CASE STUDY

Improving filtration and extraction of fluid impurities using VERSIS Vertical Pressure Leaf Filters

FILTRATION GROUP WORKED CLOSELY WITH M&I MATERIALS IN THE UK TO SIGNIFICANTLY IMPROVE THE EFFICIENCY OF THEIR PRESSURE FILTER LEAVES PROCESS, RESULTING IN A 12.5% REDUCTION IN BATCH FILTRATION TIME.

Filtration Group®
Safer | Healthier | More Productive

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THE CHALLENGE

M&I Materials had been replacing their pressure leaf filters on a regular basis to maintain process efficiencies and ensure their products met industry specifications.

Shorter filtration times and tighter internal product quality specifications could not be achieved by solely changing pressure leaf filters on a regular basis. This was not bringing the required quality of output and expected efficiencies.

THE SOLUTION

Filtration Group's specialists discussed the problems and issues M&I Materials were having and visited their site in the United Kingdom to carry out a full review of their processes.

Laboratory tests were carried out on the composition of the adsorbents to improve the filterability of the fluid while ensuring the Ester still met the required specification. The processes and operation of M&I Materials' three Versis pressure leaf filters were also reviewed over the course of a 24-hour period.

THE RESULT

Following Filtration Group's full on-site review, it became apparent the M&I Materials were not utilising the pressure filter leaves to their optimum efficiency and needed to review their usage.

To improve the process, Filtration Group recommended installing inverters to the feed pumps which supply the filters to help control the flow rate through the various stages of filtration. By doing so, M&I Materials significantly improved their performance, registering a 12.5% reduction in batch filtration time with consistently lower particle counts.

The composition of the adsorbents was also altered, leading to a substantial increase in the filterability of the ester fluid and restoring the filtration system to full working capacity.

> "Filtration Group not only manufacture filtration systems and accompanying equipment, they are experts in filtration processes and their expert laboratory and field teams lead to the implementation of the optimal equipment for our process. Their specialist industry knowledge provided the right solution to our problem improving our productivity and profitability."
>
> **Fiachra Quinn**
> M&I Materials Process Control Engineer

OUR PRODUCT

The VERSIS vertical pressure leaf filter system was able to reduce processing time and improve efficiency in the extraction of organic oil for our customers due to the inclusion of:

Fully Automatic Process control system minimising Operator Exposure to dangerous liquids.

Automated repeatable process to ensure fully reproducible product quality every batch.

- Double-sided, five-layered filter leaves made from stainless steel
- Individual filter leaf mounting on the central manifold to allow easy removal of any or all filter leaves for maintenance and cleaning
- Low-maintenance pressure leaf filter design, resulting in an economical filtration system
- Pneumatic vibrator to remove cake discharge through a large butterfly valve
- Short regeneration times between filtration cycles

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