
SUCCESS STORY

Edible Oil Application

Amafilter[®] supply seven Versis[®] vertical pressure leaf filter system for Yelo's new rapeseed oil plant

AMAFILTER[®] WERE SELECTED AS THE LIQUID FILTRATION SOLUTIONS PROVIDER FOR A MULTIPLE REFINING PROCESS AT YELO'S UK PLANT AND PROVIDED A SAFE AND COST EFFECTIVE SOLUTION FOR YELO'S EDIBLE OIL APPLICATION



Yelo Enterprises

Solid liquid filtration of rapeseed/canola oil

Amafilter® supply seven Versis® vertical pressure leaf filters to refine rapeseed oil at UK's newest rapeseed oil plant



YELO ENTERPRISES NEW RAPESEED PLANT IN THE UK

Yelo Enterprises production facility is located in the heart of England, UK, where the company processes UK grown, farm-assured rapeseed. Oilseed processing has historically focused on technologies that maximise oil recovery from the seed. At Yelo, the approach is somewhat different, as the company focuses on preserving as much of the various nutrients found in rapeseed so as to deliver the best possible end product. The company continuously looks at ways to enable the production of high quality products without over-processing.

The Yelo Enterprises plant operation is unique as it is designed to generate its own heat and power from low-grade biomass wood.

AMAFILTER® WERE SELECTED AS THE LIQUID FILTRATION SOLUTIONS PROVIDER

Amafilter®, part of the Filtration Group, were selected as the liquid filtration solutions provider for Yelo Enterprises first full scale rapeseed oil plant built in the UK for the past 30 years. We were pleased to supply seven Versis® vertical pressure leaf filter systems for multiple refining stages in Yelo's production process. The Versis® is a fully automated system, which is safe to operate and requires limited maintenance, making it a cost effective solution for edible oil applications.

Once cleaned seed is delivered to the Yelo production site, the Versis® pressure leaf filter system is used in the refining process to deliver animal feed.

AMAFILTER® SOLUTIONS FOR THIS APPLICATION

THE PRIMARY LIQUID FILTRATION PROCESS

The locally farmed rapeseed is stored, cleaned, heated and crushed at the Yelo site which creates two unrefined products – untreated oil seed cake for animal feed and a coarse oil which is the primary product.

Step 1: The oilseed is vacuum dried to remove moisture.

Step 2: The oil is then first pressed and filtered through two amafilter® Versis® automated vertical pressure leaf filters with 48 m² surface area each.

Step 3: Two more amafilter® Versis® vertical pressure leaf filter units, both with a 40 m² surface area, remove finer solids.

The fully automated Versis® vertical pressure leaf filters do not use consumables and use the solids in the oil to build a 'cake' on the fine mesh screens which builds in the clarification process. The 'cake' acts as the filter and is removed via an automated process; stopping flow, removing pressure and then vibrating the pressure filter leaves and opening the bottom discharge valve.

The heat treated solids / expeller cake, becomes the branded animal feed product which is recovered from the automated amafilter® filter pressure leaves.

Step 4: The unrefined oil is then centrifuged to remove the phosphorus lipids (gums) from the oil.

Step 5: The wet de-gumming process is followed by a dry de-gumming process utilising a single Versis® vertical pressure leaf filter system with a surface area of 24 m² which utilizes cellulose powder and or granulated carbon to aid in the process of de-gumming the oil.

Step 6: The oil is bleached to remove chlorophyll using two Versis® vertical pressure leaf filter systems, both with a 14 m² surface area, utilizing clay and or cellulose.

The refined oil is then deodorised and passed through final 'Police' Bag filters into storage tanks. From storage into distribution channels, the oil again passes through 'Police' Bag Filters.

CONCLUSION

The Amafilter® Versis® vertical pressure leaf filters were selected by a contractor who had worked closely with Filtration Group on international project over the years and had delivered competitive liquid filtration solutions to numerous edible oil producers.

“We have used these products in various European locations, working successfully to produce quality edible oils with minimal downtime.”

Yelo Enterprises' Operation Manager

For more information:
www.filtration.group | www.yelo.com