HYDROFLUX Aotearoa

LOCAL NEWS FOR CUSTOMERS AND FRIENDS OF THE HYDROFLUX GROUP

MULTIPLE STP INLET SCREENS AWARDED TO HYDROFLUX EPCO NZ

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Multiple STP Inlet Screens awarded to Hydroflux Epco NZ

BY JOHN KOUMOUKELIS

Hydroflux Epco NZ has recently delivered several STP Inlet Screens for treatment plants located in the North Island.

Screening of raw sewage removes gross solids, plastics, bags and other material that would otherwise clog the treatment plant process. Process equipment such as aerators, sludge pumps and mixers can be costly to maintain without an automatic fine screen at the inlet.

HUBER Spiral Screens were selected for the various STPs due to their proven track record in New Zealand, local backup and the fact that the unit is fully fabricated from stainless steel.

"Our screens from HUBER have been proven to be reliable with the lowest life cycle cost. Due to the heavy-duty construction the HUBER Ro9 Spiral Screen is ideal for New Zealand as it requires very little maintenance, operates automatically and includes an integrated compaction zone which does away with the need for separate machines to handle the screenings.

The internals are fully fabricated from stainless steel – even the internal screw auger. We do this as standard to maximise life cycle value" says Orod Roostaee, General Manager of Hydroflux NZ.

The Ro9 Spiral Screen is suitable for flows under 150 L/s and is available in apertures from 1 to 6mm. The screenings removed are washed and compacted via an integrated system within the machine. The units can be installed into concrete channels or stainless steel tanks.

A Simple, and Cost-Effective Way to Clean Membrane Diffusers

BY BRUCE WILLIS

Rising head pressure due to sedimentation of mineral/biological scale on the membrane surface is an occurrence that every membrane diffuser system on the market is confronted with.

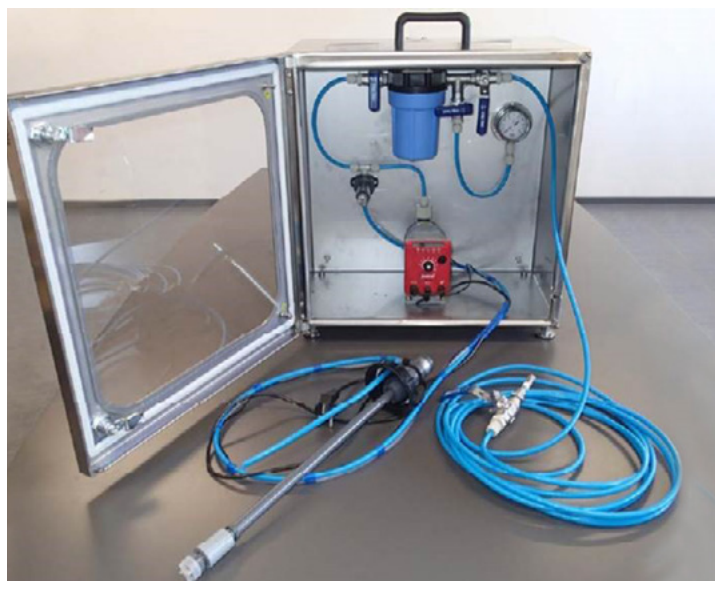
Whilst this problem is easy to ignore, eventually the head pressure will increase to a point where damage to your membrane diffuser is imminent resulting in two scenarios that are detrimental to the performance and general operation of the plant:

1. **An increased power demand due to extended aeration cycles**
2. **Insufficient blower capacity to reach DO target.**

Fortunately, Hydroflux offer an effective and simple-to-use portable chemical CIP unit to clean all types of membrane diffusers. This unit is designed to inject a suitable cleaning acid into the air piping system, helping to release scale built up on the membrane surface.

The unit supplied is ready to operate and comprises

- **Stainless steel cabinet**
- **High quality Prominent dosing pump – capable of pumping up to 7.5 L/hr**
- **Suction line with weight**
- **Dosing line with injection spray nozzle to suit ½ fitting.**
- **Pressure return line**
- **Filter unit with cartridge**
- **Isolation valves**
- **Instruction manuals**



Service requirements

The system requires a 240V AC standard NZ power socket.

Labour and cleaning chemicals

Hydroflux can provide specialty labour across New Zealand and Australia to assist with process optimisation or any operational issues with fine bubble diffusers - including the supply of highly effective cleaning chemicals.

From the CEO

As we wind down, or in many instances knuckle down as the Christmas season arrives and the consequence of a shortened working month dawns on us, it is also a good time to start thinking and seriously planning for the future.

As a Group we have worked from our very beginning to create ecologically sustainable solutions for businesses and municipalities alike, supporting our clients on their journey to protect our most valuable resources. With the risk posed by climate change now high on everyone's agenda we are finding our expertise being called upon more often, to provide our clients with new and more sustainable solutions to their water, biosolids and future planning issues.

This issue highlights what the Hydroflux Group are doing for long term sustainable strategies in system design, from drying of municipal biosolids, replacing natural gas or coal with biogas to energy efficiency in biological treatment and equipment design, decentralised sewage treatment systems that blend in with the urban landscape and paperless project documentation available at your fingertips

If you need assistance our specialist subsidiary companies provide a vast range of sustainable solutions from advising, consulting, designing, building to operational support to a wide range of government and businesses throughout Australia, New Zealand, Pacific Islands and the United Kingdom.

- ADRIAN MINSHULL

Introducing Hydroflux HyDATA®

BY ADRIAN MINSHULL

Hydroflux's team of water and wastewater professionals have developed the HyDATA® platform to provide our clients plant managers and operators with instant 24/7 access to their critical wastewater or sludge treatment equipment's historical documentation.

Accessing documentation has never been easier thanks to the newly integrated HyDATA® platform. The user friendly, multi-platform software is being rolled out across all Hydroflux equipment and plants giving all our clients a revolutionary way of accessing documentation, drawings, manuals, photos, SDS's, spares and expert support and much more.

The platform has been developed with the end-user in mind, based on field experience and customer feedback. HyDATA® is an intuitive and free tool to connect Hydroflux with its customers and supply them with project specific information.

The End of Ratty O&M Manuals and Drawings

There is nothing worse than trying to decipher wet, stained and dirty old operation and Maintenance manuals, design and electrical drawings or even chemical SDS's. Trying to find where the previous manager or operator filed the original digital version, 3 servers ago is equally as bad and who do you call for assistance if you need spares or advise?

24/7 Access to Critical WWTP Documentation and Data

In the 21st Century we have become accustomed to having a wealth of information at our fingertips and Hydroflux's wastewater treatment equipment and systems are no longer any different.

How it works?

Every WWT item of equipment or complete plant supplied and/or installed by Hydroflux is being provided with an exclusive QR code label that with a simple scan on any smart mobile or PC interconnected device provides instantaneous secure access to all the essential documents that relate to their WWTP in a single location.

Surya Cipta City WWTP – Building Resilience Against Urbanisation

BY JOHN KOUMOUKELIS

Surya Cipta City is an industrial city located in Karawang, West Java, Indonesia. Situated 60 km east of Jakarta, the city has seen rapid growth in recent years, leading to the construction of several large scale developments and industrial facilities.

With this expansion, new infrastructure was required to manage increased wastewater flows as the local wastewater plant in Surya Cipta Industrial Estate had reach capacity. SSIA, a leading developer listed on the Indonesian stock exchange (IDX), wanted to provide a wastewater solution that would address capacity, aesthetics, reuse, green energy and preservation.

In late 2018 the new treatment plant, using Organica Water's Food Chain Reactor, was commissioned. The facility was designed to process 10MLD of wastewater and to produce a discharge quality suitable for local reuse, with excess flows discharged to the Citarum River, which is the largest river in West Java.

Key Objectives

- **Increased treatment capacity to supplement existing 11 MLD plant**
- **Water Reuse for irrigation, excess discharge to the Citarum River**
- **Renewable Energy**
- **Reduced Footprint**
- **Odor free wastewater facility**
- **Maximize surrounding land utilisation by implementing reduced buffer zone**

Key Outcomes

- **New 10MLD in a footprint 50% less than the existing 11 MLD plant**
- **Resembling a botanical garden, the treatment facility provides a platform for community interaction and acts as an education resource**
- **High quality effluent with partial reuse for irrigation and landscaping**
- **Excess water discharged to the Citarum River, forming part of a clean water initiative to restore the ecosystem within the river**
- **100% compliance of treated wastewater that is being verified 24/7 using real-time monitoring that feeds data directly to the Indonesian Ministry of Environment**
- **Increased land availability and value for the surrounding area due to reduced odor buffer**
- **Solar panel installation meeting energy demand for the building HVAC and lighting used around the site perimeter**
- **The ascetics and odor free operation of the treatment system has become a showcase across public and private sectors in Indonesia as a green facility**
- **SSIA secured the highest score in Global Eco Industrial Park Program (GEIPP) conducted by United Nations Industrial Development Organization (UNIDO) across 50 Industrial Parks covering eight countries such as South Africa, Vietnam etc.**

Phone 09 352 2052 to learn more about Organica Water's Food Chain Reactor and how the system can provide treatment and reuse opportunities whilst blending into a dense urban landscape.

Municipal Biosolids Drying Facilities – Will New Zealand Follow Global Trends?

BY JOHN KOUMOUKELIS

Many advanced biosolids treatment processes such as incineration, pyrolysis and hydrothermal carbonisation are being put into place around the world to tap into the hidden energy potential of biosolids and to deal with emerging contaminants such as PFAS. Thermal drying is a key part of these processes.

Globally, HUBER have delivered over 45 projects using their BT Belt Dryer Technology. The main drivers for these projects were to use the dried product as a renewable fuel source, reduce transport costs or to beneficially reuse as a Class A product.

As the New Zealand and Australian agent for HUBER Technology, Hydroflux Epco have access to HUBER's global expertise in the field of biosolids treatment and integration of thermal drying into a sewage treatment plant or advanced biosolids treatment facility.

The following projects under construction demonstrates HUBER's leading position in the field of biosolids drying:

- **Mannheim STP, Germany – 3 x HUBER BT22 Belt Dryers, 36,980 t/a**
- **Erlangen STP, Germany – 1 x HUBER BT16 Belt Dryer, 15,700 t/a**
- **Halle-Lochau STP, Germany – 1 x HUBER BT20 Belt Dryer, 16,600 t/a (as part of the HUBER-WTE Sludge2Energy process)**
- **Cenibra STP, Brasil – 1 x HUBER BT30 Belt Dryer, 45,155 t/a**
- **Kassel STP, Germany – 2 x HUBER BT30 Belt Dryers, 80,000 t/a**
- **Zistersdorf STP, Austria – 1 x BT8 Belt Dryer, 12,000 t/a**
- **Utena STP, Lithuania – 1 x BT6 Dryer, 6,264 t/a**
- **La Crosse STP, USA – 1 x BT24 Belt Dryer, 26,571 t/a**

With the need to increase beneficial reuse of biosolids, to address emerging contaminants and to make wastewater plant operations carbon neutral, there is a place for thermal drying in New Zealand and Australia.

Hydroflux Epco can assist Water Authorities and Planning Engineers with life cycle analysis, concept designs and financial/sustainability outcomes associated with a thermal drying facility.

To view the full range of Biosolids Dryers that Hydroflux Epco provide, please contact us on 09 352 2052 or info@hydroflux.nz

Rendering Plant Receives New Energy Efficient Biological WWTP

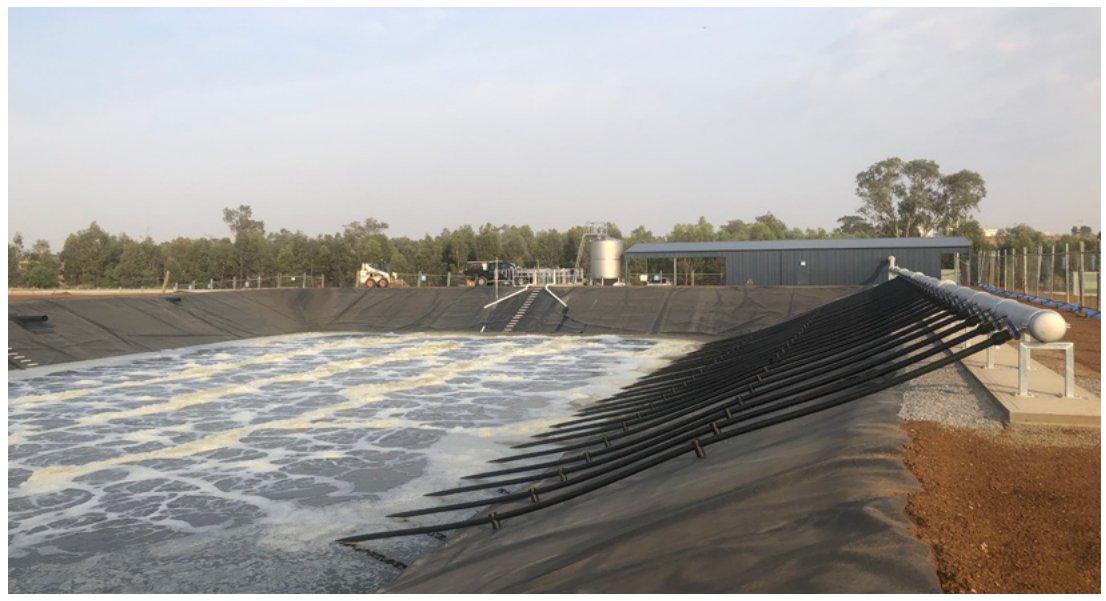
BY ANDREW MILEY

Hydroflux has commissioned a new energy efficient Wastewater Treatment Plant (WWTP) for a country-based rendering customer that is achieving massive reductions in the organic and nutrient loads via treatment in a Covered Anaerobic Lagoon (CAL) and energy efficient Sequencing Batch Reactor (SBR).

The turnkey project was completed on time and involved the replacement of a conventional physical/chemical treatment plant and above ground energy intensive SBR with an in-ground CAL and SBR specifically designed to be energy efficient and to treat substantially increased flows. The CAL was selected over the previous physical/chemical Dissolved Air Flotation (DAF) process due to the significant savings in operating costs wand ability to generate renewable Biogas from the high levels of COD in the wastewater.

After anerobic treatment in the CAL the wastewater containing very high nutrient levels, is treated in an ingeniously designed HySmart® Hydroflux SBR tailored specifically for nutrient removal. Greater than 90% Nitrogen removal is achieved whilst the system requires only minimal, low-cost external carbon source addition.

Even though the SBR was designed in a lined pond, best practice energy efficiency was achieved through the use of AEROSTRIP® fine bubble diffusers due to their world leading high oxygen transfer efficiency, resulting in a power demand of 1/3 of the equivalent surface aerators.



To complete the project and minimise sludge cartage and disposal costs Waste Activated Sludge (WAS) is dewatered to a very high % dry solids in a HUBER QPRESS® screw press that uses very minimal wash water and has low OPEX requirements.

If you are looking for an environmentally sustainable wastewater system for your facility contact Hydroflux today.

HYDROFLUX NZ

The Hydroflux Group comprises eleven companies based in New Zealand, Australia, Fiji and the United Kingdom, providing ecologically sustainable, design-and-build, equipment,process and operational services in water and wastewater treatment.

The group's skill and experience span across municipal and industrial water and wastewater treatment with full after sales support.

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