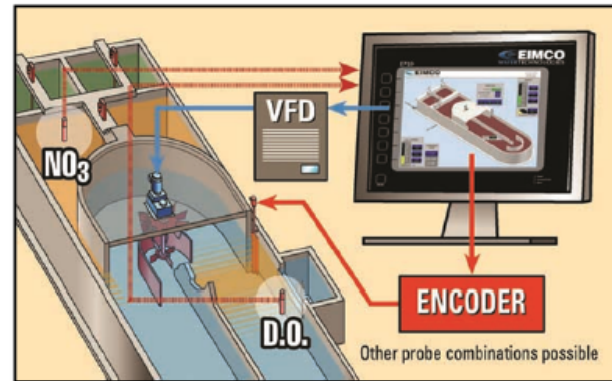


## The Oculus™ System

Included ☒

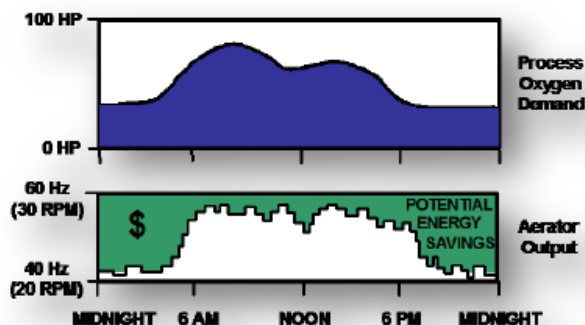
Ovivo's new Oculus System is the "all-seeing eye" that maximizes nutrient removal, minimizes power costs, and monitors selected process variables and equipment. The Oculus System analyzes and reports signals from a combination of dissolved oxygen (DO), oxidation-reduction (ORP), ammonia (NH<sub>4</sub>-N) and nitrate (NO<sub>3</sub>-N) probes to control the Excell®Aerator power input and the EliminatIR™ gate position in the Carrousel® System. The Oculus System also tracks equipment maintenance schedules and power usage. The ExcellAerator VFDs and mixer starters are included as part of the Oculus System and are economically combined into one motor control center (MCC). The operator can access all control functions, setpoints, and trendcharting from a custom, touch-screen interface. Each Oculus System can be equipped with a modem for on-line monitoring and quick access to our industry-leading and free process support team.



### Optimizes Nutrient Removal

Two key requirements for optimizing nutrient removal are (1) providing adequate nitrate delivery to the anoxic zone and (2) protecting all anoxic and anaerobic tanks from excessive D.O. Through the use of ORP or nitrate monitoring, the Oculus System efficiently meets the first requirement by regularly adjusting the position of the EliminatIR gate. This allows for control of nitrate delivery from the aerobic zone to the anoxic zone in response to diurnal fluctuations as well as nitrate loading from other sources, such as return activated sludge (RAS) and digester decants. This is especially critical for P removal plants, which must prevent both continuous and slug loads of nitrate from entering anaerobic zones.

### Minimizes Power Costs



Minimizing the aeration energy required in the activated sludge process is the most effective way to reduce power costs in a wastewater treatment plant. Using proper D.O. set points determined from EWT's extensive experience with Carrousel® nutrient removal plants, the Oculus System balances the need to minimize power consumption with the overarching need for adequate aeration capacity. Ammonia probes may also be added for continuous feedback of nitrification performance.

*The Automated Control of Energy (ACE®) System, a simplified and economical solution, is still available for plants that require D.O. control without nutrient removal control.*