

CASE STUDY

PROJECT BELT FILTER TRIAL FOR FERTILISER MANUFACTURER
PRODUCT Belt Filter (BF)
INDUSTRY Manufacturing
LOCATION Northwest Victoria



BACKGROUND

A manufacturer of solid & liquid plant nutrition and soil amendment products in Victoria was looking to improve efficiency. Sludge residues accumulate in the tanks used for product blending through the manufacturing process. This sludge comprises the concentrated raw/precursor solid product and some inert debris. During the cleaning & rinsing of these process tanks, the company has been wasting these sludge residues. However, given this sludge contains the concentrated precursor product, ideally this should be recovered and processed into a valuable liquid fertiliser product.

MAK Water was selected to provide a Belt Filter (BF) trial plant for the company to operate and test onsite over a 2-week period. The purpose of the trial was to determine the filtering performance, determine the hydraulic capacity required for the site, and ultimately prove the business case for a full-scale BF. They successfully trialled sludge from various process tanks at various flow rates, and operating the BF at different speeds while adjusting the washing system for different on/off durations.

SOLUTION

MAK Water provided a Belt Filter model BF-2.1C on a 2-week trial, fitted with 80-micron mesh belt (as requested by the customer).

MAK WATER KEY SOLUTIONS

- Plug-and-play Belt Filter trial equipment with small footprint
- Quick delivery to enable immediate trialling
- Simple automated solution with low operator input
- High degree of operational flexibility to suit different flow & load conditions
- Easily integrated into existing processes



RESULTS AND BENEFITS

- **Performance:** Effective filtering out of the precursor solid product that can be reused for liquid fertiliser manufacturing
- **Reduced costs:** By recovering precursor solids product rather than waste it, the input costs of liquid fertiliser manufacturing is reduced.
- **Business case proven:** Based on successful trials results, the company approved the purchase of a Belt Filter model BF-2.1D fitted with 80-micron mesh belt to manage their full-scale operation.
- **Sustainability.** The BF reduces waste, resource use and environmental impact.

