



Introduction

Drinking water systems are vulnerable to chemical spills, pollution, acts of terrorism, system deterioration, natural and manmade disasters.

WISE® is the first integrated system capable of detecting and reporting biological and chemical contamination events ONLINE and in REAL-TIME!

The WISE® systems can be configured to monitor water quality across a broad spectrum of sources and uses, with the greatest flexibility and information management capabilities available.

WISE® systems increase efficiency by improving response time, reducing laboratory costs, and providing significant cuts to operational costs, through process optimization in REAL-TIME and continuous access to water quality data.

The WISE® system integrates industry standard sensors, (temperature, conductivity, ORP/Redox and pH) into a coherent, advanced bio-chemical detection system, providing REAL-TIME monitoring of general water quality parameters as well as rod-shaped bacteria, bacterial endospores and protozoan cysts.

The flexibility of this design allows one system to remotely and effectively monitor both potable and wastewater.

The WISE® hardware / software system can easily be integrated with existing SCADA systems.

The WISE® system provides a valuable and cost-effective “insurance policy,” protecting your facility 24 hours/day, 7 days/week against potential contamination events. Even one major infection outbreak can result in legal liabilities and lawsuits that can damage your institution’s reputation and cost huge sums in the process. WISE® offers a vital layer of protection to ensure your water systems are safe.

“We’ve been enjoying peace of mind for over 3 years. The system provides real-time information on the condition of our drinking water, 24 hours a day, 7 days a week. It alerts us whenever there is an event associated with rod-shaped bacteria, bacterial endospores, or protozoan cysts, as well as any other undesirable particles that are sources of contamination. We especially enjoy the very low maintenance characteristics, with little in the way of consumables and no special care.”

Giordano Vassalli, Engineer – Chemist, City of Chiasso, Switzerland

“Mohawk Valley Water Authority chose to install WISE at our distribution “sentinel” water quality monitoring station. The instrument offered us a unique state-of-the-art, laser based technology capable of providing on-line, real-time biological and particle monitoring on a continuous basis. Because this system is customized to recognize biological contaminants, it offers a new dimension to water quality monitoring that complements standard monitoring instrumentation. The unit was easily installed, requires minimal maintenance and is programmed to alert water quality staff remotely when undesirable particles are detected. In this uncertain world WISE provides another level of confidence to the safety of our drinking water”.

Connie K. Schreppel Ph.D. - Director of Water Quality, Mohawk Valley Water Authority, Utica, New York

Chemical Detection

Using a combination of industry standard sensors integrated to its onboard computer, WISE® detects and reports out-of-parameter conditions, indicating a possible contamination event.

Biological Detection

WISE® analyzes Multi-Angle Laser Light Scattering signals (MALS) to monitor and detect waterborne micro-organisms or other particles. The analysis and classification algorithm utilizes the scattering amplitude and 2D shape of an individual organism / particle that crosses the laser beam.

Applications

WATER SECURITY

- Monitors water distribution system for contamination
- Provides 24/7 potable water scrutiny for high-profile facility protection
- Early warning situational awareness alerts via messaging to email and SMS in **REAL-TIME**

PROCESS CONTROL

- Collects REAL-TIME data providing baseline water quality levels across treatment protocols
- Detects bio-film shedding and unwanted micro-organisms in water systems
- Monitors / measures micro-biological burden in pure water before use in manufacturing or medical processes

WATER QUALITY

- Provides early contamination warning for potable water after treatment and distribution
- Monitors background flora (heterotrophs) for trends and changes indicating water quality deterioration
- Detects and counts bacteria, endospores, cysts, and other organisms and particulate of 0.5 microns or larger, such as Aspergillus, Cryptosporidium, Legionella, e. Coli, and Citrobacter
- Measures integrity and performance of post filtration in water systems, with sensitivity as low as 10 particles/ml in ultra-pure water.

Benefits / Features

- Continuous REAL-TIME and ONLINE detection of potentially harmful biological or chemical contaminants in water, performing over 1,400 tests per day.
- **'DETECT TO ALERT'** - The system detects early signs of water quality deterioration or contamination, allowing for quick remedial action
- WISE® is compatible with existing water instruments and quality processes including SCADA systems
- Low maintenance with automatic cleaning
- Low cost of ownership requiring no consumables or reagents for detection
- Remotely accessible for operation worldwide via web interface
- Provides 24/7 live data of baseline water quality
- US DOD / EPA Tested
- Five (5) year Warranty

Specifications

Communications Interface

TCP/IP (Standard), Wi-Fi (standard), USB 3G Modern (customer supplied), Internal Netbook computer (standard), 1 Channel SCADA (4-20mA) (standard), RS-232 ASCII Data Outpure (Optional)

Power Requirements

Voltage: 115/230 VAC*
Current Rating: 5/3 A
Frequency: 60/50Hz
*(Must specify voltage upon ordering)

Computer Specifications

Intel Processor, 1GB Ram, Hard drive XD Pro or higher Windows Operating System

Temperature Range

37-85°F (3-29°C) Ambient Temperature

Unit Dimensions

Bio-chem: 33.1" x 23" x 35" (840 x 584 x 889mm)
Bio only: 15" x 17" x 9" (381 x 432 x 229mm)

Unit Weight

Bio-chem: 155 lbs. (70.31 Kg)
Bio only: 30 lbs. (13.6 Kg)

Enclosure Material

Steel

