



Containerized DVF tertiary wastewater treatment system, Ireland

Background

A global ingredients group in Ireland installed a new 20ft containerized tertiary treatment system at its largest liquid dairy plant, as part of the site's ongoing wastewater compliance and to improve capacity to their existing wastewater treatment system. The containerized system was supplied by Enva and incorporated two of Amiad's innovative DVF (Double Vortex Filters) high efficiency media filters.

The existing wastewater treatment plant consisted of the following steps:

- Balancing tank & pH correction
- DAF (Dissolved Air Flotation)
- Biological treatment – aerobic carousel reactor
- Secondary clarifier with polymer addition



The Challenge

The existing system was struggling to cope with the loading placed on the WWTP and in particular the final effluent TSS (Total Suspended Solids) was very close to the site's discharge limit of 30 mg/l TSS.

The group was looking for a cost-effective upgrade to the WWTP which would ensure continued compliance with the site's discharge consent.

The existing site had limited space for any new system and as such it needed a solution which could fit into the area available.

It was essential that the site maintain its production throughout the project and since the access route around the WWTP was in constant use, the installation needed to be undertaken within a short time period.

The group decided that it wanted to ensure the longevity of its existing assets by upgrading the secondary clarifier and adding further capacity through the introduction of a tertiary treatment system. This system needed to be able to handle a maximum of 80 mg/l from the existing WWTP and ensure that it met the discharge limit of 30 mg/l.



Final effluent TSS was close to site's discharge limit of 30 mg/l TSS



Solution must fit into available area



Installation needed to be undertaken within a short time period

The Solution

Given the space restrictions and need for an efficient installation, it was decided that the best solution would be to provide two of Amiad's DVF 900 filters pre-installed in a 20ft container, complete with associated backwash pumps and control panel.

Amiad supplied two DVF 900 high efficiency media filters which were containerized by Enva, Amiad's distributor for Ireland. The integration of the project was undertaken by Cantwell Electrical Engineering Ltd.

The tertiary treatment system was sized to provide 30 m³/h and configured to run duty/standby with each DVF 900 vessel capable of treating the 30 m³/h from the secondary clarifier.



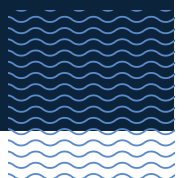
The Solution at a Glance		
	Flow rate	Water source
2 x DVF 900 Containerized	30 m ³ /h - 132 gpm	Tertiary wastewater




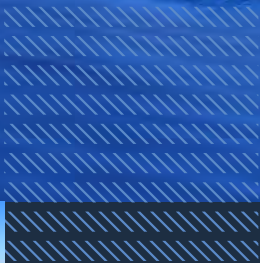
The Results

Following the installation of the system, the customer undertook a performance test to ensure the filter system was delivering its expected performance. During this test the system was receiving wastewater of 80 mg/l at a flow rate of 30 m³/h and the final effluent quality was below the 30 mg/l target.

As a result of the tertiary wastewater DVF filter system, the site has been able to continue operating without running the risk of failing to meet the discharge requirements. The system has now been in operation for 18 months.



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