Sorting technologies from SESOTEC bring recycling solutions to Hungary

With its head office in Orosháza and other yards located in Budapest and Mezőörs, RE-Glass Kft processed 7-8 thousand tons of flat glass per year up until 2016, whereas bottle glass - owing to the lack of modern technology - had only 1-3 tons processed per year.

With only flint glass being typically produced in Hungary, there was only a market for flint flat and packaging glass domestically. The collected and treated mixed packaging glass was exported as mix-glass.

In 2016, Mátyás Máthé became the new owner of RE-Glass, assisted by company Managing director Ferenc Aszódi.

As Mátyás Máthé and Ferenc Aszódi explain: "These two pieces of information have induced us to embark on a major development by which we could process the heavily contaminated glass waste from the current collection system. It also affords us the chance to process larger amounts of cleaner glass waste generated by the deposit fee collection system."

SORTING SYSTEMS FOR RECOVERING HIGH-QUALITY, PURE GLASS

In 2018, Mátyás Máthé and Ferenc Aszódi visited IFAT in Munich where they met several suppliers of sorting technologies before deciding upon KRS GmbH - a subsidiary of Sesotec GmbH. In cooperation with KRS, RE-Glass has now built the most modern plant in Hungary for sorting and processing bottle glass, i.e. capable of processing eight to ten tons per hour.

Here foreign materials have posed the biggest challenge to the new plant. Indeed contaminants such as ceramics, stones, porcelain (CSP), metals, paper, and plastics comprise as much as 15 to 20 percent of the total weight of all collected glass waste. To overcome this challenge, KRS supplied a sorting system that meets the following requirements.

Four SPEKTRUM separation systems are connected within the line. These separate foreign materials such as magnetic and non-magnetic metals, CSP, non-transparent plastics, and special glass materials, then sort the mixed glass waste by colour. The results are contaminant-free and colour-pure streams of glass material.

The plant was commissioned in October 2019. Less than a year later, in 2020, an additional 600-square-metre hall was added to house new equipment. Surrounding the hall is an approximately 3,500-square-metre paved area with an 800-square-metre covered and 600-square-metre open storage area. Hungarian companies, in close cooperation with KRS, built the supporting structure of the halls, manufactured and installed the conveyor belts and the electrical wiring and also built the PLC control system for the entire production plant.

With Hungary lagging behind EU standards for collecting and recycling glass waste, SESOTEC recently teamed up with RE-Glass in response to government plans to introduce a deposit-fee system for packaging glass from 2023 - all in a drive to advance the circular economy as materials get prevented from ending up in landfills.

ABOUT SESOTEC

Sesotec's customers in the food, plastics, and recycling industries are faced with the challenge of reconciling profit with sustainability. The company's intelligent technologies and services for foreign body detection, material sorting, and analysis can make a meaningful contribution to both conserving resources and boosting production efficiency. Since 1976, Sesotec has been collaborating with customers around the world to develop and build high-tech solutions to face diverse challenges from ensuring the highest product quality to maximizing added value to minimizing the waste of resources. Using innovative solutions, high-quality production can reap benefits for humanity, the environment and industry. In addition to its German headquarters, Sesotec is represented by a total of six subsidiaries in Singapore, China, USA, India, Canada, and Thailand, and has over 60 sales partners in all major global markets.

A successful trial run took place in September 2020, during which KRS specialists set up the sorting units and installed the Sesotec VISUDESK software. With VISUDESK, it is possible to monitor the four SPEKTRUM sorters remotely, make fine adjustments, and track error messages. In this way, KRS can check settings and provide remote support if necessary.

INCREASED QUANTITY, QUALITY, AND PROFITABILITY

The technology jointly provided by KRS and Sesotec makes it possible to produce high-quality recycled glass cullet - the perfect product for reuse in the glass industry. "Colour sorting technology has helped us increase the amount of flint glass that we produce for the domestic market," says RE-Glass Owner Mátyás Máthé. "At the same time, our mixed glass exports now contain a smaller proportion of flint glass. The processing quality and quantity have also increased. With a new deposit system in place, we can continue to successfully operate in three shifts, or even begin to operate continuously using the equipment supplied to us by KRS. That said, our latest technology line selects all foreign materials (magnetizable and non-magnetizable metals, individual paper and plastic waste). Four optical sorters are built one behind the other to ensure that ceramics and wire glass are also taken out of the glass waste. Therefore, a completely contamination-free glass product is obtained. Additionally, we sort mixed glass waste collected by us or our partners by colour. Above all these, according to the demands of our customers, we are able to set the colour selection rate with an accuracy of 1-2 percent. One of our Hungarian partners produces glass foam from 0 - 6 mm glass cullet. So you can say that the glass waste we process continues its life as a 100 percent glass product. The circular economy is a reality, and RE-Glass is making a big contribution here," adds RE-Glass Managing Director Ferenc Aszódi. ■

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