

San Vendemiano, 25.10.2022

The fuels that can be used in CS THERMOS biomass stoves and boilers

The essential characteristics that all the fuels used in our stoves must have, are the following:

MINIMUM SIZE > 4mm
MAXIMUM HUMIDITY < 12%

It is important to completely empty the tank before changing the fuel type and menu.

CS THERMOS products can use the following **certified fuels**:

- **CERTIFIED WOOD PELLET** belonging to class A1-A2-B according to ISO EN 17225-2.
Fuel menu to use: pellet of class A1-A2 – menu 1 (motherboard Astrel and Siemens)
pellet of class B – menu 1 (motherboard Astrel); menu 2 (motherboard Siemens)
- **CALIBRATED WOOD CHIPS CERTIFIED P16A-M10** according to ISO EN 17225-4.
P16A = maximum wood chips size <16 mm
M10 = wood chips humidity <10%
This fuel can only be used in the ECO CIPPATINA 10 and 12 kW models.

Fuel menu to use: motherboard Astrel – menu 2 or 3
motherboard Siemens – menu 3, 4 or 5

The fuel menu may vary depending on the size and specific weight of the wood chips.
Lower quality fuel requires a higher menu number, in which the load and combustion air parameters are calibrated differently.

CS THERMOS products can use the following **self-produced and/or non-certified fuels**:

- **CHOPPED ALMOND-WALNUT-HAZELNUT SHELLS** with a minimum diameter of 4 mm and a humidity content of less than 12%.
Fuel menu to use: motherboard Astrel – menu 2
motherboard Siemens – menu 4
- **OLIVE KERNEL** cleaned and free of dust, with a minimum diameter of 4 mm and a humidity content of less than 12%.
Fuel menu to use: motherboard Astrel – menu 2
motherboard Siemens – menu 4
- **AGRICULTURAL PELLET** produced with agricultural waste, with a humidity content of less than 12%.
Fuel menu to use: motherboard Astrel – menu 3
motherboard Siemens – menu 5

There are many types of agricultural pellets on the market, which makes it mandatory to have the combustion parameters calibrated by an authorized technician.



Calibration by authorized technician

The menu indicated for each type of fuel is a recommended starting menu that, at his discretion, the authorized technician can decide to confirm or modify depending on the biomass used, since this, by its nature, is never uniform.

Mixed agricultural pellet

It is advisable to mix the agricultural pellet with certified wood pellet because they have a similar shape and size and, with the mixture, the negative effects of the agricultural pellet are reduced, that is, the greatest amount of ash and dirt it produces. The mixture must have a percentage of wood pellets that can vary from 50% to 90%.

Olive kernel at 100%

On the other hand, it is counterproductive to mix olive kernels smaller than 4 mm with the pellets, with the intent of improving combustion. The olive kernel, in fact, still tends to cross the wood pellets and to position itself on the bottom of the brazier then to descend, totally or partially unburned, into the ash drawer.

Additional accessories for small biomass

If olive kernels or other fuels smaller than 4 mm are used, CS THERMOS provides accessories (counter-wheels, burner front plates) that can help burn these very small biomasses.

However, given the variety of types of self-produced fuels on the market, CS THERMOS cannot guarantee the proper functioning of these additional accessories, which may not be decisive or sufficient to optimize the combustion of these particular biomasses.

Maintenance and cleaning

With the use of wood pellets or calibrated wood chips, cleaning and maintenance of the burner must be carried out at least once a week, as indicated in the instruction manual of the stove.

With the use of non-certified biomass, ordinary cleaning must be much more frequent, often daily, depending on the amount of combustion residues that the fuel will form in the burner.

With regard to the frequency of cleaning of the other parts of the stove/boiler and in particular of the flue, the instructions given in the manual included with each product must be followed.

It is also essential to entrust the inspection and cleaning of the flue and the chimney to a specialized technician, at least once a year.

Warranty

For the proper functioning of CS THERMOS products, it is essential that the flue complies with all the installation regulations in force and with the provisions of the instruction manual.

In the event of damage to the parts in contact with the fire deriving directly from incorrect combustion or installation, the warranty conditions of the product will expire immediately, and no compensation can be claimed for the period of non-use of the product.

In the event of a complaint, formulated in writing, the manufacturer must be provided with complete documentation relating to the fuel used, the flue installed, any maintenance or modifications carried out both on the appliance and on the parameters relating to the flue draft and the combustion.

