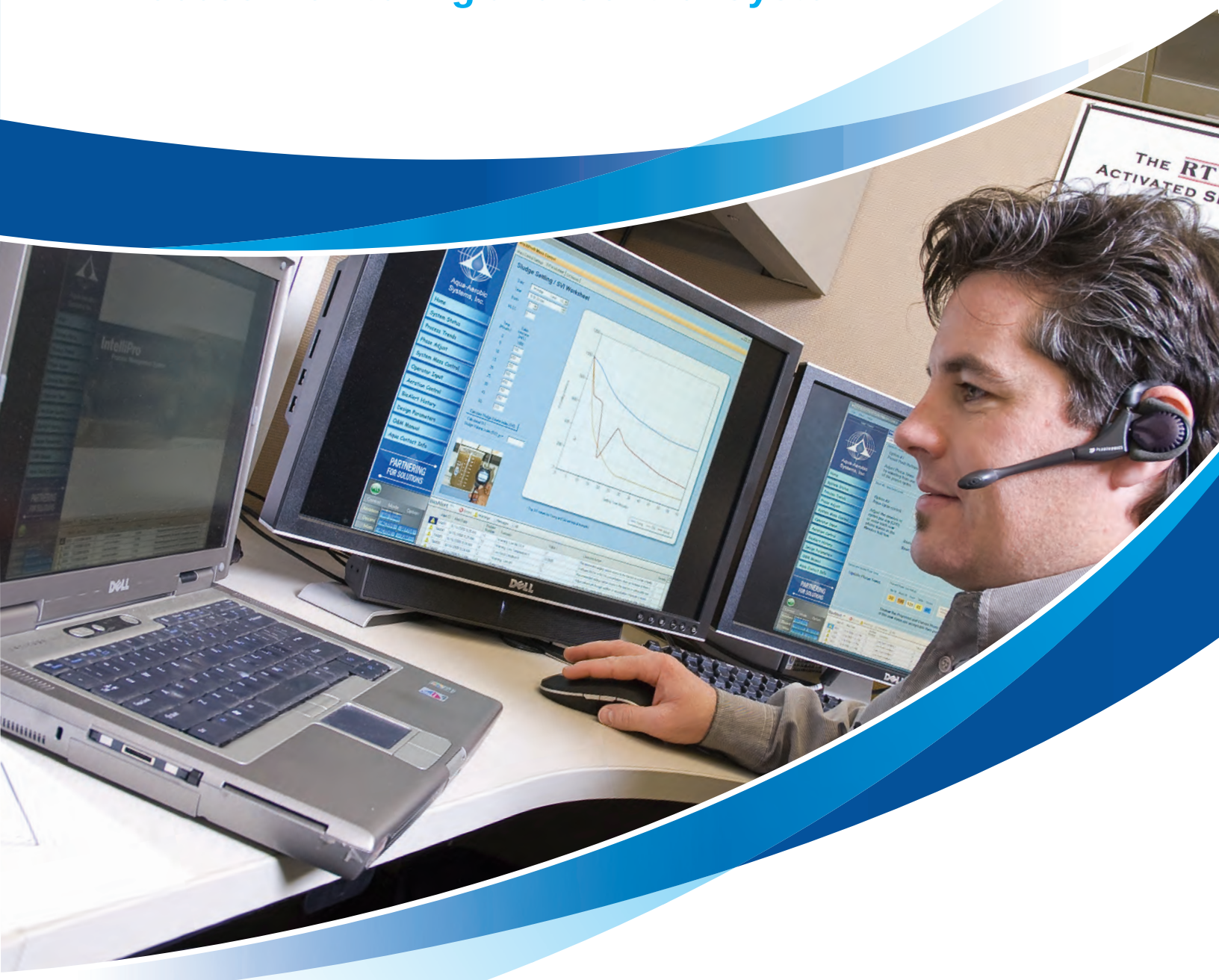
IntelliPro®

Process Monitoring and Control System



AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

IntelliPro®

Process Monitoring and Control System

The IntelliPro system is a personal computer (PC) based program that interfaces with the system's programmable logic controller (PLC) via a network connection. The combination of process monitoring with integrated comparative analysis and proactive control of the process makes the IntelliPro system a powerful process optimization tool. The system is designed to offer an essential link between operations, equipment and treatment objectives, influencing the treatment process by proactively responding to changes as they occur. Real-time process troubleshooting and operator guidance is provided through the comprehensive BioAlert™ process notification and optimization program. The IntelliPro system efficiently manages plant performance by assisting operators in optimizing the treatment process and further reducing energy and operating costs.

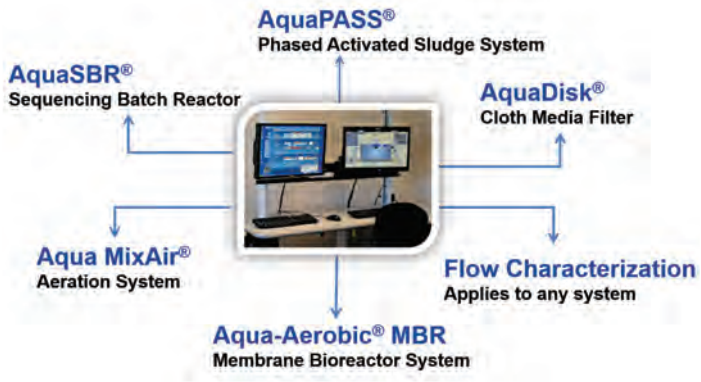
System Features and Advantages

- Calculation of key process operating variables
- Active (Automatic) or Passive (Monitor) system adjustment to enhance energy efficiency and process control
- Real-time and historical graphical process trending; trends are stored so the operator can compare day-to-day operation to determine how the system is performing
- All settings are user-friendly and adjustable to provide flexibility of the system's operation
- Reduces operator's sampling time
- BioAlert™ process notification provides corrective action to reduce operational interruptions and upsets

Services & Technical Support

- Online operation and maintenance support
- Remote troubleshooting available for on-demand assistance
- Online operation and support

IntelliPro® Product Integration



IntelliPro® systems are available for a wide range of treatment processes.

IntelliPro® Operation

Process information is gathered from the in-basin instrumentation. The system interprets the data and performs process calculations that assist the operator in improving the process performance.

Reacts to system conditions by proactively making changes to the process. The operator can choose to let the IntelliPro system make a change or simply be notified of a potential change. Operating parameters are calculated at regular intervals. Data is analyzed and evaluated through algorithms in the IntelliPro system, allowing a powerful array of process monitoring and automatic control functions for optimum process management.

Typical IntelliPro® Applications

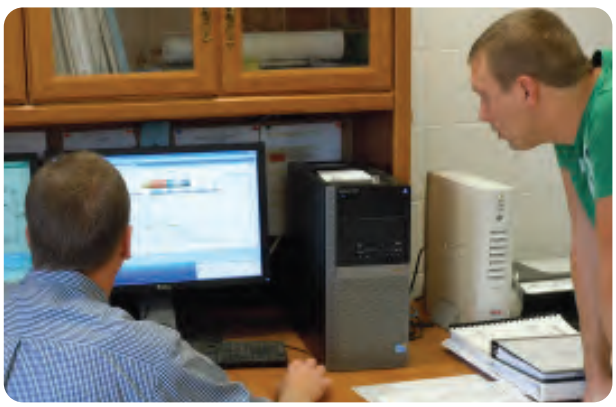
Nutrient Removal

- The calculation of chemical requirements for phosphorus precipitation, and supplemental carbon addition for denitrification, are completed automatically by the system.
- The plant reduces its chemical use since dosages are adjusted to real-time conditions through the module.

Dissolved Oxygen and Solids Management

- The operators take advantage of the “Active Mode” for D.O. control, reducing electrical consumption and the plant’s associated carbon footprint.
- Solids management helps optimize performance by adjusting the MLSS concentration automatically.

Process Data Analysis



- Statistical analysis of a wide range of online process parameters.
- Provides operators with insight into plant operation as changes happen.

Tertiary Phosphorus Optimization

- Real time control of metal salt and polymer addition for phosphorus removal.
- Optimizes dosages through historical dose-response information.
- Provides operators with an understanding of variations in phosphorus at their facility.

IntelliPro®
Options

Flow Characterization - IntelliPro®

The Flow Characterization IntelliPro system offers full statistical analysis of the influent, effluent and/or recycle streams. Applications include wastewater treatment, drinking water treatment or other custom applications. The system allows for comparison of specified conditions and defined (or required) parameters. This includes but is not limited to Mean (Average), Standard Deviation, Coefficient of Variation (Cv), Variance (v), and Percentiles. The Flow Characterization system can complement other IntelliPro systems, or it can be added as a stand-alone module.

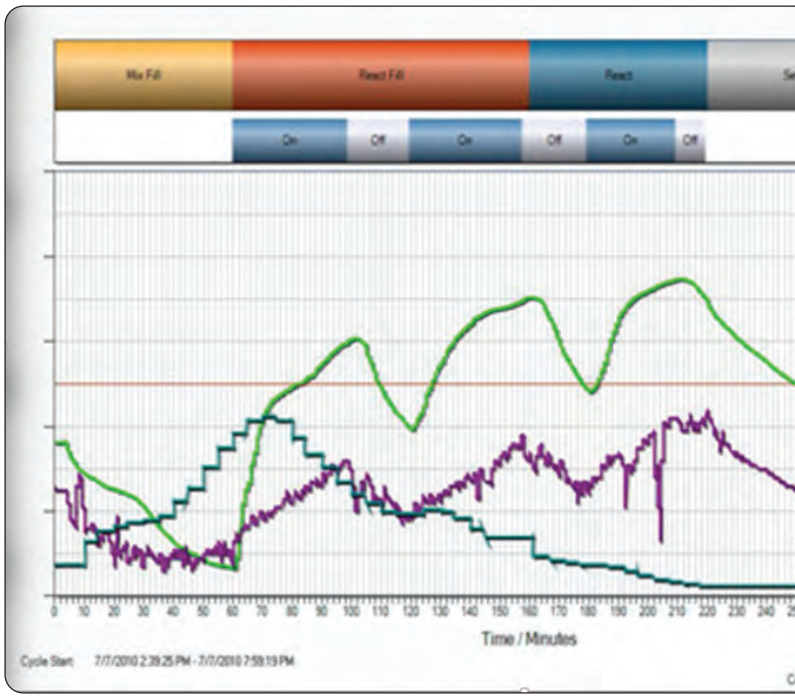
Biological Processes - IntelliPro®

IntelliPro systems are customized for all Aqua-Aerobic biological treatment systems. The system provides monitoring and control of the most common treatment plant operating parameters. This can include dissolved oxygen (D.O.) control, mass control, biological and chemical nutrient control, cycle control, and enhanced troubleshooting and trending. In addition, operators can benefit from the calculations of the key process operating variables such as food to mass (F/M) ratio and solids retention time (SRT).

Filtration Optimization - IntelliPro®

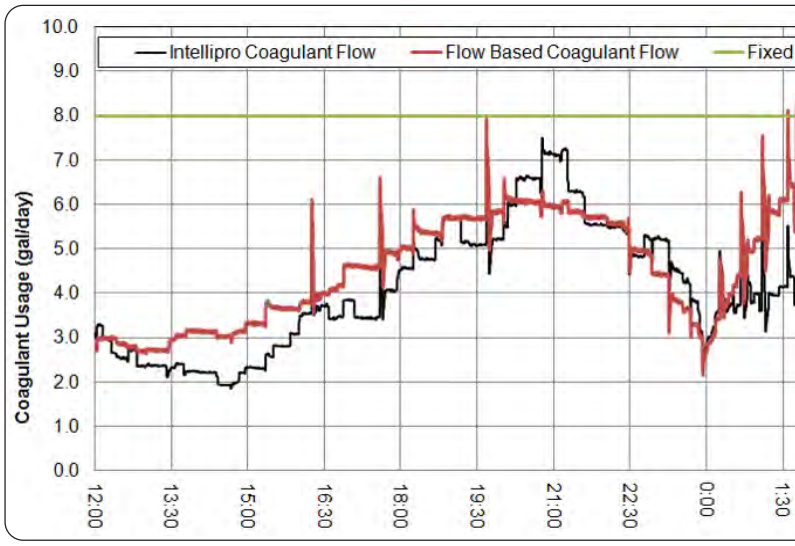
The Filtration Optimization IntelliPro is a control system for Aqua-Aerobic cloth media filters that uses real-time data to optimize chemical addition to meet phosphorus removal objectives. The system features automatic, optimal-dose selection for metal salts, polymer, and pH adjusting chemicals. The IntelliPro system is an efficient and economical solution to assist treatment plants in achieving low level phosphorus objectives while minimizing the expense associated with costly chemicals.

Nutrient Removal



Nutrient profile allows for treatment optimization. The system can automatically adjust the chemical addition to meet the required nutrient levels.

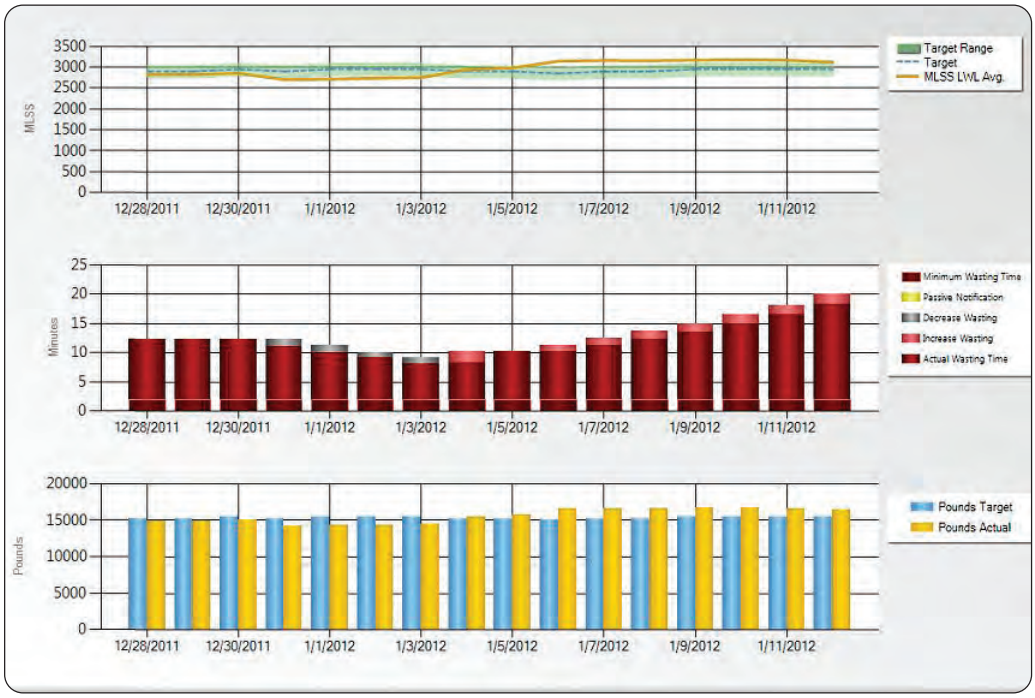
Phosphorus Removal



Ultra-low phosphorus can be efficiently achieved with the IntelliPro®. The system adjust to the influent loading to avoid overdosing while ensuring the effluent is me

environment and/or

Mass Control



Active mass control creates a stable environment by automatically adjusting the wasting to the desired solids concentration. Operators are able to select a target MLSS, ideal F/M ratio or SRT.

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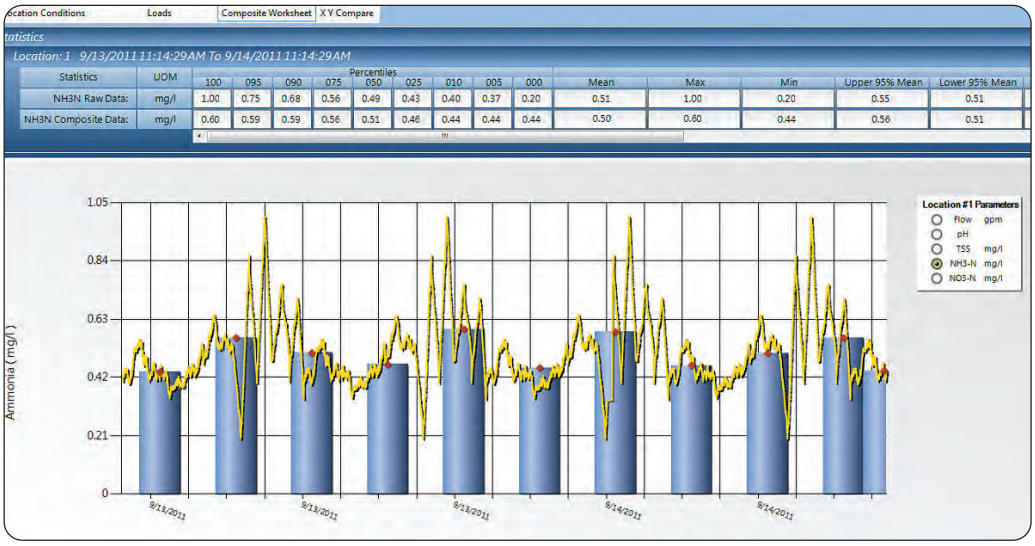
Statistical Analysis



Full characterization of a stream, including statistical data analysis, allows for the operator to review and compare patterns and trends.

Since 1969, Aqua-Aerobic Systems, Inc. has led the industry by providing advanced solutions in water and wastewater treatment. As an applied engineering company serving both municipal and industrial customers, we work collaboratively with consulting engineers, owners, plant managers, and operators to design and manufacture the best treatment solution with the lowest lifecycle cost.

Providing TOTAL Water Management Solutions

Aeration & Mixing
Biological Processes
Filtration
Oxidation & Disinfection
Membranes
Controls & Monitoring Systems
Aftermarket Products and Services

IntelliPro®

Process Monitoring and Control System

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AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

www.aqua-aerobic.com
6306 N. Alpine Road, Loves Park, IL 61111-7655
p 815.654.2501 | f 815.654.2508 | solutions@aqua-aerobic.com

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