



Agilent Case Study: Cooling Unit Failure

Proactive Maintenance Prevents LC System Downtime

Agilent
CrossLab
From Insight to Outcome

Agilent CrossLab Connect suite offers customers confidence through insightful, predictive monitoring

A partnership to boost performance

In late 2023, a high-throughput toxicology laboratory and leading provider of customized drug screening solutions—via a proprietary line of rapid-testing devices—partnered with Agilent to help their lab operations team identify factors limiting performance and recover available sample processing capacity. The first deployment focused exclusively on several LC/MS assays.

When power spikes signal trouble

By June 2024, the CrossLab Connect suite detected unusual behavior on one of the monitored LC systems: a period of abnormally high power consumption during a specific phase of the operational cycle. The fluctuation persisted in subsequent runs, indicating the anomaly would likely continue without intervention.

The lab operations team was alerted to the recurring anomaly and began triaging the issue to understand its root cause and impact on performance. They discovered the cooling unit of the LC system's autosampler was beginning to fail. The increase in power consumption was caused by the unit drawing more power—and for longer periods—to function. Further data analysis confirmed the cooling unit was struggling to maintain internal temperature within acceptable ranges, making full replacement necessary.

From crisis to controlled maintenance

The early warning from CrossLab Connect allowed the lab to act before the failure escalated. Instead of facing an extended period of unplanned downtime, the team scheduled a routine maintenance window to replace the cooling unit. This proactive approach minimized disruption and ensured continued operational stability.

The payoff: reliability and efficiency

Because CrossLab Connect detected the first signs of failure, the lab proactively replaced the cooling unit before the entire system went down unexpectedly. This action significantly reduced downtime and likely prevented other failure-related issues such as sample degradation from high temperatures and cascading workflow bottlenecks.

The proactive approach delivered measurable benefits: the lab avoided unplanned downtime, maintained sample integrity by preventing temperature excursions, and improved operational efficiency through scheduled maintenance rather than emergency repairs.

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