

ARSENICGUARD™

Online Arsenic Analyzer

with Nano-Band™ Technology

Introducing ArsenicGuard™, the first fully automated, online arsenic analyzer for monitoring drinking water arsenic levels.

As of January 2006, EPA regulations require drinking water arsenic levels not exceed 10 parts-per-billion (ppb). This significant drop from the previously acceptable level of 50 ppb requires municipal water companies to assess and implement arsenic treatment technologies to provide their customers with safe drinking water. ArsenicGuard provides online arsenic monitoring to 1ppb levels for drinking and ground water to effectively manage arsenic removal processes and verify compliance.

ArsenicGuard provides complete process control for all arsenic monitoring applications:

Arsenic Removal Media

With the flexibility of monitoring up to four sample streams, ArsenicGuard performs process monitoring throughout your entire arsenic removal system. Check the initial arsenic levels of your incoming raw waters. Ensure the integrity of your arsenic removal media by verifying performance is to compliance levels. Delivering accurate, real-time results, ArsenicGuard enables monitoring of arsenic levels right up to media breakthrough. Maximize your media lifetime and lower costs by determining precisely when the media requires replacing or rejuvenation. Create your own cost-saving, "customized" media replacement/rejuvenation schedule with databases built from actual measurements taken within your own facility rather than relying on the typical "manufacturer suggested" schedule.

Well Blending

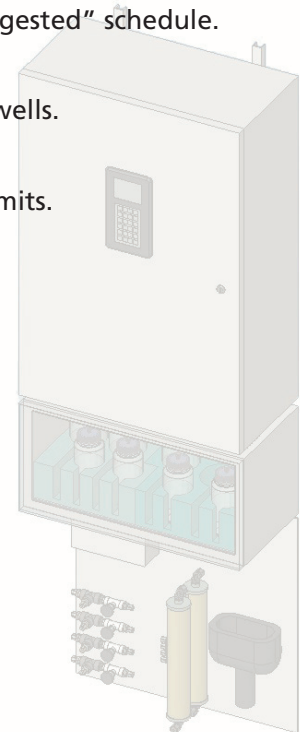
Determine precise combined arsenic levels during blending of waters from various wells.

Effluent Quality Assurance

Eliminate costly fines by ensuring effluent arsenic levels do not exceed regulatory limits.

ArsenicGuard Features

- Fully automated online operation
 - Eliminates operator variability to insure accuracy to 1 ppb
 - Measurement time less than 30 minutes
 - Correlation with ICP-MS (+/- 10% typical)
 - Up to four online sample ports supported
 - Grab sample port included
- Comprehensive data acquisition and SCADA interface
 - 4-20 mA arsenic levels for each sample stream
 - Programmable contact closure for local arsenic level annunciation
 - Easy-to-use front panel HMI
 - Programmable on-board data acquisition
 - Data logging records results, allows report generation and results archiving
- Low operational costs
 - Replaceable reagent tray provides up to 1000 measurements
 - Field replaceable modules for ease of maintenance
 - System runs self-diagnostics and is auto-calibrating



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ARSENICGUARD Specifications

Performance

Measurement Range	1 – 100 ppb total inorganic arsenic
Measurement Accuracy	1ppb or $\pm 20\%$, whichever is larger
Measurement Time	Less than 30 minutes
Sample Streams Supported	Standard configuration: One With optional external manifold: Up to four
Sample Requirements	Temperature: 0°C to 40°C Pressure: 5 – 75 psi pH Range: 2 – 12 (4 – 10, if copper removal is implemented)
Sampling Scheme	Standard configuration: Dead-end type, input line pumped out prior to each measurement, stagnant between measurements With optional continuous flow: Custom plumbing on external rack

System

System/SCADA Interface	Four 4 – 20 mA outputs RS-232/485/422 Ethernet
User Interface	Display: 4 line X 20 characters, sunlight readable. Dedicated function keys for: system initialization and test, automatic operation, manual maintenance, sampling and data acquisition setup
Annunciator Interface Electrical	2 alarm relays, plus 6 relays to control external solenoid valves 100-130VAC, 50/60Hz (option for 200-260VAC 50/60Hz) 200W
Operating Conditions	Temperature (standard configuration): 10°C to 40°C Temperature (with optional weatherproof enclosure): -20°C to 50°C Humidity: <95%, non-condensing
Monitor Cabinet	NEMA 12 rated Houses all electronics and measurement fluidics User-friendly, front panel HMI
Reagent Cabinet	NEMA 12 rated Houses Standard Reagent Tray
Maintenance Schedule Reagent Consumption	Semi-annual maintenance Standard Reagent Tray provides up to 1000 measurements (Replenished monthly at continuous sampling of four sample streams)

Options

External Rack	Houses sample manifold & sample pressure regulation and filtering Supplies waste drain connection and waste carboy Provides D.I. water generation
Weatherproof Enclosure	NEMA 4X system enclosure Environmentally controlled enclosure: with /air conditioner, heat
Sample Preparation	Copper removal module Filter system



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