HANUMA 11

WOOD PELLET FURNACE

FULL INSTRUCTIONS (ASSEMBLY, USAGE AND MAINTENANCE)

Pellets → wood biomass fuel → biofuel

BIODOM 27 d.o.o. (hereinafter called Biodom 27) heating devices (hereinafter called »furnaces«) are made and tested in accordance with safety precautions and applicable regulations of the EU.

The instructions are meant for users, installers, operators and maintainers of the furnace, presented on the title page of the instruction manual.

If you happen to have problems with sections in the instructions, please contact the furnace manufacturer or an authorised repair centre. Always remember to indicate the paragraph number or item chapter that are related to your problem.

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DUAL COMBUSTION SYSTEM

The flame, which is a result of proper wood combustion, emits the same quantity of carbon dioxide (CO2) as the natural wood degradation does.

The quantity of carbon dioxide (CO2) resulting from combustion and biomass degradation corresponds to the quantity of carbon dioxide that the biomass can acquire from the environment and degrade it into oxygen for the atmosphere and carbon for plant life.

The combustion of non-renewable fossil fuels (coal, oil, gas) releases copious amounts of carbon dioxide into the atmosphere and contributes to the greenhouse effect, unlike wood combustion. Wood is a highly sustainable form of fuel; using wood as fuel is therefore perfectly fine in terms of environmental effects.

Using the principle of clean combustion, the previously mentioned goals are easily attainable. Consequently, the products of Biodom 27 Company are based on this sound principle.

What does clean combustion mean and how it works?

Primary air regulation and control as well as secondary air cause secondary combustion, after burn. The secondary combustion creates a secondary flame, which is lighter and stronger in comparison with the primary flame. The addition of new oxygen (with added air) allows further combustion of gases that did not burn up completely. This substantially increases the heat effect and lowers harmful carbon dioxide emission (CO2), due to complete restriction of imperfect combustion. These are the quintessential characteristics of BIODOM furnaces and products.

Technical characteristics:

Parameters	**Unit**	**Nominal heat**	**Reduced heat**
The heating output	kW	9,52	3,37
Fuel load	kg/h	2,292	0,767
The mean CO emissions at 13% O_2	%	0,0090	0,0086
The mean CO emissions at 13% O_2	mg/Nm3	113	108
The mean NOx at 13% O_2	mg/MJ	125,74	-
The mean OGC at 13% O_2	mg/MJ	74,5	-
Efficiency - ŋ	%	91,21	96,39
The mean flue gas temperature	°C	138	57
Flue gas mass flow	g/s	6,01	2,86
The mean value of dust in the flue gas at 13% O_2	mg/Nm3	28,7	-
Distance to combustible materials:			
At the rear	mm	300	
At the side	mm	400	
At the front	mm	1000	
At the floor - legs	mm	30	

CONTENTS

0.0 PURPOSE OF INSTRUCTIONS

The purpose of these instructions is to allow the user to adhere to all actions and prepare all of the materials needed to safely and correctly use the furnace.

0.1 UPDATING

These instructions come into effect the moment the furnace hits the market. Consequently, Biodom 27 does not consider furnaces that are already available on the market with suitable technical documentation and does not consider them impeccable or adequate in terms of modifications, adaptations or new technology implementation (on newer models).
The contents of these instructions are to be read carefully and all guidelines are to be followed accordingly. All information contained within this booklet is extremely important for installation, usage and maintenance.
These instructions are to be stored carefully, as they contain key guidelines and procedures.
The instructions need to be provided upon re-selling the furnace to a third party.
If you lose this booklet, you may ask the manufacturer to provide you with a new one.

1.0 RESPONSIBILITY OF THE MANUFACTURER

Upon making these instructions public, the BIODOM 27 Company **excludes itself from any civil or legal obligations, directly or indirectly caused by:**

- **accidents resulting from not complying with standards and specifications that are indicated in these instructions;**
- **accidents resulting from improper usage;**
- **accidents resulting from changes or repairs that were not authorised by Biodom 27;**
- **subpar maintenance;**
- **unforeseeable events;**
- **accidents resulting from using spare parts that are not attested or suitable for these furnace models.**

THE INSTALLER (HANDYMAN) TAKES FULL RESPONSIBILITY FOR INSTALLATION.

1.1 BASIC USER REQUIREMENTS

The user must be:

- an adult and responsible individual,
- experienced in technical knowledge that is need for proper routine care of both electrical and mechanical furnace components.

CHILDREN MUST NOT BE NEAR TO OR PLAY WITH AN OPERATING FURNACE.

1.2 TRANSPORT AND FURNACE OPERATION

The furnace should not be leaning forward when operating, due to its centre of gravity being at the front of the furnace.
The carrying capacity of the forklift should exceed the weight of the furnace when transporting the furnace (with proper security measures). Avoid sudden manoevres.

ALL PACKAGING SHOULD BE REMOVED AND KEPT AWAY FROM CHILDREN. THE MATERIALS OF THE PACKAGING ARE HARMFUL TO SMALL CHILDREN (PLASTIC BAGS, FILMS, POLYSTYRENE, ETC.).

1.3 RESPONSIBILITY OF THE INSTALLER

It is the installer's responsibility to check the exhaust, air suction and/or feed and all solutions needed for the installation of the furnace.

It is the installer's responsibility to install the furnace according to local legal provisions that are enacted at the location of the installation.

Usage must adhere to the manual's instructions of usage and maintenance. It should also adhere to the safety standards that are determined by local legal provisions.

THE INSTALLER MUST **VERIFY (CONFIRM):**

- the type of furnace (that is being mounted);
- the adequacy of the area, i.e. the size of the area that is need for installation, as indicated by the manufacturer;
- the instructions of the manufacturer, which provide information regarding the system requirements for the exhaust (inlets and outlets for the exhaust system);
- the inner cross section of the chimney duct, the materials used for the chimney, uniformity of the cross section and any potential obstacles;
- the consensus of a chimney-sweeping provider, if required by local legislation;
- installation and adequacy of the chimney lid, which should be resistant to strong winds;
- possibility of protecting the external air conduit as well as the size of any necessary openings;
- possibility of simultaneous usage of the furnace, which needs to be installed with the remaining equipment, already on location.

If all requirements are met, the installation of the furnace may proceed. Installation must adhere to the safety instructions provided by the manufacturer.

AFTER INSTALLATION, THE SYSTEM MUST BE OPERATIONAL FOR AT LEAST 30 MINUTES, SO AS TO CHECK THE SYSTEM'S SEALS.

After completing the installation, the installer must provide the customer with:

- THE USAGE AND MAINTAINANCE MANUAL, ALSO PROVIDED BY THE MANUFACTURER (IF THE MANUAL WAS NOT DELIVERED WITH THE FURNACE);
- THE DOCUMENTATION NEEDED FOR COORDINATING THE FURNACE WITH THE APPLICABLE STANDARDS.

2.0 INSTALLATION – FURNACE INSTALLATION

The user takes full responsibility for any work done on location.

Prior to starting the furnace, the installer must fulfil all applicable safety standards, as well as:

- check that the furnace position corresponds to local, national and European standards;
- ensure that the furnace complies with the requirements stated in this document;
- ensure that the exhaust system and air conduits comply with the type of furnace;
- ensure that no power supplies with temporary or non-isolated electrical flexes are established;
- check the efficiency of the grounding;
- ensure that the installer uses proper safety equipment and all required safety measure at all times.

AMPLE SERVICE SPACE (NEEDED FOR ANY MAINTAINANCE OR REPAIR WORK) SHOULD BE PROVIDED AT ALL TIMES.

2.1 POSITIONING THE FURNACE

We recommend taking the furnace out of its packaging only after it has reached the location of installation.
The furnace stands on plastic supports that have built-in M 10 (4 pieces) screws, which are attached to the base of the furnace. M 10 mm nuts are bolted on the screws, reaching the plastic parts. The supports are screwed in place at the base of the furnace. After removing the packaging and transporting to your desired location, the supports have to be unscrewed to match the total height between the ground and the base of the furnace or a distance of 25 mm between the supports and the base of the furnace. After completing the process (the furnace should be level), tighten the nuts with an n.17 key. The nuts should fit under the base; hold the plastic part of the support and simultaneously tighten the nuts.

The distance between the ground and the base of the furnace should be 25 mm as to provide enough space for air flow and better cooling. In doing so, the furnace won't overheat and its lifetime will increase.

If the adjacent walls and/or floor are not **heat-resistant**, adequate protection using heat-resistant insulation material should be provided.

Always ensure a safe distance (approx. 35 to 40 cm) between the furnace and furniture, household appliances, etc. For floor protection (if not heat-resistant), we suggest using a 3 to 4 mm thick metal plate that extends 30 cm from underneath the front of the furnace.

The distance between the furnace and the adjacent walls must be at least 25 cm. Always leave at least 15 cm of space between the back plate of the furnace and the wall, as to ensure proper air circulation.

If the furnace is installed in a kitchen with air conduit bars or spaces with heat generators using solid fuels (ex. wood-fired furnace), always ensure enough air (in the kitchen or space) for safe furnace operation.

If the exhaust system is installed through the ceiling, it needs to be adequately treated with heat-resistant insulation. After the furnace is positioned into place, it needs to be adjusted with the adjustable supports.

WARNING
The housing of the exhaust system **MUST NOT BE** attached to or connected to:

- a chimney tube that is already used by another heat generator (boiler, furnace, fireplace, stove, etc.);
- an air conduit system (bars, ventilation shafts, etc.), even if the system is connected to a tube exhaust.

WARNING
It is forbidden to install valves for closing air flow (lids, valves that may prevent air circulation or completely stop ventilation).

WARNING

The exhaust system of the furnace works on the basis of negative pressure and low exhaust system pressure. It is extremely important that the exhaust system be hermetically closed. This requires the usage of smooth tubes inside the system.

It is also extremely important to carefully analyse the plan and structure of the space (room) when installing the exhaust system pipe into the walls and roof. This should be done according to fire safety standards.

The user must first ensure that the space (or room) offers enough air for combustion.
It is recommended to occasionally check that the air, needed for combustion, is properly feed into the combustion chamber. The furnace operates on 230 V – 50 Hz.

ENSURE THAT THE ELECTRICAL LEAD IS NOT COILED UP UNDERNEATH THE FURNACE. It should also be kept away from heat sources and sharp objects (as not to be cut).
The lifetime of the electronics installed in the furnace may shorten, if the furnace is overloaded.

DO NOT TURN OFF THE POWER SOURCE BY UNPLUGGING THE CABLE WHEN THE FURNACE IS OPERATING. THIS MAY ENDANGER THE CORRECT OPERATION OF THE FURNACE.

2.2 *EXHAUST SYSTEM*

The exhaust system must be installed according to applicable standards. The exhaust pipe must be sealed perfectly. Check figures 1 to 7.

Brick chimneys can be used for the exhaust system, as well as pipes that need to be insulated (triple-layer wall) and sealed as to prevent condensation.
The exhaust system pipe should not under any circumstance be connected to other systems.

IT IS ALSO PROHIBITED TO INSTALL THE EXHAUST SYSTEM IN CLOSED OR PARTIALLY CLOSED SPACES, SUCH AS GARAGES, HALLWAYS, SHEDS OR ANY OTHER LOCATION THAT RUNS THE RISK OF ACCUMULATING SMOKE.

The master installer connects the furnace with the chimney and does so by acquiring a chimney-sweep permit regarding the quality and suitability of the chimney.

A metal pipe exhaust system must have proper grounding in accordance with applicable standards and legal provisions. **The grounding is imposed by law.**

This ground supply must be separated from the furnace grounding.

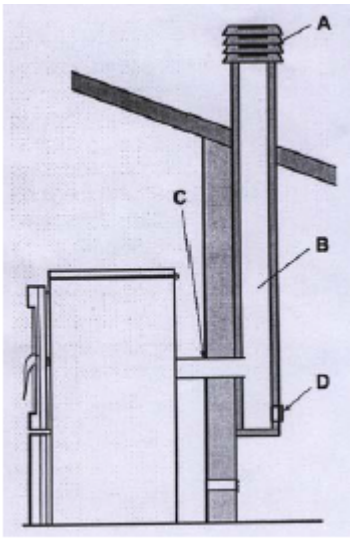
The exhaust pipe must be made in accordance with applicable standards regarding dimensions and materials used for its construction (figure 1):

A) the top of the chimney is resistant to high winds;
B) the maximum cross section should be 20 x 20 cm or a diameter of 20 cm, minimum height 4-5 m;
C) seal;
D) inspection hatch-control.

Exhaust pipes in a bad state or made out of unsuitable material (asbestos, zinc tin, etc. rough, coarse or porous surfaces) are illegal and hinder proper furnace functioning. It is possible to channel off the smoke through a traditional chimney structure (refer to following figures), if the structures fulfil the following requirements:

Check the state of the exhaust pipe or chimney. If the exhaust pipe is dated, a new pipe is required. If the chimney is damaged, it should be repaired or restored with a steel pipe (insulated with mineral wool). The

decisions regarding the repair work of the chimney shall be the chimney-sweep's / expert's domain, prior to providing positive feedback for the installation of the biomass furnace.



A – Windbreaks

B – Chimney / Smoke Coil

C – Chimney Attachment

D – Cleaning Catch

Figure 1

- The smoke can be channelled off directly into the exhaust pipe (chimney) only if the cross section reaches 20 x 20 cm or a diameter of 20 cm and a cleaning / inspection hatch is installed.

- If the **cross section of the chimney exceeds** 20 x 20 cm or the diameter exceeds 20 cm, the potential regulation of ventilation (more or less air) can be done in three ways:

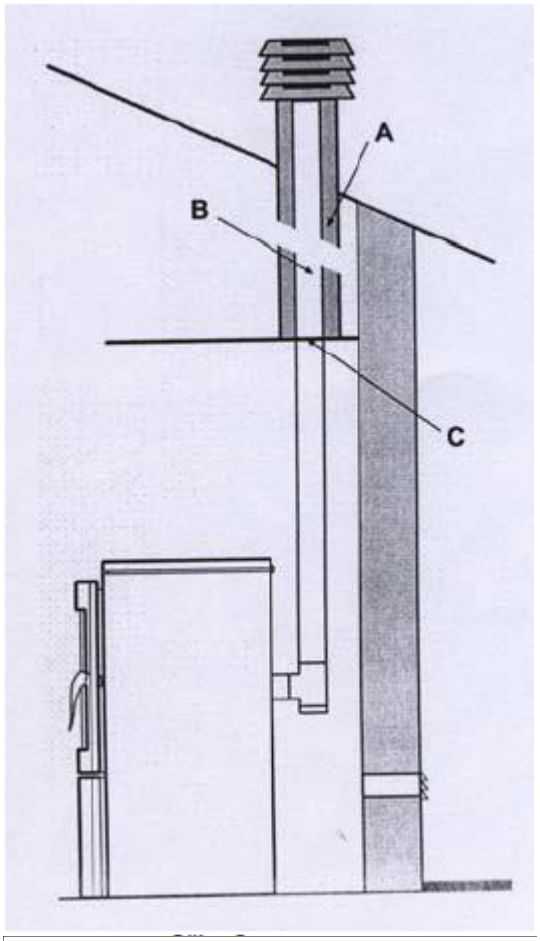
  1. An automatic negative pressure regulator should be installed at the base of the chimney;
  2. Install a 10 cm diameter steel pipe into the chimney, if you have the elements needed for such a modification.

- Ensure that the attachment of the chimney is sealed correctly.
- Avoid contact with flammable materials (such as wooden bars: in any case, the structure must be insulated with a heat-resistant material, refer to figure 2).

The furnace is manufactured to comply with 80 mm exhaust pipes attachments for the chimney. If you use a non-standard, newer chimney and you are currently modifying the existent structure, use insulated stainless pipes (triple layer wall). The diameter should match the one in table 1. Flexible tubing is prohibited.

SYSTEM TYPE	DIAMETER IN mm	EVALUATION
Pipe length less than 7 m	80	Satisfactory
Pipe length more than 7 m	100	Mandatory

Table 1



A) Mineral wool

B) Steel pipes

C) Peripheral housing

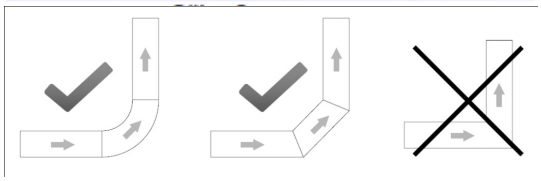


Figure 2

It is mandatory to use the cleaning component with an inspection hatch (refer to figures 5 and 6) when using the linking pipe that connects the furnace and the main pipe (used for funnelling off the air). The smoke is under weak negative pressure; it is important to ensure that the lid of the cleaning pipe is hermetically sealed and the lid stay sealed onwards. Ensure proper order of assembly and check the state of the seal.

It is mandatory to use bent pipes with a cleaning hatch (figure 4a) when using the linking elements for the furnace and the chimney. This allows regular cleaning without having to disassemble the pipe. Perfect suction is directly dependent on the chimney, which has to be obstacle-free (i.e. without narrow spaces or angled components). The bent sections should be angled at 30°, 45° or 90°. Bent sections with a 90° angle should be composed out of three pieces.

The installation of the exhaust pipes must be done in line with figure 7.

HORISONTAL EXTENSIONS ARE STRONGLY ADVISED AGAINST. HOWEVER, IF REQUIRED, MAKE SURE THE PIPE DOES NOT INCLINE IN THE OPPOSITE SIDE. THE PIPE SHOULD HAVE A MINIMUM SLOPE OF 5%.

HORISONTAL EXTENSIONS MUST NOT EXCEED 3 M IN LENGHT.

It is not recommended to attach the exhaust pipe directly to a horizontal extension, longer than 1 m. Refer to figures 4, 5, 6 and 8. A vertical extension of Ø 80 mm must be set after the t-coupler. The extension should be at least 1-1,5 m in length. A Ø 80 mm horizontal extension and a Ø 100 mm vertical extension (depending on the height of the chimney) can be set only after setting the previous extension, as shown in table 1.

Figure 3 on the left shows how the final part of the chimney should look like, if you have two adjacent chimneys. Figure 3 on the right shows an incorrect positioning.

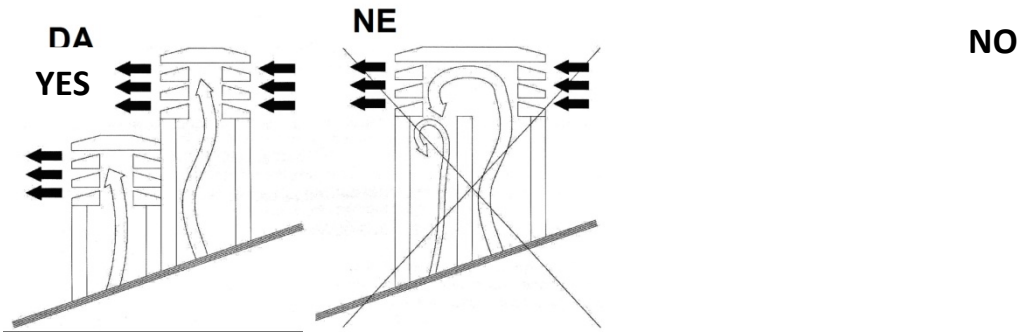


Figure 3

2.3 *INSULATION AND DIAMETER (roof hole or wall)*

After the position of the furnace has been determined, a hole or opening must be made. This opening will guide the exhaust pipe. The opening varies depending on the type of installation, exhaust pipe diameter (refer to table 1) and the type of wall or ceiling.

Refer to table 2. Use mineral wool insulation with a nominal density of 80 kg/m2 or more.

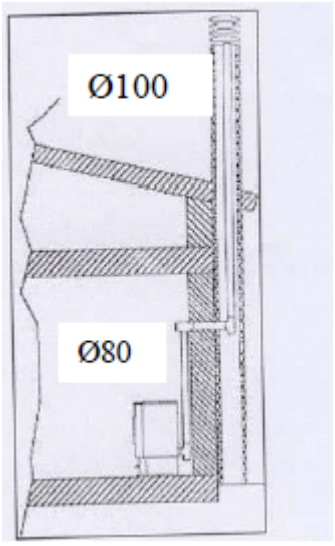


Figure 4

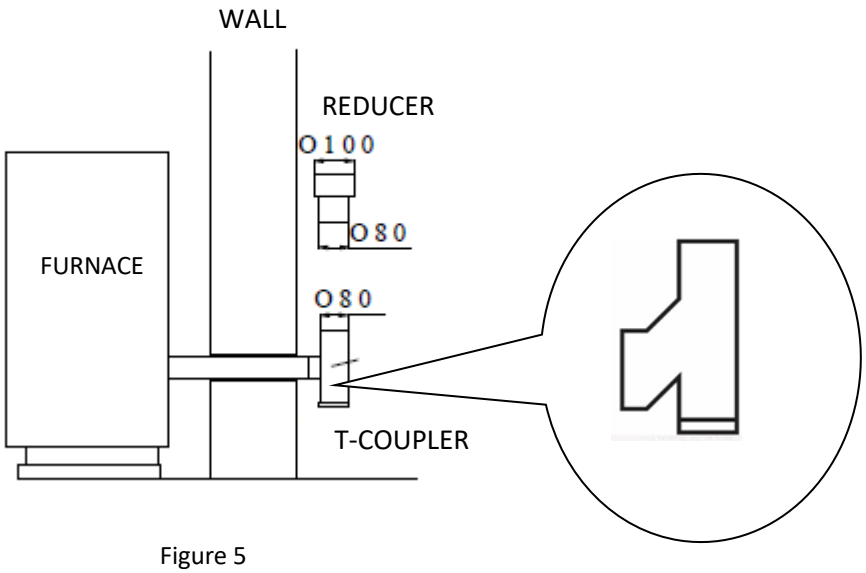


Figure 5

1. Housing 80 > 100
2. T-coupler pipe housing

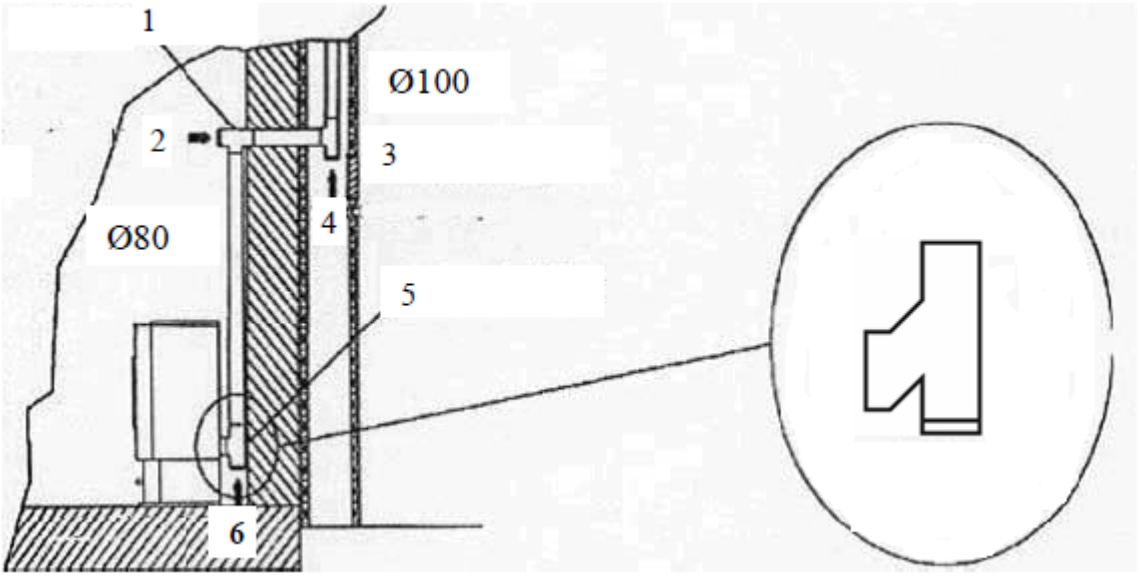


Figure 6

1. T-coupler pipe housing or bent component with inspection hatch
2. Direction of cleaning
3. Opening, inspection and service hatch
4. Direction of cleaning
5. T-coupler pipe housing – T-coupler or bent component with inspection hatch
6. Direction of cleaning
7. Hermetic seal for cleaning

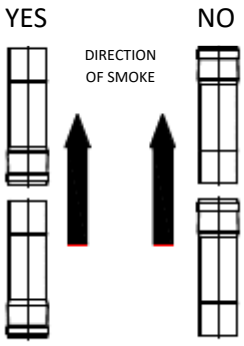


Figure 7: Method of exhaust pipe installation

Insulation thickness in mm		**Exhaust pipe diameter (mm)**	
		D.80	D.100
		Diameter of opening (hole) (mm)	
Wooden walls or flammable components	100	150	170
Concrete wall or roof	50	100	120

Brick wall or roof	30	100	120

Table 2: Thickness of insulation for wall or roof system

It is important to ensure PERFECT CIRCULATION of air (ventilation) in the exhaust pipe. The smoke should not be hindered by narrowing or angled components. All changes in direction of the axis should have a slope of up to 45 degrees relative to the vertical line. 30 degrees is the best possible solution. The changes in direction are best made at the top of a chimney that is resistant to high winds.
The distances must be taken into account in accordance with applicable provision (**chimney top, resistant to high winds, distances and furnace position**), as present in table 3:

Roof inclination	Distance between ridge and chimney	Minimum chimney height, measured from top opening (at the chimney exhaust)
α	Distance in m	Height in m
15 °	Less than 1,85 m More than 1,85 m	0,50 above ridge top 1,00 from roof incline
30 °	Less than 1,50 m More than 1,50 m	0,50 above ridge top 1,30 from roof incline
45°	Less than 1,30 m More than 1,30 m	0,50 above ridge top 2,00 from roof incline
60°	Less than 1,20 m More than 1,20 m	0,50 above ridge top 2,60 from roof incline

Table 3

It is necessary to ensure one initial vertical extension (1,5 m in length, min.) in order to allow proper smoke extraction.

2.4 *AIR SUPPLY FOR COMBUSTION (Figure 8)*

The air from the environment needed for combustion has to be supplied through one ventilation grille attached to the wall of a room or space, facing outwards. This will ensure proper combustion. The ventilation hatch must be installed on the outer wall. The ventilation hatch must have a ventilation grille, which protects the opening from rain, winds and insects.
The opening must be installed on the outer side of the wall of the room or space that houses the furnace.

It is forbidden to supply air for combustion from garages, storage rooms used for flammable materials or spaces with high risk of fires.
The hole or opening for funnelling off external air for combustion may be provided with an Ø 50 pipe, max. length of 3 m. The air supply for combustion must provide enough air (needed to ensure proper functioning of all devices), if the room has any other equipment for combustion.

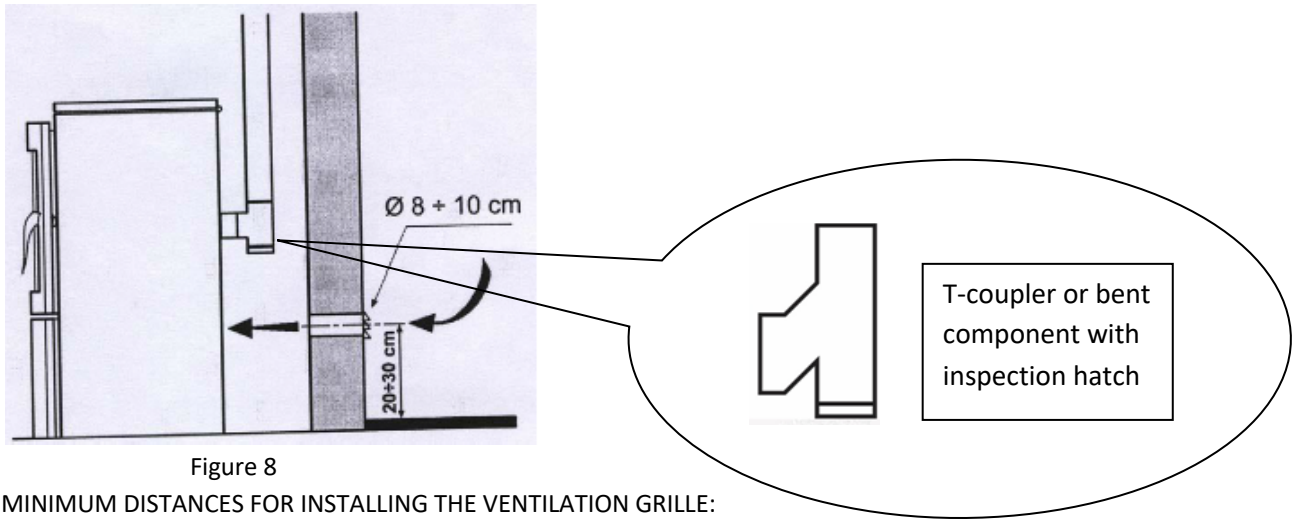


Figure 8

MINIMUM DISTANCES FOR INSTALLING THE VENTILATION GRILLE:

Please refer to the information provided in table 3 for a correct and safe ventilation grille installation. These are the minimum distances from each air chamber or exhaust. This value may change the configuration of air pressure. It must match in both directions. This method will help prevent any unnecessary suction of air from the furnace (ex. opening a window).

Minimum distance of the ventilation grille		
1 m	Under	The doors, windows, exhaust, air chambers, etc.
1 m	Horizontally	
0,3 m	Above	
2 m	From	The exhaust

Table 3: Minimum distances for air supply

2.5 CONNECTING TO A POWER SOURCE

The furnace must be connected to a power source. Our furnaces have electrical cables suitable for medium temperatures. If an electrical cable must be substituted (if damaged), please consult with our authorised technical staff or our experts. Prior to connecting your furnace to a power source, ensure that:

- the characteristics of the electrical system match the data or specifications indicated on the identification plate on the furnace;
- the exhaust system (if metal) must have an operational grounding connection in accordance with applicable standards and legal provisions. The grounding is imposed by law;
- the electrical cable must not rise more than 80°C above the ambient temperature. If you wish to connect the cable directly into the power grid, you must put one bipolar switch or a two polar switch with a minimum distance of 3 m between contacts. The dimensions for the power overload are indicated on the identification plate in accordance with applicable standards. The yellow-green grounding cable must not interrupt the switch. The bipolar switch and inlet must be easily accessible after the furnace has been positioned into place;
- if the furnace has not been used for longer periods of time, unplug it from its power source or turn the switch to »OFF« position (0). In case of breakdown or incorrect operation, immediately turn off the furnace or turn the switch to »OFF« position (0). Consult our authorised service centre.

3.0 IMPORTANT INSTRUCTIONS

THE FOLLOWING ARE IMPORTANT SAFETY INSTRUCTIONS

The installer of the furnace must be familiar with some general instructions that must be followed diligently for correct installation of the furnace. The standards are not required in their entirety. For additional and more accurate information read the following instructions.

- Connect furnace into ground power outlet (figure 9).
- Position switch in position 1 (figure 10).
- Children and domestic animals must not be near the furnace.
- User A1 or A2 wood pellets, no other fuels.
- Notify all users about possible risks and danger and instruct them about how to use the device.
- It is advisable to isolate the base of the furnace, if the furnace is positioned on a wooden surface.

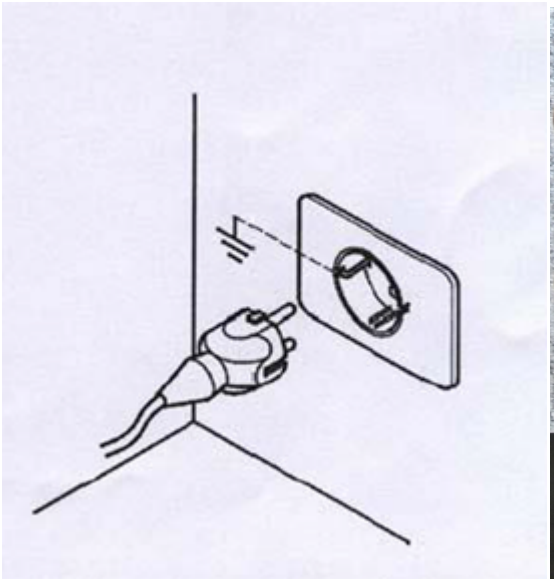


Figure 9

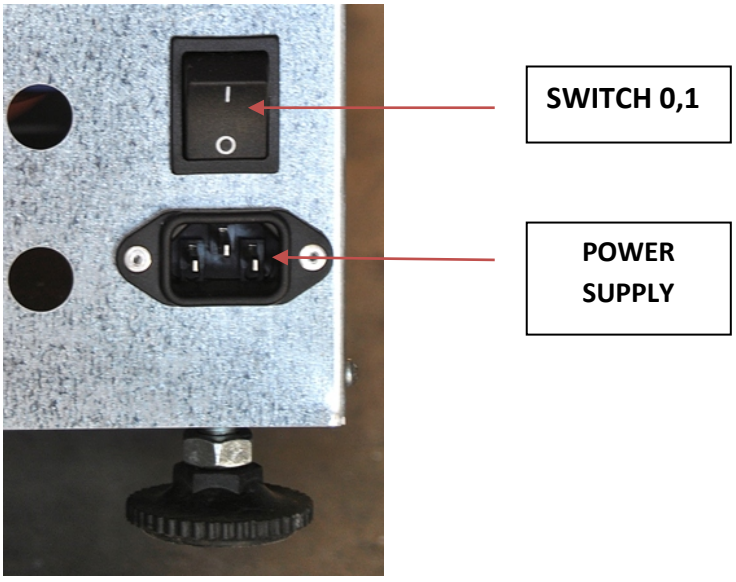


Figure 10

The furnace operates with a combustion chamber under negative pressure. **Please ensure that the exhaust system is thermally sealed and/or isolated.**

Upon first starting the furnace, a small quantity of paint covering the furnace will evaporate (due to colour stabilisation). The process is not damaging to your health.

THE SPACE MUST BE VENTILAED IN ORDER TO ELIMINATE ANY REMAINING GASSES.

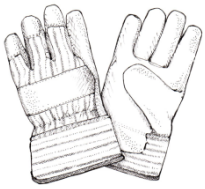
3.1 SAFETY WARNING FOR MAINTAINANCE STAFF

All maintenance staff must adhere to all safety measures as well as to:

- always wear safety devices and protective gear;
- turn off the power supply before operating on the machine;
- always use adequate equipment;
- ensure that the furnace and the ashes have cooled down before starting any type of work on the furnace. Makes sure the handles have cooled down before handling them;
- NEVER TURN ON THE FURNACE if even one of the security devices is not working properly, is installed incorrectly or does not function;
- not perform any modifications out of any sort of reason, except if authorised or approved by the manufacturer;
- always use original spare parts and NEVER WAIT for the components to wear out before substitution. The substitution of a worn part or furnace component prevents breakdowns that might cause accidents due to incessant operational failures. Such failures may cause serious harm to individuals or material close to the furnace;
- clean the firebox before starting the furnace;
- ensure that there is no condensation. Condensation is a sign of water presence due to air cooling. We advise you to find the cause of the fault in order to restore normal and correct furnace operation.

3.2 USER SAFETY PRECAUTIONS AND WARNING

The location of the furnace must be in accordance with local, national and European provisions.
The furnace is a »heating device«; **the outer layers and surfaces of the device reach high temperatures during operation.**



Always put on your work gloves before opening the stove door. The doors can be hot (burning hazard).

The furnace is meant for combusting biomass fuel (6-7 mm diameter pellets, length approx. 30 mm, maximum moisture 8-9 %).

It is extremely important to abide by the following instructions:

- Do not approach or touch the glass on the door. RISK OF BURNS!
- Do not approach or touch the exhaust pipe. RISK OF BURNS!
- Do not clean!
- Do not open the doors! The furnace functions properly only if the doors are hermetically sealed!
- Do not remove ash, if the furnace is operational!
- Do not allow children or household pets in the vicinity of the furnace!
- PLEASE FOLLOW ALL SAFETY REGULATIONS INDICATED IN THESE INSTRUCTIONS!

Proper pellet usage:

- always use fuels that complies with the manufacturer's instructions;
- always follow the furnace cleaning schedule;
- clean the furnace daily (only when the furnace and ashes are cool);

- do not use the furnace in cases of faulty, sudden noise or suspicious breakdowns;
- **do not pour or spray water on the furnace, even in cases of fire;**
- **do not turn off the furnace by unplugging. Use the ON/OFF switch;**
- do not tilt the furnace. RISK OF INSTABILITY;
- do not use the furnace as support or basis. Never leave the fuel tank lid open;
- do not touch the coloured parts of the furnace during burning;
- do not use wood or coal for fuel. Use **only pellets** with these specifications: dimensions: diameter 6-7 mm, maximum length 30 mm, maximum moisture contents 8-9 %;
- do not burn waste in the furnace;
- be careful when operating the furnace.

4.0 SAFE FURNACE IGNITION AND CLEANING STANDARDS

- Never use petrol, kerosene or any other flammable fluid for the ignition of the furnace. This type of fluid should be kept away from an operating furnace.
- Never turn on the furnace, if the glass is damaged. Do not hit the glass or the door.
- Do not open the doors for cleaning purposes, if the furnace is operational. Clean it only when the furnace cools down. Use a cotton cloth or paper towels for glass.
- Ensure that the furnace is firm in place.
- Ensure that the ash container is inserted in the furnace. The doors should perfectly with the internal ash container.
- Ensure that the furnace door is closed shut during burning.
- Remove ashes from the furnace when the furnace cools down completely.
- Do not clean the surface of the furnace with abrasive cleaning products.

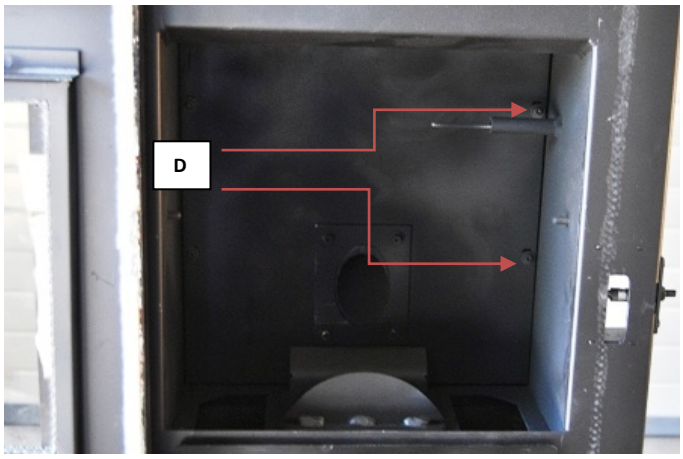


Figure 11

Figure 12

Figure 13

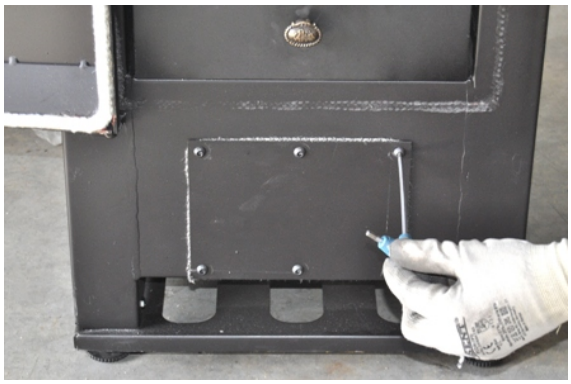


Figure 14

Figure 15

5.0 RUTINE CLEANING AND MAINTENANCE (with a vacuum cleaner)

Using a vacuum cleaner can ease the cleaning process. The vacuum cleaner must have a filter that prevents any dust from escaping the vacuum container.

BEFORE YOU BEGIN ANY REGULAR MAINTAINANCE OF THE FURNACE, INCLUDING CLEANING, ENSURE THE FOLLOWING SAFETY MEASURES:

- unplug the furnace form the power source before any type of operation on the furnace;
- ensure that the furnace and the ashes have cooled down before performing any type of work;
- remove the ashes from the chamber **daily**;
- clean the firebox after each usage, **daily**;

Once per year or after more than a ton of pellets:

- clean the ashes that has collected close to the openings on the top of the chamber (figure 13 A). It is recommended to remove the back wall of the combustion chamber once every year and perform an inspection of the exhaust pipe (figure 13 B). Clean the back of the chamber with a vacuum cleaner (B plate). Clean the walls with a vacuum cleaner and a brush where the ashes have collected (figure 11 D). This plate is attached with screws, as shown in figure 11 D.
- clean the inspection hatch under the firebox (figures 14 and 15), remove the bolts, open the lid and clean the ashes from the chamber in front of the fan,
- remove and clean the fan if needed.

Clean the parts as shown in figure 12. We do not recommend this type of cleaning as this might damage the screw threads on the deflector.

IMPORTANT NOTICE

It is mandatory to check the passage between the pellet feed screw and the protective back walls of the firebox. There should be no obstacles. The passage must be level; this will allow pellets to fall into the chamber and not accumulate in the pipe as this would cause unwanted ignition.
If the protective plate is set incorrectly, the pellets may ignite in the pellet storage enclosure. This would lead to severe consequences.

- **The manufacturer is absolved from any consequences that result from incorrect installation of the combustion chamber back plate.**

Always make sure that the furnace and ashes are cool.

The biomass pellets combust in the firebox (box form, refer to figure 16). It is recommended that the firebox be cleaned after each usage (after the furnace has cooled down). After each third usage, the firebox should be removed and checked for excess ashes that may accumulate in the firebox. Put the firebox back into place in order to ensure proper furnace operation.

Do contact our authorised service centre for any additional information or clarifications that you may need. The manufacturer does not oversee the installation of the furnace and does not answer for the installation and maintenance of the furnace.

THE MANUFACTURER ACCEPTS NO LIABILITY FOR ANY DAMAGE CAUSED BY A THIRD PARTY INDIVIDUAL.

1. Opening for inserting the heating element for fuel combustion.

Figure 16a

2. The openings must be free of ashes in order to ensure optimum furnace functioning.

Figure 16b

ASH CONTAINER (if full, empty and vacuum clean).
Ensure that the furnace and ashes have cooled down.

The ash container must be **cleaned once per week** by vacuum cleaning and removing the ashes. This method allows you to remove all impurities that remain after pellet combustion. The box must be reinserted correctly back into place.

- Never put unburnt pellets back into the box.
- Clean the glass with a clean cloth.

GLASS DOOR (CLEAN AND CHECK):

Ensure that the furnace and ashes have cooled down.

The glass is made out of heat-resistant ceramic. If the glass is damaged, substitute it before using the furnace again. The glass may be substituted only by an authorised expert.

5.1 CLEANING AND MAINTAINANCE (staff responsible for maintainance)

EXHAUST SYSTEM – CHIMNEY (Needs to be cleaned every six months or after two tons of pellets.)
Ensure that the furnace and the ashes have cooled down.

The wind-resistant exhaust system (chimney) needs to be inspected and cleaned each year. This is best done right at the start of the season. It is best to consult an authorised service centre before cleaning these elements. For spaces that need extra care when cleaning refer to figure 17.

INTERNAL FIREBOX (once per year or after 1 ton of pellets)
Ensure that the furnace and the ashes have cooled down.

For correct cleaning with a vacuum cleaner:
Remove the back plate of the combustion chamber by unscrewing 4 screws. Remove the plate as shown under 5.0 (figures 14 and 15) and clean the accumulated ashes.

EXHAUST CHAMBER OF THE SMOKE FAN (once per year or after one ton of pellets).
Ensure that the furnace and the ashes have cooled down.

Perform the cleaning of the interior chamber by first removing the lid on the bottom of the housing. Insert vacuum cleaner and remove excess ashes in order to ensure proper furnace operation (figures 14 and 15).

GENERAL CLEANING AFTER SEASON
Ensure that the furnace and the ashes have cooled down – unplug from power source.

At the end of the season unplug the furnace from the power source. It is important to clean the furnace and inspect it as shown above.
Ensure that the furnace and the ashes have cooled down.

The door seal may loosen after longer periods of usage. The seal attaches to the door with heat-resistant silicone. Attach the back end of the heat-resistant sealing tape. This is very important to ensure proper door sealing.

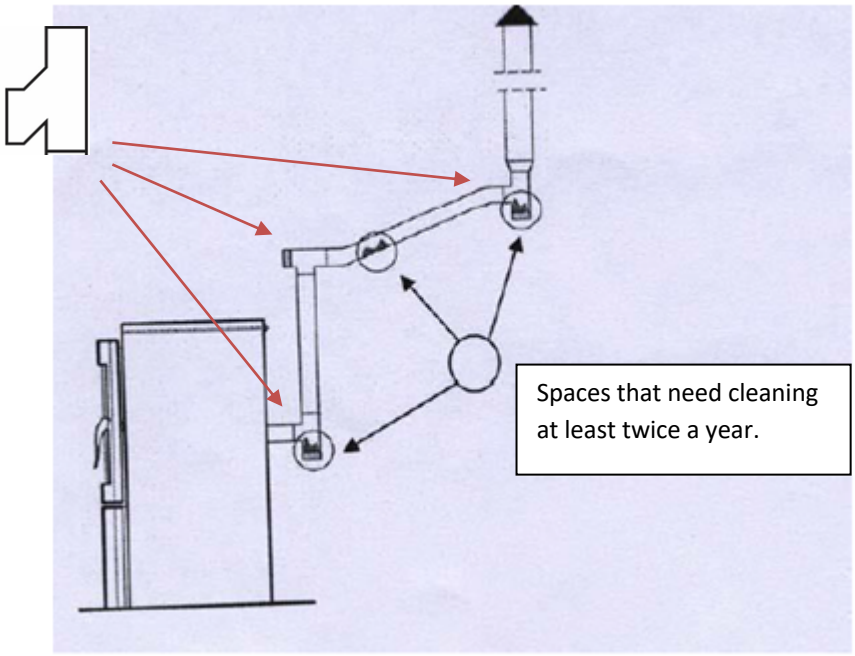


Figure 17

Spaces that need to be cleaned at least twice a year.

6.0 IMPORTANT SAFETY INFORMATION

You have bought a top quality product.
The manufacturer is always at your disposal and shall provide you with all the necessary information you might require. This includes but is not limited to furnace number and the assembly instructions for installation in your location. Correct furnace installation is very important. It helps prevent danger, fires and any faults.
The furnace operates under negative pressure in the combustion chamber. **Ensure that the exhaust system is thermally sealed.**

DANGER
In case of fire in the exhaust system, evacuate all individuals and household pets, turn off electrical power or unplug furnace from power source (always easily accessible) and call the fire department immediately.

DANGER
Do not use wood for burning.

DANGER
Do not use furnace for burning waste.

7.0 PELLET QUALITY

This furnace is meant for combusting A1 or A2 quality pellets.
Due to the market being overloaded with pellet products, make sure you choose the cleanest product possible.
Ensure that you use quality pellets (compact, low dust contents, A1 quality).
Ask your manufacturer about the best quality pellets (diameter 6 mm and up to 30 mm in length).
Correct furnace operation is dependent on the type and quality of the pellets. Different products may produce different heat intensity.

THE MANUFACTURER ACCEPTS NO LIABLITY FOR SUBPAR QUALITY PELLETS OR IMPROPER FURNACE OPERATION DUE TO INCORRECT PELLET SELECTION.

7.1 PELLET STORAGE

Pellets need to be stored in a dry and warm storage space. Cold and moist pellets (5 °C) lower the thermic power of the fuel and eventually demand additional furnace cleaning.
DO NOT STORE PELLETS NEAR YOUR FURNACE. Store the pellets at least 2 m away from the furnace. Handle with care, do not break the pellets.

WARNING:

Throwing sawdust or smaller broken pellets into the funnel-shaped part of the furnace may block pellet (fuel) feed.
Such instances may cause electric motor overload or damage on the reducer (part of the electric motor).
Clean any remaining pellets found at the bottom of the pellet tank or the feed screw by using a vacuum cleaner. Insert the vacuum cleaner tube through the opening of the pellet grille and clean.

8.0 CONTROL PANEL DESCRIPTION AND OPERATION

8.1 KEYBOARD AND DISPLAY DESCRIPTION (control panel)

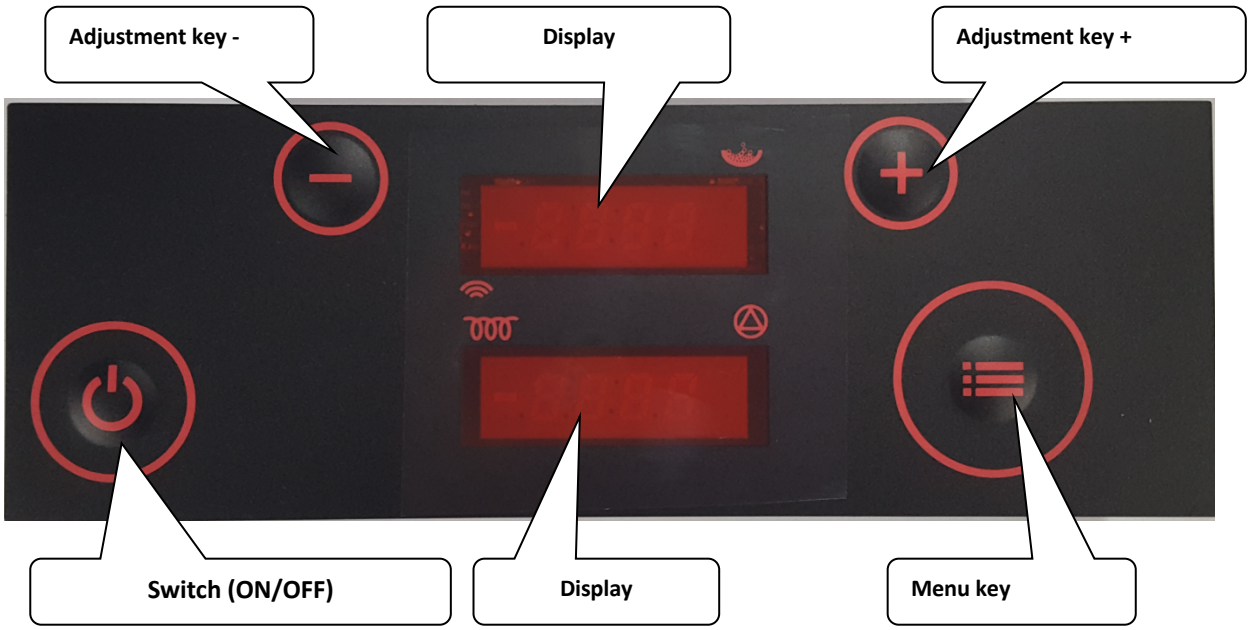


Figure 18

Displays/Symbols	Function
	**Upper display** shows the current status of the furnace, the current menu and feed operation with a timed program option.
	**Lower display** shows the current time, value of settings and parameters and warnings.
	Ignition plug indicator
	Pump indicator
	Dosage indicator

Display during the combustion phase of the furnace

Upper display:	The upper display alternately shows: BURN and then P5D5, where Px means the actual power of operation and DX the set power of operation
Lower display:	The lower display alternately shows: Smoke gas temperature: 155 Water temperature in the heater : B72 Return water temperature: r45

Display if furnace is non-operational

Upper display:	OFF
Lower display:	Time: 18:35

Key	Function
	**ON/OFF Switch** Pressing and holding the switch turns the furnace on/off Pressing the key returns the menu to basic display.
+	**+ Key** Pressing during furnace operation increases set power. Increases desired water temperature of the heater. Choose desired menu item.
-	**- Key** Pressing during furnace operation increases set power. Decreases desired water temperature of the heater.

Choose desired menu item.

MENU Key

Pressing the key in basic display shows the set temperature of water that can be changed with the + and – keys.
Pressing and holding the key longer than 2 seconds activates menu mode.
Pressing and holding the key longer than 4 seconds activates advanced menu mode. Further pressing of the key shows menu options.
Use + and – keys to choose parameters in submenus. Pressing the MENU key highlights the chosen parameter (pulsating option). The selected parameter can be adjusted using the + and -.
Pressing the ON/OFF key returns you to your basic display.

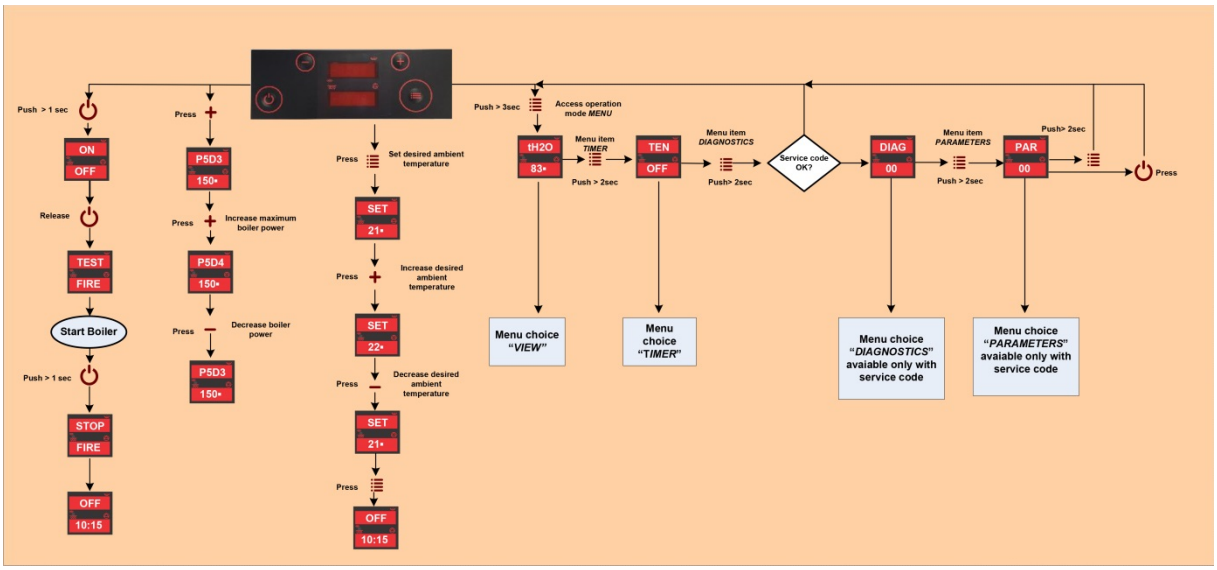


Figure 19

8.2 DURING OPERATION

The display show the current phase of operation (ex. TestFire, HeatUp etc.). The upper display shows the set and actual furnace power. The display alternates between the set and actual power every 5 seconds.

Increase the power value by pressing the **+ Key**. Decrease the power value by pressing the **- Key**.

Pressing the **MENU key** brings up the set water temperature. The temperature can be changed with the **+ and –** keys.

The furnace operates based on the set power until the temperature of the environment reaches its modulation threshold or the exhaust gases reach their limit. First instance shows Regu H25, second Regu Gas.

In case of a power outage lasting less than 2 minutes, the furnace will continue working normally (after power will have been restored). If the power outage lasts more than 2 minutes, the furnace will automatically perform an end stop and cooldown. After cooling down, the furnace will restart.

8.3 FURNACE END STOP

By pressing the **ON/OFF key** longer than 2 seconds (during operation), the display will show **ON** and the furnace will start the end stop process. The pellet feed will turn of and the display will show the message **STOP FIRE**. Fans need to function at high speeds in order to clean the firebox. After the firebox cools down to a set temperature, the furnace turns off and goes into inactivity mode. The display will show the message **OFF.**

FURNACE IGNITION

By pressing the **ON/OFF key** longer than 2 seconds (during inactivity), the display will show **ON** and **OFF**. The furnace will start the ignition process when the key is released. The display will show the message **TESTFIRE**. Fans need to function at high speeds in order to clean the firebox. The pellet feed is inactive and the heating plug is slowly heating up.
If the firebox temperature is too low, the **HEAT UP** sequence will begin. In this phase, pellets are fed into the firebox and the fans remain inactive. After that, sequences **Fuel IGNI** and **TEST IGNI** are initiated until the furnace reaches the parameters needed for the combustion phase (**BURN**).

IMPORTAN NOTICE

Normal furnace ignition takes up to 15 minutes (good quality pellets and ambient temperature of 11 degrees Celsius). If the ambient temperature is lower and the plug spark functions normally, the furnace may not start properly. The furnace must then be turned off by pressing the key. Remove and empty the cast burner that combusts the pellets. Return the cast burner to its place in the combustion chamber in the furnace and restart the furnace.

DANGER

By pressing the **MENU key** longer than 2 seconds (release the key after display shows tH20) the current water temperature is displayed. By pressing the **+** or **–** keys, the user can choose other temperature displays and fan status.

8.4 SETTING THE TIME PROGRAM

You can access the time program menu by pressing and holding the **MENU key** (until the display shows the message TIMER).
The time program can be activated either by ON or OFF. It is necessary to set the exact time and day of the week (Monday is 1, etc.) and set 6 time periods and temperature values.
Each time period is set with an initial (P1a – initial time for program 1) and end time (P1d – end time for program 1). The furnace will maintain the set water temperature (P1t) during the set period.
Each day of the week offers up to 3 time periods.
Example (Tuesday): The upper display will show DAY2, the lower P1, P3 and P6. This means that the furnace will be active on Tuesday within the time periods set with programs P1, P3 and P6.

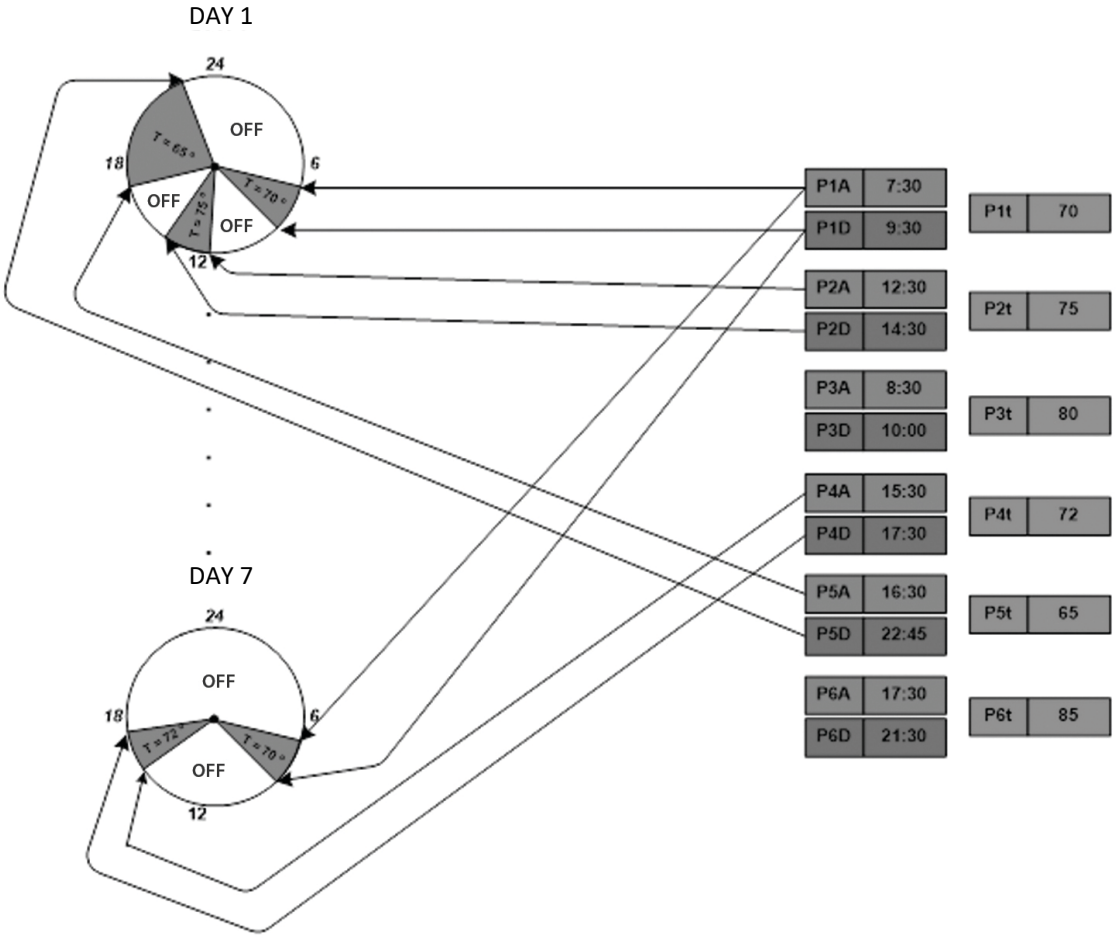


Figure 20: A diagram of the time program settings

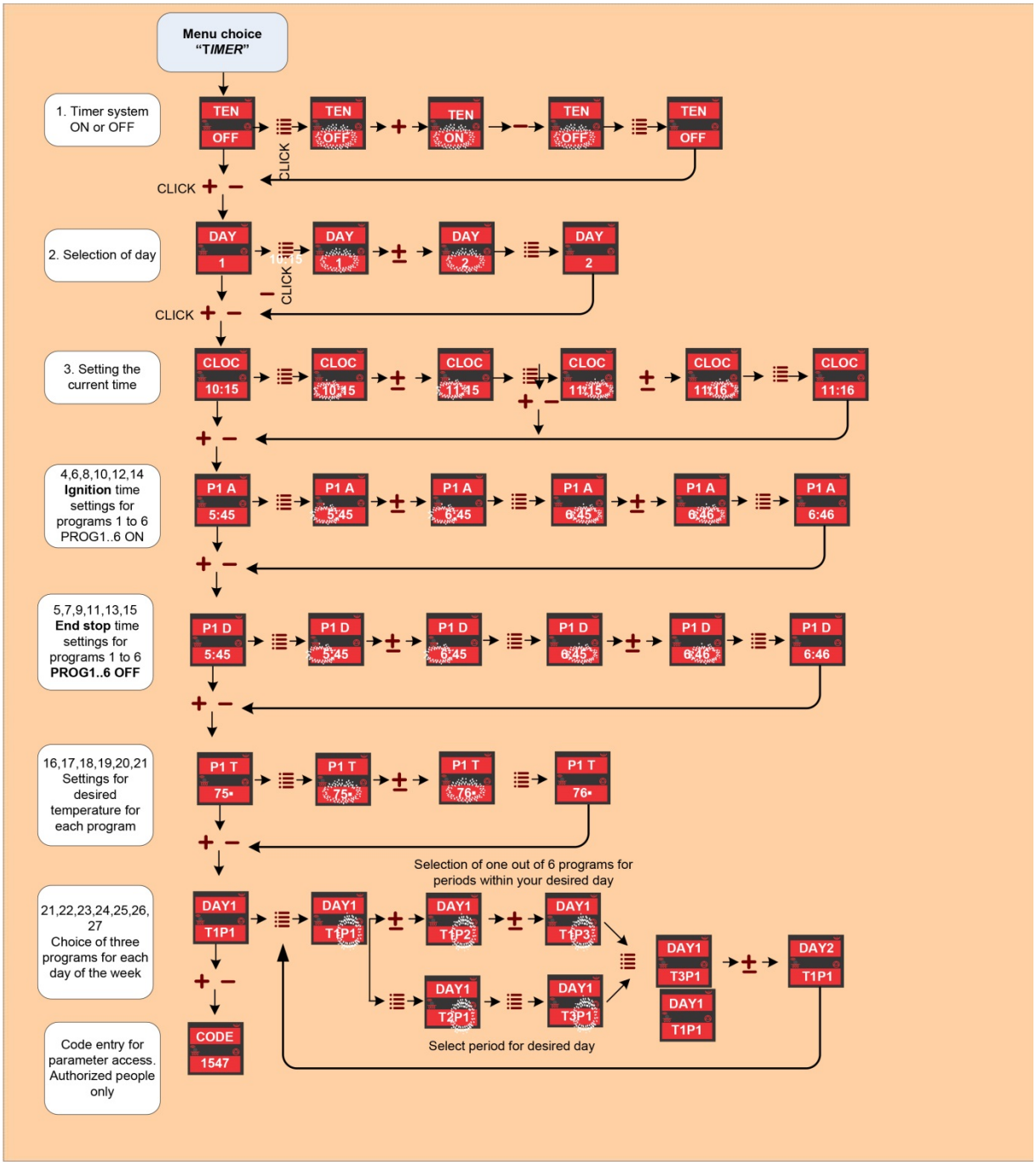


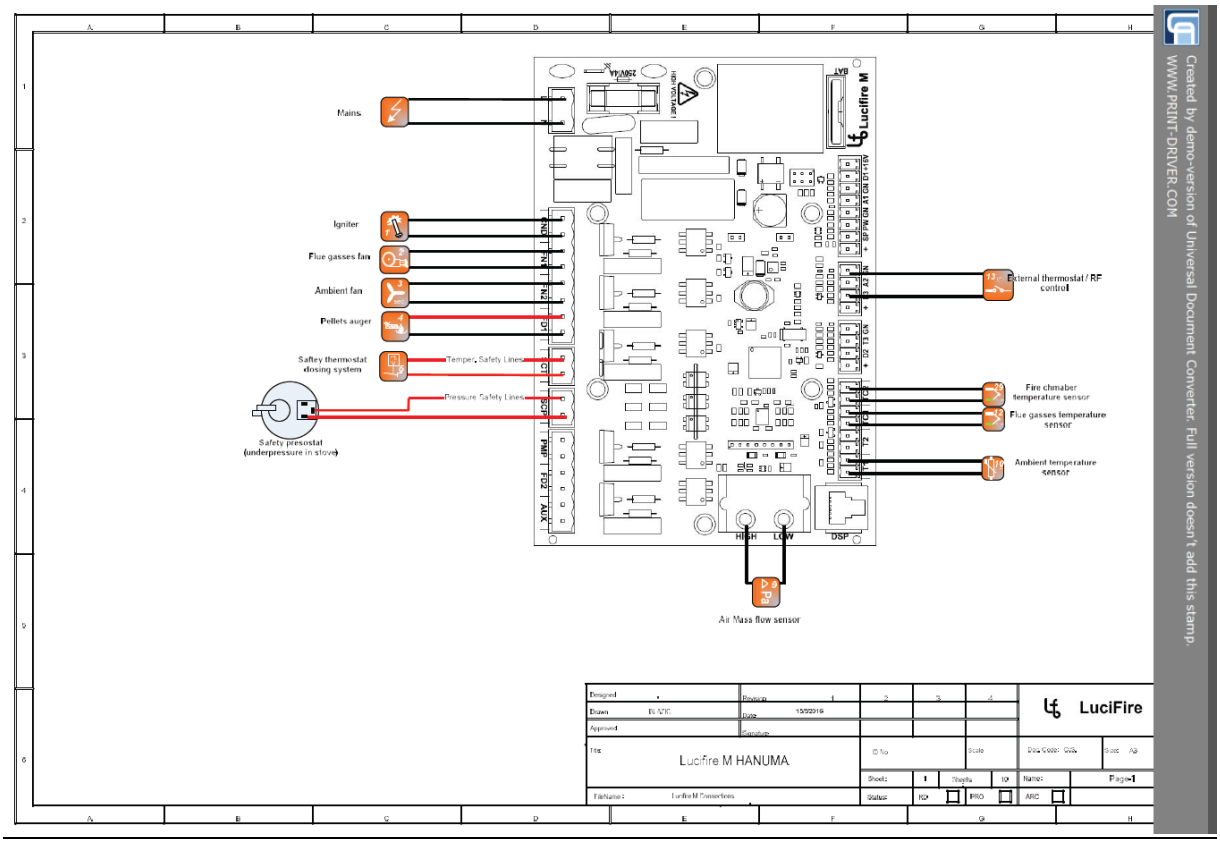
Figure 21: Navigating through the timer menu *(timer)*

8.5 DISPLAY MESSAGES

Display Messages	Message meaning and furnace status
OFF 12:53	The furnace is inactive.
°OFF 12:53	The furnace is inactive, but the time program is active. The furnace will start automatically according to the set time program.
TEST FIRE	The furnace is checking whether the firebox flame is suitable for combustion. This sequence starts after power outages.
Heat UP	Ignition phase: The feeder is adding fuel to the firebox and the plug is heating up the pellets.
Fuel IGNI	The furnace will ignite the pellets after Heat up. No dosage in this phase.
TST IGNI	The furnace is in ignition end phase. The furnace has turned off the plus and is testing if the ignition has been successful, the pellets are combusting correctly and the temperature is rising correctly.
BURN 123°	Combustion phase (default operating phase). The lower display shows the temperature of the exhaust gases.
BURN B78°	Combustion phase. The lower display shows the water temperature.
BURN R48°	Combustion phase. The lower display shows the return water temperature.
P5 D5 R48°	Combustion phase. The upper display shows the current (Px) and set (Dx) furnace power.
CLN FIRE	Cleaning phase. The fans are ventilating the ashes and other debris from the firebox. This phase occasionally starts during the combustion phase.
FIRE STOP	The furnace is in end stop sequence and is cooling down.

COOL FLUID	Furnace is in COOL FLUID phase (cooling down). This occurs when the water temperature reaches a specific temperature with minimum power. The furnace will automatically start when the water temperature cools down to its nominal value.
ALAR PEL	Lack of pellets during combustion phase.
ALAR FIRE	Ignition failed. Check the furnace status, clean the firebox and try to restart the furnace.
ALAR SEC	Thermo-safety is active. Check the furnace status and manually reactivate the safety, if there are no anomalies. Restart the furnace. If the problem persists, contact our authorised service centre.
ALAR PRES	Safety presostat is active. Check the furnace status and manually reactivate the safety, if there are no anomalies. Restart the furnace. If the problem persists, contact our authorised service centre.
ALAR TC1	No signal from smoke gas detector. Call our authorised service centre.
ALAR TCh	No signal from firebox temperature. Call our authorised service centre.
ALAR Air	No signal from flux sensor or the fans are functioning incorrectly. Call our authorised service centre.
ALAR dr t Y	Furnace and/or chimney need cleaning.
ALAR NTC	No signal from water temperature. Call our authorised service centre.
ALAR GASS	Smoke gas temperature is too high.

8.6 ELECTRIC SCHEME



8.7 MENUS

Press and hold **MENU key** to access menus. To choose a menu release the key after desired menu appears. The menu descriptions are the following:

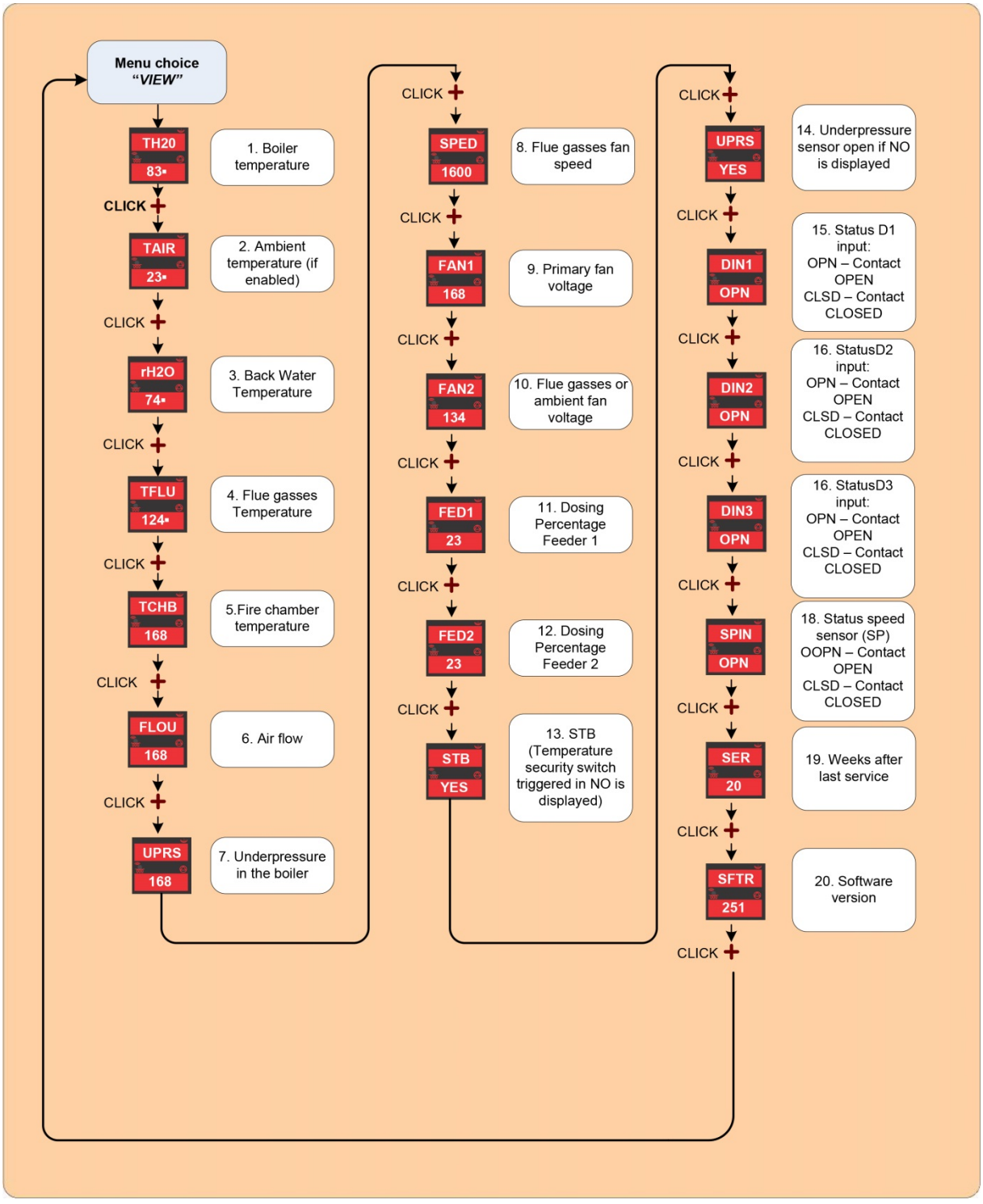
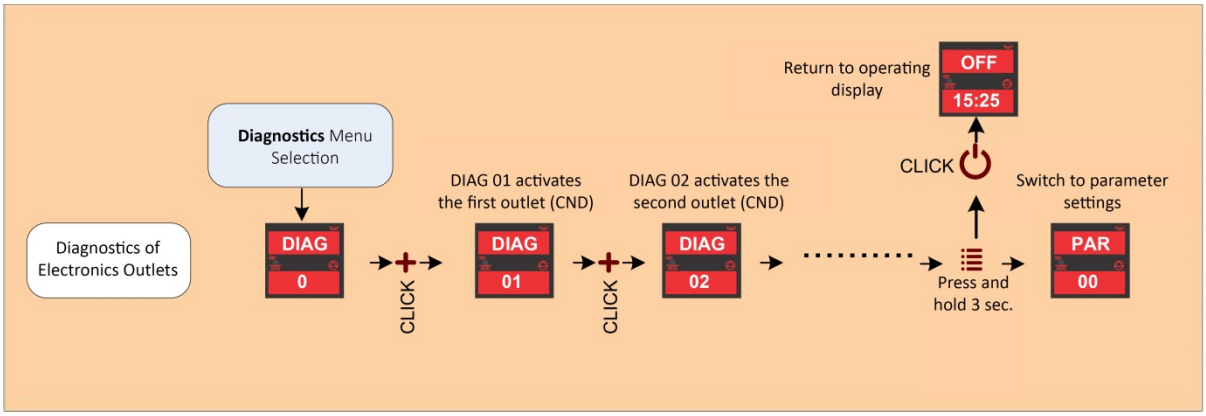
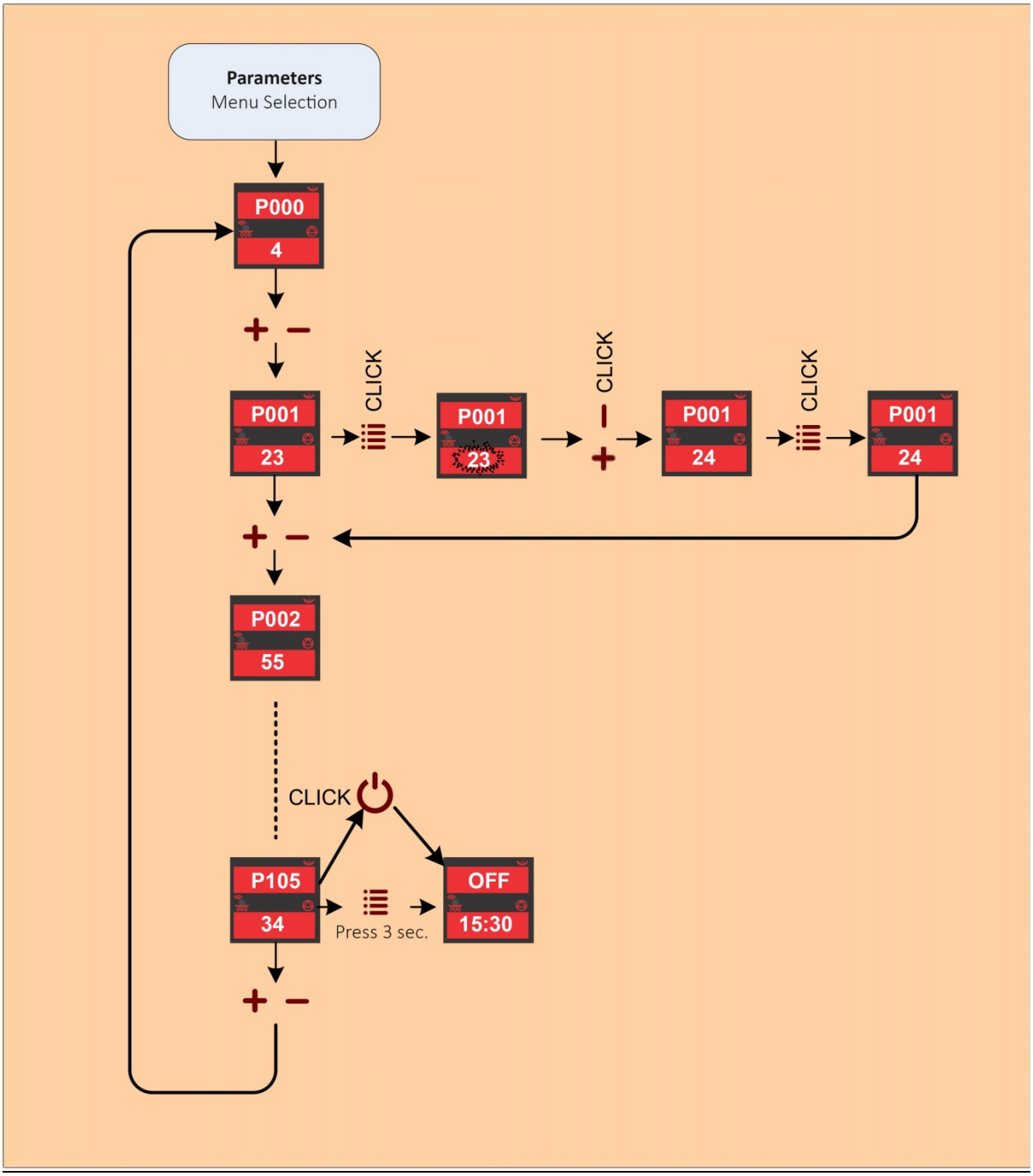


Figure 22

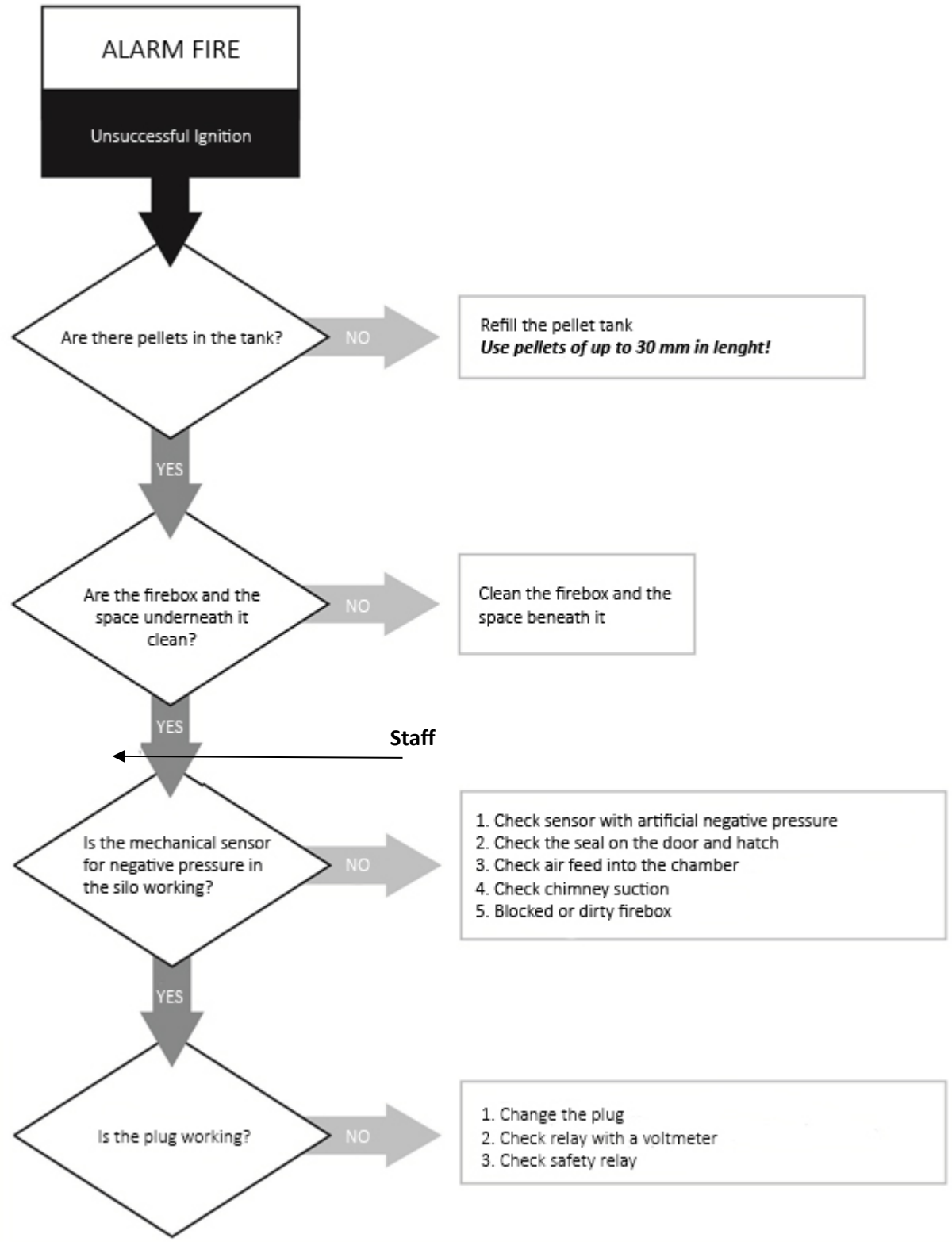


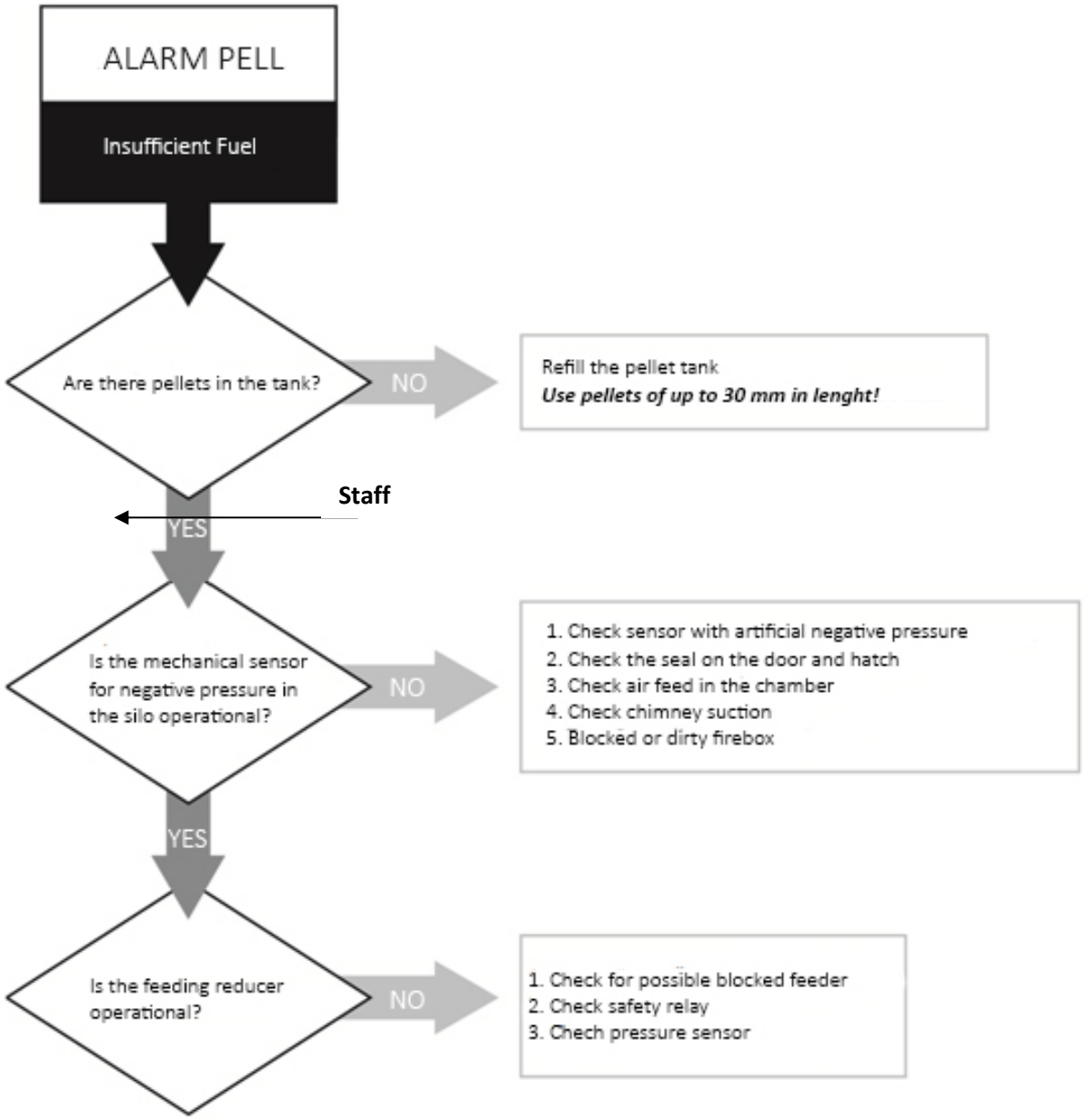
Diagnostics Menu Selection

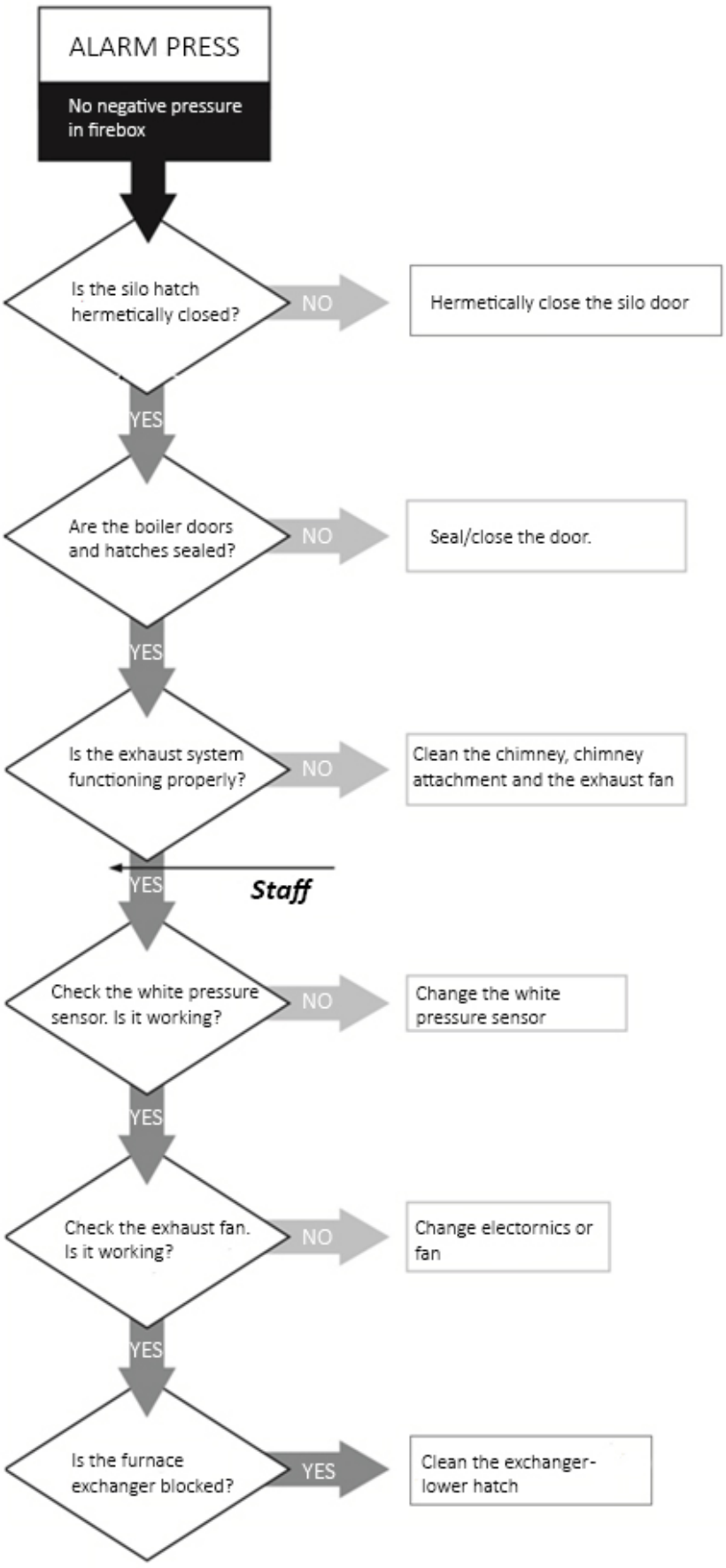


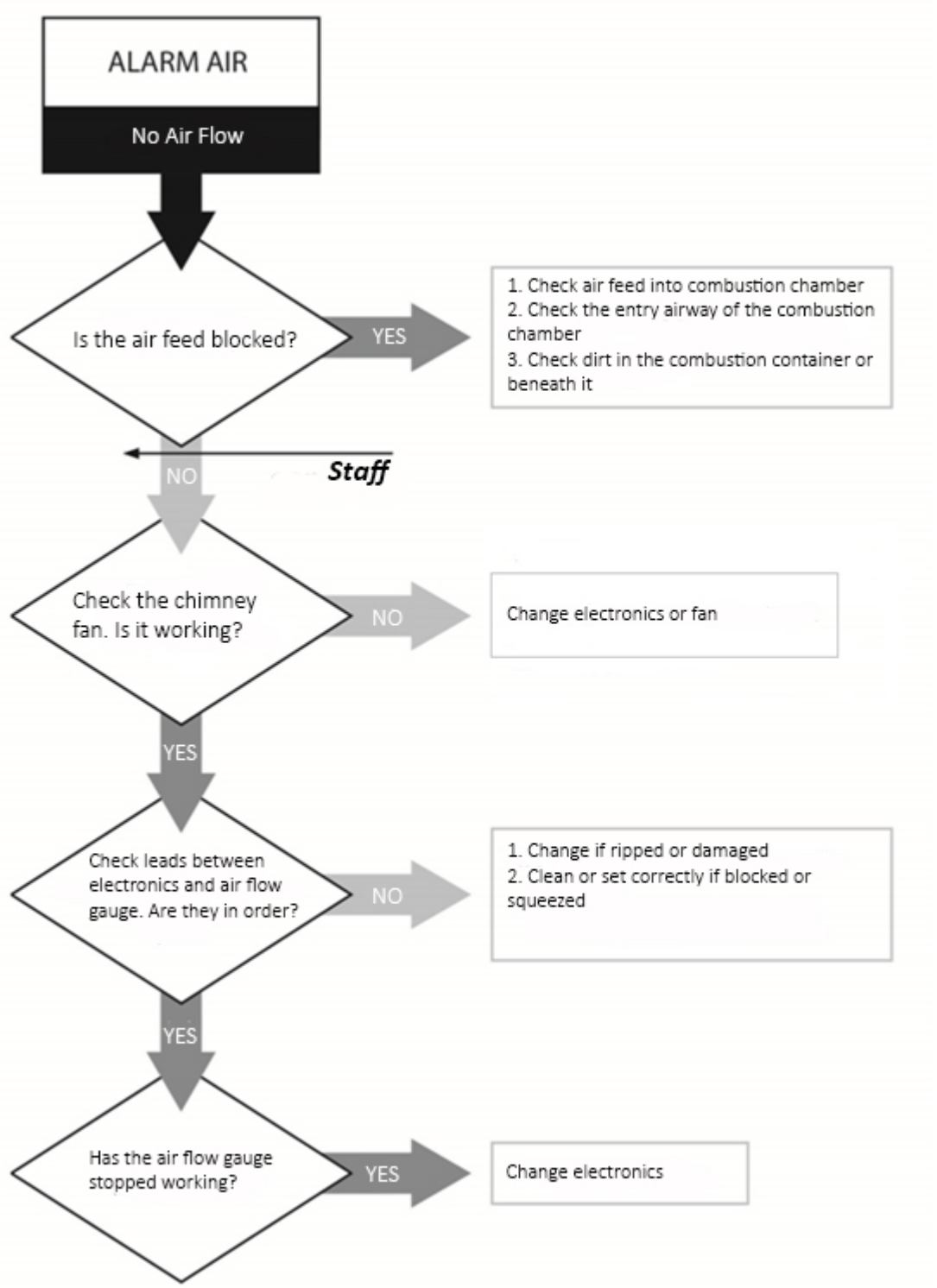
Parameters Menu Selection

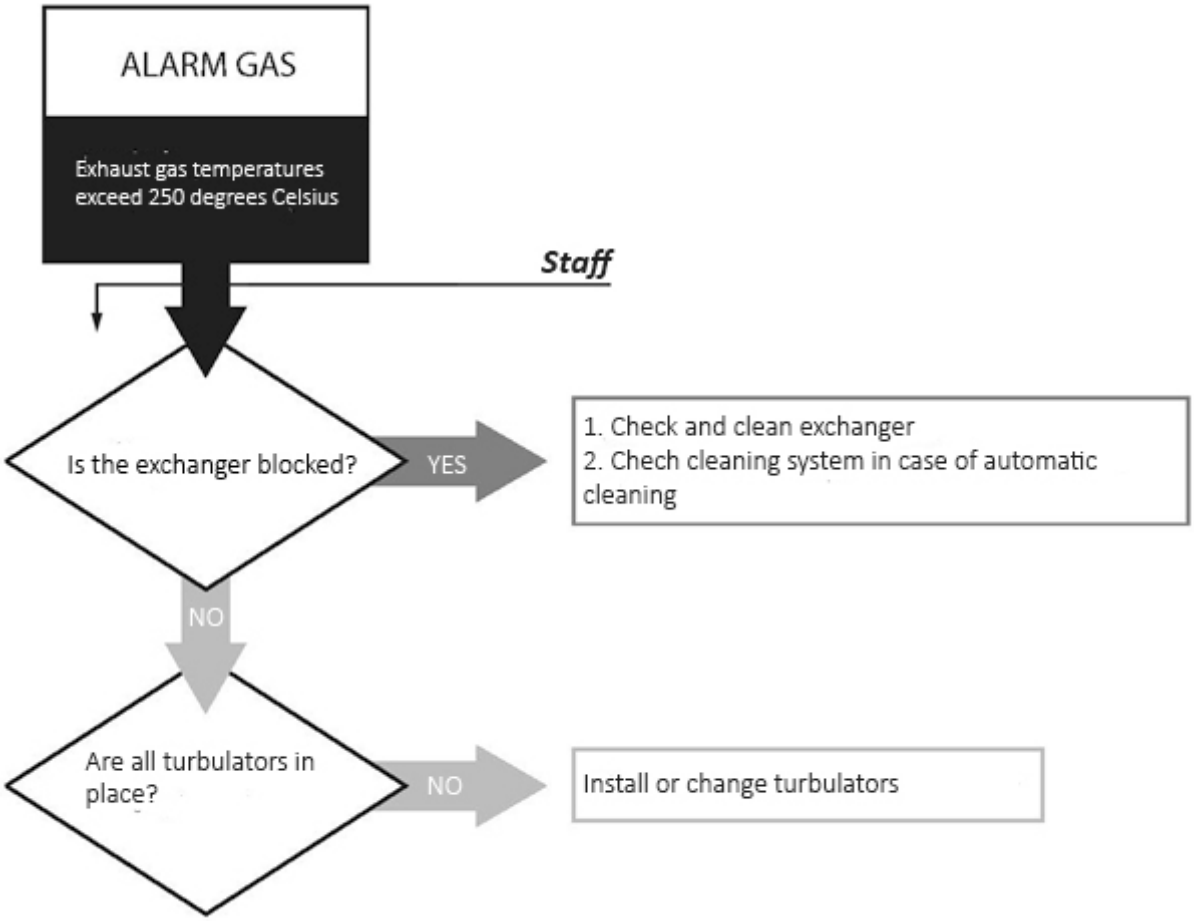
9.0 ALARM STATUSES

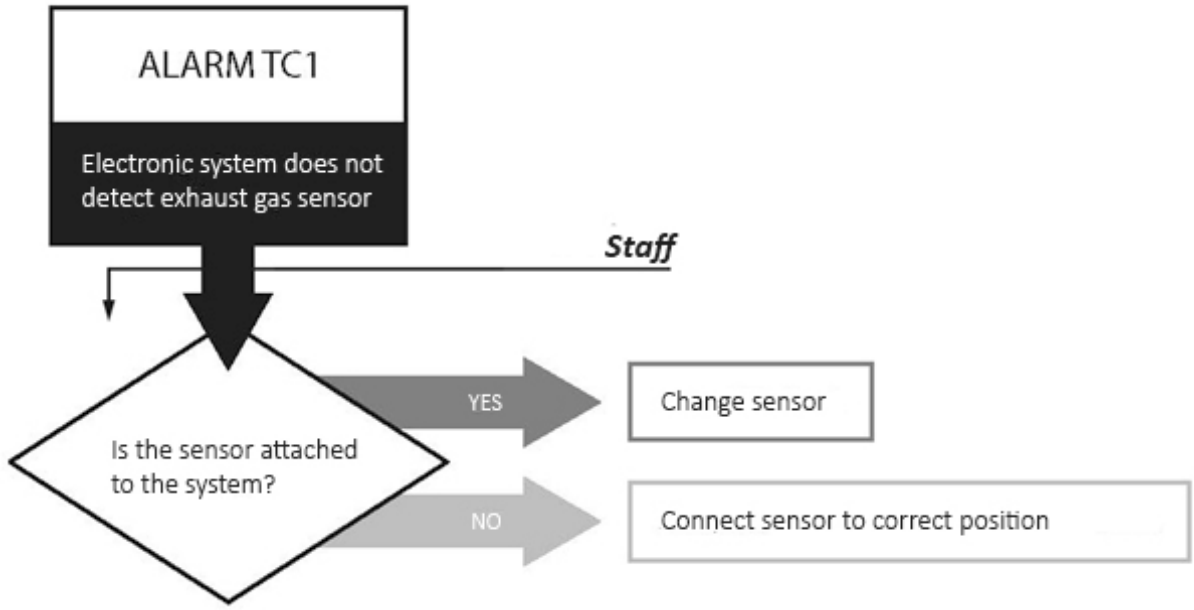


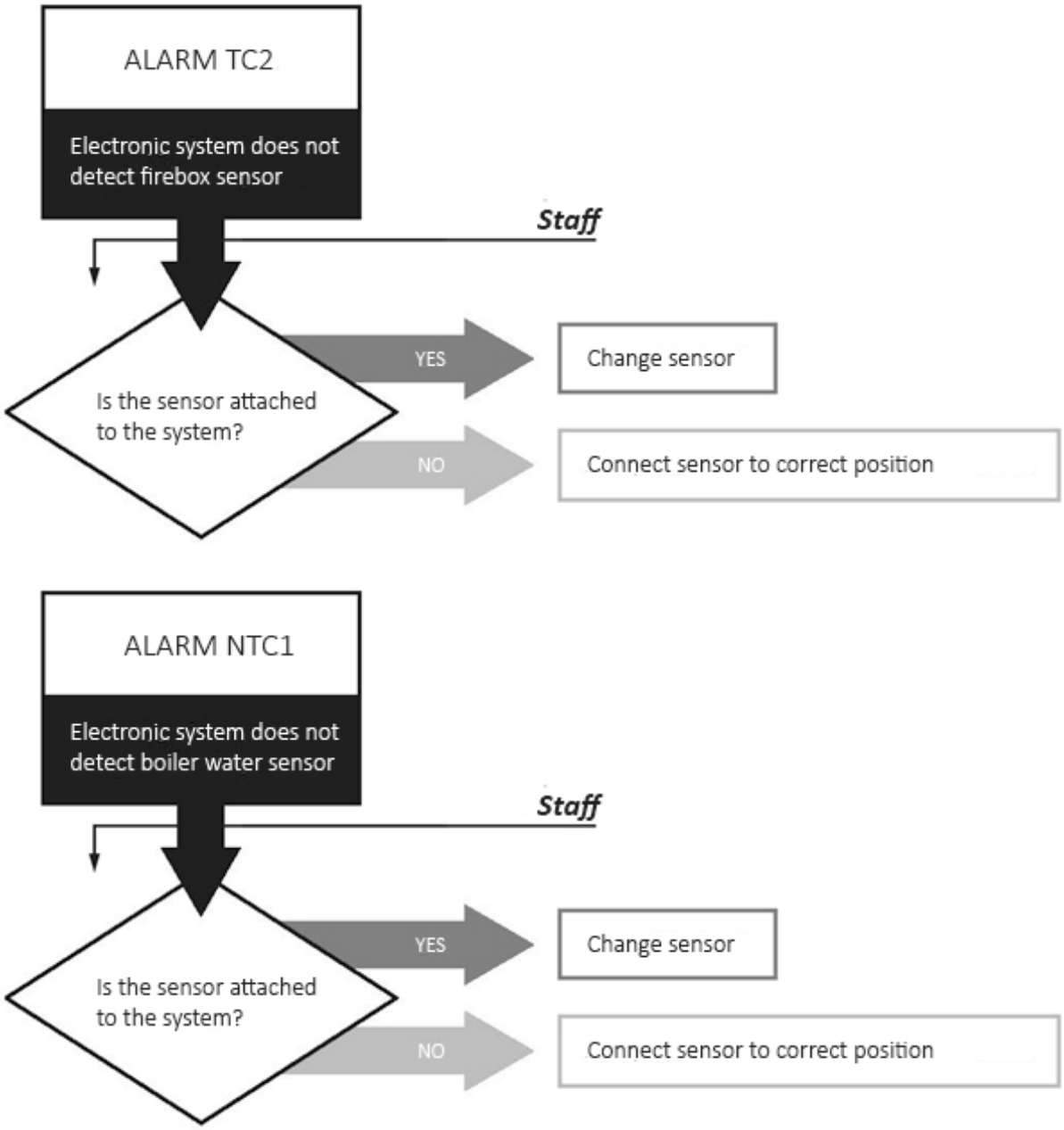

ALARM PELL
Insufficient Fuel
Are there pellets in the tank?
NO
Refill the pellet tank
Use pellets of up to 30 mm in lenght!
Staff
YES
Is the mechanical sensor for negative pressure in the silo operational?
NO
1. Check sensor with artificial negative pressure
2. Check the seal on the door and hatch
3. Check air feed in the chamber
4. Check chimney suction
5. Blocked or dirty firebox
YES
Is the feeding reducer operational?
NO
1. Check for possible blocked feeder
2. Check safety relay
3. Chech pressure sensor

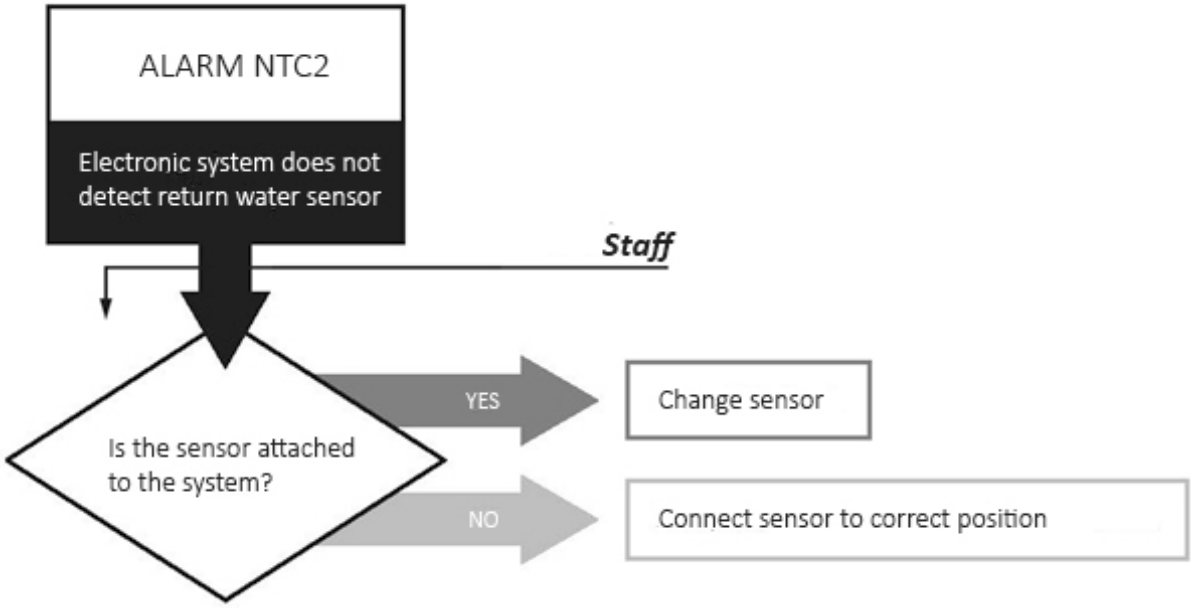

ALARM PRESS
No negative pressure in firebox
Is the silo hatch hermetically closed?
NO
Hermetically close the silo door
YES
Are the boiler doors and hatches sealed?
NO
Seal/close the door.
YES
Is the exhaust system functioning properly?
NO
Clean the chimney, chimney attachment and the exhaust fan
YES
Staff
Check the white pressure sensor. Is it working?
NO
Change the white pressure sensor
YES
Check the exhaust fan. Is it working?
NO
Change electornics or fan
YES
Is the furnace exchanger blocked?
YES
Clean the exchanger-lower hatch


ALARM AIR
No Air Flow
Is the air feed blocked?
YES
1. Check air feed into combustion chamber
2. Check the entry airway of the combustion chamber
3. Check dirt in the combustion container or beneath it
NO
Staff
Check the chimney fan. Is it working?
NO
Change electronics or fan
YES
Check leads between electronics and air flow gauge. Are they in order?
NO
1. Change if ripped or damaged
2. Clean or set correctly if blocked or squeezed
YES
Has the air flow gauge stopped working?
YES
Change electronics


ALARM GAS
Exhaust gas temperatures exceed 250 degrees Celsius
Staff
Is the exchanger blocked?
YES
1. Check and clean exchanger
2. Chech cleaning system in case of automatic cleaning
NO
Are all turbulators in place?
NO
Install or change turbulators


ALARM TC1
Electronic system does not detect exhaust gas sensor
Staff
Is the sensor attached to the system?
YES
Change sensor
NO
Connect sensor to correct position


ALARM TC2
Electronic system does not detect firebox sensor
Staff
Is the sensor attached to the system?
YES
Change sensor
NO
Connect sensor to correct position
ALARM NTC1
Electronic system does not detect boiler water sensor
Staff
Is the sensor attached to the system?
YES
Change sensor
NO
Connect sensor to correct position


ALARM NTC2
Electronic system does not detect return water sensor
Staff
Is the sensor attached to the system?
YES
NO
Change sensor
Connect sensor to correct position

10.0 FURNACE DISPOSAL AND DISASSEMBLY INFORMATION

Furnace disposal and disassembly are the furnace user's responsibility.
The user must comply with legal provisions regarding environmental safeguarding and safety.
It is possible to check the disposal and disassembly with a third person party, if the third person party is a company authorised to collect and dispose such materials.

NOTICE:
RESPECT THE LEGAL PROVISIONS OF YOUR CONTRY (OR FURNACE INSTALLATION LOCATION) REGARDING THE DISPOSAL OF SUCH MATERIALS (ITEMS) AT ALL TIMES. IF REQUIRED, REPORT SUCH DISPOSAL.

WARNING
Furnace disassembly may be performed only when the combustion chamber is inactive and the furnace is unplugged form its power source (no power).

- Remove all electrical components.
- Dispose of the electronic card and remote batteries according to applicable standards.
- Detach batteries from electronic cards.
- Disassemble the furnace structure with help from your authorised company.

WARNING
Disposing of the furnace in a public location may be dangerous to people or animals. The user is always held accountable for any damages caused by incorrect disposal.
All documentation regarding the furnace must be destroyed when disassembling the EC-marked furnace.

11.0 GUARANTEED SERVICE PERIOD

This is the period of guaranteed service, equipment and spare parts, starting from the day of purchase.
The guaranteed service period complies with legal provisions.
The deadline for substituting modified spare parts of a modified furnace model or design is regulated by law.
We guarantee the newly designed parts for this period.

12.0 WARRANTY

The product is subject to a warranty period in accordance with legal provisions.
The warranty is not valid for glass, glass-ceramic and physical damages after purchase.
THE MANUFACTURER RESERVES THE RIGHT TO MAKE CHANGES.
The device will function properly during this period, if it is in accordance with its usage instructions.
The warranty is void if:

- An unauthorised third person performed the product installation or repairs and if unoriginal spare parts were used;
- The user did not use the device in accordance with these instructions;
- There is mechanical damaged on the machine due to usage;
- The faults were repaired by an unauthorised individual;
- The device was used for commercial purposes;
- The device was damaged during transport (after purchase);
- The fault was caused by incorrect installation, maintenance or mechanical damage (caused by the buyer);
- The fault was caused by low voltage or force majeure.

Faults can be repaired regardless of the warranty period with spare parts that also have a warranty period.
The warranty does not as such exclude or affect the consumer's rights regarding the authenticity of the goods that comply with legal provisions. If the product does not match the product from the contract, the user has the right to demand from the manufacturer to repair the device or substitute the device according to applicable legislation.

DECLARATION OF PERFORMANCE
According to Regulation (EU) 305/2011
No. 00003-CPR-2013/07/01 001

1. Unique identification code o the product-type:

   HANUMA 11, residential space heating appliance without hot water supply
   EN 14785:2006

2. Type, batch or serial number or any other element allowing identification of the construction product:

   PELLET AIR STOVE HANUMA 11,
   SERIAL NUMBER: 201611001

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

   Residential space heating appliance fired by wood pelets, without hot water supply supply for heating of house room.

4. Name, registered trade name or registered trade mark and contact address of the manufacturer:

   BIODOM 27 D. O. O.
   OIC HRPELJE 4 A
   6240 KOZINA
   SLOVENIA
   Tel.: +386 (0)5 6801 456
   Fax.: +386 (0)5 6626 757
   e-mail: info@biodom27.si

5. Where applicable, name and contact address of the authorised representative

   ANTON KAVČIČ, Director
   OIC HRPELJE 4 a
   6240 KOZINA
   SLOVENIJA

6. System or systems of assessment and verification of constancy of performance of the construction product

   System 3

7. Products are covered by a harmonized standard: **EN 14785:2006**

Notified body: Kontrol 94 Ltd., Gorna Oryahovitsa, 2 Mladost, Bulgaria has issued a test report number NB 1879 – K – 21 – 2016 / 04.07.2016 for initial type testing and conformity of performance.

8. Declared performance:

Harmonized technical specification	**EN 14785:2006**
Essential characteristics	**Performance**
Fire safety	
Reaction to fire	A1
Distance to combustible materials	Minimum distances, in mm Rear = 300 Sides = 400 Front = 1000 Floor = 30
Risk of burning fuel failing out	Pass
Emission of combustion products	CO {0,090 %} at nominal heat output CO {0,086 %} at reduced heat output
Surface temperature	Pass
Electrical safety	Pass
Cleanability	Pass
Maximum operating pressure	NA
Flue gas temperature at nominal heat output	T {138°C}
Mechanical resistance (to carry a chimney/flue)	NPD
Thermal output	
Nominal heat output Reduced heat output	9,52 kW 3,37 kW
Energy efficiency	η {91,21%} at nominal heat output η {96,39%} at reduced heat output

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by: Anton Kavaić manager (Director) of "Biodom 27" D.O.O
(name and position)

Kozina, Slovenia / 28.10.2016
(place and date)

.....
(signature)

BIODOM
BIODOM 27 d.o.o.

CE

IZJAVA PROIZVAJALCA O SKLADNOSTI
DECLARATION OF CONFORMITY

Naziv proizvajalca/Producer:
Biodom 27 d.o.o.
OIC Hrpelje 4a, 6240 Kozina, Slovenia

Izjavlja, da v nadaljevanju opisani stroj/Declares that that the below mentioned machine

Zračni kamin na trdo gorivo/Solid fuel air stove

Tip/Type: **HANUMA 11**
Kaminska zračna peč na pelete/ Pellet air stove

Serijska številka/serial number: | | | | | | | | | |

Leto proizvodnje/year of production | | | | |

Ustreza osnovnim zdravstvenim in varnostnim zahtevam direktiv/ Conforms to the following CE directives:

- Direktiva/Directive 2006/42/CE o strojih/on machinery
- Direktiva/Directive 2006/95/CE o nizkonapetostni opremi/on low voltage equipment
- Direktiva/Directive 2004/108/CE o elektromagnetni združljivosti/on electromagnetic compatibility (EMC)

Harmonizirani standardi/Harmonised standards:

- EN 303-5:2012
- EN 60335-1:2012 + A11:2014
- EN 61000-6-3:2007 + A1:2011
- EN ISO 12100 :2010
- EN 60335-2-102 :2006 + A1 :2010
- EN 60204-1 :2006 + A1 :2009
- EN 60529 :1992 + A2 :2013

Tehnični standardi/Technical standards

- EN 304 :1992 + A1 :1998 + A2 :2003
- EN 10028-2 :2009
- EN 10204 :2004
- EN ISO 9606-1 :2013
- EN ISO 15614-1 :2004 + A2 :2012
- EN ISO 15614-8 :2002
- EN 10025-2 :2004
- EN ISO 14341 :2011
- EN ISO 14175 :2008
- EN 10111 :2008

Tehnična dokumentacija se hrani na naslovu OIC Hrpelje 4a, 6240 Kozina. Oseba zadolžena za sestavljanje tehnične dokumentacije je Anton Kavčič./*The technical documentation is stored at the OIC Hrpelje 4a, 6240 Kozina. The person responsible for compiling the technical dokumentation is Anton Kavčič.*

Kozina, 09.11.2016

Biodom 27 d.o.o.

Anton Kavčič
director

BIODOM 27 d.o.o.

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