

The Future of Sample Preparation and Analysis has arrived

Introducing the accroma®
SamplePrep System



Intelligently optimizing the workflow process from sample to knowledge with uncompromised accuracy

Traditional Sample Preparation Techniques Need to Change



Sample preparation is one of the most vital parts of any laboratory workflow. **Unfortunately, more than 30% of all errors occur during this specific phase**, leading many laboratories to identify that sample preparation and analysis is **the most frustrating and expensive component of the workflow**.



While analytical technology has evolved remarkably over the last two decades, most **sample preparation still relies on antiquated manual techniques** that can produce unreliable results and highly variable reproducibility.



Notably traditional sample preparation workflows still consists of weighing, extraction, and cleanup, all of which use manual sample transfer steps and is **largely vulnerable to human error**.



A multi-faceted automated sample preparation solution that optimizes the workflow process is a laboratory necessity

Introducing the accroma samplePrep system that automates the entire sample preparation process for solid, semi-solid and liquid samples across multiple industries.



Pharma



Environment

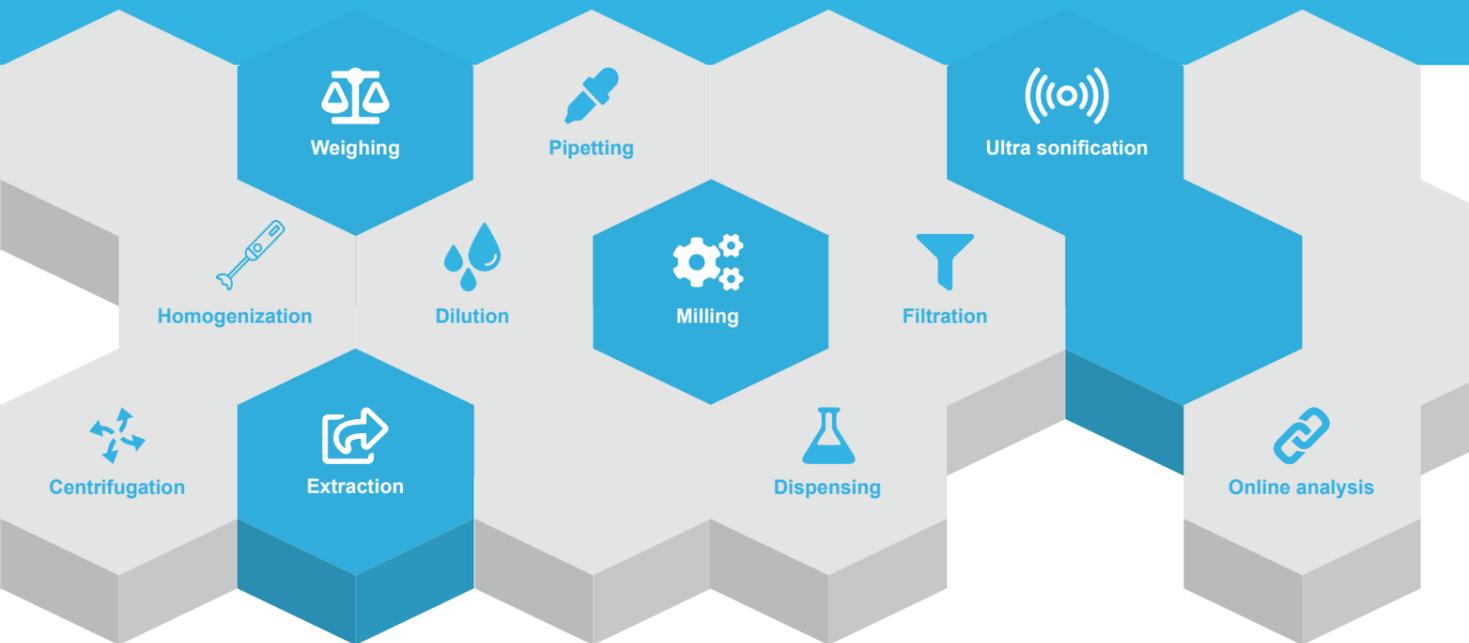


Food



Cosmetics

The accroma samplePrep system offers innovation and precision where it is needed most, optimizing the whole workflow process, from sample to knowledge, with uncompromised accuracy.



The accroma SamplePrep System offers many advantages over manual sample preparation

Superior Accuracy

- Minimize Human Errors
- Less variability through standardization



Improved Efficiency

- Shorter cycle times and up to 90% reduction in hands-on sample preparation time
- Straightforward method transfer
- High flexibility



Reduced Costs

- Up to 90% reduction in labour costs
- Less commercial space required



Improved Compliance

- Verifiable Documentation & Traceability
- Fewer deviations in workflow events



User Friendly



Technical Data

Voltage: 100-240 VAC
 Frequency: 47-63 Hz
 Dimensions(W x D x H): 144 x 113 x 200 cm
 Weight: 425 kg (Basic configuration)



Analytical Balance

Manufacturer: Mettler-Toledo
 Max load: 410g
 Precision: ± 0.1mg
 Linearity: ± 0.4mg



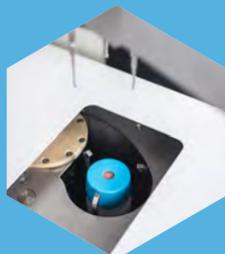
Filter Dispenser

Capacity: 160 Filters



HPLC Vial Rack

Capacity: 64 Snap Ring Vials
 64 Caps



Shaker

Functions: Dry milling
 Homogenisation
 Extraction

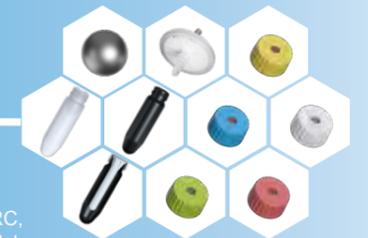


Liquid Module

Functions: Dispensing
 Pipetting
 Filtration



Consumables



Filters
 Pore size: 0.2µm
 0.45µm
 Materials: PTFE, RC,
 PVDF, Nylon

accroTubes
 Tube size: 120ml, 15ml
 Material: PE HD
 Colors: white/black

Steel balls
 Steel ball size: 16mm, 22mm

Screw Caps
 Material: PE/Butyl/Rubber/PTFE
 Colors: white/blue/green/red/yellow

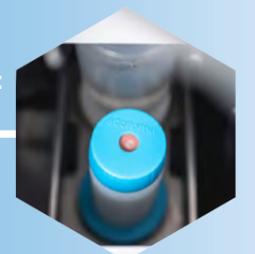


Extraction Tube Rack

Capacity: 124 positions for
 tubes & filters



Online analysis interface



Second Extraction module: Ultrasonic bath or Shaker

Options +



Centrifuge

Manufacturer: Hettich
 Maximum rotation speed: 4600 rpm
 Temperature control: -20 C to 40 C

Total Workflow Solutions From Sample to Knowledge with Superior Accuracy

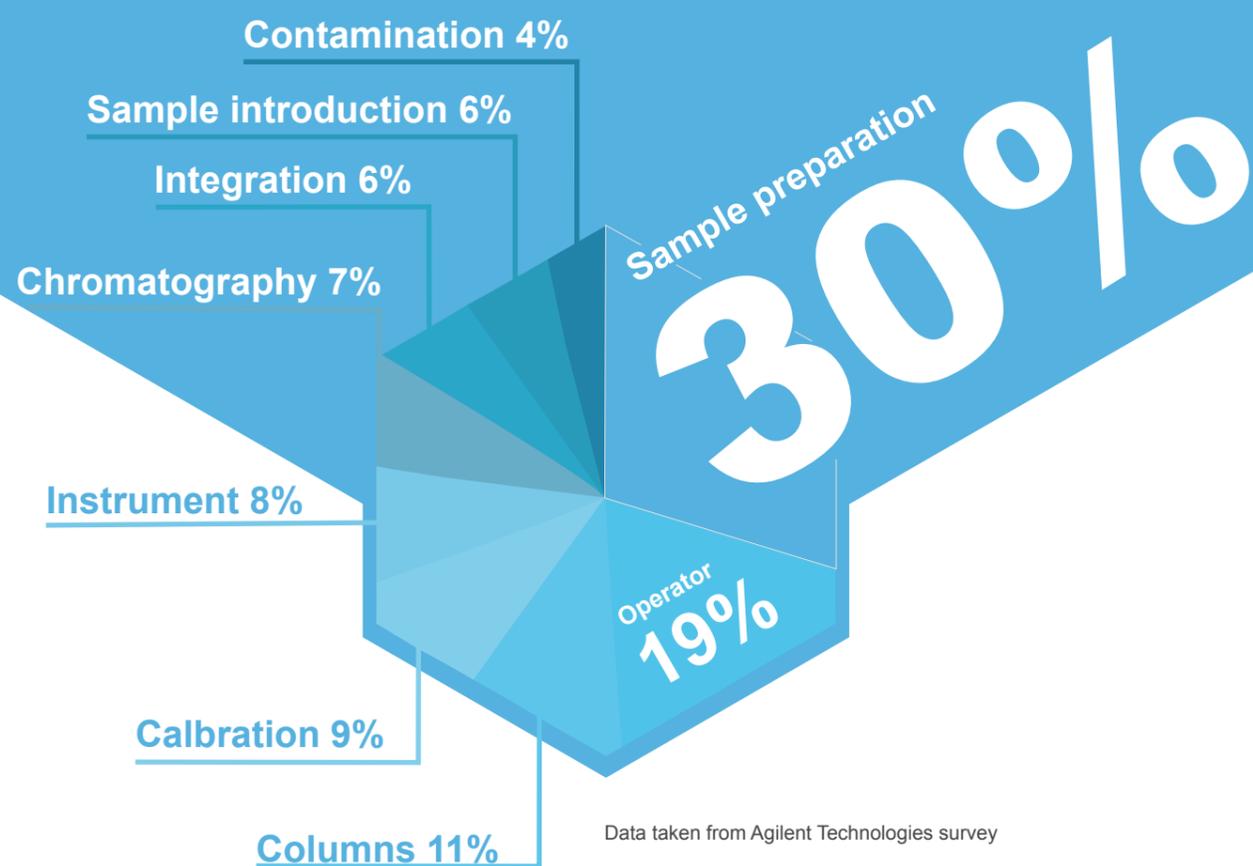
Minimize Human Errors

Even the easiest sample preparation can be the source of multiple errors. In relative terms, 30% of all errors in chromatography derive from sample preparation and another 19% from the operator. Human errors lead to incorrect results, deviations, and time-consuming investigations. By using accroma automated sample preparation, the sources of human errors are minimized.

Less Variability

It is very difficult to standardize methods and precise sample preparations within and between laboratories, especially when methods must be transferred from one location to another. Sample preparation methods are often written with room for interpretation of equipment and procedures, making standardization difficult to achieve. This can lead to variability in the data. The accroma system provides repeatability and reproducibility, therefore the exact same methods can be simply implemented in different laboratories all over the world.

Sources of error generated during chromatographic analysis



Swiss Automated Precision that is Efficient and Flexible



Up to 124 different samples & workflows with one run

Reduce Precious Time

The accroma automates the entire sample preparation process. From weighing the sample, to extraction, to transferring it into the analyzer, the system works autonomously. It enables "sample IN – result OUT" even for the most complex samples and workflows. It results in a significant reduction of cycle and hands-on times. You will get results earlier and can use your time and resources smarter.

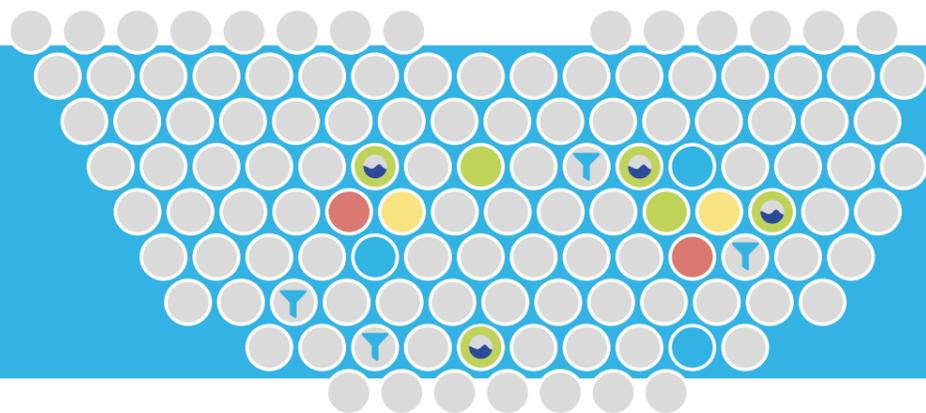
Simple Method Transfer

Method transfers between different people or even locations can be frustrating as equipment and techniques are difficult to standardize. The import of a workflow file on an accroma system is all you need for a successful method- / technology transfer.

No Cleaning - High Flexibility

Samples are prepared in disposable tubes spatially separated from each other. Therefore, cleaning of the disposable extraction vessel is not required and carry over between samples is not an issue. These features make the system very flexible and fast while minimizing the usage of solvents, compared to other automation solutions.

The system handles different workflows without changing the setup:
Samples can be prepared from low to high quantity while saving hands-on time

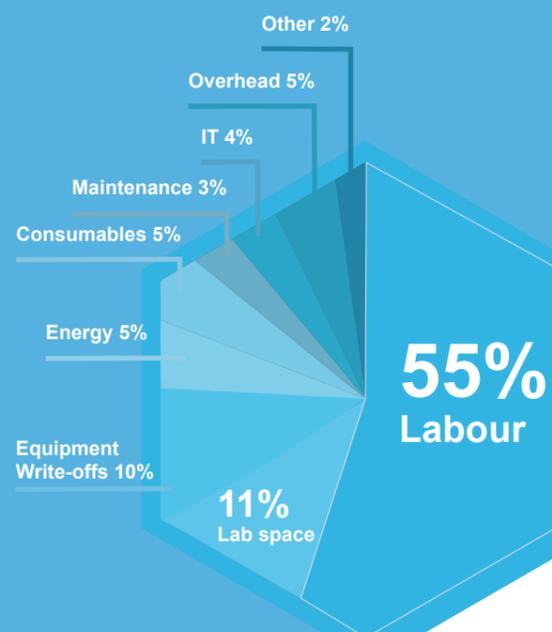


Rack for positioning accroTubes and filters. The tubes can be loaded with samples, solvents, or powders (as reagents)



On / Offline Analysis

Breakdown of Laboratory Costs



Data taken from Agilent Technologies survey



Automation that Allows for Significant Reduction in Laboratory Costs

Reduction in Laboratory Space and Labour Costs

Approximately 66% of the laboratory costs are personnel and infrastructure. One of the biggest advantages of accroma is that it automates the manual workflow process, thereby saving considerable hands-on time, up to 90%. It also does not need expensive laboratory space and can work in a regular ventilated commercial space. The robustness of the system allows it to operate 24/7.

Improved Compliance Through Better Traceability and Fewer Deviations

Better Documentation

Manual sample preparation also requires manual documentation, which is very inefficient. Due to the limited options regarding documentation, it is problematic to retrospectively find the source of the errors. However, during automated sample preparation, the data is registered with each sample in real time. Every system setup, login, and modification, such as opening the door is checked and recorded. By using the accroma system, all of the information regarding each sample preparation run can be verified and traced.

Minimize Costly Events

Deviations can result in serious problems such as delayed market release or withdrawal from the market. Every deviation requires extensive documentation and auditing. These issues can be avoided by using the accroma system because everything is automated and digitized, allowing each step of a given workflow to be consistent and precise. Furthermore, the accroma system provides a safe working environment in the laboratory by reducing exposure and avoiding accidents from glassware.

Easy to use Software with Assured Data Integrity

The accroLab software was developed to increase efficiency and minimize time consuming procedures with a strong focus on ease of use. Using a drag and drop workflow editor, methods and workflows can be created or adapted easily and quickly. No programming or automation skills are needed to operate this robotic system. The system parameters and operations are recorded in real time and can be found later through advanced search functions. Individual user rights can be assigned to users in different roles and data records can be released by using electronic signatures.

The accroLab software offers a high level of data security and is CFR 21 Part 11 compliant.

When the accroma system is coupled with an analysis device, interfaces to Chromatographic Data Systems (CDS) are available.



accromate*

SG 2021/08/01
**wrong term it is also about
standardization and digitalization*

~~Automate~~ your sample preparation!



Address

accroma labtec Ltd.
Rothausstrasse 61
CH-4132 Muttenz
Switzerland

Contact

info@accroma.com
+41 (0)61 312 58 88
accroma.com

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