Virtual Nitrack®

PRODUCT INFORMATION

Virtual Nitrack® is a secure cloud-based control system that enables operators to remotely manage and optimize nutrient removal performance to achieve and maintain permit compliance.

REAL-TIME MONITORING

- Provides 24/7 real-time advanced control and automation
- Customized feed-forward and feedback control logic to deliver the optimized MicroC® dose
- Continuously monitors parameters against configured setpoints to support stable nutrient removal performance

FRAMEWORK & EQUIPMENT

- Windows server installed on an Azure Virtual Machine
- To communicate data to the cloud, robust IIoT edge hardware is utilized
- Field equipment includes Moxa (secure network terminal) and Ranger (wireless transmitter)

HUMAN MACHINE INTERFACE

- User friendly HMI accessible on any device / operating system powered by Ignition
- User authentication and role-based access control
- TLS and SSL Encryption between client and server

VIEWS & MODULES

- Dashboard View – showcases critical information including control system status, tank inventory and consumption data, and pump overview
- Anoxic Basin View - shows parameters as a process overview highlighting inputs and outputs of the control system along with configurable setpoints to optimize MicroC® dosing
- Detailed Pump View - provides operators full control over the pumps along with status and alarm indications
- Alarm Notification Module – alerts via email, SMS, and phone call (programmed voice)
- Users can also access historical trends, charts and assets

OPTIMIZATION & EFFICIENCY

- Enables EOSi to offer Virtual Nitrack® at no additional charge, provided customers are purchasing MicroC®
- MicroC® customers experience on average 20% savings in costs related to chemical usage
- Continuous refinement of control strategy

HARDWARE REDUCTION

- Minimal site footprint
- The most minimal design requires only one component

QUICK DEPLOYMENT

- Average deployment time will have a customer up and running within 2-3 weeks with max lead time within 4-6 weeks
- Devices arrive on site preconfigured and pre-wired for easy install in under 10 minutes
- The pre-configured devices are run through brief system checkouts to ensure health and functionality

ENGINEERING SUPPORT

- Ongoing assessment of process performance
- Available for pilot trials, scalable for long term

EOSi

TECHNICAL CONFIGURATION

Deployment Options	Networked through an IIoT gateway with optional protocol conversion for subnet separation, or configured with hardwired I/O
Supported Interfaces	Configurable to customer site requirements based on required communications and integration needs
Power Requirements	24 VDC for networked systems; 120 VAC for hardwired I/O systems
Installation Requirements	Minimal site footprint for networked configurations; hardwired I/O requires a control cabinet
System Access & Control	Accessible via PC, tablet, or smartphone with optional direct control through the customer's SCADA system
Cybersecurity / Network Architecture	Secure data communications with optional subnet separation or customer firewall-controlled network access, if preferred

