

BA 725 EL - plug instead of pump nozzle



AVA commissions second electric biomass processor and relies on JENZ Individual Machine



Permanently installed control cabinets on the machine give the BA 725 EL at AVA Augsburg more mobility

Augsburg (ghm). When the Augsburg citizen disposes of his organic waste in the organic waste bin he will more than likely be using it to heat his home in the near future.

Integrated in the process chain is the BA 725 EL, an entirely custom-built machine in the "JENZ Individual" product category. The following pages will tell you what makes the biomass processor so special and what role it plays in the process chain.

Since the beginning of 2014, AVA Abfallverwertung Augsburg has been operating a new organic waste fermentation plant with the aim of producing environmentally friendly energy, liquid fertiliser

and quality compost from organic waste. "The energetic potential of organic waste is enormous and it should not be wasted", emphasised Thomas Kiesslich, Technical Officer Machine Technology. After all, the biogas produced in-house and refined to natural gas quality is sufficient to supply over 3,900 households in and around Augsburg with energy. The material used to operate the plant comes from the organic waste bins in the Bavarian city of Augsburg and the surrounding districts. Basic preparation of the material begins as soon as it is delivered. An electrically operated JENZ BA 725 EL biomass processor equipped with fixed easycut flails is in use. "We decided to install fixed tools in

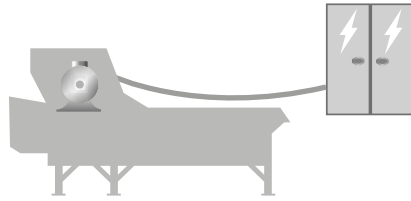
order to avoid excess lengths. Unfortunately there are frequent cases of impurities such as plastic in the delivered material. The use of easycut flails is essential to ensure that the impurities are not fragmented too finely for the downstream process and possibly still get mixed into the end product," explained Mr Kiesslich. The downstream star screen sorts out impurities to guarantee almost complete separation of the material. This is decisive for producing the end products, especially high-quality compost. "After all, it is even approved for organic farming and has received several awards," reported Mr Kiesslich proudly.



Technology in detail with Thomas Haßfeld

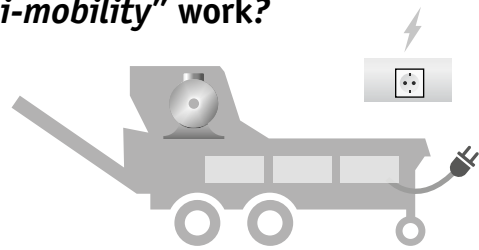
Construction Engineer
Electrical Department

How does the principle of „semi-mobility“ work?



Series machine: BA 725 E

- Robust steel substructure
- external stand-alone control cabinet away from the machine (height x width: 2.2 m x 1.8 m)



JENZ Individual: BA 725 EL

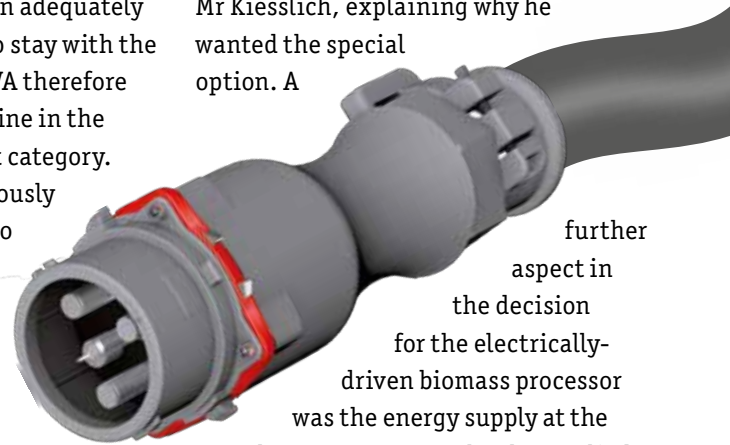
- two-axle chassis
- 5 permanently installed control cabinets on the machine
- This requires extension of the belt tray
- Power supply: two large supply cables, permanently connected to the machine

JENZ Individual: Electric and mobile

More than ever the mechanical engineering industry is currently focusing on the use of electric motors. AVA Abfallwertung Augsburg recognized the potential of mobile electric machines several years ago and ordered the AZ 55 E, one of the first shredders available as an electric version, in 2003. In 2013 upgrading the composting plant required complex conversion of the shredder. An increased overloading height and a hydraulically lowerable outfeed belt in addition to a second axle were necessary to meet the new requirements on the new fermentation plant. In 2019, 16 years after initial commissioning, the shredder was no longer able to fully meet the stringent requirements on the production of high-quality biological compost, which meant that the machi-

ne had to be replaced. AVA once again opted for an electric version of the new machine and selected the BA 725 EL. Usually this machine is factory-built on a steel framework. However, since the previous AZ 55 E with two-axle chassis had proven itself more than adequately in the past, AVA decided to stay with the mobile electric version. AVA therefore decided on a special machine in the "JENZ Individual" product category. "The BA 725 was not previously available in this version, so this is a solution specially designed for waste management", explained Helmut Kramer from JENZ Vertrieb Süd, who has been advising AVA since the first machine. "The old AZ 55E as well as our new machine are used in an incoming materials

plant. A semi-stationary machine gives us the flexibility to move the machine away from its workplace quickly and easily. All cleaning, maintenance and repairs can be carried out more easily than with a stationary machine," said Mr Kiesslich, explaining why he wanted the special option. A



... further aspect in the decision for the electrically-driven biomass processor was the energy supply at the plant. "We are completely supplied with energy from the neighbouring waste heat and power plant, so it makes sense to connect our shredder to this sustainable energy cycle as well."



Electric shredding with the AZ 55 E - it started with a single-axle shredder in 2003. Changing requirements forced JENZ Service to convert to a two-axle shredder.



Incidentally, the BA 725 EL achieves its mobility with more than just a two-axle chassis. Unlike the standard version, the control cabinet of this shredder is permanently installed on the machine. "The machine can therefore simply

be moved to its place of work and only needs to be connected. Just like the saying: plug in and go", said Mr Kramer, who is looking forward to further excellent cooperation with the AVA.

Delivery hall:

90,000 tons of organic waste and green waste annually
 Coarse preparation by JENZ BA 725 EL
 Removal of impurities through star screen deck

Buffer storage:

coarsely processed and separated material

Mixer:

Material is liquefied and preheated

Fermenter:

Fermentation thanks to optimal temperature conditions
 Reduction of unwanted biological substances such as weed seeds
 Production of raw biogas (main components methane and CO₂)

Gas canopy:

Collection of raw biogas

Biogas treatment plant:

Separation of raw biogas into organic natural gas and CO₂
 • Organic natural gas is fed into the public supply network
 • CO₂ is liquefied and further marketed as a technical gas or used for waste water neutralization

Fermentation residue separation:

Solid components are converted into high quality compost
 Liquid fermentation residue is converted into odourless organic fertiliser

HELPING CLIMATE PROTECTION:

- approx. 4,000 households are supplied with renewable energy
- minimization of CO₂ emissions by 5,000 tons annually

