



Biobanking solutions

Aliquoting, preparation and formatting of biological samples for long term storage

Pre-analytical sample handling for blood and urine

Do you need to check-in, aliquot and archive biological samples?

If so, Tecan has your complete workflow covered.

Tecan offers fully automated solutions for pre-analytical sample handling based on a compact and versatile platform. The Freedom EVO®-based workstation is a modular, front-end automation system with the flexibility to fit into your existing laboratory workflow, taking care of the most labor-intensive and error-prone procedures, including sample sorting, sample volume inspection, centrifugation, decapping and sample aliquoting into plates and tubes for distribution or archiving.



The system scans arriving samples from a single or multiple locations and either notifies your LIS/LIMS system or creates its own inventory of samples.

1

Reception and identification



An integrated centrifuge allows fully automated loading, balancing and centrifugation of samples. Time, temperature and speed can be customized to meet your exact sample handling requirements.

2

Centrifugation



The tube inspection unit determines the separation levels between serum and blood cells or separation gel, and calculates the sample volume available for aliquoting.

3

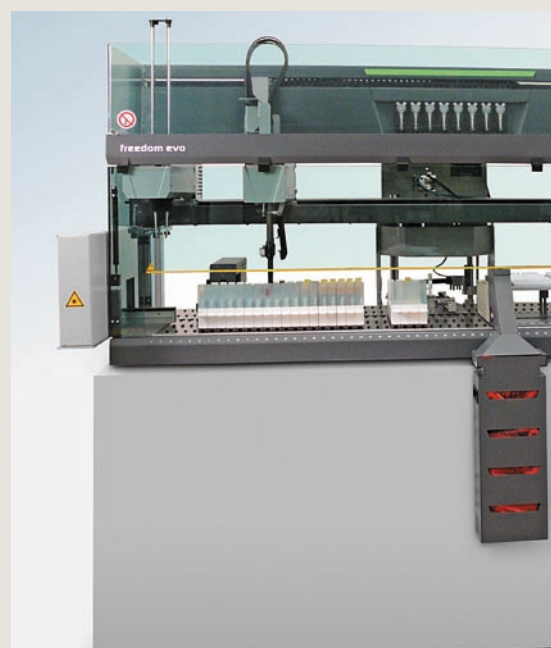
Tube inspection



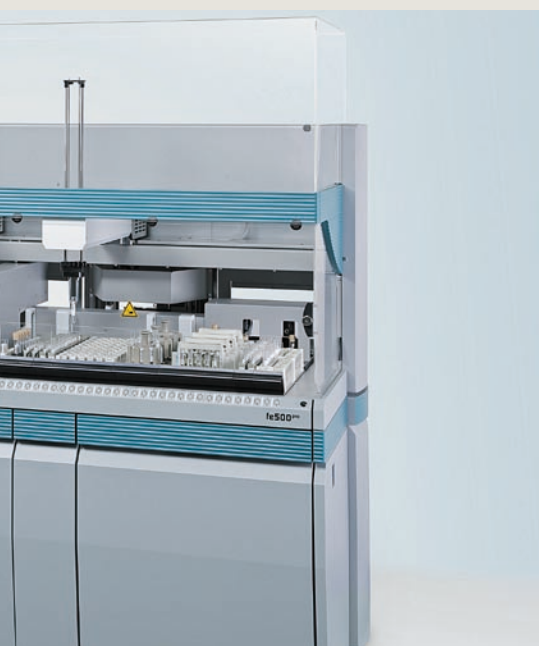
The decapping device detects and removes most cap types commonly used in biobanking and clinical laboratories. To avoid cross contamination, decapping is performed off-line with aerosol protection.

4

Decapping



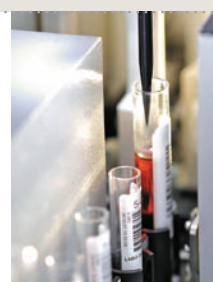
With the growth of the biobanking arena, there is an increasing need for the capacity to rapidly and efficiently handle incoming blood and urine samples prior to down-stream processing or storage. Tecan has a wealth of experience in biological sample handling and preparation for genomic applications and clinical diagnostics, and has developed a bespoke workstation to address the specific needs of this application.



5

Aliquoting

Secondary tubes or plates are generated using either a single or multichannel pipetting arm, with features such as liquid level detection and clot detection to ensure Tecan's renowned pipetting accuracy.



6

Nucleic acid sample preparation

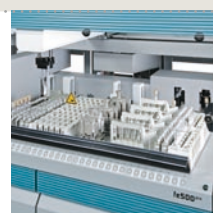
The Freedom EVO allows use of a wide range of DNA extraction chemistries, and has already been successfully used with extraction kits from Invitrogen®, Promega®, Qiagen® and Whatman®.



7

Sorting

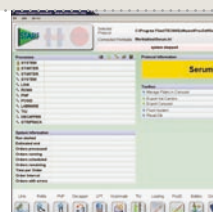
The system is able to sort primary and secondary tubes or plates according to down-stream processing or storage requirements.



8

Software

Tecan offers full software flexibility, customizable to meet your exact needs, with integrated data generation, handling and storage.



A lifeline for sample processing



The University Medical Center Groningen, Netherlands, is using custom biobanking solutions from Tecan to perform front-end sample management and aliquoting for its LifeLines population study.

"A variety of biochemical and genetic tests are performed on each sample in the LifeLines biobank, requiring generation of 48 separate aliquots of material from each individual. Tecan was able to develop a bespoke front-end system to meet our high throughput requirements, offering complete automation of the sample preparation workflow, from tube identification and decapping through to sample sorting for archiving and analysis. This entire process is performed very quickly, and samples are cooled during processing to ensure that sample integrity is maintained. Automation is also very important for sample tracking, avoiding the inevitable

loss or mislabeling of samples that would arise during manual processing on this scale, and allowing any erroneous results to be traced back through the entire workflow. We originally chose to work with Tecan due to a combination of competitive pricing and application flexibility, and have been very happy with our decision. The service and support we receive has been good, and the Tecan name is a good assurance of quality." Jacko Duker, Biomaterials and Cryofacility Manager for the LifeLines project.

Bespoke solutions designed with you



Tired of putting up with inadequate equipment?

With Tecan Integration Group (TIG), you can transform your needs with a fully automated solution.

TIG uses its thorough understanding of laboratory automation and extensive project management experience to help fulfill your automation goals, working in close collaboration with you from the very start. Every project begins by carefully outlining your laboratory's requirements, and TIG assists you in designing a system that perfectly matches your workflow. TIG then develops automated protocols specifically for your samples and labware, integrating all the necessary hardware modules to offer excellent pipetting performance and reliable, fully automated operation.

A dedicated project manager provides a single point of contact, ensuring regular updates on the progress of your system and a thorough understanding of your exact needs. Once your system has been completed, you are invited to TIG's production facility for a Factory Acceptance Test, to ensure that the platform and software are performing to your requirements. We will then help you to verify your automated applications, both at the factory and following installation in your laboratory, prior to the final Site Acceptance Test. TIG has already completed more than 600 highly successful projects, so take advantage of Tecan's flexible Freedom EVO platform for automation of your biobanking workflow.

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