

## Freedom EVO®

Freedom to evolve in your laboratory

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# Fully automated liquid handling and robotics for the life sciences and diagnostics

## One platform: unlimited options, individual solutions

The Freedom EVO Series offers four different worktable capacities each with building-block modularity that brings precision liquid handling, easy-to-use robotics and advanced process control within reach of every laboratory scientist. The flexible Freedom EVO platform enables you to create your system according to your specific needs with the help of our automation specialists or to select a pre-configured automation solution for your application.

Each Freedom EVO Series workstation offers

- System reliability
- Precision robotics
- Advanced & proven liquid handling
- Standardized and intuitive user interface and communications
- Dedicated worldwide applications and technical support...

...ensuring that, even across multiple systems, scientists can quickly achieve assay consistency at different scales, reduce training and support costs and still guarantee extensibility.

Furthermore, the Freedom EVO Series workstations allow customization through

- Choice of application solution
- Scalability & upgradeability
- Required throughput & capacity
- System configuration flexibility...

...ensuring that each Freedom EVO will not only meet immediate needs exactly, but keep pace as requirements in the lab change, or as new applications need to be pursued.

**Freedom EVO 75** – compact liquid handling power for small life science laboratories in academia, biotechnology research and analytics – The configurable Freedom EVO 75 supports applications such as DNA extraction, amplification set-up, sample dilution, normalization and assay development. An optional robotic manipulator arm enhances the system to provide a complete process automation platform in a small footprint.



Nucleic acid sample preparation on a Freedom EVO 75

**Freedom EVO 100** – A small, liquid handling workstation offering state-of-the-art liquid handling capabilities and optional robotic functionality for general purpose pipetting in all small-to-medium throughput laboratories, e.g. in pharmaceutical, forensic and quality control laboratories.



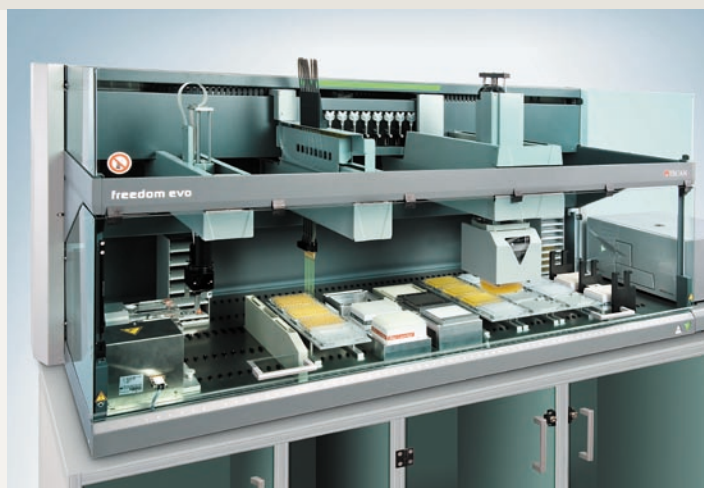
Fast and easy plate replication in 96 and 384 channel format

**Freedom EVO 150** – A core element in managing liquid handling and robotics tasks in busy, small laboratories or medium to high throughput research and diagnostic laboratories. The larger footprint significantly increases the interface area of devices enabling a broad range of complete process automation solutions for analytics, molecular biology, pharmaceutical discovery and validation, forensics, analytical chemistry and food quality assurance.



Sample preparation

**Freedom EVO 200** – A unique multi-functional robotic platform for all large scale and high throughput applications. The largest of the Freedom EVO Series workstations, provides an extensive work area and variable configurations through the choice of liquid handling and manipulative robotic arms. The Freedom EVO 200 offers the laboratory total automation of a diverse range of applications including primary and secondary screening, cell growth and maintenance, nucleic acid sample preparation, hit picking and library management and sample weighing.



Multi-assay development system

# The Tecan advantage

## Performance without compromise

**Liquid handling flexibility.** The Freedom EVO workstations enable you to configure your instrument specifically for the needs of your application. 1, 2, 4, and 8 channel arms offer a volume range from 100 nl to over 10 ml and even higher. One or two liquid handling arms can be integrated, providing 16 channel capability. Multi-channel pipetting is possible in 96- and 384-channel options. A choice of washable or disposable tip combinations provides accurate handling of aqueous, organic or biological solutions and suspensions.

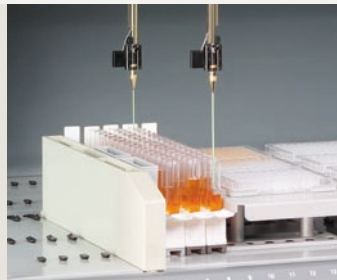


384-channel pipetting head



Combination of fixed and disposable tips on two liquid handling arms

**Tip spacing.** The 4- and 8-channel liquid handling arm offers variable y-spacing of 9–38 mm enabling sample transfers from and to a variety of labware types\*. The 2-channel liquid handling arm offers spacing up to 418 mm. Individual channel control on all systems enables applications such as hit picking or access to irregularly shaped reagent vessels. A variety of tip lengths can be selected help to ensure reduction of dead volumes when using tall containers\*.



2-tip arm spaces up to 418 mm



Tip spacing adjusts automatically between labware formats

**Laser precision.** The Tecan Positioning System (Te-PS™) offers unique refinement of absolute positioning of the pipetting tips over high density microplates or slides such as 1536-well plates and 864-well crystallization plates. In-process monitoring and real time correction of positional precision guarantee reliable unattended operation.

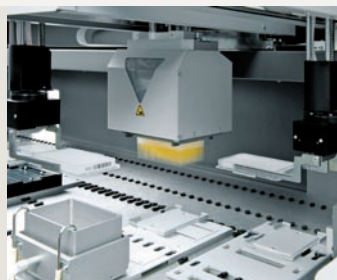


Pipetting into 1536-well plate



In-process monitoring and automatic laser alignment

**Unique extensibility and upgrade path.** Combine liquid handling and robotic resources using up to 3 arms on one platform. The Freedom EVO allows you to evolve as your needs change. It is possible to start with liquid handling only, for sample dilution or plate replication, and upgrade later with robotic manipulation for full assay automation. All arms can be easily upgraded or exchanged at your site.



Up to 3 robotic arms can be utilized in parallel.



Automated tube identification and sorting

\*Values may differ depending on instrument configuration.

**Liquid handling expertise.** Each liquid channel offers optimized pipetting parameters for a broad range of liquid types and volumes, fast liquid level detection, liquid availability check and preferential non-contact dispensing. Aerosol emissions are contained during disposable tip ejection and Tecan fast wash pumps ensure thoroughness and speed of tip washing for total system cleanliness.

**Parallel processing.** Tecan's instrument design offers liquid handling and robotic elements that work together to best automate your process and optimize your workflow. Parallel processing increases process speed, enhances throughput, ensures assay reproducibility and provides efficient use of all process resources.

**Intuitive software.** Tecan's Freedom EVOware® software guides users, at any skill level, in making protocols, via drag and drop, icon-driven implementation screens. Freedom EVOware comes with helpful information pads, application templates, creation wizards and 3-dimensional protocol simulation and is transferable between all Freedom EVO workstations.

**Freely configurable work area.** Tecan offers an extensive range of carriers for positioning standard labware on the worktable, e.g. tubes, plates, reagent bottles, slides. Carriers are positioned easily and may be removed routinely for re-loading or for reconfiguration for other assays.

**Barcode identification.** Carriers and labware can be identified automatically prior to and during the process to ensure integrity of samples, reagents and assays vessels.

**Ergonomic design.** Tecan's Freedom EVO Series offers small footprint solutions as well as unique vertical and efficient peripheral integration.



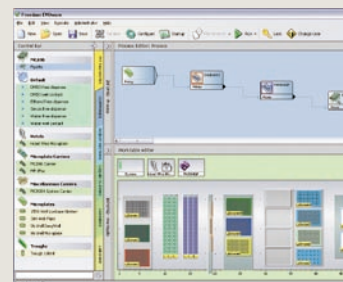
Low disposable tip ejection for aerosol-free disposal



Simultaneous liquid handling and labware movement



Plate transfer from incubator to reader does not interrupt pipetting



Easy software control of parallel devices



Complete range of labware carriers



The PosID™ allows barcode identification of tubes and plates



Compact solution configured for magnetic separation



Maximize laboratory space with vertical access to devices below the worktable

\*Values may differ depending on instrument configuration.

# Excellence in liquid handling

## Precision, whichever way you configure it

**Precision liquid handling arm.** The Freedom EVO's robotic liquid handling arm combines advanced pipetting precision with reliability and high throughput. It may be equipped with one, two, four or eight tips that access a variety of lab-ware at any point on the worktable\*. Each liquid-filled positive displacement channel transfers liquid volumes from source to destination, first detecting and tracking the liquid level to avoid over-submergence or disturbance of sample pellets or precipitates. It may perform mixing cycles in source or destination and can predilute in the same pipetting step enabling fast serial dilution sequences. The use of two liquid handling arms on one instrument enables unrivaled throughput and flexibility with 16 pipetting channels.

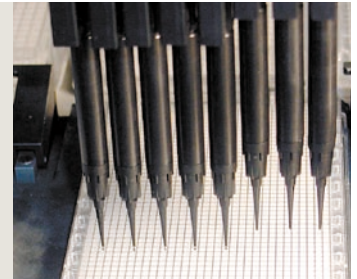
**Laser-guided precision positioning.** Tecan's ultra-positioning system (Te-PS) together with the high precision liquid handling arm, efficiently and automatically calibrates all tips throughout the application process thus assuring repeatably accurate and reliable pipetting into high density plate formats such as 1536-well plates and protein crystallography plates. Even variably-molded disposable tips can be calibrated to achieve the highest positional precision.

**Liquid handling versatility.** The liquid handling arm can be equipped with disposable tips from 10 µl to 1000 µl. Fixed washable tips are available with various chemically resistant and biologically appropriate coatings and lengths as well as dedicated tips for high density format pipetting and low-volume down to 500 nl. Freedom EVO's fast wash pumps wash tips efficiently, minimizing carry-over without affecting throughput. The range of 96 and 384 multichannel pipetting arms significantly raise the throughput of microplate-based assays.

\*Values may differ depending on instrument configuration.



Robust and versatile liquid level detection



10 µl disposable tips pipetting into standard 1536-well plate



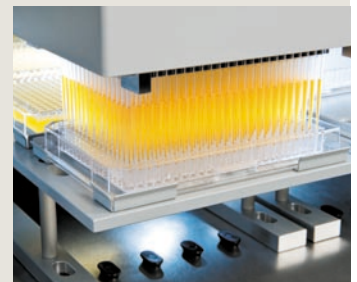
Laser positioning system evaluating tips in-process



Sample transfer to a microplate while shaking



Syringe pump selection optimizes liquid volume range.



384-channel pipetting for high speed replication



Low volume option maintains non-contact dispense at volumes below 1 µl.



96-channel pipetting head for sample preparation

# Revolutionary process control

## Simple, intuitive, flexible

**Adaptable, scalable solutions.** Powering Tecan's Freedom EVO Series is a superior, innovative software engine – providing software solutions that allow you to work more efficiently and adapt quickly to new requirements. User management, file protection and traceability features permit users to comply with the FDA's 21 CFR Part 11 Regulations.

**Flexible, easy-to-use software in a single package.** Freedom EVOware offers users a completely new and easy-to-use interface that optimally combines pipetting, robotics and scheduled operation of multiple devices in a single package. Pipetting wizards enable fast creation of standard pipetting patterns but allow individual step changes when required. Application templates aid first time users to introduce instruments quickly into routine use. Freedom EVOware delivers **scalability and adaptability** allowing assays developed on one system or in simulation to be easily transferred to another.

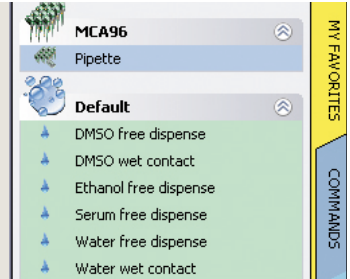
**Increased productivity.** Freedom EVOware provides automated scheduling optimization ensuring the most efficient assay execution, optimized throughput for multiple assays and ensuring maximum productivity. Parallel processing ensures that devices are used independently of each other to ensure that throughput is maximized. Freedom EVOware offers users a selection from over 75 application device drivers and the possibility to create drivers for new and custom modules.

**3-D simulation.** Freedom EVOware enables protocols to be created and simulated in realtime, allowing off-line checking of resource allocation and efficiency.

\*Values may differ depending on instrument configuration.



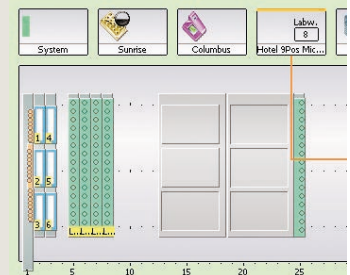
Fast and friendly automation allows users more time to work with results



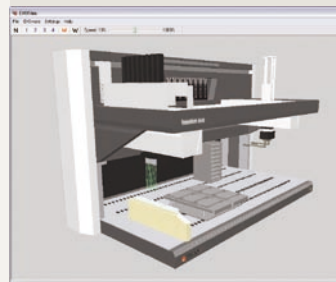
Simple icon device selection



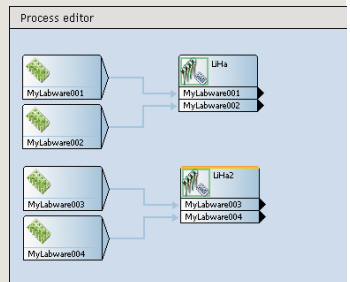
Application templates offer fast solution implementation



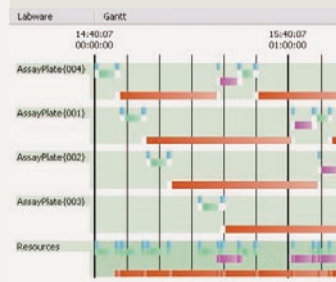
Drag and drop editor automatically adjusts robotic vectors



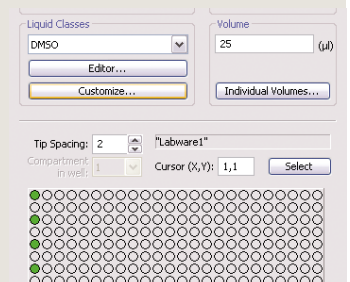
3-D simulator for offline assay development



Drag and drop icon driven processes



Dynamic or static process scheduling



Pre-optimized liquid classes assist fast pipetting implementation

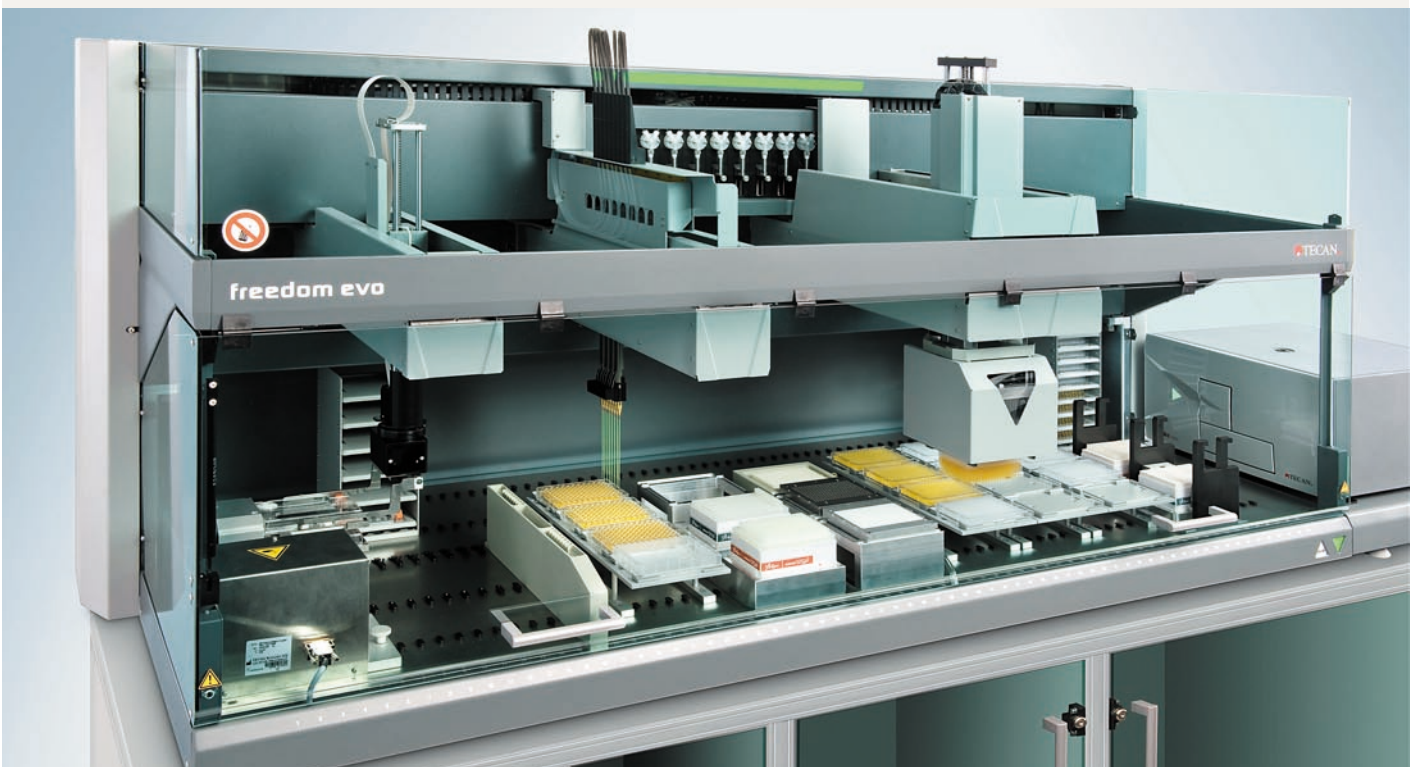
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## Freedom to choose

### Choice without compromise

**Plug-and-play modularity.** Six types of robotic arm are available: liquid handling; Pick and Place; robotic manipulator (standard or with extended Z-axis), MultiChannel Arm™ 96 and MultiChannel Arm 384. One, two or three arms may be mounted in appropriate combinations. Additional robotic arms be added or exchanged to previously installed systems in the field. The **customizable worktable** with versatile grid system allows fast location of virtually any labware for fast work area reconfiguration assisting multiple researchers to share a Freedom EVO platform and linking

location coordinates directly to the software for fast assay setup. The worktable may include carriers for tubes, micro-plates, reagent bottles and troughs as well as temperature control, shaking, or other process options, such as plate readers, washers, magnetic and vacuum separation devices.



MultiChannel 384 Arm for high throughput plate-based applications



With the Extended Volume Adapter (EVA) the 384-channel head can pipette up to 500 µl in the 96 well format

**Liquid handling arms** are available with one, two, four or eight pipetting channels – each is freely configurable for volume range and use with disposable or washable tips. Up to two liquid handling arms may be mounted on the Freedom EVO.

MultiChannel 96 or 384 Arm provide high performance plate replication, dilution and whole plate processing.



Up to 16 **XP Smart dilutors**- precision syringe pumps ranging from 50 – 5000 µl enable optimal match with tip type and required volume range. Mixed channel configurations allow optimized application parameters and workflow.

**Robotic manipulator** arm transports microplates and other labware efficiently and quickly between worktable, peripheral devices and labware storage. **Shelves and hotels** utilize space along the length of the workstation and can also house incubation modules as well as labware.

**Te-Stack™** is an efficient tool for automating the storage, retrieval and fast delivery of microplates and disposable tips.

The **high-speed carousel** is unmatched in speed for random access of microplates and assorted disposable tips. One unit can efficiently handle microplates, half-height plates or deep-well plates.

The extended range robotic manipulator arm allows access to space **below the worktable** for further integration of devices such as plate readers, washers, centrifuges, thermocyclers or further storage and incubation options.

Pick and Place robotic arm for fast and precise single **tube manipulation** for tube weighing and compound dissolution applications.

**Te-Link™** Allows seamless connectivity between two Freedom EVO workstations increasing the degree of process automation, raising throughput and capacity and allowing enhanced task optimization and versatility.

The Tecan **Pos ID** automatically reads barcodes on labware and carriers at any position on the worktable.



Syringe pumps optimize for each liquid channel



Robotic manipulator for microplate movements



Liquid handling arm access to microplates delivered from Te-Stack



Individual random access with the high-speed carousel



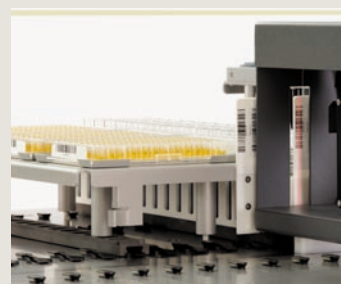
Robotic manipulator with extended Z-axis for access beneath worktable



Tube transfer by Pick and Place robotic arm



Plate transfer between two Freedom EVO platforms by Te-Link



Positive identification of barcodes on the worktable

# One platform, unlimited solutions

## Flexible options to meet changing needs

On and off the worktable temperature control is crucial for many molecular biology and ADMET applications. **Tecan Incubators** (RT +5°C to 60°C) can be placed on the Freedom EVO to provide incubation for four or six microplates, with or without shaking, and are ideally suited for ELISA and cell-based assay applications. Other temperature control carriers are available for reagent and media reservoirs, tubes and plates.

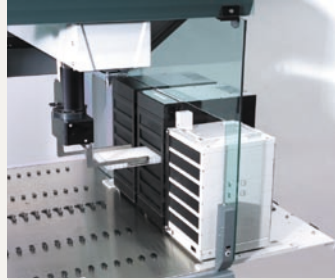
**Te-VacS™** is an automated solution for vacuum **solid-phase extraction**. The system can be assembled by the robotic manipulator arm for fully automated operations and is ideally suited for DNA/RNA extraction, viral RNA isolation, or compound purification. Smoothly regulated pressure allows safe sample extractions with no contamination.

**Te-MagS™** is a powerful **magnetic-bead-based separation** tool for sample purification. Typical applications include DNA/RNA or protein purification as well as cell isolation.

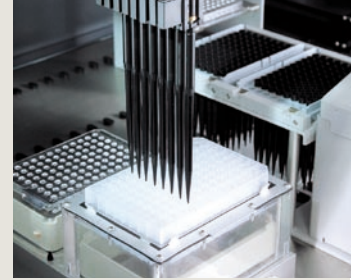
**Te-Shake™** is a highly effective shaker that handles microplates, deep-well plates, Eppendorf and PCR tubes with the added option of sample heating if necessary.

Microplate detection systems are seamlessly integrated including the Tecan Sunrise™ absorbance reader as well as the Infinite® for multifunctional advanced luminescence and fluorescence detection.

Tecan offers fully automated **microplate washers** for Enzyme Linked Immunosorbent Assays (ELISA), and other key applications. These include the HydroFlex™ and the 96 PW™ and Power Washer 384™ plate washers.



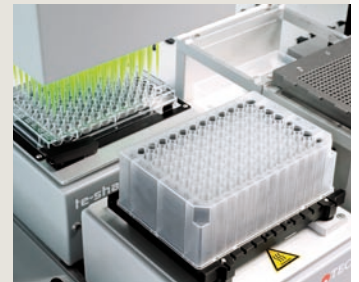
Heated incubator with integrated linear shaker



Te-VacS for solid phase extraction



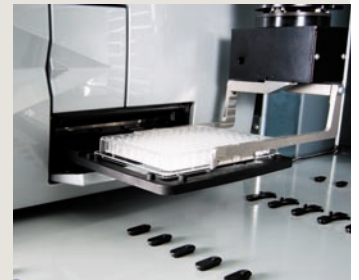
Te-MagS performs magnetic bead separation



Te-Shake shakes microplates, deep-well plates, Eppendorf and PCR tubes



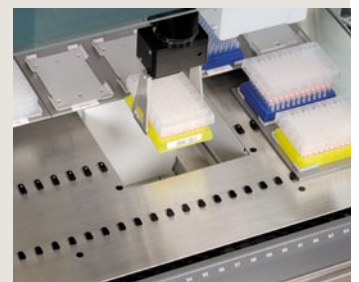
Power Washer for high-speed washing of 384-well and 96-well plates



The Infinite detection system integrated in the Freedom EVO



Integrated Sunrise microplate reader and Hydroflex microplate washer



Third party devices are easily integrated around or below the Freedom EVO

# Discover the freedom to evolve your key applications

## One source, endless solutions

**Genomics.** The Freedom EVO series of platforms fully supports nucleic acid extraction and purification via vacuum, magnetic-bead-based or centrifugal separation. Sequencing reaction set-up and PCR set-up, genotyping studies, SNP scoring and spot array printing are also possible as well as fully automated in situ hybridization or (F)ISH, and immunostaining of cells or tissue samples on microscope slide formats.

Tecan's open **collaboration with reagent companies**, (e.g. Invitrogen®, Millipore®, and AB) provides users with a portfolio of off-the-shelf optimized solutions allowing laboratories to choose a range of kits best suited to their needs with automation at the appropriate capacity and throughput.

**Proteomics.** The Freedom EVO platform enables diverse applications in protein purification, identification and characterization. A wide range of optimized solutions are available for protein digestion and MALDI target spotting (Pro Team®) and the latest precision pipetting methods for protein crystal growth optimization. Each solution is fully scalable to adapt to different throughput needs.

**Drug Discovery.** Tecan's Freedom EVO application portfolio supports each step in the drug discovery chain. Applications ranging from chemical and biological entity identification and validation through a full range of ADMET assays and clinical trial tests, including assay development and screening processes. The application portfolio offers biochemical and cell-based assay solutions (e.g. microsomal metabolic stability, cell permeability, cell migration assays) as well as cell maintenance and logistic support functions, such as hit picking and library management.

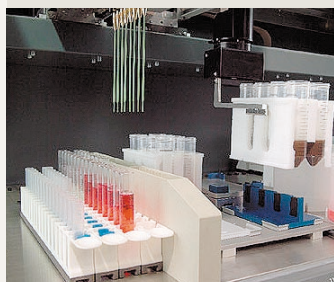
**Endless solutions.** Provided by proven collaborations with numerous third party device manufacturers, including dispensers, plate sealers, robotic incubators and analytical devices.



Automated nucleic acid sample preparation



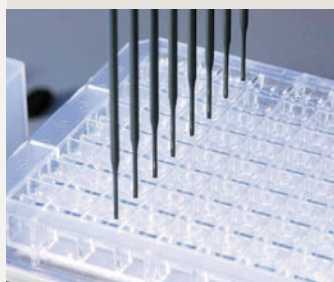
PCR application with integrated thermocycler and Tecan reader



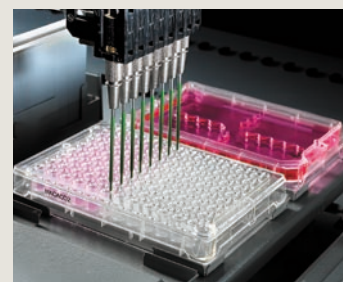
Large volume sample handling for gDNA extraction



Protein digestion and MALDI target spotting with Zip Tips®



Precision pipetting into crystal growth plate



CaCO2 cell permeability application



Tecan's Cellerity™ fully automated cell culture system pierces Corning® RoboFlask® septa



Automated expansion can be performed in plates, tubes or flasks

# Safety is not an option

## User friendly automation with the highest possible safety standards

**Individual liquid level detection** is quickly performed in tubes, plates or reagent vessels. Presence or absence of liquid is determined. The system can also establish in advance of sampling if sufficient liquid is present for the requested pipetting step. Error reports can be handled automatically or issue a prompt for user intervention. Clots or particles in a liquid that obstruct the pipetting tip during aspiration can be detected and the operator notified – e.g. during nucleic acid isolation from whole blood samples.

**Tip detection.** Disposable tips are automatically picked up and ejected by the arm. Correct tip mounting is monitored by the system to ensure error-free and safe operation.

**Low disposable tip ejector** enables disposable tips to be ejected within a contained environment thus eliminating cross-contamination from aerosols generated in the tip ejection process.

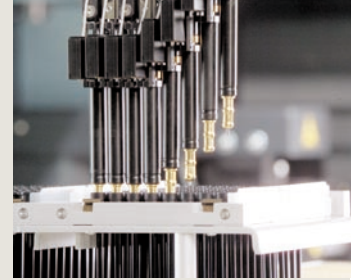
**Automatic Identification** of horizontal (e.g. side of micro-plate) and vertical barcodes (e.g. side of tube or bottle) ensures sample and reagent integrity. Missing tubes may also be detected.

A fully integrated **status lamp** clearly shows the working status of Freedom EVO systems. Even from a remote location, the operator can observe if the system is working (green lamp) or requires input or assistance (green lamp changes to red).

Operator and process safety is ensured during operation by **interlocked shields** that protect the work area and prevent unintended interruption. The system can be placed on pause by the operator and the work area accessed at any time.



Liquid level detection in individual sample tubes



Correct disposable tip pick up is verified



Low disposable tip ejection contains aerosol transmission



Safe operator interface



Status lamp clearly displays instrument status



Identification of sample tubes prior to use



Pause button holds system to allow full worktable access



Personnel are protected by interlocked shields

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## Successful solutions founded on years of experience

### From customized solutions to dedicated support

**Customized Solutions.** By integrating Tecan products, purpose-built customized equipment and third party devices with individual customer requirements into one system, Tecan project managers, engineering and application specialists create tailor-made solutions designed for your applications.

**Each system is handled as a project including**

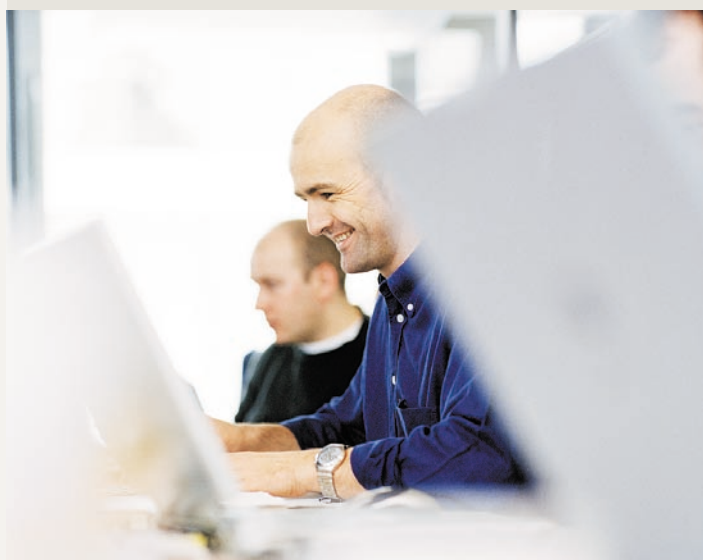
- Application and automation consulting
- Interactive project planning
- Feasibility and throughput studies
- Tailored engineering
- System installation and support through factory and site acceptance

**Customer Support and Services.** Tecan offers the expertise necessary to ensure professional use and maintain high-performance operation of Tecan equipment and solutions. The high level of our customer support services offers immediate advantages:

- Subsidiaries are maintained worldwide close to your location to provide timely field service and to build a close customer relationship.
- Our specialists deliver high quality maintenance and repairs to existing instrumentation and solutions.
- We provide a range of preventive maintenance contracts that will keep your equipment in the very best condition and minimize downtime.



Scientific research often requires the need for tailor-made systems to ensure optimum performance and efficiency. The Tecan Integration Group's competency in understanding your application problems allows them to respond to your requirements and provide the best solution, from new pieces of hardware to fully integrated systems.



Helpdesks are staffed at Tecan subsidiaries worldwide with trained qualified specialists who are available to help you in your local language. Tecan offers a comprehensive range of courses in which in-depth theory is combined with hands-on coaching.

## Specifications

	Freedom EVO 75	Freedom EVO 100	Freedom EVO 150	Freedom EVO 200
<b>Hardware features</b>				
No. of robotic arms	1–2	1–2	1–3	1–3
Robotic arms available	Liquid Handling Arm – 1-tip, 2-tip, 8 Plus 1 access tip, Robotic Manipulator	Liquid Handling Arm – 2-tip, 4-tip, 8-tip, Robotic Manipulator, Robotic Manipulator extended Z, Pick and Place	Liquid Handling Arm – 2-tip, 4-tip, 8-tip, Robotic Manipulator, Robotic Manipulator extended Z, Pick and Place	Liquid Handling Arm – 2-tip, 4-tip, 8-tip, Robotic Manipulator, Robotic Manipulator extended Z, Pick and Place
Multichannel head	n.a.	96 or 384	96 or 384	96 or 384
Max. pipetting channels	8	8+384	8+384	8+384
Tip configurations	1, 2, 4 or 8 tips on one arm; various combinations of different tip types possible			
Tip type variety	Washable tips: Standard (Teflon®-coated stainless steel), ceramic coating, hard Teflon coating with full DMSO compatibility, short/long low volume, Te-PS tips for access to 1536-well microplates. Disposable tips with or without filter (10/50/200/1000 µl)			
Tip movement	Independent Z, 2-tip arm – between tip space 18 mm.	Independent Z, Y-tip spacing on 4- and 8-tip arm – automatically 9 to 38 mm between tips; 2-tip arm – between tip spacing variable 9 to 418 mm		
<b>Liquid handling features</b>				
Syringe sizes (µl)	50, 250, 500, 1000, 2500, 5000 mounted on Cavo® XP Smart precision dilutor 10000, 25000 mounted on Cavo XLP dilutor			
Liquid handling range	0,5 µl – >5 ml	0,5 µl – >5 ml	0,5 µl – >5 ml	0,5 µl – >5 ml
Standard volume tips	3 – 5000 µl (standard tips), 3 – 1000 µl (disposable tips 200 µl or 1000 µl)			
Low-volume tips	0,5 – 250 µl – non-contact dispense with low volume option or Te-PS tips (disposable tip 10 µl)			
DynamicFill Technology	n.a.	100 µl – 10 ml and higher	100 µl – 10 ml and higher	100 µl – 10 ml and higher
Fast wash pump option	Ultra-fast delivery of wash solution by diaphragm pump			
Liquid waste vigilance option	Active monitoring of liquid levels in system and waste containers			
Pipetting precision (CV): Standard volume*	Volume: 10 µl 100 µl	Standard washable tips: < 1.75% < 0.4%	Disposable tips: 200 µl < 2.25% < 0.4%	
	* typical results using deionized water in single pipetting mode under optimized conditions (1000 µl syringe). (Manufacturer's field guarantee for standard washable and disposable tips: 10 µl < 3.5%, 100 µl < 0.75%)			
Pipetting precision (CV): Low volume**		Freedom EVO 100, Freedom EVO 150, Freedom EVO 200: Volume: 1 µl 10 µl	Low-volume washable tips: < 6% < 1.0%	Low-volume disposable tips: < 6% < 1.0%
	** typical results using low volume option with deionized water in single pipetting mode under optimized conditions (500 µl syringe). (Manufacturer's field guarantee for low volume washable and disposable tips: 1 µl < 10%, 10 µl < 3.5%)			
Non-contact dispense	Volumes down to 3 µl. With low volume option or Te-PS tips down to 0,5 µl.			

	Freedom EVO 75	Freedom EVO 100	Freedom EVO 150	Freedom EVO 200
<b>Process control features</b>				
Liquid level detection	Down to 50 µl in a round bottom 96-well microplate on standard carriers. Choice of capacitive for conductive liquids or pressure based technology for non conductive liquids.			
Tip occlusion detection	Part of integrated liquid detection (ILID)			
Pressure Monitored Pipetting	Real-time quality control of the liquid transfer process. Detects pipetting faults like clots and air aspiration.			
Disposable tip sensing	Confirmation of tip pick-up and tip ejection			
Positive sample identification	Manual barcode scanner	Fully automated barcode scanner (PosID) for tubes, plates, reagents and carriers		
Low disposable tip eject	Ejection of tips in contained environment to prevent aerosol distribution; Also used for tip re-racking			
Full safety screens	User activated, interlocked screens prevent non-intentional access to work area or non-intentional system halt.			
Password protection	Three password levels: operator, application specialist and administrator			
Regulatory compliance	CE and CSA marked (73/23/EEC and 89/336/EEC)			
<b>Software features</b>				
Operating software	Freedom EVOware – for full access to application development environment Freedom EVOware Plus – additionally provides advanced process scheduling capabilities <sup>1</sup>			
Operating system	Windows® XP Professional			
Computer Requirements	Intel® Pentium®4; 3 GHz, minimum 1 GB RAM, 5 GB of unused harddisk space; 1 USB port for software hardlock, 1 USB or RS232 for instrument control, 1 unused port for printer, SVGA monitor with 32768 colors or more and minimum resolution of 1024 x 768 pixels, CD-ROM			
<b>Outer Dimensions</b>				
height	795 mm/29.8"	870 mm/34.3"	870 mm/34.3"	870 mm/34.3"
width	881 mm/37.7"	1075 mm/42.3"	1450 mm/57.0"	2050 mm/80.7"
depth	696 mm/27.4"	780 mm/30.7"	780 mm/30.7"	780 mm/30.7"
Weight (base unit only)	84 kg/165 lbs	110 kg/242 lbs	130 kg/286 lbs	182 kg/400 lbs
<b>Gripper ranges</b>				
Robotic manipulator	58–140 mm	58–140 mm	58–140 mm	58–140 mm
Pick and Place arm	n.a.	9–35 mm <sup>1</sup>	9–35 mm <sup>1</sup>	9–35 mm <sup>1</sup>
Access below Worktable – RoMa Long Z	n.a.	350 mm	350 mm	350 mm
Power requirements	Freedom EVO 75:	Freedom EVO 100, Freedom EVO 150, Freedom EVO 200:		
Power	570 VA	800 VA		
Voltage	100 – 240 VAC, frequency: 50/60 Hz			
Operating conditions	Temp. 15 – 32 °C/59 – 90 °F, relative humidity 30 – 80% (non-condensing) at 30 °C/86 °F or below			

Notes:

<sup>1</sup> – Manufacturer's field guarantee to 27 mm

For additional information on any of the products mentioned in this brochure, please contact your local Tecan office or visit our web site at [www.tecan.com/freedomevo](http://www.tecan.com/freedomevo)

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The Freedom EVO is an open automation platform product for general laboratory use. It is intended for routine laboratory tasks, such as general purpose pipetting and general purpose liquid handling and robotic processes.

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