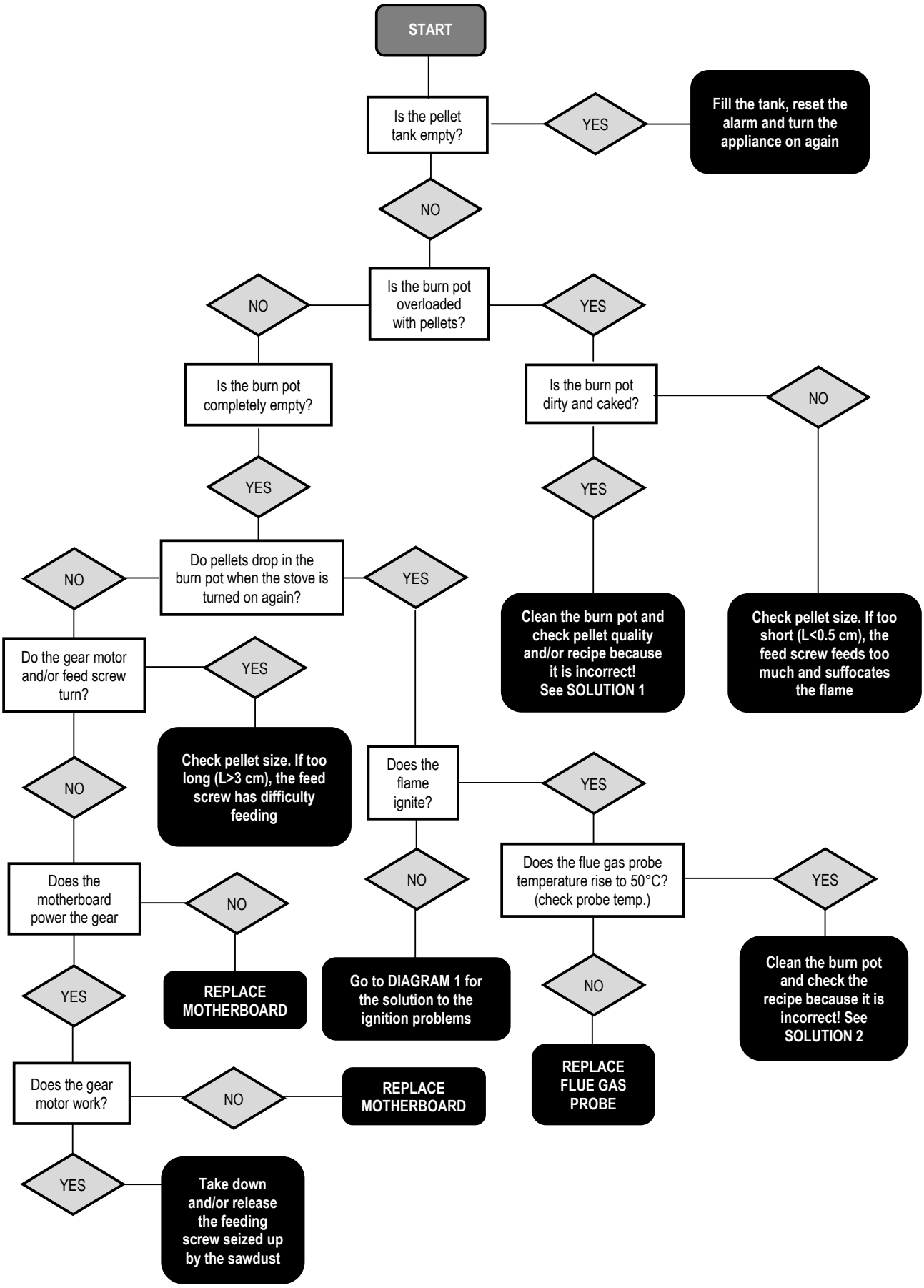


Fig. 36 - Diagram No.2

SOLUTION 1

In this case the issue consists of an incorrect recipe selection which leads to:
- Excessive fuel filling.
- Poor fuel quality which leaves residue and obstructs the burn pot holes.

In this case it may be useful to:
- Change to a certified type fuel (class A1-A2 according to EN 14961-2).
- If clogging and subsequent fire extinction occur over the long term (7-8 hours), it may be sufficient to decrease the pellet supply by decreasing the recipe (e.g.: from -1 to -3) to slightly decrease the amount of pellets fed into the combustion chamber. If available, one might even consider increasing the recipe by two steps to solve more significant clogging.
- If clogging and subsequent fire extinction occur in the short term (2-3 hours), the recipe must be changed substantially reducing the pellet supply.

Should the issues not be solved, the solutions are:
- Check the tightness of the combustion chamber and of the whole smoke pass area where negative pressure is.
- Change installation.

SOLUTION 2

In this case the issue consists of an incorrect recipe selection which leads to:
- Poor fuel filling.
- Incorrect interpretation of the type of installation (ACTIVE or PASSIVE).
- Poor fuel quality which leaves residue and obstructs the burn pot holes.

In this case it may be useful to:
- Change to a certified type fuel (class A1-A2 according to EN 14961-2).
- If the flame always remains low even at peak power this means the recipe must be increased (e.g.: 0 +1 +2 +3) to increase the amount of pellets fed into the combustion chamber.

11.2.3 A03 / AL7 = PELLET TANK SAFETY THERMOSTAT AND THERMOSTOVE BOILERS

This type of alarm occurs when the bulb thermostat or contact thermostat positioned on the tank, exceed the safety temperature set at 60°C / 110°C.
This alarm may also be triggered in the event the water temperature in the boiler exceeds 90°C. In fact, thermostoves feature a second safety bulb thermostat to prevent the water in the boiler from boiling.
This safety device may be triggered where:

1) The appliance has worked for too many hours at peak power and with hot air ventilation at low levels.
2) Pellet quality is mediocre and causes the structure to overheat.
3) The combustion recipe or setting is incorrect and the flame is always very high because fuel is excessively plentiful.
4) Seizure or breakdown of the hot air fan which also cools the structure.
5) Bulb / contact thermostat damage.
6) Overheating of water inside the boiler due to failed water pump circulation or in general failed water circulation in the system (e.g. closed zone valves or gate valves, pump seized up by limescale, minimum setting of thermostat controlling the valves, etc.). Ensure all the above mentioned plumbing issues are solved.

AFTER PERFORMING THESE CHECKS, PROCEED WITH THE SUBSEQUENT TROUBLESHOOTING DIAGRAM.

Diagram no.3
ALARM: A03 / AL7 = Pellet tank safety thermostat

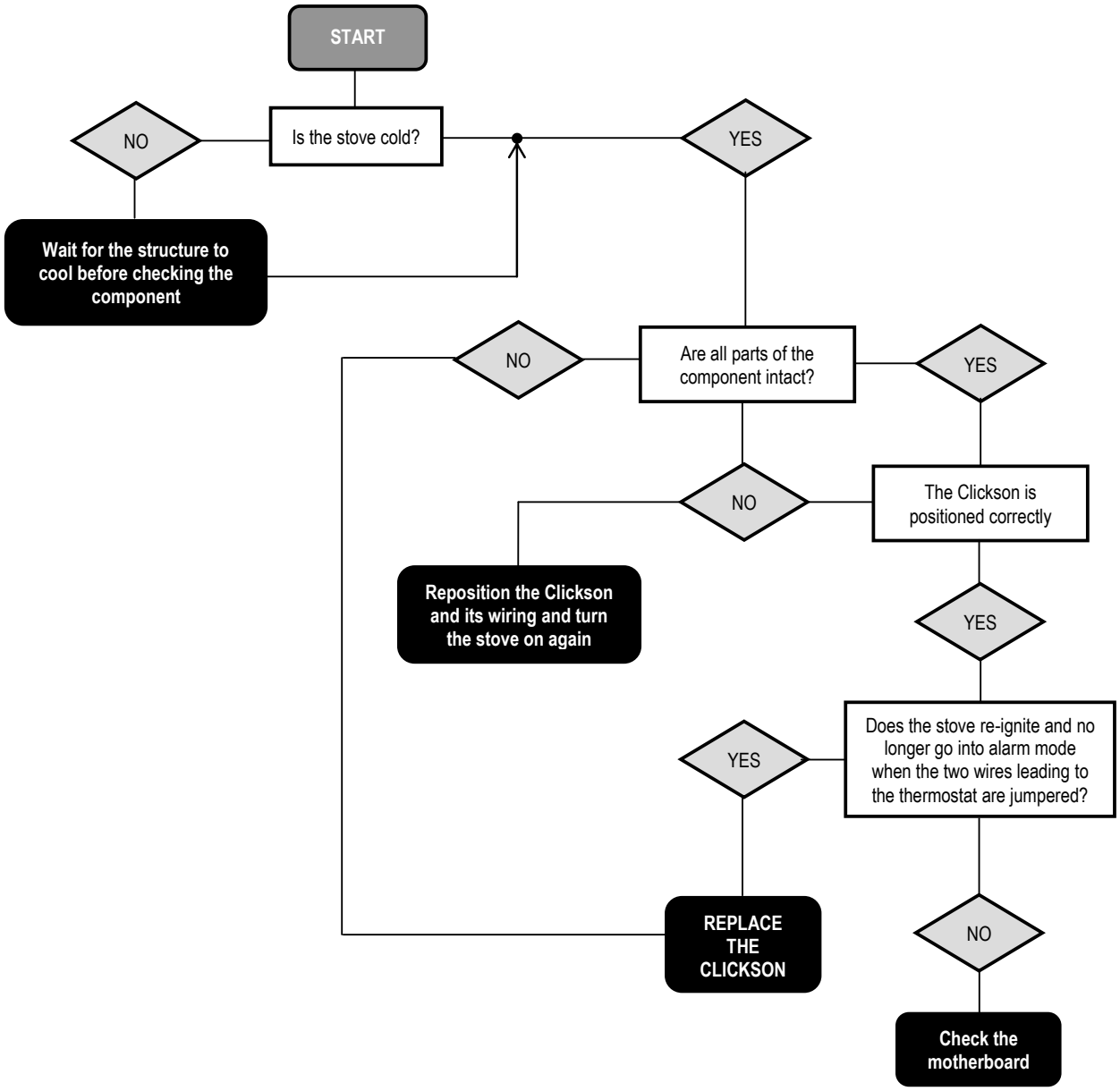


Fig. 37 - Diagram no.3

11.2.4 A04 / AL3 = REACHED FLUE GAS THRESHOLD TEMPERATURE

Flue gas overheating over a certain safety temperature which may be between 170°C and 280°C based on the type of appliance. The causes of this fault may be:

- Non certified pellets containing chemicals (glues, thickeners, etc.) which raise the temperature.
- High amount of dirt and ash inside the flue gas passage chambers. Ash insulates the thermal exchange walls and does not allow heat to be disposed of. PERFORM COMPLETE APPLIANCE CLEANING.
- Incorrect recipe and constant fuel overloading which causes the temperature to rise.
- FLUE GAS probe breakage. The cause of this fault may simply be of an electrical nature hence it is appropriate, in view of the importance of this device, to replace the component.
- Wiring anomalies. In cases where the alarm is not due to component breakdown, the cause may be its incorrect wiring. Therefore, ensure the flue gas probe is properly connected to the motherboard.

ATTENTION!!
The two flue gas probe wires (BLUE and RED) have polarity (+ and –) therefore carefully check to ensure the wires are inserted correctly (see wiring diagram of the stove you are working on).

11.2.5 A05 / AL8 = SAFETY PRESSURE SWITCH TRIP

Difficulty in ejecting flue gas due to:
- Stove flue clogging.
- Presence of foreign matter in the flue (birds, nests, clogged grates, etc.).
- Wind blowing into the flue because it is not protected or because installation was carried out without flue or on wall.
- Cold air blowing in through the flue.
- Damaged pressure switch.
- Diaphragm inside the pressure switch is locked because soot or condensate has entered it.

AFTER PERFORMING THESE CHECKS, PROCEED WITH THE SUBSEQUENT TROUBLESHOOTING DIAGRAM.

Diagram no.4/a

ALARM: A05 / AL8 = Safety pressure switch trip

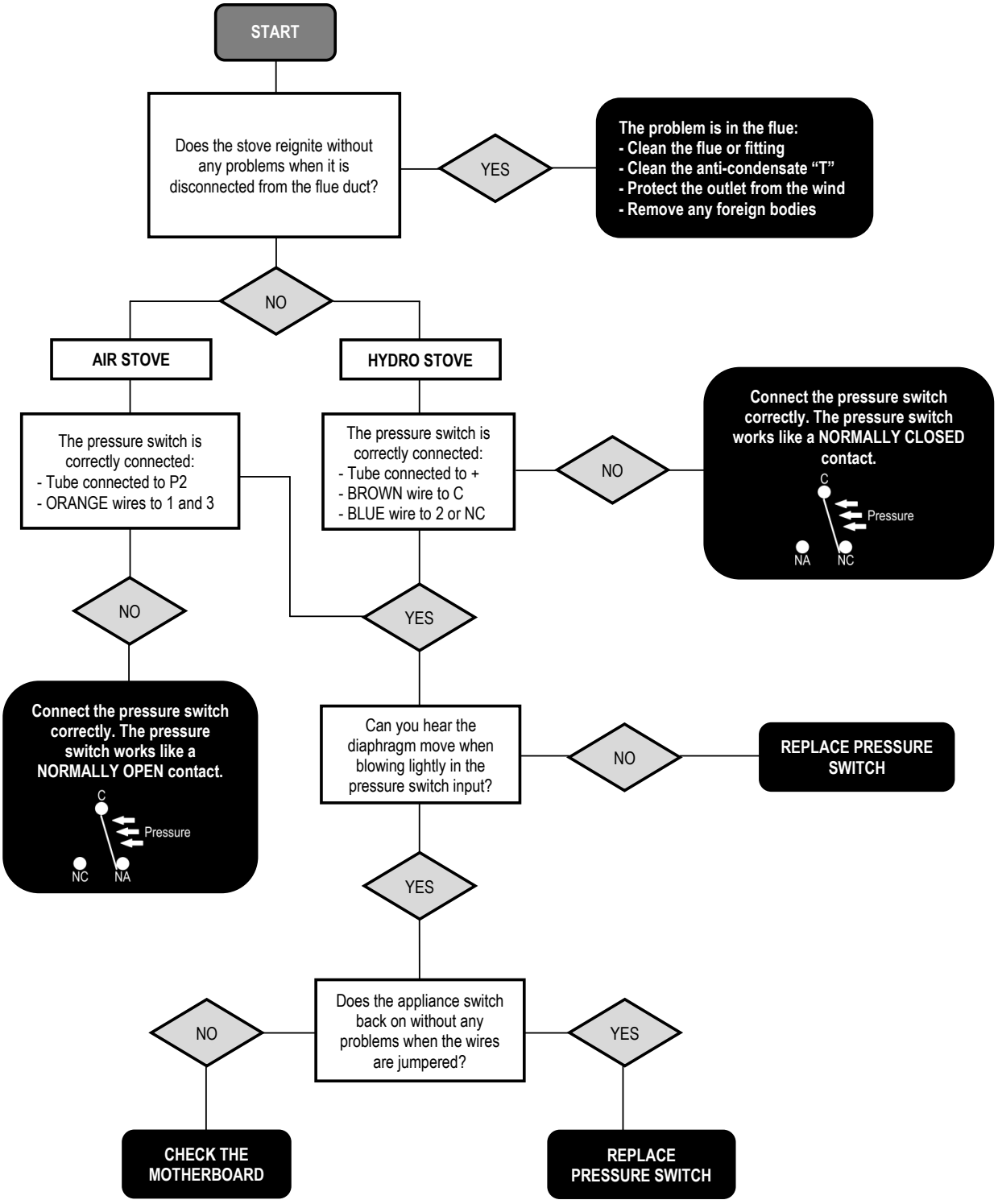


Fig. 38 - Diagram no.4/a

11.2.6 A05 = SAFETY PRESSURE SWITCH TRIPPED (AIR SERIES 3 STOVES)

Stove series equipped with a pressure switch installed on the tank with the pick-up point positioned at the bottom, to the right of the gear motor. This system protects the entire system, guaranteeing tightness of the stove for its entire duration.
It important to know that each time there is a significant depression drop of the stove, the pressure switch can trip.
The pressure switch tips due to:

- Stove flue clogging.
- Presence of foreign matter in the flue (birds, nests, clogged grates, etc.).
- Wind blowing into the flue because it is not protected or because installation was carried out without flue or on wall.
- Cold air blowing in through the flue.
- Damaged pressure switch.
- Diaphragm inside the pressure switch is locked because soot or pellet dust has entered it.
- Pellet tank cover open or semi-open for more than 90 seconds (90 seconds is the time estimated to refill the tank).
- Pallet blocked between the tank cover and the tank, which prevents the gasket from sealing it.
- Tank cover gasket torn/worn.
- Gasket between the feed screw and boiler is damaged or placed badly.
- Fire door open or gasket worn.
- Lateral exhaust heat exchangers clogged.
- Inspection caps with gaskets installed badly after maintenance.
- Feed screw clogged by compressed pellets in the upper part.

The electronic board is also equipped with automation with a timer and contactors that increase the flue gas extractor speed for a few seconds in order to reset the pressure switch in the event of gusts of wind or if pellets are being topped up at speed 1 or 2.
This stove has a pickup point positioned on the tank in order to measure the depression of the combustion chamber and verify its proper operation.
To do this, proceed as follows:

FOR MODELS:
4,9 / 5,2 kW = SPIRIT^3
7 kW = GRACE^3

- The depression detection point is located behind the pellet tank.
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 39**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 39 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 4,9 kW	18 Pa - 140°C	25 Pa - 155°C	31 Pa - 170°C	38 Pa - 185°C	45 Pa - 200°C
Stove depression - temperature 7 kW	20 Pa - 130°C	27 Pa - 145°C	35 Pa - 165°C	44 Pa - 200°C	50 Pa - 220°C

FOR MODELS:
6,5 kW = BISTROT³ - BISTROT³ LOUNGE

- Unscrew the nut at under the stove cover (see **Fig. 40**).
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 41**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 40 - Remove nut

Fig. 41 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 6,5 kW	25 Pa - 90°C	34 Pa - 130°C	41 Pa - 153°C	54 Pa - 180°C	60 Pa - 200°C

FOR MODELS:
6,5 kW = EASY - SWEET³ - SILENCE
7 kW = SHARP - PERLA³

- Unscrew the nut at the back of the stove (see **Fig. 42**).
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 43**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 42 - Remove nut

Fig. 43 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 6,5 kW	22,5/24,5 Pa - 94°C	41,5/44,5 Pa - 105°C	57,5/59,5 Pa - 120°C	68/70 Pa - 135°C	79/81 Pa - 153°C
Stove depression - temperature 7 kW	22,5/24,5 Pa - 94°C	41,5/44,5 Pa - 105°C	57,5/59,5 Pa - 120°C	68/70 Pa - 135°C	79/81 Pa - 153°C

FOR MODELS:
6,5 kW = RONDO³ - FLUTE

- Remove inspection casing "C" from the back of the stove (see **Fig. 44**).
- Loosen nut "D" from the bottom of the tank, near the pressure switch.
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 45**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + - 10°C.

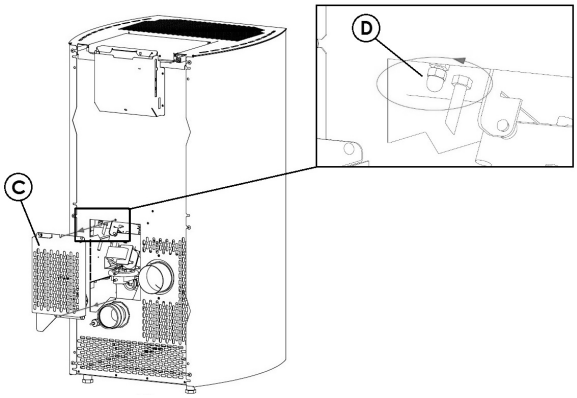


Fig. 44 - Casing removal

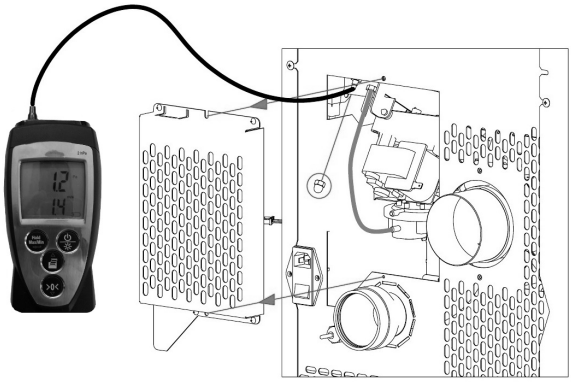


Fig. 45 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 6,5 kW	27 Pa - 108°C	39 Pa - 125°C	49 Pa - 147°C	57 Pa - 163°C	65 Pa - 190°C

FOR MODELS:
7 kW =] TECNA³ - EVO³ - KRISS³ - ELISE³ - SHELL³
8,5 kW = TECNA³ - EVO³ - KRISS³ - ELISE³ - SHELL³ - ERICA - GLASS - VERVE AIRTIGHT - CENTHRA - ESPRIT
9,1 kW = SHELL³ UP - SHELL³ PS - BREEZE AIRTIGHT

- Remove inspection casing "C" from the back of the stove (see **Fig. 46**).
- Loosen nut "D" from the bottom of the tank, near the pressure switch.
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 47**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + - 10°C.

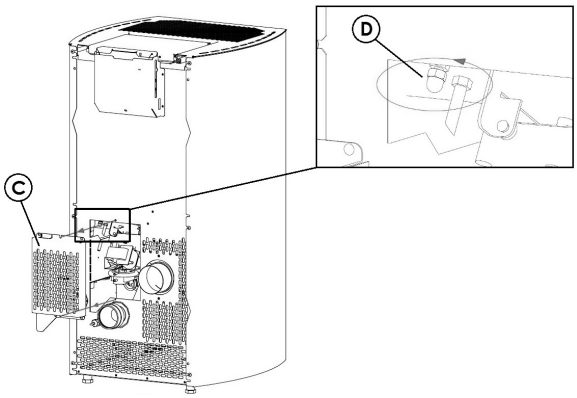


Fig. 46 - Casing removal

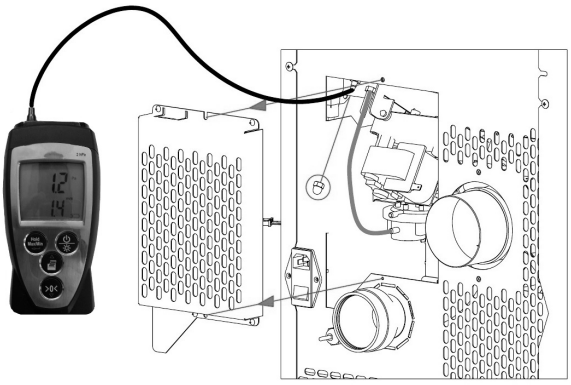


Fig. 47 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 7 kW	19/21 Pa - 110°C	32/35 Pa - 125°C	48/50 Pa - 145°C	52/54 Pa - 160°C	63/65 Pa - 165°C
Stove depression - temperature 8,5 kW	19/21 Pa - 110°C	32/35 Pa - 125°C	49/51 Pa - 155°C	63/65 Pa - 165°C	68/70 Pa - 180°C
Stove depression - temperature 9 kW	19/21 Pa - 110°C	32/35 Pa - 125°C	49/51 Pa - 155°C	63/65 Pa - 165°C	73/75 Pa - 190°C

FOR MODELS:
10 kW = WALL³ PLUS- LEAN³ PLUS - TILE³ PLUS - MOON
- Loosen nut "D" from the bottom of the stove, near the pressure switch (see **Fig. 48**.)
- Connect a digital pressure switch with a tube to detect the negative pressure (see **Fig. 49**).
- Load the feed screw via appropriate function.
- Start the stove and set "Set_Flame" to power 1 (the start-up time of this stove lasts between 8 and 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + - 10°C.

Fig. 48 - Remove nut

Fig. 49 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 10 kW	22/24 Pa - 170°C	28/30 Pa - 128°C	40/42 Pa - 148°C	49/51 Pa - 164°C	56/58 Pa - 190°C

FOR MODELS:
11 kW = SFERA^3 - PRINCE^3 - GLOBE AIRTIGHT - SFERA^3 PLUS - SIRE^3 PLUS - DOGE^3 PLUS - PRINCE^3 PLUS - ELISE^3 PLUS - VEGA AIRTIGHT - TREND AIRTIGHT
12,5 kW = VENUS^3 PLUS - JOY AIRTIGHT

- Unscrew nut "D" on the rear of the stove and connect a digital pressure switch with a tube to detect the negative pressure (see **Fig. 50**).
- Load the feed screw via appropriate function.
- Start the stove and set "Set_Flame" to power 1 (the start-up time of this stove lasts between 8 and 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 50 - Digital pressure switch connection

DATO	P1	P2	P3	P4	P5
Stove depression - temperature 11 kW	21 Pa - 106°C	35 Pa - 108°C	46 Pa - 128°C	58 Pa - 150°C	72 Pa - 180°C
Stove depression - temperature 12,5 kW	21 Pa - 106°C	35 Pa - 108°C	46 Pa - 128°C	70 Pa - 181°C	75 Pa - 181°C

FOR MODELS:
12 kW = DUKE 12 AIRTIGHT - SABA 12 - ATENA3 PLUS 12
14 kW = DUKE 14 AIRTIGHT - SABA 14 - ATENA3 PLUS 14

- Unscrew nut "D" on the rear of the stove and connect a digital pressure switch with a tube to detect the negative pressure (see **Fig. 51**).
- Load the feed screw via appropriate function.
- Start the stove and set "Set_Flame" to power 1 (the start-up time of this stove lasts between 8 and 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 51 - Digital pressure switch connection

DATO	P1	P2	P3	P4	P5
Stove depression - temperature 12 kW	20 Pa - 105°C	32 Pa - 135°C	45 Pa - 165°C	63 Pa - 195°C	73 Pa - 215°C
Stove depression - temperature 14 kW	20 Pa - 105°C	32 Pa - 140°C	40 Pa - 170°C	52 Pa - 205°C	63 Pa - 225°C

FOR MODELS:
7 kW = VERA - INDIGO - TALAS^3

- Unscrew the nut at the back of the stove (see **Fig. 53**).
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 54**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + -10°C.

Fig. 52 - Remove nut

Fig. 53 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 7 kW	19/20 Pa - 100°C	26/28 Pa - 120°C	35/36 Pa - 145°C	46/47 Pa - 165°C	57/58 Pa - 195°

FOR MODELS:
7 kW = SWEET^3 7 - PERLA^3 7 - CRISTAL^3 7 - MIKA AT - KAMI AT - ELAN AT - VERA 7 - INDIGO EVO - LORD 7

- Unscrew the nut at the back of the stove (see **Fig. 55**).
- Connect a digital pressure switch with a tube to detect the depression (see **Fig. 56**).
- Load the feed screw via appropriate function.
- Start the stove and set "Fire" at power 1 (the start of this stove lasts from 8 to 10 minutes to ensure minimum draught).
- Compare the read values with those on the table.
- Change power every 10 minutes and wait for it to stabilise.
- Access the user menu and, if necessary, change the parameters.

For good combustion, the depression values must be between + -5 Pa and the temperature values between + - 10°C.

Fig. 54 - Remove nut

Fig. 55 - Digital pressure switch connection

DATA	P1	P2	P3	P4	P5
Stove depression - temperature 7 kW	19/20 Pa - 100°C14/15 Pa - 110°C	21/22 Pa - 128°C	28/29 Pa - 158°C	36/37 Pa - 182°C	44/45 Pa - 210°

AFTER PERFORMING THESE CHECKS, PROCEED WITH THE SUBSEQUENT TROUBLESHOOTING DIAGRAM.
Diagram no.4/b

ALARM: A05 = Safety pressure switch trip

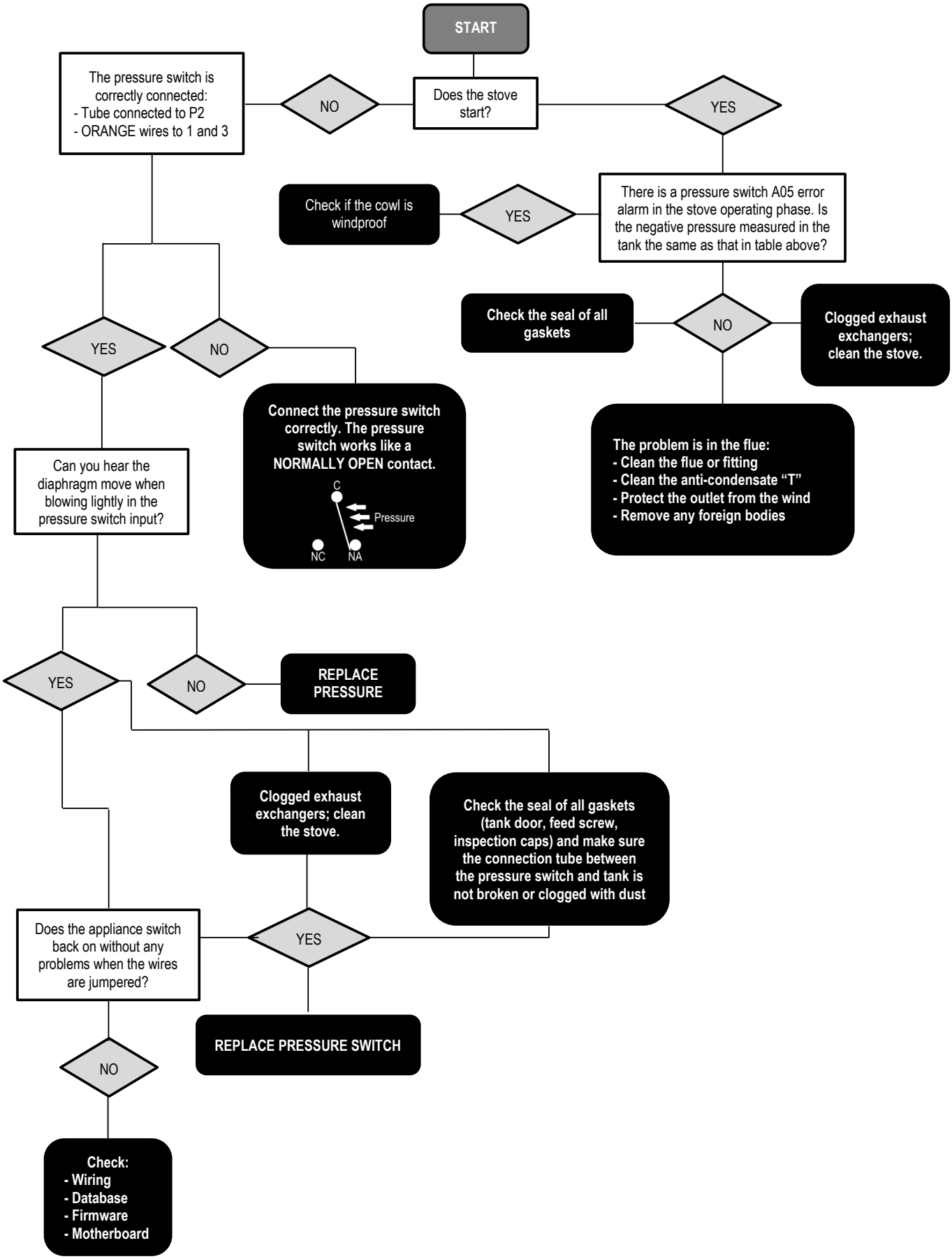


Fig. 56 - Diagram no.4/b

11.2.7 A08 / AL4 = FLUE GAS EXTRACTION FAN

The cause of this alarm is failed flue gas fan operation.
This alarm may be triggered for the following causes:

- The flue gas extraction fan is faulty.
- The encoder is damaged.
- Overheating. The fan safety probe has tripped due to the excessive temperature.
- Fan impeller rotation is prevented by foreign matter or soot.

Diagram no.5
ALARM: A08 / AL4 = Flue gas extraction fan

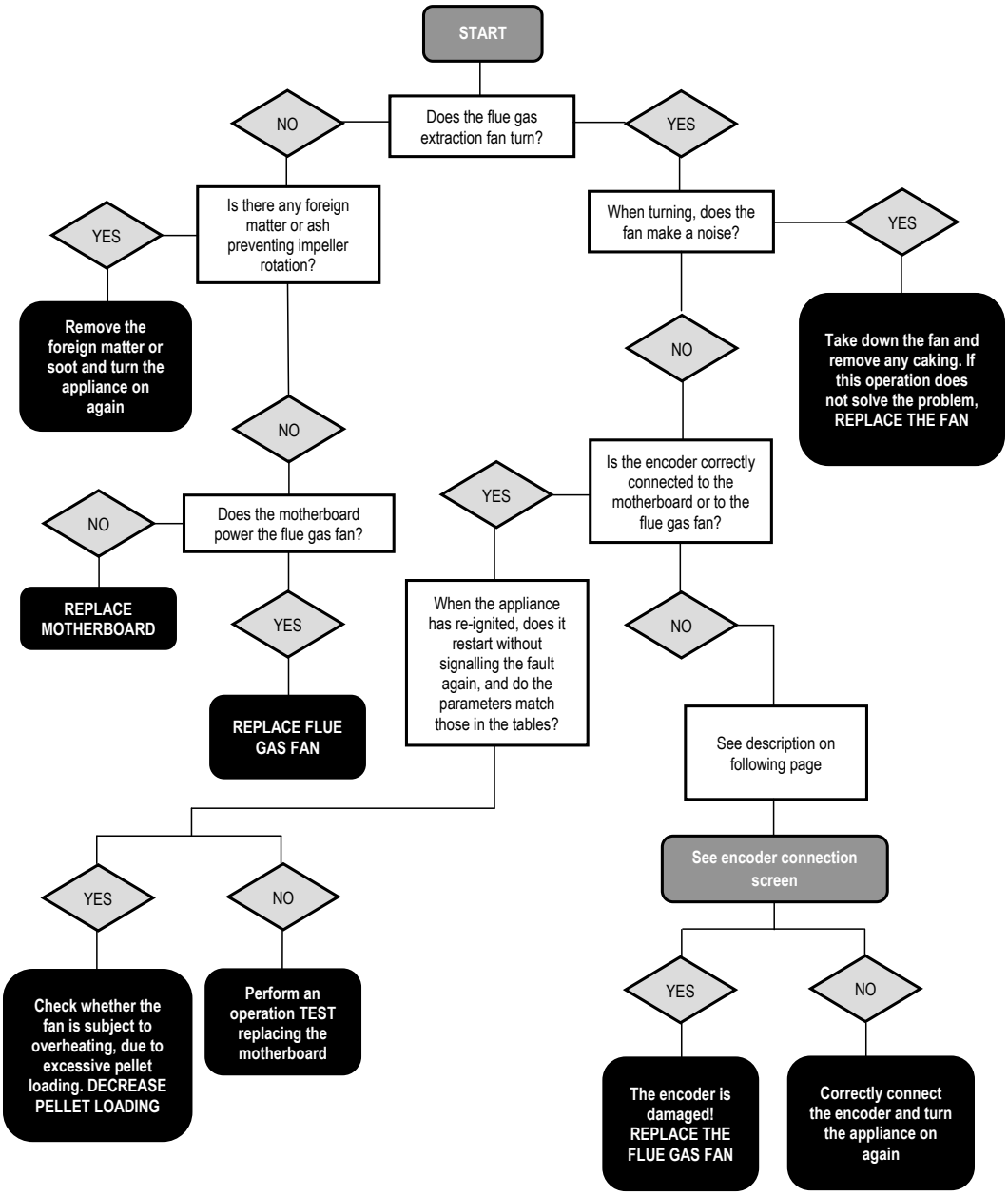
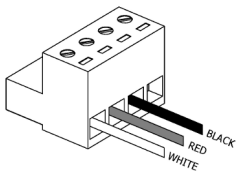


Fig. 57 - Diagram no.5

ENCODER CONNECTION

Carefully check the connection of the 3 fan encoder wires to the motherboard. This connection is carried out on a GREEN 4-position terminal even if only 3 wires are to be connected. The wire order is as shown in the figure: starting from LEFT to right of the connector WHITE - RED - BLACK.
The last position on the left of the connector MUST remain EMPTY!



11.2.8 A09 / AL2 = FAULTY FLUE GAS PROBE

This alarm signals that the flue gas probe does not work. The motherboard detects failed voltage absorption by the component and signals the fault.
Proceed with probe replacement after a short test with an electric meter.

11.2.9 A19 E A20 = WATER TEMPERATURE PROBE

These alarms signal breakdown or failed operation of the temperature detection probes:
A19 = water temperature probe.
A20 = water temperature probe in the external storage tank.
In both cases the suggestion is to firstly check correct wiring of the external probe to make sure the boiler recognises it or detects temperature reading.
If the resistance level is known, check the perfect working order of the probe with a multimeter (resistance, voltage meter, etc.).
More simply, replace the probe to see whether the alarm is cancelled. Should this not be so, a more accurate check is required of the wiring and terminal boards, as well as compatibility of the probes used (NTC 10 kΩ).

12 SCHEDULED MAINTENANCE

The servicing and maintenance time frames are calculated according to average use of the appliance throughout the day (10-12 hours max) and with certified fuel with normal features in terms of amount of unburned residue and post-combustion ash.
With regards to stoves, a seasonal use is considered (7-8 months max) whereas for boilers, use throughout the year is considered. In the case of heavier duty, recalculate the maintenance time frames, shortening the time intervals set out below.
For precise cleaning and maintenance procedures and how to carry out any component disassembly, please refer to the use and maintenance manual of each appliance.

12.1 PELLET AIR STOVES

COMPONENTS TO BE CHECKED	EVERY DAY	EVERY 2-3 DAYS	EVERY 30 DAYS	EVERY 60-90 DAYS	AT THE END OF EVERY SEASON	EVERY 2 SEASONS
Burn pot cleaning	X					
Clean the ash compartment with a vacuum cleaner		X				
Ash pan cleaning		X				
Fire door glass cleaning		X				
Remove ash from the lower exchanger				X		
Clean all exchangers and remove ash and scaling					X	
Clean exhaust "T"			X			
Clean flue gas connection				X		
Check and replace door gasket						X
Check and replace igniter						X

12.2 HYDRO PELLET STOVES

COMPONENTS TO BE CHECKED	EVERY DAY	EVERY 2-3 DAYS	EVERY 30 DAYS	EVERY 60-90 DAYS	AT THE END OF EVERY SEASON	EVERY 2 SEASONS
Burn pot cleaning	X					
Clean the ash compartment with a vacuum cleaner		X				
Ash pan cleaning		X				
Fire door glass cleaning		X				
Remove ash from the lower exchanger				X		
Clean all exchangers and remove ash and scaling					X	
Clean exhaust "T"			X			
Clean flue gas connection				X		
Circulation pump					X	
Plumbing components					X	
Check and replace door gasket						X
Check and replace igniter						X

12.3 WHY PERFORM SCHEDULED MAINTENANCE

Proper and scheduled cleaning of the appliance assures better performance and, above all, better operation. The ash collecting inside the exchange chambers acts as thermal insulation and decreases the appliance's heating ability since the structure is unable to absorb part of the heat so it escapes through the flue or is trapped in the structure, which then has an excessive operating temperature. Failed cleaning also causes frequent issues to do with combustion and fuel clogging the burn pot, as well as great difficulty in calibrating the recipe. The glass and/or combustion chamber will often be dirty or blackened and the ash deposits will increase exponentially.

12.4 FEED ALUMINUM SCREW MAINTENANCE

Proceed as follows for the feed screw maintenance:

Fig. 58 - Screw removal

Fig. 59 - Coque removal

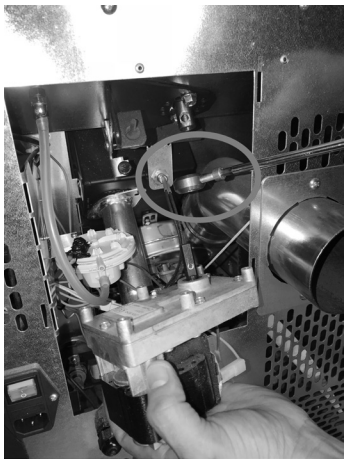


Fig. 60 - Gear motor removal

- Enter the tank and loosen the 4 screws of the feed screw coque (see **Fig. 59**).
- Remove the coque (see **Fig. 60**).
- Remove the gear motor by loosening the locking screw (see **Fig. 61**).

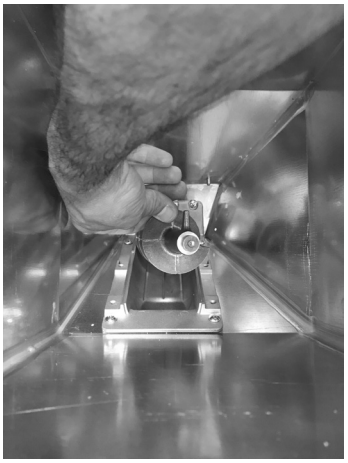


Fig. 61 - Spiral removal

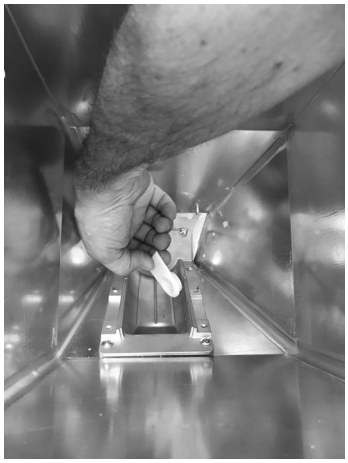


Fig. 62 - Bearing removal

- Remove the spiral cod. 4D180177080 (see **Fig. 62**).
- If worn, remove the bearing cod. 4D180177010 (see **Fig. 63**) and replace it.
- To reassemble, proceed in reverse order.

13 USEFUL INFORMATION ON THE SERIAL NUMBER

The stove serial numbers are composed of 13 numbers and contain the following information:

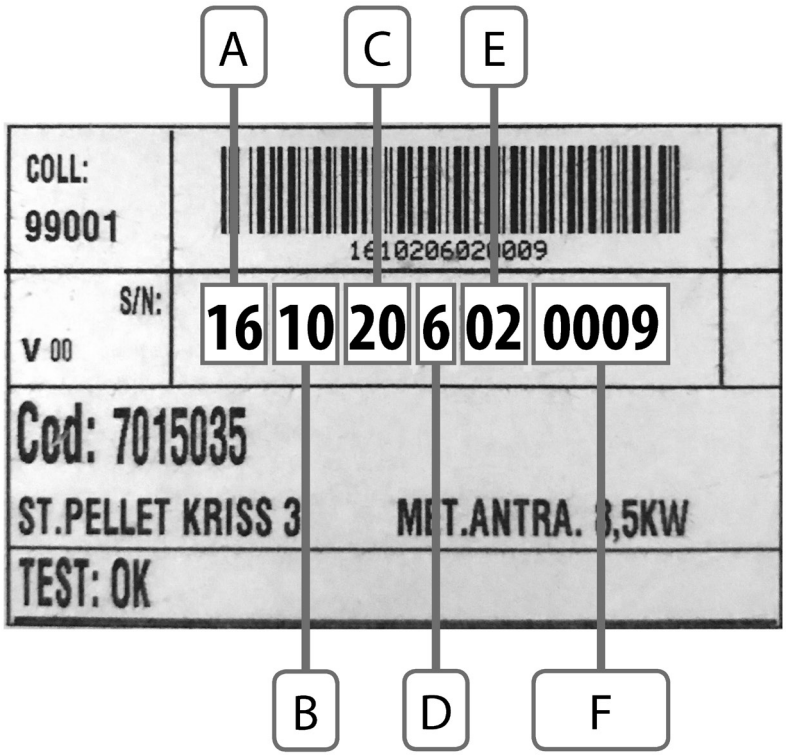


Fig. 63 - Label with serial number

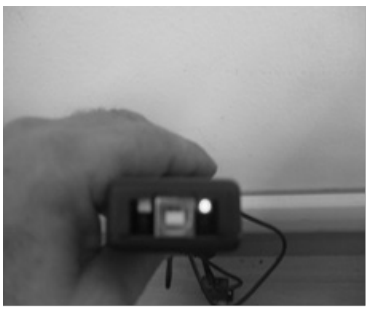
LEGEND	*Fig. 64*
A	*Year of production*
B	*Month of production*
C	*Day of production*
D	*Production facility*
E	*Production line*
F	*Production progressive*

14 LOADING SOFTWARE WITH BOOT-LOADER

Empty motherboards - i.e. without any software - may be purchased as spare parts.
Below is a list of the operations to be performed to load software onto the board with a boot-loader. The boot-loader may contain up to 8 different software programs.

14.1 LOADING SOFTWARE

Before loading the software, download the boot-loader management program from the following website:
www.micronovasrl.com/downloadsw

OPERATION	DESCRIPTION
	Lower the lever corresponding to the software to be loaded (see **FIRMWARE SUMMARY a pag. 83**).
 	Insert the serial cable in the board. The boot-loader features two different serial cable sockets for the two types of board.
	Connect the power supply to a 230V socket.
	A flashing green light will switch on. When it goes out it means the firmware has been loaded. Detach all cables. Install the board in the stove. Switch on the stove. Load the database corresponding to the stove model: see **FIRMWARE SUMMARY a pag. 83**.

14.2 FIRMWARE SUMMARY

STOVE (A-Z)	KW	PERIOD	GEARMOTOR & BOARD	FIRMWARE & SPARE PART														
Stufa - Poêle - Kachel - Ofen - Estufa	*KW*	*Periodo - Période - Periode - Zeitraum - Período*	*Motoriduttore & Scheda Motoréducteur & Carte Motorreductor & Bord Getriebemotor & Karte Motorreductor & Tarjeta Motoredutor & Placa*	*Firmware & Ricambio - Pièce Détachée - Reserveonderdeel - Ersatzteil - Repuesto - Peça Sobressalente*														
				20170724 *4D14515702O*	**20181019** *414512005OO*	**20180502** *4D14515702OA*	**20180509** *4D14518501OA*	**20180724** *4D14518501OB*	**20190828** *414512005OOC*	**20190218** *4D14518106O*	**20190729** *4D14515702OB*	**20200615** *4D14520026OO*	**20200622** *4D14520023OO*	**20200625** *4D14520024OOB*	**20200701** *4D14520024OO4*	**20200709** *4D14515702OC*	**20201109** *414520044OOC*	**20210108** *4D14520023OOA*
Accent Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Accent K Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Aquos 15	15	*from 14.05.13*	3,3 rpm - L023		**10**													
Aquos 22	22	*from 09.05.13*	3,3 rpm - L023		**04**													
Aquos 22 H_2O	22	*from 20.01.14*	3,3 rpm - L023		**05**													
Aquos 24	24,8	*from 01.06.15*	3,3 rpm - L023		**01**													
Aquos 24 H_2O	24,8	*from 01.06.15*	3,3 rpm - L023		**01**													
Aquos³ 16	16,2	*from 10.07.17*	3,3 rpm - L023		**11**													
Aquos³ 23	22,8	*from 10.07.17*	3,3 rpm - L023		**12**													
Aquos³ 23 H_2O	22,8	*from 10.07.17*	3,3 rpm - L023		**12**													
Atena³ Plus 12	12	*from 15.06.20*	2,0 rpm - W003									**02**						
Atena³ Plus 14	14	*from 15.06.20*	2,0 rpm - W003									**01**						
Beam Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Bistrot³	6,5	*from 06.04.17*	1,5 rpm - N100-64K	**06**														
Breeze Airtight	9,1	*from 02.05.18 to 21.06.20*	1,5 rpm - N100-64K			**04**												
Breeze Airtight	9,1	*from 22.06.20*	1,5 rpm - W001										**04**					
Chrome 5 Airtight	5,5	*from 08.01.21*	2,0 rpm - W001															**02**
Chrome 7 Airtight	7	*from 08.01.21*	2,0 rpm - W001															**01**
Cristal³ 7	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Cristal³ 7.0	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Cristal³ 7.0 Up	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Cristal³ - 8,5 kW	8,5	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**02**														
Cristal³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Doge³ Plus - 11 kW	11	*from 12.02.19*	2,0 rpm - O047				**01**											
Duke 12 Airtight	12	*from 15.06.20*	2,0 rpm - W003									**02**						
Duke 14 Airtight	14	*from 15.06.20*	2,0 rpm - W003									**01**						
Easy	6,5	*from 04.07.16 to 01.05.18*	1,5 rpm - N100-64K	**05**														
Easy	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**												
Elan Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Elise³ - 8,5 kW	8,5	*from 28.09.15 to 01.05.18*	3,3 rpm - N100-64K	**03**														
Elise³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Elise³ Plus - 11 kW	11	*from 12.02.19*	2,0 rpm - O047				**01**											
Evo³ - 7 kW	7	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**01**														
Evo³ - 7 kW	7,1	*from 02.05.18*	1,5 rpm - N100-64K			**01**												
Evo³ - 8,5 kW	8,5	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**02**														
Evo³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Flute	6,5	*from 06.04.17 to 20.04.19*	1,5 rpm - N100-64K	**06**														
Flute Airtight	6,5	*from 08.04.19*	1,0 rpm - N100-64K			**07**												
Frame³ - 7kW	7,2	*from 24.07.18 to 21.06.20*	1,5 rpm - O047					**04**										
Frame³ - 9kW	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - O047					**06**										
Frame³ - 9kW	9,3	*from 22.06.20*	1,5 rpm - W002											**06**				
Frame³ Plus - 7kW	7,2	*from 24.07.18 to 21.06.20*	1,5 rpm - O047					**05**										
Frame³ Plus - 9kW	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - O047					**07**										
Frame³ Plus - 9kW	9,3	*from 22.06.20*	1,5 rpm - W002											**07**				
Frame³ Up - 9kW	9,3	*from 22.06.20*	1,5 rpm - W002											**07**				
Glass	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Globe Airtight	11	*from 12.02.19*	2,0 rpm - N100-64K			**07**												
Grace³	7	*from 01.06.19 to 31.01.21*	1,0 rpm - N100-64K								**01**							
Grace³	7	*from 01.02.2021*	2,0 rpm - N100-64K													**05**		

STOVE (A-Z)	KW	PERIOD	GEARMOTOR & BOARD	FIRMWARE & SPARE PART														
Stufa - Poêle - Kachel - Ofen - Estufa	*KW*	*Periodo - Période - Periode - Zeitraum - Período*	*Motoriduttore & Scheda Motoréducteur & Carte Motorreductor & Bord Getriebemotor & Karte Motorreductor & Tarjeta Motoredutor & Placa*	*Firmware & Ricambio - Pièce Détachée - Reserveonderdeel - Ersatzteil - Repuesto - Peça Sobressalente*														
				20170724 *4D14515702O*	**20181019** *41451200500*	**20180502** *4D14515702OA*	**20180509** *4D14518501OA*	**20180724** *4D14518501OB*	**20190828** *41451200500C*	**20190218** *4D14518106O*	**20190729** *4D14515702OB*	**20200615** *4D14520026O0*	**20200622** *4D14520023O0*	**20200625** *4D14520024OOB*	**20200701** *4D14520024004*	**20200709** *4D14515702OC*	**20201109** *41452004400C*	**20210108** *4D14520023OOA*
Hidrofire 22.8	22,8	*from 10.07.17*	3,3 rpm - L023		**12**													
Ibis 11	11,6	*from 18.04.14*	3,3 rpm - L023		**06**													
Ibis 15	15	*from 14.05.13*	3,3 rpm - W003 hydro		**10**													
Ibis 22	22	*from 09.05.13*	3,3 rpm - W003 hydro		**04**													
Ibis 22 H_2O	22	*from 20.01.14*	3,3 rpm - W003 hydro		**05**													
Idro Prince³ 12	11,8	*from 10.07.17*	3,3 rpm - W003 hydro		**13**													
Idro Prince³ 16	16,2	*from 10.07.17*	3,3 rpm - W003 hydro		**11**													
Idro Prince³ 23	22,8	*from 10.07.17*	3,3 rpm - W003 hydro		**12**													
Idro Prince³ 23 H_2O	22,8	*from 10.07.17*	3,3 rpm - W003 hydro		**12**													
Idro Prince 30	28,6	*from 03.09.18*	3,3 rpm - W003 hydro						**03**									
Idro Prince 30 H_2O	28,6	*from 03.09.18*	3,3 rpm - W003 hydro						**03**									
Idron 11	11,6	*from 18.04.14*	3,3 rpm - W003 hydro		**06**													
Idron 15	15	*from 14.05.13*	3,3 rpm - W003 hydro		**10**													
Idron 16 Airtight	16,2	*from 10.07.17*	3,3 rpm - W003 hydro		**11**													
Idron 22	22,8	*from 09.05.13*	3,3 rpm - W003 hydro		**04**													
Idron 22 H_2O	22,8	*from 20.01.14*	3,3 rpm - W003 hydro		**05**													
Idron 22 Airtight	22,8	*from 10.07.17*	3,3 rpm - W003 hydro		**12**													
Joy Airtight	12,5	*from 12.02.19*	2,0 rpm - L023-64K							**01**								
Kami Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Kriss³ - 7 kW	7	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**01**														
Kriss³ - 7 kW	7,1	*from 02.05.18*	1,5 rpm - N100-64K			**01**												
Kriss³ - 8,5 kW	8,5	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**02**														
Kriss³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Kriss³ - 9 kW	9,1	*from 28.09.15 to 01.05.18*	3,3 rpm - N100-64K	**04**														
Kriss³ - 9 kW	9,1	*from 02.05.18*	1,5 rpm - N100-64K			**04**												
Lean³ Plus	10	*from 01.07.17*	3,3 rpm - N100-64K	**07**														
Lee Airtight	7	*from 08.01.21*	2,0 rpm - W001															**01**
Maya³ 16	16,2	*from 01.09.20*	3,3 rpm - W003 hydro		**11**												**11**	
Maya³ 24	22,8	*from 01.09.20*	3,3 rpm - W003 hydro		**12**												**10**	
Mika Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Mira 16	16,2	*from 10.07.17*	3,3 rpm - W003 hydro		**11**													
Mira 22	22,8	*from 10.07.17*	3,3 rpm - W003 hydro		**12**													
Mithos³ Plus 12	12	*from 01.02.21*	2,0 rpm - W003									**04**						
Mithos³ Plus 14	14	*from 01.02.21*	2,0 rpm - W003									**03**						
Modo Airtight	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - 0047					**06**										
Modo Airtight	9,3	*from 22.06.20*	1,5 rpm - W002											**06**				
Moon	10	*from 01.07.18 to 21.06.20*	1,5 rpm - 0047				**06**											
Moon	10	*from 22.06.20*	1,5 rpm - W002												**06**			
One Airtight	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Perla³	7	*from 02.05.18*	1,0 rpm - N100-64K			**03**												
Perla³ 7	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Perla³ 7.0	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Pretty Airtight	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Prince³ - 11 kW	11	*from 12.02.19*	2,0 rpm - N100-64K			**07**												
Prince³ Plus - 11 kW	11	*from 12.02.19*	2,0 rpm - 0047				**01**											
Prometeo	22	*from 09.05.13*	3,3 rpm - W003 hydro		**04**													
Quasimodo3 Up	9,3	*from 22.06.20*	1,5 rpm - W002											**06**				
Rondò³	6,5	*from 06.04.17 to 20.04.19*	1,5 rpm - N100-64K	**06**														
Rondò³	6,5	*from 08.04.19 to 21.06.20*	1,0 rpm - N100-64K			**06**												

STOVE (A-Z)	KW	PERIOD	GEARMOTOR & BOARD	FIRMWARE & SPARE PART													
Stufa - Poêle - Kachel - Ofen - Estufa	*KW*	*Periodo - Période - Periode - Zeitraum - Período*	*Motoriduttore & Scheda Motoréducteur & Carte Motorreductor & Bord Getriebemotor & Karte Motorreductor & Tarjeta Motoredutor & Placa*	*Firmware & Ricambio - Pièce Détachée - Reserveonderdeel - Ersatzteil - Repuesto - Peça Sobressalente*													
				20170724 *4D14515702O*	**20181019** *414512005OO*	**20180502** *4D14515702OA*	**20180509** *4D14518501OA*	**20180724** *4D14518501OB*	**20190828** *414512005OOC*	**20190218** *4D14518106O*	**20190729** *4D14515702OB*	**20200615** *4D14520026OO*	**20200622** *4D14520023OO*	**20200625** *4D14520024OOB*	**20200701** *4D14520024OO4*	**20200709** *4D14515702OC*	**20201109** *414520044OOC*	**20210108** *4D14520023OOA*
Rondò³	6,5	*from 22.06.20*	1,0 rpm - W001										**06**					
Round 5 Airtight	5,5	*from 08.01.21*	2,0 rpm - W001															**02**
Round 7 Airtight	7	*from 08.01.21*	2,0 rpm - W001															**01**
Saba 12	12	*from 15.06.20*	2,0 rpm - W003									**02**						
Saba 14	14	*from 15.06.20*	2,0 rpm - W003									**01**						
Saturno 16	18	*from 02.11.20*	3,3 rpm - W003 hydro														**14**	
Saturno 24	24,7	*from 02.11.20*	3,3 rpm - W003 hydro														**15**	
Sfera³ 11 kW	11	*from 12.02.19*	2,0 rpm - N100-64K			**07**												
Sfera³ Plus - 11 kW	11	*from 12.02.19*	2,0 rpm - 0047				**01**											
Sharp	7	*from 02.05.18*	1,0 rpm - N100-64K			**03**												
Sharp Airtight	7	*from 08.01.21*	2,0 rpm - W001															**01**
Shell³ - 8,5 kW	8,5	*from 28.09.15 to 01.05.18*	3,3 rpm - N100-64K	**03**														
Shell³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Shell³ Ps	9,1	*from 02.05.18 to 21.06.20*	1,5 rpm - N100-64K			**04**												
Shell³ Ps	9,1	*from 22.06.20*	1,5 rpm - W001										**04**					
Shell³ Up	9,1	*from 02.05.18 to 21.06.20*	1,5 rpm - N100-64K			**04**												
Shell³ Up	9,1	*from 22.06.20*	1,5 rpm - W001										**04**					
Sire³ Plus - 11kW	11	*from 12.02.19*	2,0 rpm - 0047				**01**											
Sound³ 5 Up	5,5	*from 08.01.21*	2,0 rpm - W001															**02**
Sound³ 7 Up	7	*from 08.01.21*	2,0 rpm - W001															**01**
Spirit³	4,9	*from 01.06.19*	1,0 rpm - N100-64K								**02**							
Spirit³ 5 kW	5,2	*from 01.06.19 to 31.01.21*	1,0 rpm - N100-64K								**02**							
Spirit³ 5 kW	5,2	*from 01.02.21*	2,0 rpm - N100-64K													**06**		
Sweet³	6,5	*from 04.07.16 to 01.05.18*	1,5 rpm - N100-64K	**05**														
Sweet³	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**												
Sweet³ 7	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Sweet³ 7.0	7	*from 20.07.20*	2,0 rpm - N100-64K													**04**		
Talas³	7	*from 01.06.19*	1,0 rpm - N100-64K								**03**							
Tecna³ - 7 kW	7	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**01**														
Tecna³ - 7 kW	7,1	*from 02.05.18*	1,5 rpm - N100-64K			**01**												
Tecna³ - 8,5 kW	8,5	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**02**														
Tecna³ - 8,5 kW	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Tesis 16 Airtight	16,2	*from 10.07.17*	3,3 rpm - W003 hydro		**11**													
Tesis 23 Airtight	22,8	*from 10.07.17*	3,3 rpm - W003 hydro		**12**													
Tile³ Plus	10	*from 01.07.18 to 21.06.20*	1,5 rpm - 0047				**06**											
Tile³ Plus	10	*from 22.06.20*	1,5 rpm - W002												**06**			
Titania Airtight	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Trend Airtight	11	*from 12.02.19*	2,0 rpm - 0047				**01**											
Vega Airtight	11	*from 12.02.19*	2,0 rpm - 0047				**01**											
Venere Airtight	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Venus³ Plus - 12,5 kW	12,5	*from 12.02.19*	2,0 rpm - L023-64K							**01**								
Verve Airtight	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**												
Wall³ Plus	10	*from 01.07.17 to 01.07.18*	3,3 rpm - N100-64K	**07**														
Wall³ Plus	10	*from 01.07.18 to 21.06.20*	1,5 rpm - 0047				**06**											
Wall³ Plus	10	*from 22.06.20*	1,5 rpm - W002												**06**			
Zefiro³	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - 0047					**01**										
Zefiro³	9,3	*from 22.06.20*	1,5 rpm - W002											**01**				
Zefiro³ Plus	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - 0047					**02**										
Zefiro³ Plus	9,3	*from 22.06.20*	1,5 rpm - W002											**02**				

STOVE (A-Z)	KW	PERIOD	GEARMOTOR & BOARD	FIRMWARE & SPARE PART													
Stufa - Poêle - Kachel - Ofen - Estufa	*KW*	*Periodo - Période - Periode - Zeitraum - Período*	*Motoriduttore & Scheda Motoréducteur & Carte Motorreductor & Bord Getriebemotor & Karte Motorreductor & Tarjeta Motoredutor & Placa*	*Firmware & Ricambio - Pièce Détachée - Reserveonderdeel - Ersatzteil - Repuesto - Peça Sobressalente*													
				20170724 *4D14515702O*	**20181019** *414512005OO*	**20180502** *4D14515702OA*	**20180509** *4D14518501OA*	**20180724** *4D14518501OB*	**20190828** *414512005OOC*	**20190218** *4D14518106O*	**20190729** *4D14515702OB*	**20200615** *4D14520026OO*	**20200622** *4D14520023OO*	**20200625** *4D14520024OOB*	**20200701** *4D14520024OO4*	**20200709** *4D14515702OC*	**20201109** *414520044OOC*	**20210108** *4D14520023OOA*
Zen Airtight	9,3	*from 24.07.18 to 21.06.20*	1,5 rpm - 0047					**01**									
Zen Airtight	9,3	*from 22.06.20*	1,5 rpm - W002											**01**			
EXTRA																	
00268621 *(Unical)*	11	*from 12.02.19*	2,0 rpm - N100-64K			**07**											
00268623 *(Unical)*	12,5	*from 12.02.19*	2,0 rpm - L023-64K							**01**							
.IT 7,5 ermetica *(Unical)*	6,5	*from 04.07.16 to 01.05.18*	1,5 rpm - N100-64K	**05**													
.IT 7,5 ermetica *(Unical)*	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**											
.IT 10,5 ermetica *(Unical)*	8,5	*from 01.07.15 to 01.05.18*	3,3 rpm - N100-64K	**02**													
.IT 10,5 ermetica *(Unical)*	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**											
Ardesia *(Unical)*	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**											
Betulla *(Unical)*	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**											
SP 7,5 S *(Unical)*	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**											
SP 10 S *(Unical)*	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**											
Erica - 8,5 kW *(Red)*	8,5	*from 01.07.15*	3,3 rpm - N100-64K	**02**													
Esprit *(Equation)*	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**											
Silence *(Equation)*	6,5	*from 04.07.16 to 01.05.18*	1,5 rpm - N100-64K	**05**													
Silence *(Equation)*	6,5	*from 02.05.18*	1,0 rpm - N100-64K			**05**											
Centhra *(Equation)*	8,6	*from 02.05.18*	1,5 rpm - N100-64K			**02**											

NOTE

89020063

Rev. 02 - 2020

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