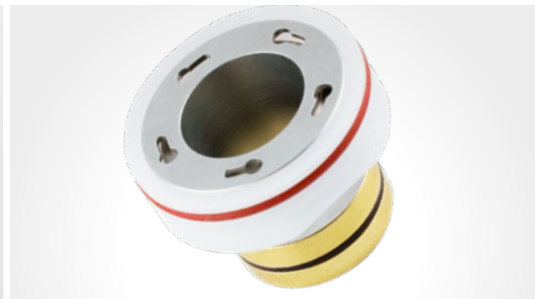
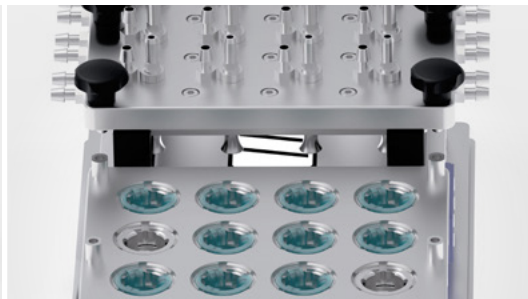


# Advanced in vitro exposure systems



Product News  
**2024**  
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**Medium Throughput**

3 dilutions @ 4 replicates  
1 clean air @ 4 replicates

**VITROCELL® 12/12 PLUS****For 12- or 24-well sized inserts**

The VITROCELL® 12/12 Exposure System has been specifically designed and engineered to facilitate the research of human cell cultures in direct exposure to airborne substances such as gases, complex mixtures and particles including nanoparticles.

The System excels in meeting the needs of medium-throughput applications. In previous system versions a dosimetry module was added to each exposure row to achieve dose-metrics in a fourth position. This approach required extra handling effort.

By incorporating an additional row into the base module, users gain access to four extra media compartments, which can be utilized for either cell culture inserts or dosimetry. The VC 12/12 PLUS significantly simplifies handling for the user and further improves the system performance parameters.

The dosimetry positions can be equipped with Quartz Crystal Microbalances, TEM Grid Holders or stainless Dosimetry Inserts for aerosol trapping in liquids.

**Dosimetry using Quartz Crystal Microbalances (QCM)**

The sQCM 12 microbalance can be mounted in each row. Alternatively stainless steel Dosimetry Inserts or TEM Grid Holders are fitted here.

**Docking Station for Base Module and Exposure Top**

The docking station guarantees easy connections of the base module with the aerosol exposure top and dilution systems.

The integrated 3-fold dilution system can be easily separated from the exposure head for cleaning and maintenance.

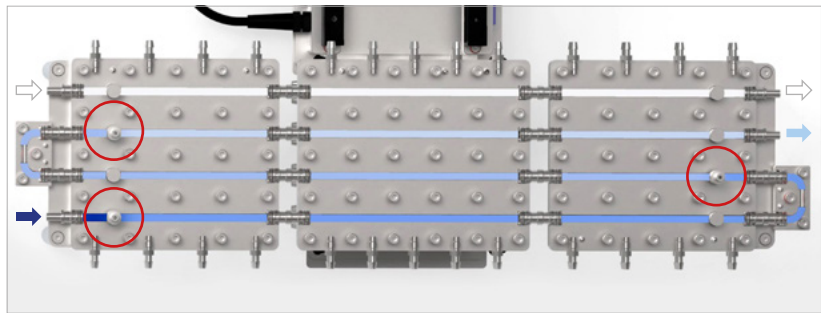


The sQCM 12 (top left) can be fitted in each row of the base module (top right), Docking Station for easy connection of the system components (bottom)

### Medium throughput system for 3 dilutions

3 dilutions @ 4 replicates and 1 clean air control @ 4 replicates

Each dilution represents a different dose concentration, so that a complete dose/response profile can be obtained in one experiment.



The dose concentration of the stream is changed by adding dilution air at the circled connections.

### Climatic Chamber

The system can be integrated in a Climatic Chamber which enables a stable temperature of 37°C for all components. The benefits are condensation-free operation and a stable humidity level for the cell cultures.

The integrated humidification system features a pre-heating of dilution air. All flow controllers are moved to the inside of the chamber for constant temperature and increased humidity output.



The Climatic Chamber for the VITROCELL 12/12 PLUS.

#### Key Features:

- Suitable for COSTAR®, FALCON®, ThinCert® and cellQART® 12-well or 24-well sized cell culture inserts
- Autoclavability of all components
- Base module made of electropolished stainless steel for extreme durability
- Base module and aerosol exposure top with integrated heating circuit
- 3 dilutions @ 4 replicates
- 1 clean air control @ 4 replicates
- Optional Climatic Chamber for condensation-free operation if using liquid aerosols
- Optional integrated humidification system

## About VITROCELL®

**VITROCELL® exclusively concentrates on the developing, producing, installing, training and servicing of advanced *in vitro* exposure systems.**

The VITROCELL® Systems' team is driven by their vision for new in-vitro standards through state-of-the-art technology, highly qualified workmanship and absolute client dedication. VITROCELL® has successfully collaborated with clients from leading research institutes, contract research organizations, regulatory authorities or industrial laboratories across the world. Working with our team experts, all modules have been tailored to create durable and complete turnkey-systems for *in vitro* inhalation toxicology. Gases, environmental atmospheres, nano particles and complex mixtures are analyzed on lung cells at the air/liquid interface using these systems. VITROCELL® technologies are also applicable to solutions for skin research.

Over a decade of devotion to research in this specific field has given our team of design & precision manufacturing specialists the opportunity to mentor highly diversified and complex projects from conception to completion. We strive to become a constructive member of each research team, providing support when it is needed, advice when it is required and modules of the highest quality, which are even polished by hand before leaving here to be integrated into your workspace. Every piece of our German engineered equipment is manufactured to the highest of standards – yours.

For more information please scan the QR-Code:



VITROCELL® Systems GmbH  
Fabrik Sonntag 3  
79183 Waldkirch  
Germany

Tel. +49 7681 497 79-50  
Fax +49 7681 497 79-79  
Email: [info@vitrocell.com](mailto:info@vitrocell.com)  
[www.vitrocell.com](http://www.vitrocell.com)

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