CASE STUDY

Food & Beverage Applications

Supporting sustainability by converting fat from food into renewable fuel with the Cricketfilter®

amafilter®
Filtration Group®

Industry:
Disposer Industry
Application:
Renewable Fuel
Filtration Process:
Filtrating fat from leftover food
Product:
The Cricketfilter® automated system

THE CHALLENGE

Our customer collects and re-cycles leftover food from hotels and the retail trade which would normally be send to landfills or be thrown away.

A key component of the filtration process is to filter and separate the solids and the PE from the fat contained in the leftover food. The customer needed to achieve less than 50 ppm in order to produce high quality renewable fuel to power their truck transportation network.

THE SOLUTION

Amafilter® carried out pilot tests using a pressure leaf filter system but concluded that this was not an effective filtration solution for this application as it led to problems during cake discharge.

The main issue was that the PE particles caused the filter cake to stick together, leading to inefficient fat separation, an increase in overall production time and frequent cleaning interventions. The amafilter® expert team decided that the Cricketfilter® technology would be the ideal filtration solution and proceeded with a pilot test which proved to bring excellent results.

The Cricketfilter® backpulse function located at the bottom of the filter elements re-directs the air upwards to uniformly inflate the filter bags, effectively ensuring maximum filter cake discharge.

THE RESULTS

A Cricketfilter® with a back pulsing mechanism was installed at the customer's plant, resulting in a significant increase in production time as equipment and process breakdowns were no longer an occurence. The installation of the Cricketfilter® led to the customer achieving a PE of 33 ppm, an excellent result which met the customer's objective of achieving less than 50 ppm, enabling them to produce a high quality of renewable fuel.

They are now efficiently separating the fat and PE from left-over food to produce high quality renewable fuel for their own transport fleet. This has not only substantially reduced truck operational costs but also contributes towards the company's sustainability objectives. In addition, they are selling any extra renewable fuel they produce to other businesses, creating an additional source of profitable income from the improved operational process.

Having experienced the benefits the amafilter® Cricketfilter® brought to their plant, they purchased another two Cricketfilters® for another plant they operate in east Germany.

Benefits of the Cricketfilter® automated filtration system:

Higher Flux
- 40% greater filtration area
- 40% more cake holding capacity than traditional shaped element

Maximises Installation Footprint
- Up to 20% reduction in footprint

High Quality and Realibility
- The Cricketfilter® stainless steel elements lifespan can extend up to 30 years before being replaced

Excels in Polishing Applications
- Ideal for solid content applications in comparison to existing pressure leaf filter systems

Reduced Operating Costs
- The Cricketfilter® filter cloths can have up to 2 years spare parts replacement cycles

Easy to Clean, Low Maintenance Interventions
- The Cricketfilter® uses air or gas pulses to efficiently clean the elements section by section

Optimal Drainability
- The Cricketfilter® elements are engineeringly designed to provide minimum fluid retention during regeneration ensuring optimal cleansiness

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