



Freedom EVO® Clinical

The flexible open platform
for all your clinical application needs

Enhanced standard of safety for data, patients and users

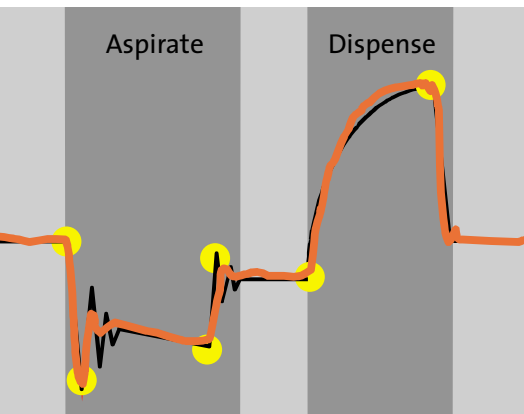
Freedom EVO Clinical – safety first

The Freedom EVO Clinical platform is supported by a range of features that offer improved safety, security and efficiency. Tecan's commitment to safety issues is backed by the Freedom EVO Clinical's compliance with the 98/79/EC regulations.

1 **NEW** Aspiration / dispense monitoring

PMP (pressure monitored pipetting) is a new option for the Freedom EVO Clinical 100, 150 and 200. It monitors pipetting quality for both aspirations and dispenses, and quickly detects faults including clots, air aspiration, inappropriate dispense volumes or system leakage. Optimized parameters for water and serum have been validated allowing fast PMP integration with high accuracy and consistency. The PMP module also offers a pressure-based Liquid Level Detection (pLLD), allowing detection of conductive and non-conductive liquid levels.

2 The Te-PoolSafe™ option is a liquid arrival check system that monitors and evaluates the performance of pooling applications in blood banks and NAT testing laboratories, offering full sample traceability and documented proof of performance.



1 Pressure monitored pipetting (PMP).



2 Te-Poolsafe.



3 Grid control option.

3 Process safety

A number of safety features are in place during processing, including the grid control option which safeguards operator interaction, rescanning of racks that have been removed from the worktable, monitoring the on-board life of reagents for consistency of results, and barcode mask control provides added security to the system.

4 Barcode scanning

Tecan's integrated fully automated Positive Identification System (PosID™3) offers unrivalled security in decoding barcode labels on tubes, plates or reagent vessels. An advanced sensor system ensures that barcode recognition is perfectly matched with labware position, and that tubes cannot be manually manipulated during processing. An integrated tube/no-tube sensor allows the detection of missing tubes.

5 User safety

Larger safety panels, shielded carrier, door locks linked to the pause/resume switch and an integrated status lamp are standard features of the Freedom EVO Clinical. A continuous loading option permits the exchange of racks and carriers even while the cover shields are closed and operation is in progress.

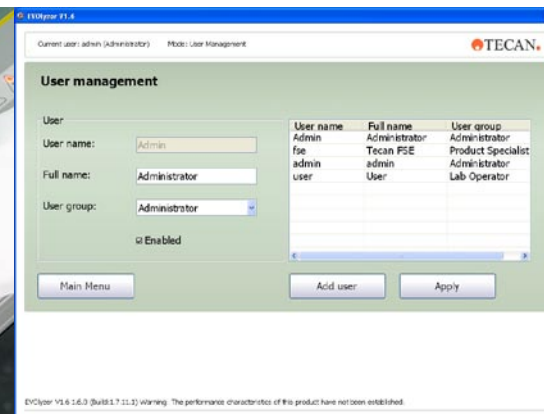
6 Data safety

The Freedom EVO Clinical handles various data formats for import and export. The import can be operated in batch mode, work list mode or connect mode. Common export formats handled are TPL, LGC and CVS formats. The system is capable of flagging erroneous samples and unexpected events, as well as tracking the sample ID through the whole process and application. User management, with three user group levels and electronic signatures to prevent unauthorized manipulation, is also implemented.



4 Positive Identification System.

5 Shielded carrier.



6 User management.

Tecan's IVD-D (98 / 79 / EC) compliant, open platform

Reliable processing and high safety standards

The Freedom EVO® Clinical is Tecan's IVD-D compliant, open configurable liquid handling and robotic platform developed to support a broad range of in vitro diagnostic applications.

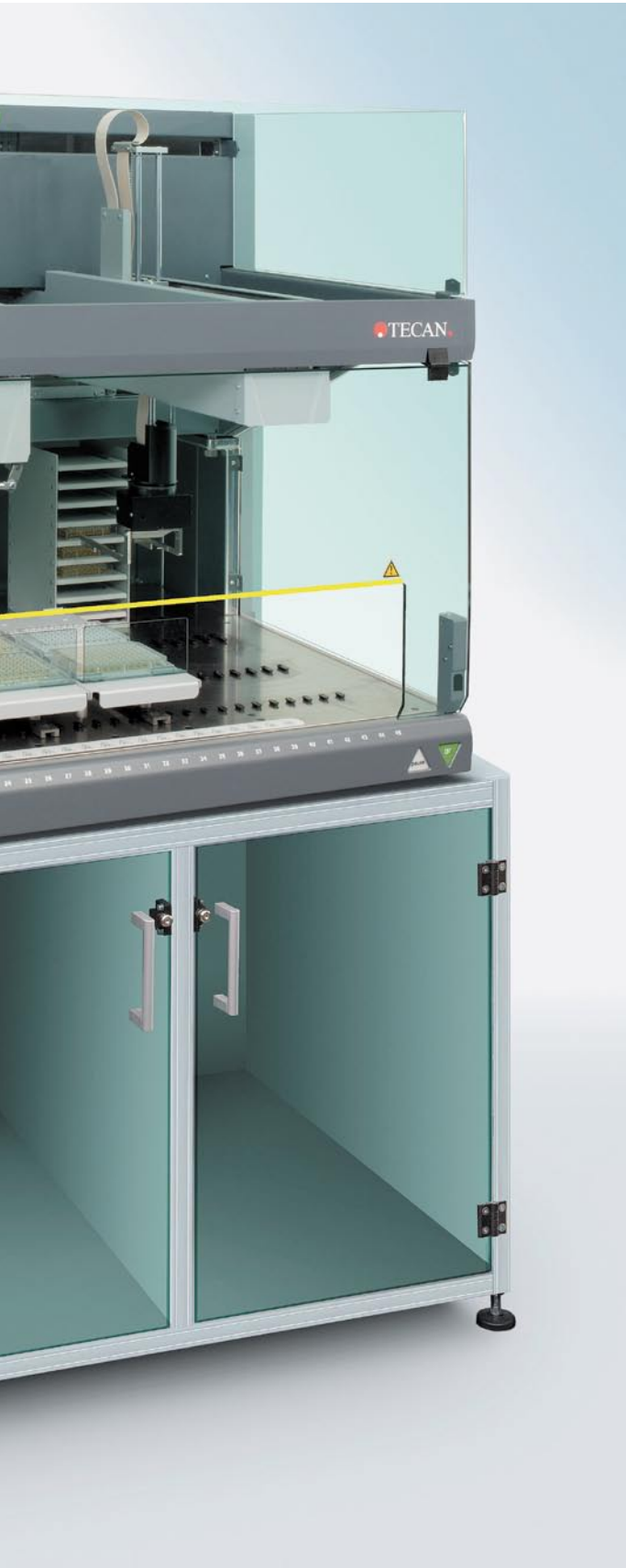
Open Platform – Customizable worktable layout

With Tecan's considerable experience in laboratory automation, the new Freedom EVO Clinical offers a platform which is easy to use and reliable. Tecan has focused on implementing new features and technologies to evolve standards of performance, safety and reliability, as required by diagnostic applications. With many new integrated options, the new Freedom EVO Clinical offers a fully customizable worktable layout, and is available in deck sizes of 100, 150 and 200 cm, allowing you to select the optimal instrument for your laboratory space and throughput requirements.

Regulatory compliance

From the very start, the Freedom EVO Clinical has been designed to meet the requirements of the IVD-D (98 / 79 / EC), providing instruments of the highest quality and safety to our customers.





**In Vitro Diagnostic Directive
98 / 79 / EC (IVD-D)**

The IVD Directive defines in article 1, paragraph 2:

“An ‘in vitro diagnostic medical device’ means any medical device which is a reagent, reagent product, calibrator, control material, kit, instrument, apparatus, equipment, or system, whether used alone or in combination, intended by the manufacturer to be used in vitro for the examination of specimens, including blood and tissue donations, derived from the human body, solely or principally for the purpose of providing information:

- concerning a physiological or pathological state, or
- concerning a congenital abnormality, or
- to determine the safety and compatibility with potential recipients, or
- to monitor therapeutic measures.”

All in vitro diagnostic medical devices must meet the essential requirements with respect to functionality, safety and labeling as set out in Annex I. The devices must be designed and manufactured in such a way that, when used under the conditions and for the purposes intended, they will not compromise, directly or indirectly, the clinical condition or the safety of the patients, the safety or health of users or, where applicable, other persons. The legal manufacturer of such devices must document the compliance with the essential requirements for all products placed on the market after December 7, 2003.

Supporting a full spectrum of essential clinical diagnostic applications

Flexible open platform for various application set-ups

Tecan's Freedom EVO Clinical supports the application needs of customers across a wide range of settings, for applications such as sample preparation, sample distribution, blood pooling and molecular diagnostics and supports the integration of various kits from different manufacturers.

NEW Molecular diagnostics application

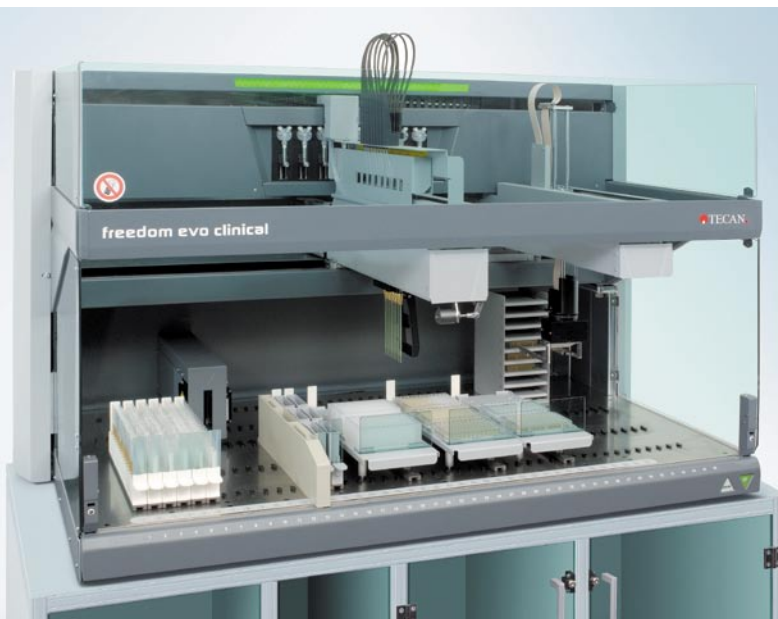
Tecan's Freedom EVO Clinical supports the latest molecular applications for blood screening and diagnostic purposes. Nucleic acid purification (in combination with Te-MagS™), preparation and normalization, and the distribution of amplification reagents for reaction set-up for PCR or sequencing are all easily performed.

Advanced sample distribution and immunoassay preparation

The Freedom EVO Clinical provides powerful features for the full range of sample preparation and processing tasks, e.g. aliquoting, sample pre-dilution, sample transfer, archiving, preparation of controls and calibrators and reagent addition.

Blood pooling

The Freedom EVO Clinical is ideally suited for blood pooling applications. It is capable of preparing pools with different sample numbers and volumes, and can be smoothly integrated into blood screening procedures. Performance can be monitored and documented, in combination with the Te-PoolSafe option, ensuring confidence in the pipetting of the correct volume of liquid from each and every sample to the pool.



Typical configuration for Advanced sample distribution and EIA preparation.



Typical configuration for Blood pooling.

NEW Easy application set-up

The Freedom EVO Clinical has pre-defined scripts for tested protocols for NAT extraction and pooling. Specialized application carriers are available to accommodate the integration of downstream assays:

- Input plates for Roche COBAS® TaqMan® Analyzer
- Input plates for Roche COBAS AMPLICOR® Analyzer
- Input rack for Roche COBAS AMPLIPREP®
- Capillary tubes for Roche LightCycler® System
- Roche A-Ring (barcoded PCR tubes)

Powerful Application Software package

The Freedom EVO clinical, in combination with the clinical application focused software packages, supports a wide range of pipetting modes:

- common predilution
- parallel pipetting
- single or multi dispense
- multi aspirate
- reagent addition
- strip handling
- replicates

and allows the usage of:

- guides maintenance
- printable loading instruction
- volume pre-check
- carry-over reduction by in process tip contamination
- touch screen



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Typical configuration for Molecular diagnostics application.

Freedom EVO Clinical – Technical Specifications

Hardware features

Tip configuration	EVO Clinical 100	EVO Clinical 150	EVO Clinical 200
	2,4 or 8 tips	4 or 8 tips	8 tips
Tip variety	Standard (Teflon®-coated stainless steel) and disposable tips with or without filter (200/1000 µl)		
Syringe sizes	1000 µl		

Liquid handling features

Pipetting precision (CV)	Volume	Standard tips	Disposable tips	200 µl	1000 µl
Standard volume*	10 µl	≤ 3.5%	≤ 3.5%	–	–
	100 µl	≤ 0.75%	≤ 0.75%	≤ 0.75%	≤ 0.75%

* Typical results pipetting plasma in single pipetting mode (1000 µl syringe)

Conductivity Liquid detection	Down to 50 µl of conductive liquid can be detected in round-bottom microplates on standard carriers
Pressure Liquid detection**	Down to 50 µl of conductive and non conductive liquid can be detected in round-bottom microplate on standard carriers
	** only possible with the PMP option

Barcode identification

Identifiable objects	samples, microplates, deep well plates, strip plates, reagent container
Supported formats	Code 39, Code 128, Codabar, 2 of 5 Interleaved
Barcode evaluation	Reagent type, lot expiry date, recording of lot number

Options

Loading interface	continuous operation and monitoring of operator interaction
RoMa Robotic Manipulator arm	transport of microplates, deep well plates and strip plates
Te-PoolSafe® pooling balance	liquid arrival check system
PMP pressure monitored pipetting	monitoring both aspiration and dispense quality
Low DiTi eject	minimizing contamination during disposable tip ejection
Te-MagS	magnetic bead-based separator

Dimensions	Freedom EVO Clinical 100	Freedom EVO Clinical 150	Freedom EVO Clinical 200
Height	870 mm / 34.3"	870 mm / 34.3"	870 mm / 34.3"
Width	1075 mm / 42.3"	1450 mm / 57"	2050 mm / 80.7"
Depth	780 mm / 30.7"	780 mm / 30.7"	780 mm / 30.7"
Weight	150 kg	200 kg	230 kg
Power supply requirements	Power: 600 VA (EVO Clinical 100) and 1200 VA (EVO Clinical 150 & 200) voltage: 100 – 120 and 220–240 VAC, frequency 50/60 Hz		
Operating conditions	Temperature: 15–32 °C/59–90 °F, relative humidity: 30–80% (non condensing) at 30 °C/86 °F		
Compliance	CE-mark according to the Directive 98/79/EC on in vitro diagnostic medical devices		
Availability	Not available for sale in the United States of America		

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