

Turn Cleaning Time into Productive Time

Agilent JetClean self-cleaning ion source for GC/MS





Remove Matrix Deposits from the Ion Source— Without Removing the Ion Source

If your lab runs GC/MS analyses, manually cleaning the ion source is a time-consuming reality.

First you have to vent the MS, remove the ion source, and scrub the lens and other components. Then you need to put it all back together, pump down, and recalibrate the instrument. It's a labor-intensive process, but if you want good data, it has to be done.



Before



After

To imitate serious contamination in the source, we marked a lens with red ink, creating a significant Rhodamine 6 deposit. The JetClean self-cleaning ion source removed the deposit and restored performance with one automatic cleaning cycle.

Now, There's a Better Way to Clean Your GC/MS Ion Source



Free yourself from manual ion source cleaning

The patented Agilent JetClean self-cleaning ion source greatly reduces—or even eliminates—the need for source cleaning on Agilent single and triple quadrupole GC/MS systems. A carefully controlled flow of hydrogen ensures that the ion source is kept free from contamination, protecting the integrity of your results. And there's no disassembly required.

With innovative JetClean technology, your lab can:

- Increase instrument uptime. Fewer manual cleanings maximize productivity.
- Maintain data quality. A clean ion source ensures run-to-run reproducibility.
- Enhance operator convenience. Automated cleaning requires virtually no user intervention.

What's more, JetClean technology accommodates any workflow. You can clean and analyze simultaneously, or clean when you're not acquiring data. Either way, JetClean delivers more uptime, more great results, and more data for your dollar.

Compatibility information

The Agilent JetClean self-cleaning ion source is available as an option on new Agilent single and triple quadrupole GC/MS systems. It can also be retrofit to these existing Agilent systems:



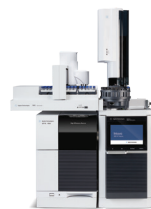
5977A/B



7000B/C/D



7010A/B



5977B with Intuvo

"The nature of our work meant we had to clean the ion source on our previous, non-Agilent GC/MS about once every two weeks. Since we started using the Agilent GC/MSD with JetClean, the source has been cleaned once in nine months meaning our instrument spends more time running samples and generating data—and our users spend less time having to remove, clean, and reinstall the source. JetClean has been a tremendous benefit on instrument uptime and lab productivity."

– **Dr. Noga Sikron Persi**
Ben-Gurion University
Metabolomics Laboratory

Real-World Advantages

Greater Convenience, Improved Data Quality, and Lower Operating Costs

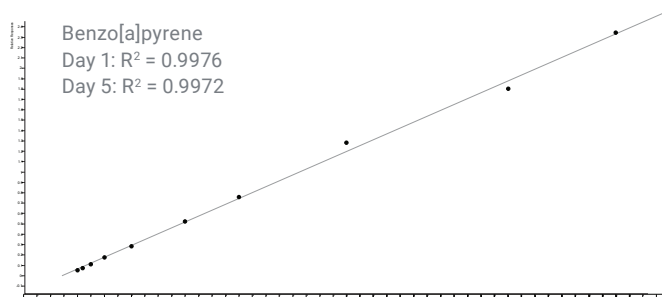


Satisfying the most demanding quality-control criteria

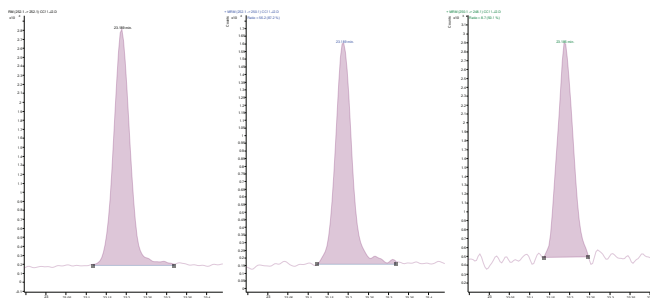
PAHs (polyaromatic hydrocarbons) were measured in palm oil after only a simple toluene extraction. Various concentrations of calibration, QC samples, and palm oil extracts were analyzed during a 5-day, 200-injection evaluation. The results show remarkable and maintained linearity, precision, low detection limits, and unmatched robustness.

Area %RSD (n=12)	Benzo[a]anthracene	Chrysene	Benzo[b]fluoranthene	Benzo[a]pyrene
Day 1	1.8	1.2	1.9	1.7
Day 5	2.9	4.3	2.8	4.9

The area response of 1 µg/kg spiked palm oil extract remained very stable during the 5-day study, resulting in less than 5% area response RSD.



Excellent linearity: calibration ranging from 1 to 100 ng/mL with R^2 values > 0.997.



Quant and qualifier ion plots of Benzo[a]pyrene at 1 ng/mL. Robust signal and Gaussian peak shape were maintained during the study.

“We have been using a GC/MS system with JetClean source for more than one year. During this time, we did not need to clean the ion source. Data intensity was stable during this time... It is a very powerful technique to our research.”
– Analysis of Polymers with Pyrolyzer

– Professor Hajime Ohtani
The Nagoya Institute

How Much Could Your Lab Save by Cutting Cleaning Time by up to 90%?



See for yourself

Plug in the numbers that are relevant to your lab and see the actual impact JetClean can have on your operation.

Number of manual cleanings per year	<input type="text"/>
Operator time per cleaning event (in hours)	<input type="text"/>
Hourly wages of operator	<input type="text"/>
Number of samples per eight-hour shift	<input type="text"/>
Revenue per sample	<input type="text"/>
Instrument downtime due to cleaning and recalibration (in hours)	<input type="text"/>

Reset form

Actual savings are dependent on the application

Potential cost savings achieved by using the JetClean self-cleaning ion source

Cost Factor	Without JetClean	JetClean in Acquire-and-Clean Mode	JetClean in Clean-Only Mode
Number of manual cleanings or estimated cleanings per year			
Labor (wage) expense per cleaning event			
Yearly cleaning labor (wage) cost			
Revenue loss per cleaning event (downtime)			
Yearly revenue loss to cleaning (downtime)			
Yearly "cleaning cost" (wages + revenue loss)			

JetClean yearly savings

▲ See how much your lab could save

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