

AP3900 - Automated Water Analysis Increases Efficiency at One of Europe's Largest Oilseed Processing and Refining Complexes



Applications



Margarine



Edible Oils, Bakery Products,
and Frying Oils



Pharmaceutical-Grade
Glycerin



Biodiesel

Background

The production site is one of Europe's largest facilities for oilseed processing and refining. It manufactures high-quality vegetable oil products for applications including **margarine, edible oils, bakery products, frying oils, pharmaceutical-grade glycerin, and biodiesel.**

To ensure consistent product quality and reliable plant operation, process water, cooling water, raw water, and boiler water are continuously monitored. Water analysis plays a critical role in maintaining process reliability, operational efficiency, and compliance with regulatory requirements.

Challenge

As production volumes increased, the laboratory required faster, more reliable, and highly reproducible water analyses. At the same time, there was a need to improve laboratory efficiency, reduce manual workloads, and ensure complete traceability of analytical data.

Solution

To automate routine water analysis, the **Hach® AP3900 Lab Robot** was integrated into the laboratory workflow.

The system performs automated sample preparation and photometric analysis of multiple water quality parameters, eliminating repetitive manual tasks. Standardised workflows improve result consistency, reduce operator intervention, and enhance overall data quality.

Commissioning and user training were provided by Hach application specialists, enabling rapid integration into existing laboratory processes.

Benefits

- Automation of routine water analyses
- Higher sample throughput while maintaining consistently high analytical quality
- Standardised, reproducible measurement results
- Reduced manual laboratory work
- Improved data integrity and traceability
- Enhanced laboratory safety through reduced reagent handling

Solution and Improvements

Automation Creates Capacity

The implementation of the Hach AP3900 automated and standardised routine laboratory analyses.

The lab robot independently performs sample preparation and analysis, significantly reducing manual effort while minimising operator influence and improving result reproducibility.

Its intuitive software supports both instrument control and data management, making integration into existing laboratory workflows straightforward.

Greater Efficiency in Daily Laboratory Operations

Automation optimised everyday laboratory processes, delivering several key improvements:

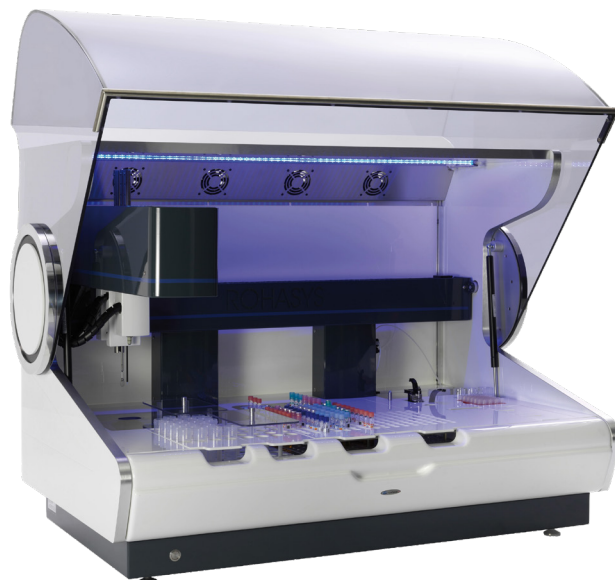
- More efficient processing of routine analyses
- Increased process reliability
- Reproducible and dependable analytical results
- Simplified documentation
- Reduced workload for laboratory personnel performing repetitive tasks

As a result, laboratory staff can dedicate more time to complex analyses and quality assurance activities.

Conclusion

In modern food and vegetable oil production facilities, reliable water analysis is essential for ensuring product quality, process stability, and plant availability.

The Hach AP3900 Lab Robot enables laboratories to automate and standardise routine analyses efficiently. By delivering reproducible results, reducing manual effort, and improving laboratory productivity, the system allows valuable



AP3900 Multi Laboratory Robot

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