

SANISHREDDER SSH 130

1) Machine description

The machine called Sanishredder SSH is composed by a metal basement supporting the shredder tank and all operating systems and a control cabinet for power and manage.
The aim of the SSH machine is to shred, sanitize, dehydrate and reduce volume and weight of various kinds of waste.

The typical SSH shredding cycle is:

1. Tank loading
2. Preheating (optional)
3. Shredding and heating
4. Sanitizing (optional)
5. Drying
6. Discharging

Initial condition must be:

- Lid Closed
- Valve closed
- Temperature or steam pressure ok
- Presence of compressed air
- Presence of liquid water service

Description of the main functional cycles:

The machine can chop different waste materials according to specific recipes; each type of waste will match a certain recipe:

- ✓ Cardboard
- ✓ Glass
- ✓ Plastic
- ✓ Aluminum cans
- ✓ Organic waste
- ✓ Mixed waste

All functional cycles can differ from each other in all their steps and their variables.

Cycle

Introduction of waste material in the chamber:

- Closing the lid
- Start the PLC Recipe corresponding to that particular category of waste (eg. Glass recipe, cardboard recipe, etc ...)
- Depending on the selected recipe, the machine is set for a predetermined time
- The blades start spinning faster and faster following a ramp-up
- The rotation of the blades, together with electrical resistors placed on the chamber and the inoculation of microwaves (which allow to speed up the process), bring the chamber to a given temperature depending on the recipe.
- During the increasing of the temperature is inoculated steam for a predetermined time, to make the environment moist.
- The steam is supplied by a special small copper boiler reaching the working temperature,
- the same is maintained for a predetermined time in order to sanitize the material crushed.
- After the predetermined time, is reduced the speed of rotation of the blades according to a

- ramp down and the electric heaters and microwave emitters are switched off
- At the same time, a vacuum pump start that contributes to the lowering of the temperature in the room, removing moisture and heat to the product.
- The chopped waste with high temperature is brought to depression of - 60 KPa, where for the change of physical state, sells the latent heat to the environment and its relative humidity corresponding to the new physical condition
- The cooled waste is expelled through the hole on the bottom of the chamber and with the help of a screw is pulled out of the machine.
- The air sucked by the vacuum pump comes into contact with the water of the ring liquid and condenses, increasing the liquid level inside the service tank and its temperature.
- The function of the water service tank is to maintain a constant hydraulic head on the pump, so as to ensure the training of its liquid ring necessary for the operation; also ensures the mixing, the collection and discharge of the moist saturated gas sucked from the vacuum pump and the liquid of service.

2) Performance

This machine is a universal machine that can be used with several type of waste.

Main cycles with performance are described here below. For any other type of waste, can be set a personalized cycle.

All these performances has been tested and proved with garbage coming from and onboard a "Green Star Plus" certified ship.

FOOD WASTES

3 cycles \ hr (complete of operational time)

30 lt x cycle

20' medium time x cycle (***)

70% Weight reduction

80% volume reduction

UNSORTED WASTES

3 cycles \ hr (complete of operational time)

140 lt x cycle

20' medium time x cycle (***)

35% Weight reduction

80% volume reduction

CARDBOARD

4 cycles \ hr (complete of operational time)

140 lt x cycle

15' medium time x cycle (***)

10% Weight reduction

80% volume reduction

GLASS

15 cycles \ hr (complete of operational time)

140 lt x cycle

2' medium time x cycle (***)

3% Weight reduction

90% volume reduction

PLASTIC

4 cycles \ hr (complete of operational time)

140 lt x cycle

15' medium time x cycle (***)

5% Weight reduction
80% volume reduction

METAL CANS

4 cycles \ hr (complete of operational time)
140 lt x cycle
15' medium time x cycle (***)
10% Weight reduction
95% volume reduction

Note: (***) Total cycle time. Above mentioned times can be varied according on typologies and percentage of waste introduced and on humidity conditions.

3) Data Sheet

Brand and type: SANISHREDDER SSH 130
Hourly throughput: 80 kg/h (with 40% of humidity content) 40 kg/h (with 70% of humidity content)
Dry mass: 1570 kg (each Sanishredder + control panel)
Overall dimensions: (l x w x h) 1800x1000x1810(h)
Fluid interfaces Compressed air inlet ½"
Fresh water inlet 1/2
Condensate discharge: 1"
Accessories: Vacuum sealing machine or Pellet machine
Power supply 690V 3pH 60Hz
Electric Rated power: 28kW each Sanishredder