



CASE STUDY

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# Creating a cost effective solution for purifying an agrochemicals molecule



# Using a Falling Film Evaporator with a Thin Film Evaporator to reduce energy and capital costs

Case Study | Agrochemicals Industry

Purification of a well-known molecule was done using Agitated Thin Film Evaporators (ATFE) as a standard practice.

When a customer approached Technoforce for such a system, it was decided to consider a combination of **Falling Film Evaporator (FFE)** and ATFE. The FFE and ATFE would be placed serially. FFE would operate at moderate vacuum so that the volatile impurities could be captured using ordinary water.

The partially concentrated product from FFE would then be supplied to ATFE, where deep vacuum would be used to complete the stripping of the volatiles with higher boiling points.

This concept was attractive as it shifts major cooling load from brine to water. It would also reduce the size of ATFE. Both, operating and capital costs, would be reduced. However, since this concept was not tried before, it was decided to conduct trials in the **Technoforce Pilot Plant** and check for the purity of the product.

The trials were successfully concluded. Subsequently, a commercial scale plant was supplied with the combination of FFE and ATFE, and commissioned within 6 months.

Based on this experience, Technoforce ended up supplying dozens of such systems for the agrochemical molecule. Some of the plants are in operation for the last 25 years.

This concept was subsequently used in other industries as well. **More than 100 such installations** are in operation which are supplied by Technoforce over the years.

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## Our Expertise

Evaporation

Drying

High Vacuum Distillation

Extraction

Crystallization

Zero Discharge Systems

**TECHNOFORCE™**



**30%**  
Less capital cost



**50%**  
Less operating cost