MetalGuard PRS

Real-time Corrosion and Metals Release Risk Alert System

The MetalGuard PRS system provides a unique solution for drinking water utilities and commercial/industrial heating and cooling systems to continuously assess and anticipate the risk of iron, lead, and copper (Fe/Pb/Cu) corrosion with release into system water, enabling timely actions to safeguard consumer health and protect infrastructure integrity.

The MetalGuard PRS system combines two proven technologies—PRS Monitoring Station® (manufactured by Process Research Solutions, LLC) and MetalGuard™ online trace metal water quality analyzer (manufactured by AMS, Ltd.)—into one integrated solution to provide daily alerts for corrosion and metals release of Fe/Pb/Cu needed to proactively manage health and infrastructure risk.

Shown are two MetalGuard™ analyzers operating within the integrated MetalGuard PRS system, one dedicated to lead and one to copper.

MetalGuard PRS Features

- Continuous system monitoring: Provides daily estimation of maximum potential Fe/Pb/Cu release, and has the ability to detect emerging upward or downward trends. Each contaminant is monitored by a dedicated online MetalGuard analyzer that provides real-time data on dissolved, particulate, and total metal levels.
- Corrosion control evaluation: Using the chemical dosing ports on the PRS Monitoring Station and accessory dosing kits, direct comparison of the effectiveness of alternative treatment chemicals under controlled real-world conditions before implementation can be performed, providing a safer path to system implementation. The use of conditioned new metal plates, where scales and biofilms have developed at the same time, allows for proper experimental design and unconfounded statistical analysis.
- System transition readiness: A risk assessment of new water sources or treatment modifications before and after implementation can be performed, enabling safer system transitions.

MetalGuard PRS is a modular system (<10 ft^2) that can be easily deployed and installed into existing water treatment plants, well houses, pumping stations, pressure-reducing stations, and building mechanical rooms. This flexibility enables utilities and facilities to assess the metal release potential of water entering the system, as well as track the impact of water age, system hydraulics and other system operating parameters on metals release across various system zones. The results support smarter, faster decision-making to ensure effective health and infrastructure integrity risk control.

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