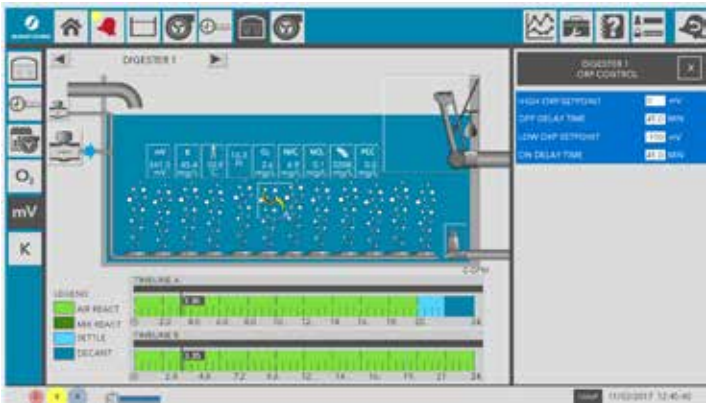
OSCAR Knows Vorelodos Nutrient Control

REAL-TIME MONITORING | REAL-TIME CONTROL | REAL-TIME SAVINGS

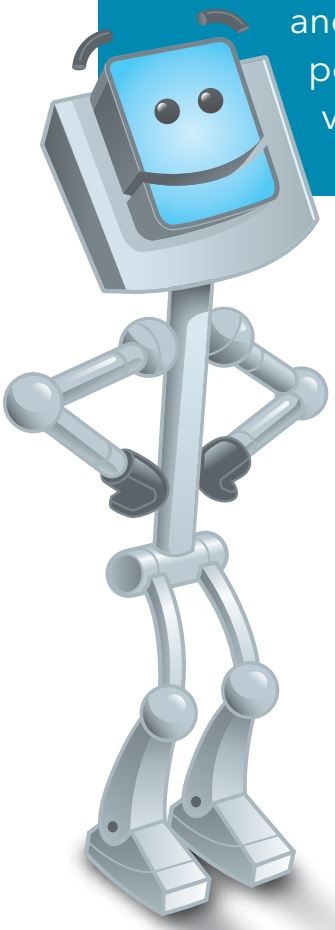
OSCAR process performance optimizer with DINO controller is a tailor-made control system for the Sanitaire Vorelodos aerobic digester. Focusing on reducing the nutrient load returned to the main treatment process, the controller is designed to take aerobic digestion to the next level.

If you can't measure it, you can't control it. Robust WTW/YSI sensors are used to measure dissolved oxygen, temperature, ammonia, nitrate and potassium. The OSCAR system uses more data from the sensors than just the process variables, because smart sensors should mean smart control.

Keeping plant operations staff in mind. Operator friendly screens enable simple adjustment of setpoints and flexibility to freely adjust your cycle operation to your needs.



Did you know that solids processing typically generates substantial loads of nutrients that return to your plant causing instability, excess chemical consumption, and possible permit violations?



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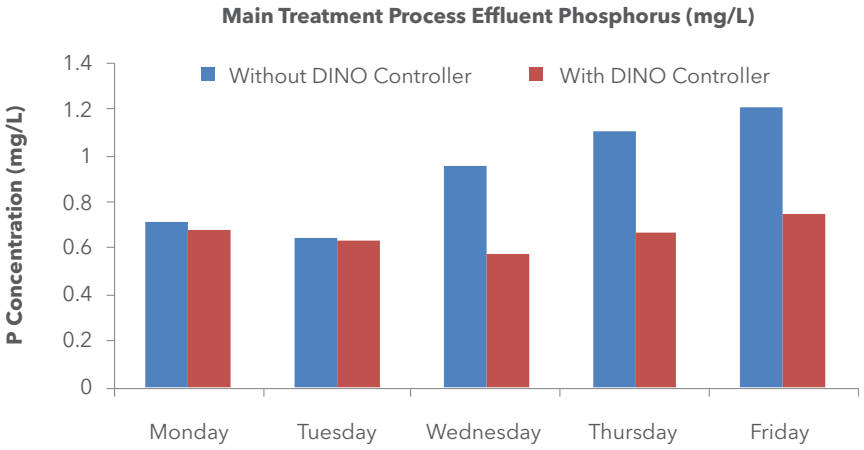
Nutrient Removal in Aerobic Digestion

Most aerobic digestion systems are continually aerated with little or no monitoring or controls. As a result, plants are wasting energy and returning substantial amounts of nitrogen and phosphorus to the main treatment process via biosolids dewatering. This can result in instability, excess chemical consumption and permit violations for the main treatment process. The DINO controller enables biological nutrient removal within the aerobic digester, by controlling the aerobic, anoxic, and anaerobic conditions in the tank, and ensuring supernatant return is automated when the nutrients are tied up in the solids – not in soluble form.



Without DINO controller, one treatment plant experienced phosphorous spikes 2-3 days per week due to large nutrient returns to the main plant from solids processing (i.e. dewatering digested biosolids). Implementation of the DINO controller reduced the returned nutrients, resulting in greater stability and ensuring permit compliance every day.

- **DINO controller enables biological phosphorus removal:** DINO controller automatically optimizes conditions for biological phosphorus removal resulting in reduced phosphorus loads returned to the main treatment process.
- **DINO optimizes nitrogen removal:** Excessive aeration and high oxygen concentrations inhibit nitrification (due to low pH) and denitrification. DINO controller allows for anoxic periods to reclaim alkalinity and denitrify resulting in stable and consistent nitrogen removal, ensuring minimal return of nitrogen to the main treatment process.
- **DINO reduces energy:** Excessive aeration is not only hurting the process but also costs money. With the OSCAR system controlling your process, energy consumption in the aerobic digester can be reduced up to 90%.
- **DINO reduces the need for chemicals:** By optimizing the conditions for removing phosphorus biologically in the digester, the OSCAR system can reduce or even remove the need to add chemicals..

Backed by Sanitaire biological process expertise and supported by Xylem's suite of premium products, the OSCAR system ensures process optimization. Optimal treatment starts with optimized nutrient control. Let one of our process experts show you how the OSCAR system takes the guesswork out of nutrient control.

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