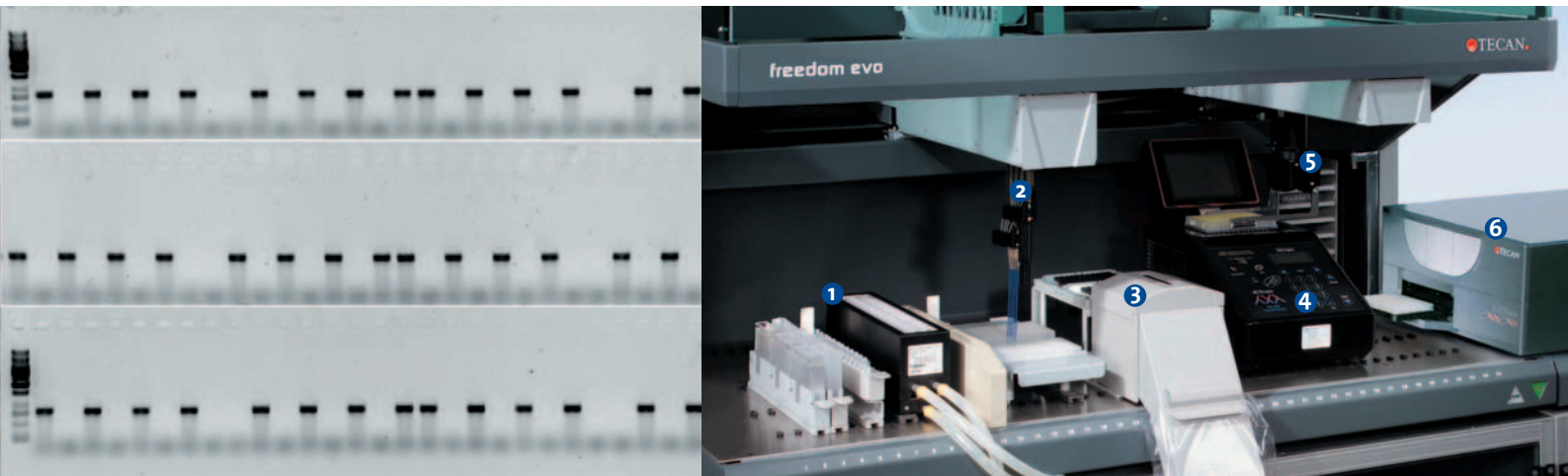


Freedom EVO | PCR

Flexible solutions for high-throughput PCR



Select a pre-optimized configuration or design your own automated PCR system

The Tecan Freedom EVO PCR workstation is a fully scalable and modular system enabling PCR and cycle sequencing reaction preparation as well as normalization applications. The pipetting platform offers unsurpassed flexibility to support virtually all the reaction preparation needs of laboratories whatever the throughput. Reactions may be prepared in micro tubes, 96- or 384-well plate formats. Precise and reliable pipetting of low volumes is performed by the advanced fluidic system including high-performance low volume tips. Contamination-free pipetting of template DNA, DNA primers, and other components (buffers, enzyme, nucleotides) is guaranteed even for the most sensitive amplification procedures by the 4- or 8-tip liquid handling arm or the 96- and 384-multi-channel pipetting option.

Extended automation of amplification procedures can be easily achieved by integration of Tecan's GENios plate reader for nucleic acid quantification and normalization as well as by additional modules including reagent-cooling carriers and Tecan's

high capacity storage modules or 3rd party devices such as plate sealers and thermocyclers. Virtually any combination of additional instruments or devices is fully supported by Tecan's Freedom EVOware software package. With the help of Tecan's automation consultants you can create your own PCR system.

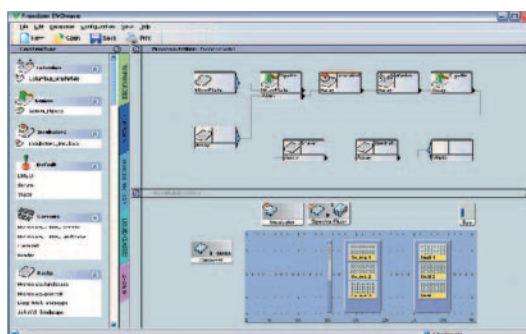
The photograph above shows one of many Freedom EVO configurations for high throughput PCR

- 1** Temperature-controlled carrier for reagent storage and /or plate cooling
- 2** Versatile liquid handling arm (LiHa) with optional low volume pipetting (down to 0.5 µl) provides individual access to a single tube of master mix with all 8 tips as well as accurate pipetting into 384-well PCR plates.
- 3** Disposable tip carrier with splash-proof waste prevents cross-contamination during the PCR process
- 4** Robotic manipulator arm (RoMa) for any required plate transfer
- 5** Automated loading of the integrated thermocycler
- 6** Integrated Tecan GENios plate reader for DNA-concentration measurement, normalization procedures and data generation

Unlimited Application Flexibility

Typical Freedom EVO configurations for PCR applications

| Level of automation | PCR set-up medium throughput | PCR set-up + cycling high throughput | PCR set-up + cycling ultra high throughput |
|---|--|---|--|
| Typical configuration | | | |
| Freedom EVO | Freedom EVO 100 | Freedom EVO 150 | Freedom EVO 200 |
| Arm configurations | 1 Liquid handling arm 1 Robotic manipulator arm | 1 Liquid handling arm 1 Robotic manipulator arm | 1 Liquid handling arm 2 Robotic manipulator arm |
| Liquid handling system | 8-tip Liquid handling arm (low volume tips) | 8-tip Liquid handling arm + Te-MO 96-multi-channel pipetting system | 8-tip Liquid handling arm + Te-MO 96- or 384-multi-channel pipetting system + Reagent Refill Option |
| Plate reader (UV and/or fluorescence) | – | Tecan GENios series of readers | Tecan GENios series of readers |
| Specific carriers | Cooling carriers for reagents | Cooling carriers for reagents and plates | Cooling carriers and reagents and PCR plates |
| 3rd party devices | – | Plate sealer, Thermocycler | Plate sealer, 4–8 Thermocyclers |
| Storage unit | On-deck hotels | Te-Stack (max. 200 plates; av. access time: < 5 sec) | Tecan high speed carousel (capacity and average access time dependent on deck layout) |
| Software control | Freedom EVOware | Freedom EVOware | Freedom EVOware |



Freedom EVOware offers easy end-user operation.

Flexible and easy-to-use software

Tecan's Freedom EVOware software package, like all instruments, devices and platforms, may be customized according to the requirements of your amplification procedure.

By using the full capabilities of software you can:

- easily program any pipetting step and plate transfer process
- program and control the action of various Tecan modules like shakers, incubators, stackers, carousels, 6-way valves etc.
- integrate 3rd party devices like thermocyclers and plate sealers
- increase throughput through dynamic scheduling
- rapidly change the system layout and your methods to address new requirements

Typical Results

To analyze the ability of Freedom EVO to prepare reactions without cross-contamination, PCR set-up was performed in a checkerboard pattern into a 96-well plate. A PCR product can only be seen in wells where sample material has been present. This clearly demonstrates that DNA was transferred without any cross-contamination.

