Smart Self-Health Checks for ICP-MS Instruments

Benefits of Agilent EMF

- Tracks maintenance tasks based on instrument usage to reduce unnecessary maintenance
- Monitors the number of samples measured and how long components have been operating
- Provides links to step-by-step instructions showing how to do maintenance tasks
- Ensures peak ICP-MS system performance whilst reducing wasted time

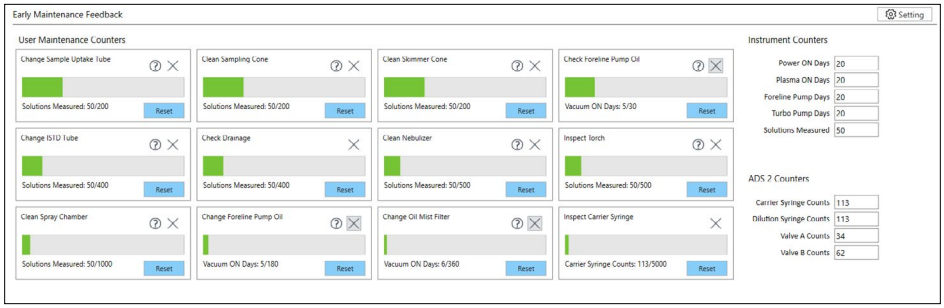
Automatic notifications of instrument maintenance tasks

The Early Maintenance Feedback (EMF) function of Agilent ICP-MS instruments uses a range of sensors and counters to determine when maintenance tasks are required.

Traffic light color-coding visually indicates which maintenance activities should be done immediately, and which can wait.

These self-health checks prevent insufficient maintenance causing costly unplanned downtime, or analysis failures. The checks also prevent maintenance that is too frequent, which also wastes time and can increase the cost of consumables.

Many labs do ICP-MS maintenance activities based on a calendar schedule. This approach doesn't factor in the actual usage of the instrument in terms of sample load—which is a better indicator of when maintenance is required. Performing the right amount of maintenance improves lab efficiency and reduces pressure on busy lab staff.



Color-coded alerts address common reasons for service calls, such as poor precision due to worn pump tubes, or poor sensitivity due to a dirty ion optics or cone interface. By alerting the analyst of a problem and then guiding them through the process of fixing it, the expense and downtime of a service call can be avoided. MassHunter versions 5.3 and higher also monitor the statistics and use of all parameters associated with the Advanced Dilution System (ADS 2)

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Maintenance tailored for different sample types and usage patterns

Using the EMF function, you can setup alerts for a range of instrument components, from the nebulizer through to pump oil and filter changes. The alerts can also be tailored to suit your typical sample types. For example, measuring high matrix samples may demand more frequent maintenance, compared to samples such as drinking water. By specifying the type of samples you run and the components you wish to monitor, you can create maintenance alerts tailored for your typical instrument usage.

Reduce service visits and consumable costs

Many service call-outs and the associated instrument downtime are caused by problems the operator could have avoided if warned early enough, or could have solved themselves with the right guidance. The combination of maintenance alerts and video guides for common installation, maintenance and troubleshooting tasks helps keep Agilent ICP-MS instruments productive.

Consumable replacement costs are also reduced by ensuring sample introduction components and high-wear items are cleaned and replaced only when necessary.

Performance checks help start your day with confidence.

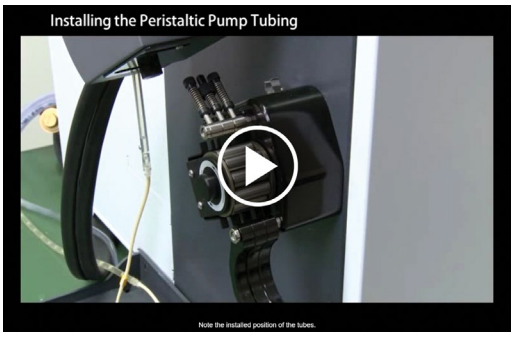
Regularly monitoring the performance of your ICP-MS ensures high-quality data and avoids costly analysis failures. Agilent ICP-MS can perform an automatic post-run check after a sample batch, in addition to any pre-run performance checks. Results from the performance check can be reviewed and any problems addressed before you start the next analysis. This avoids a common time trap of igniting the plasma (or starting sample analysis) in the morning and then finding that instrument maintenance is required.

If the post-run check finds a problem, you can review the indicators in the Early Maintenance Feedback function to identify the likely cause. For example, a poor sensitivity alert may be due to the cones needing cleaning. Poor precision may be due to pump tubing being worn.

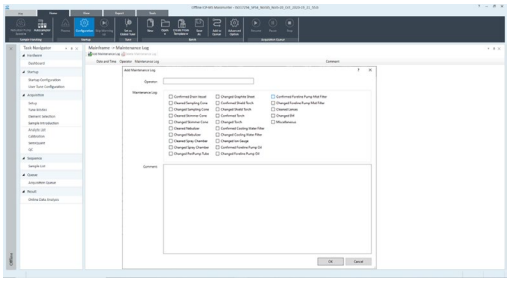
Using both the Early Maintenance Feedback alerts and the data from performance checks will take the guess work out of getting maintenance and cleaning of your instrument right.

Compatibility

The Early Maintenance Feedback function and post-run performance check are available with Agilent MassHunter version 5.1 or later. This software is compatible with the Agilent 7700*, 7800, 7850, 7900, 8800* and 8900 ICP-MS instruments. Early Maintenance Feedback including the Advanced Dilution System (ADS 2) is available from MassHunter 5.3 onwards.



Overused or incorrectly installed pump tubing often leads to analysis failure and the expense of troubleshooting. Agilent ICP-MS instruments continuously monitor all operations alerting you when the pump tubing needs replacing. Online videos provide step-by-step instructions on how to replace the tubing.



A log of maintenance activities can be generated within the ICP-MS MassHunter software.

Agilent provides a range of high-quality ICP-MS supplies kits, to support many different applications.

www.agilent.com/chem

** The ADS 2 is not compatible with the 7700 ICP-MS and 8800 ICP-QQQ*

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