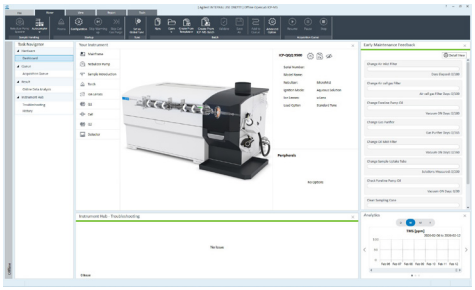
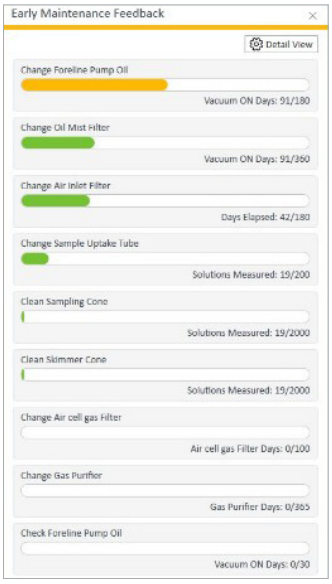
Proactive Instrument Health with On-Demand Diagnostics—All-in-One Dashboard for ICP-MS



The dashboard of Agilent OpenLab ICP-MS software serves as a central visual hub, providing an at-a-glance overview of instrument status, configuration, and maintenance-related insights. It presents the instrument configuration, EMF, and quick access to guided troubleshooting, allowing you to rapidly assess system status and respond to maintenance or error conditions.



Color-coded EMF alerts address common reasons for service calls, such as reduced precision from worn pump tubes or reduced sensitivity from dirty interface cones.

By alerting the analyst to a problem and then guiding them through the process of fixing it, the expense and downtime of a service call can be avoided.

Addressing everyday operational challenges

Reliable ICP-MS performance and data quality fundamentally depend on consistent maintenance and comprehensive system awareness. Despite this, many laboratories still operate on fixed schedules or respond only after problems become evident—often lacking real-time insights into instrument status. This approach can lead to unnecessary maintenance, delayed interventions, declining performance, failed analyses, and costly downtime.

To overcome these issues, Agilent ICP-MS instruments feature advanced health monitoring, performance checks, and on-demand diagnostics integrated into a centralized, user-friendly dashboard.

- **Smart EMF** (Early Maintenance Feedback) tracks actual instrument usage, such as sample throughput and operating time of key components, and indicates when maintenance is required and when it can safely be deferred.
- **Automated performance checks** help confirm instrument readiness before analysis and assess system condition after batch measurement has completed.
- **Diagnostics** provides guided troubleshooting when instrument errors or abnormal conditions occur, helping users quickly identify the most likely causes and follow recommended corrective actions.

Agilent ICP-MS instruments facilitate proactive management by integrating usage-based maintenance feedback, guided diagnostics, performance assessments, and centralized visualization. This approach helps laboratories sustain consistent performance while reducing downtime and operational risks.

Automatic notifications of instrument maintenance tasks

EMF employs various sensors and counters to identify when maintenance is needed. The traffic light color system provides a visual cue, showing which tasks require immediate attention and which can be postponed.

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Maintenance tailored for different sample types and usage patterns

Using the EMF function, you can configure alerts for various instrument components, including the nebulizer, pump oil, and filters. These alerts can be customized based on your usual sample types. For instance, high-matrix samples might require more frequent maintenance than drinking water samples. By specifying the types of samples you analyze and the components you want to monitor, you can set maintenance alerts tailored to your instrument's usage.

Performance checks help start your day with confidence

Regular performance monitoring ensures high-quality ICP-MS data and helps prevent costly analysis failures. Agilent ICP-MS can perform automatic performance checks after each run, in addition to pre-run checks, so any issues can be identified and corrected before the next analysis begins. Combining performance checks with EMF alerts streamlines maintenance and cleaning decisions, removing guesswork.

Diagnostics

When an instrument error or abnormal condition occurs, diagnostics analyzes system meter values and status data to evaluate the likelihood of possible root causes. Based on this analysis, guided troubleshooting presents the most probable causes first, along with recommended corrective actions.

Visual and video-based guidance provides clear, step-by-step support during troubleshooting, allowing users to carry out actions with confidence—even if they are unfamiliar with the procedure.

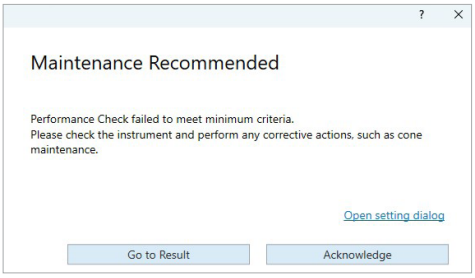
Reduce service visits and consumable costs

Many service calls and instrument downtime result from issues that operators could have prevented with early warnings or resolved on their own with proper guidance. The integration of maintenance alerts, diagnostics, and video instructions for routine installation, maintenance, and troubleshooting keeps Agilent ICP-MS instruments functioning effectively.

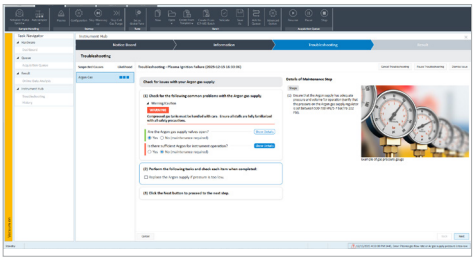
These tools also assist in cleaning and replacing sample introduction components and other high-wear parts, based on actual necessity rather than fixed schedules. This proactive approach supports more efficient use of consumables and ultimately saves time and money.

Compatibility

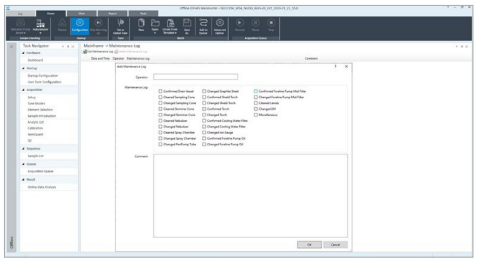
The features described in this document are supported in Agilent OpenLab ICP-MS version 1.1 and later. This software is compatible with the Agilent 7800, 7850, 7900, 8900, and 9500 ICP-MS instruments.



Performance Check notification indicating that maintenance may be required, with direct access to results.



A snapshot of troubleshooting using diagnostic functions. Combining software analysis with guided troubleshooting enables efficient resolution of instrument issues.



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DE-014934

Published in the USA, June 01, 2026
5994-2780EN

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