BIOMASS ACCELERATOR

THE CUTTER MIX ACCELERATES THE ANAEROBIC DIGESTION PROCESS OF BIOMASS AND INCREASING BIOGAS PRODUCTION

The Cutter Mix for Bio Masses was designed and realized by AVKEM for the fine shredding of organic compounds presents in anaerobic digesters for the production of biogas, whose target is the reduction of the size of the Biomass from 3 - 4 cm to 1 - 2 mm , allowing:

- Reduction of both the degradation times of the organic mass and the time spent in the digester
- Increase in BioGas production
- Cost reduction, even compared to other more cumbersome and energy-intensive systems on the market
- Reduction of environmental impact

TECHNICAL SPECIFICATION - STANDARD CUTTER MIX

The cutter mix is sized to have a flow rate of 17 – 19 m3/h, of which a maximum of 70% is made up of the wet fraction and 30% of the dry fraction, and has the following characteristics:

- 12” body
- 8" inlet
- 6" outlet
- 30 kW electric motor – 14 kW in operation
- the rotor and stator are subjected to a hardening process by nitriding
- the cutting sections are made up of double-edged Vidia blades, fixed to the rotor with Vidia Allen keys
- system for preliminary cutting of coarse parts located in the product inlet section
- Internal washing system

For greater flow rates, the units can be increased or systems with larger dimensions can be created.

IN-LINE WASHING

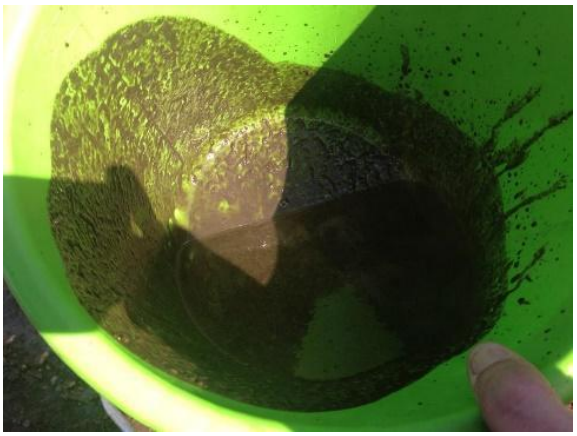
Washing consists of activating a jet of water to remove any accumulation of the dry fraction in the stator.

Reverse cycle

If a continuous peak in amperage occurs for 30" or 1', the reverse and wash cycle automatically begins and lasts 2/3 minutes.

End of work cycle

At the end of the job, when the fuel pump is turned off, a 3-minute wash is carried out.



If the size of the incoming organic fraction is greater than 3-4 cm, it is necessary to equip the system with a coarse shredder that can reduce it to the desired size.

OPERATIONS

The system can operate:

- On line, placed on the feed line of the primary digester
- on the digester, with sampling at 3/4 of the head and introduction from below; in this case, in order to avoid the formation of foam, the operation must be timed.

In the second hypothesis, the system must be powered by a single-screw pump with a greater or similar flow rate than the Cutter Mix.

ACHIEVABLE RESULTS

From the results obtained in the various applications, on average the following can be obtained:

- an increase in Bio-Gas production of between 15% and 20%
- Better performance with a 35% – 40% lower cost and 60% energy saving compared to other systems available on the market.