

AERPROCESS DISSOLVED OXYGEN CONTROL

Combines Blower And Process Control In A Combined Control Strategy



Parameter	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Train 1						
Dissolved Oxygen (mg/L)	2.3	2.5	2.0	2.0	2.0	1.5
Airflow (SCFM)	259.9	258.3	224.8	220.1	212.5	183.1
Valve Position (% Open)	260.7	257.7	224.7	219.8	212.4	182.4
Train 2						
Dissolved Oxygen (mg/L)	2.4	2.5	2.0	2.0	2.0	1.5
Airflow (SCFM)	259.9	257.9	225.3	219.8	213.8	182.6
Valve Position (% Open)	260.3	257.7	225.2	219.5	213.4	182.3
Loading Information						

AERZEN AERPROCESS

DISSOLVED OXYGEN CONTROL

Aerzen's AERprocess Dissolved Oxygen Control is an integrated solution for controlling the dissolved oxygen (DO) concentration in the activated sludge treatment process and the blowers used to generate the process air flow requirement. The AERprocess system is able to maintain DO concentrations at their set points using a smart and efficient control strategy.

The AERprocess system provides dissolved oxygen to the activated sludge process by calculating the total airflow required (demand side) as well as the exact airflow required in each aeration zone (supply side) to maintain the DO at the set point. AERprocess then sequences the blowers and accurately adjusts the valves to distribute the airflow as required. AERprocess measures the DO in each control basin,

and adjusts the valve setting for each individual aeration zone to achieve the desired DO setpoint. The control strategy is a flow based, Most Open Valve (MOV) method for air distribution at the lowest possible operating pressure for reduced energy consumption. AERprocess provides targeted DO control and accurate response to changing conditions without excessive hunting and overshooting.

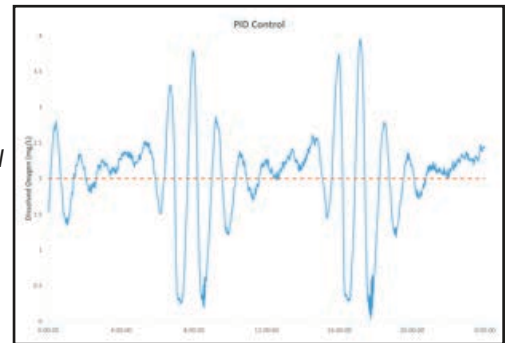
Features:

- Accurate DO control
- Balanced airflow management at minimum operating pressure that eliminates "hunting" of blowers and valves
- Integrated start up, sequencing, control and management of blower equipment, including multiple technologies operating together.
- Intuitive user interface

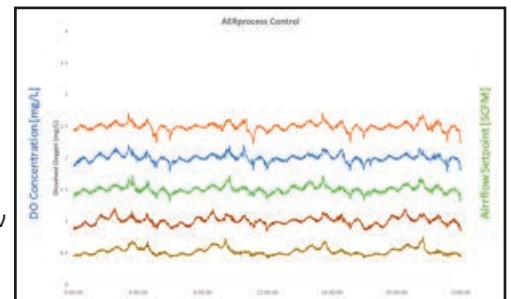
Benefits:

- Minimizes fluctuations in DO concentrations
- Provides the oxygen as needed by the process as defined by the operator provided set point
- Reduces aeration energy
- Optimized, stable biological processes
- Reduces energy consumption
- Reduces wear and tear on blowers and valves
- Eliminates tuning challenges of a pressure based "cascade" control system
- Multiple blower technology experience
- One supplier, single point of responsibility

Before - The graph shows a conventional control strategy response to variable loading conditions



After - AERprocess solves this problem with a smart combined control strategy of both demand and air flow distribution.



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