

Water Recycling

ZGF Filter Recycles Reclaimed Effluent at Woodman Point WWTP

By Roland van Amstel, 05 March, 2009



Castle Hill, NSW, Australia – An Imatech ZGF automatic backwashing water filter has been installed at the Woodman Point Waste Water Treatment Plant (WWTP) in West Australia to enable final treated effluent to be used as a sustainable alternative to expensive clean service water for the bioscrubber operations on the site's newly installed odour control facility.

The innovative bioscrubber system requires a reliable supply of clean water to maintain efficient operation. Reclaimed treated effluent from the WWTP is used for this purpose to minimise the demand on clean drinking-quality service water, and thus minimize the environmental impact.

Set to a filtration efficiency of 20 microns with a flow capacity of up to 15 litres/second, the compact Imatech ZGF S2000 filter installed at Woodman Point removes organic floc and reduces the TSS from a level that can be as high as 150-200 mg/L, to consistently below 10 mg/L. In fact, the system has demonstrated to maintain an exceptionally high quality level of around 5 mg/L TSS.

The 5-pod "System 2000" Zero Gravity Filter for this application was designed to provide a reliable system that can be subjected to maintenance while continuously operating, and to avoid the need for a separate stand-by system. The combination of commercial and operational efficiencies delivered by this system is key to its success in this type of application: virtually no maintenance other than the 6-monthly recommended inspections, a small spares stock requirement, a relatively small footprint that saves expensive real-estate and, importantly, continuous peace of mind that the required result is achieved every time, all of the time.

There are minimal running costs since the pump which supplies the water to the bioscrubber creates enough pressure in the system to backwash the filter. The System 2000 is designed to backwash without interrupting the forward flow of filtered water and using only minimal quantities of backwash water. Backwashing is triggered by an adjustable pressure differential switch, with a set time lapse back-up.

Central to every Imatech ZGF filtration system is an ingeniously designed "zero-gravity" stainless steel coil with raised nodes on the surface which define a precise filter rating. Selectable in eight ratings between 20 and 400 microns, the coil is

designed to open slightly and evenly along its total length when the flow across it is reversed during backwashing, ensuring that the build-up of particles is completely washed away.

Imatech ZGF filter systems are tailored to suit any size of duty by simply adding enough “zero-gravity” coils to meet the required flow capacity. In the case of the System 2000, seven coils are fitted in a specially designed housing, or “pod”, that creates a cyclonic flow path for the water passing through, helping to keep suspended solids away from the surface of the coils and therefore extending the length of time before a backwash is required.

Please contact us to discuss your applications, or for more information about this case study.

The Imatech Team.

