

LOHSE presents rejectors for retrofitting of waste processing plants

The solution for reduction of impurities

Discussions about plastic waste and microplastics are becoming more intense, the regulations for organic waste processing more stringent, and the waste to be processed more heterogeneous. Operators and manufacturers of disposal or waste processing plants face a decision: Get rid of the old systems and replace them with new ones? Rejectors from LOHSE offer a technologically sustainable alternative.

As the number of organic waste processing plants being installed worldwide increases, the technological level rises year after year. At the same time, the specifications and regulations for waste processing, which differ from country to country, are becoming more stringent, for example with regard to the proportion of impurities. In Denmark and Sweden, for example, the maximum permissible quantity of plastic in the filtered slurry is approximately 0.1 percent by weight.

Many existing plants can no longer achieve this, although the technology functions flawlessly. The answer is retrofitting. "The demand for such solutions is increasing worldwide," explains Ulrich Sekinger, Managing Director of the mechanical engineering specialist LOHSE based in Heidenheim, in eastern Baden-Württemberg – but he also has a solution to this challenge: "Our rejectors make it possible for older plants to comply with the new regulations – and to better process the increasingly heterogeneous biological waste."

The rejectors manufactured by the Swabian company not only help the plant operators, as Sekinger emphasizes. "Manufacturers can also retrofit their waste processing plants." In recent years LOHSE has focused on developing systems for the dissolution of organic waste as a preliminary stage to biogas production. In use worldwide, the machines feature advanced technology and exceed the required specifications.



The Lohse-Rejector.

With the time-proven rejector, LOHSE has developed a solution that reduces the proportion of plastics and other impurities – in relation to the dry matter – to as little as 0.1 percent. The rejector was developed on the basis of expertise in the paper sector, where LOHSE got its start, and is considered a pioneering achievement in the industry. Existing plants can easily be retrofitted with these components.

"LOHSE rejectors filter out the raw suspension from the waste pulper by means of re-solventing", says Managing Director Dietmar Warnke, explaining how they work. In the rejector, impuri-

ties such as plastic films, wood, textiles, bones, metal, stones or glass are separated. This produces a suspension based on the required particle size and quality. The first rejector was delivered in 2016 to a plant in Southern Germany, where it is being used successfully; additional units were sold to Denmark in 2019.

The rejectors are essentially filtering machines, which clean and break up the fibre content in the raw suspension from waste pulping units, paper pulpers or receiving hoppers. The suspension is passed through a pulper rotor and a screen plate with a perforation of 4.2 to 8 millimetres, depending on the appli-

cation. This makes it possible to process up to 30 cubic meters of suspension per hour. In an existing plant, the rejector is connected downstream of the pump that pumps the suspension from the buffer tank. Impurities with a size of 8 to 120 millimetres are filtered out in the rejector to enable further processing of the suspension, which then has a dry substance content of 8 to 20 percent.

The result is impressive: The average proportion of plastic in the processed suspension is around 0.095 percent by weight. The rejectors are available in three different sizes. "This enables us to meet the different requirement profiles of our customers", says Warnke. Rejectors from LOHSE are designed not only with innovation and environmental protection in mind, but also a high degree of cost effectiveness: LOHSE solutions are characterized by low follow-up and wear costs.

The concept has gained acceptance: "So far we have received very good feedback from the market for the rejectors", explains Sekinger. LOHSE therefore intends to market the solution more assertively than in the past – for example at the relevant trade fairs for environmental technologies.

Incidentally, the Heidenheim-based company is equipped to help prospective customers who are still undecided: A test unit is available at the company headquarters to demonstrate the efficiency of the system. The test unit can be rented to test the raw suspension on site at the customer's locations in order to determine the throughput with the required degree of separation of impurities. Screen plates with different perforations are also available for this purpose.

The rentable test facility.



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