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Wastewater Treatment – DuPont DAF Case Study

When DuPont needed to improve their on-site ETP performance, replacing the existing final settlement tanks with HUBER DAF units provided a compact solution.

Background

The site in Cork makes Micro Crystalline Cellulose Powder, a filler/binder for pharmaceutical and veterinary tablets. The raw material for this is Wood Paper Pulp. In the manufacturing process, large belt filters are used to recover the product as a wet cake but the filtrate and cake washings require treatment before discharge to sewer. The nature of the wastewater is similar to that found in a paper mill, rather than a normal chemical plant.

In order to reduce the COD in the treated water, the site uses a large activated sludge lagoon to biologically break down the contaminants. This biological process generates solids, which also need to be removed from the flow. Historically this had been achieved using settlement tanks, but the site were looking to optimise performance as well as reclaim some of the space these large tanks occupied.



Figure 1 - DuPont Dissolved Air Flotation Plant installation with walkways



Figure 2 - DuPont DAF factory acceptance test in Germany at the production site

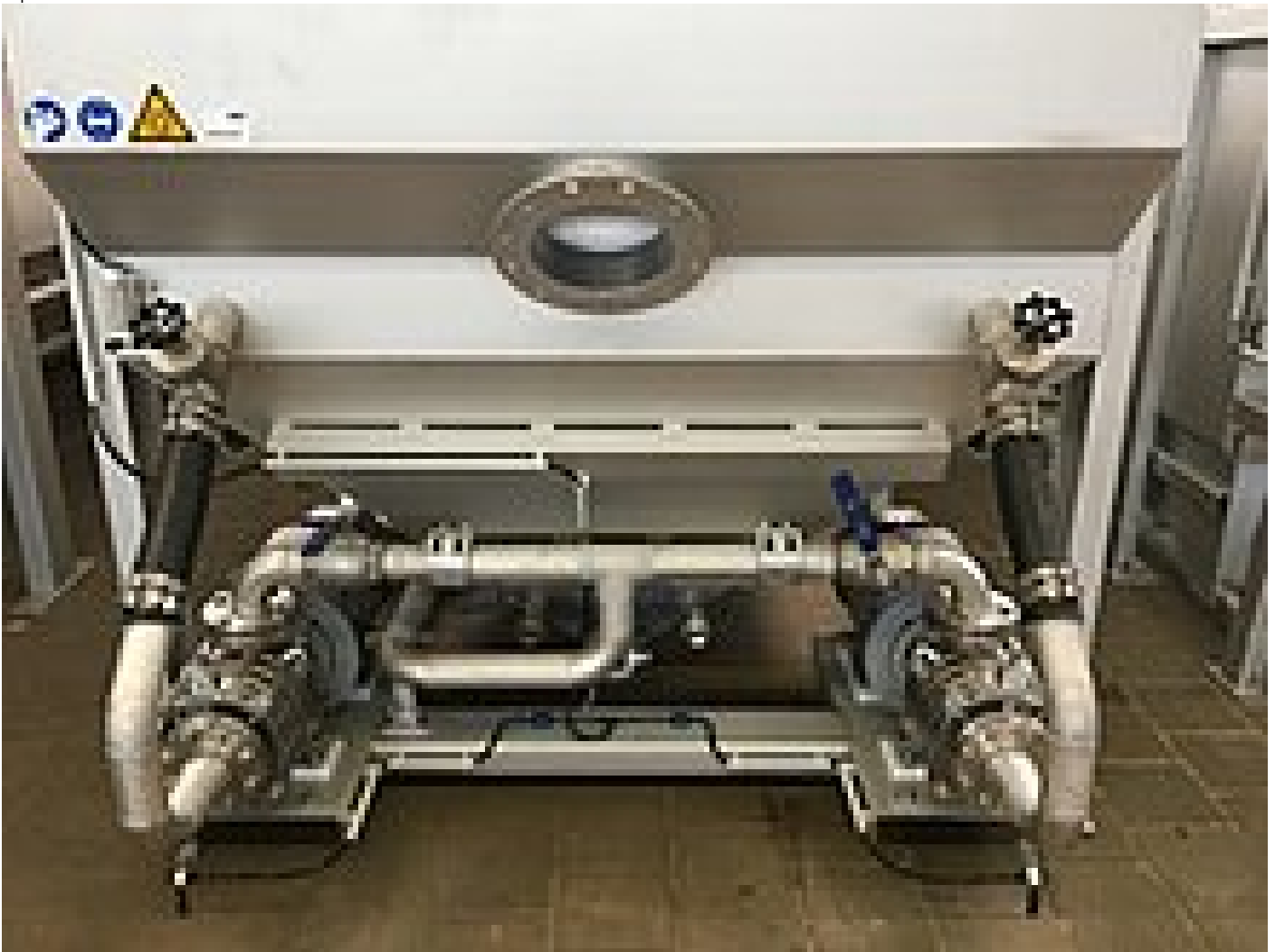


Figure 3 - DuPont Dissolved Air Flotation Plant HDF with skid-mounted duty standby whitewater pumps

Solution

As one of the largest stainless steel users in Europe, HUBER were well placed to provide a high specification unit capable of dealing with the wastewater. With Dissolved Air Flotation units already in operation treating very similar wastewater, the client was able to visit existing plants as well as the HUBER manufacturing plant before making their equipment selection.

The new HUBER Dissolved Air Flotation Plant HDF installation provides solids and associated COD removal from the waste water leaving the activated sludge lagoon, ready for discharge to sewer. All-round walkways make access to the DAF units very easy and the automatic polymer batching system reduces operator input. The units are installed outdoors and have solid covers over the top of the tanks, these provide protection from blown in debris such as leaves and prevent any wind or rain from affecting the process.

Separated solids are floated to the top of the machine and removed by an automated mechanical scraper system, which moves the sludge into a sludge hopper for forward pumping to the site's sludge storage tank.

The client attended a FAT (factory acceptance test) for both the DAF and control panel.

HUBER provided the full equipment scope to site, including:

- **2 No HUBER Dissolved Air Flotation Plant HDF S8** units in stainless steel grade 316
- **Automated 4,000 litre polymer batching plant** to flocculate the wastewater
- **Duty/Standby sludge and chemical dosing pumps** **Pipe flocculator** to mix wastewater and polymer within an enclosed, small footprint
- **Pre-programmed Form 4 control panel** to automate operation of the plant
- **Access steelwork around all sides of both units**

Key figures:

- Flow: 145 m³/h
- Feed COD: 2,000 to 7,500 mg/l

- Feed TSS: 6,000 to 8,000 mg/l

For more information please contact +44 1249765000, email rotamathuber.couk

Related Products:

- [HUBER Dissolved Air Flotation Plant HDF](#)

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