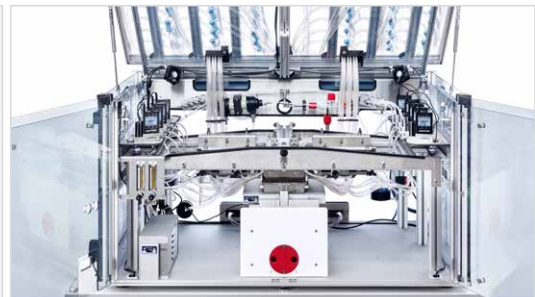


Advanced in vitro exposure systems



**VITROCELL® 24/48
Exposure System**

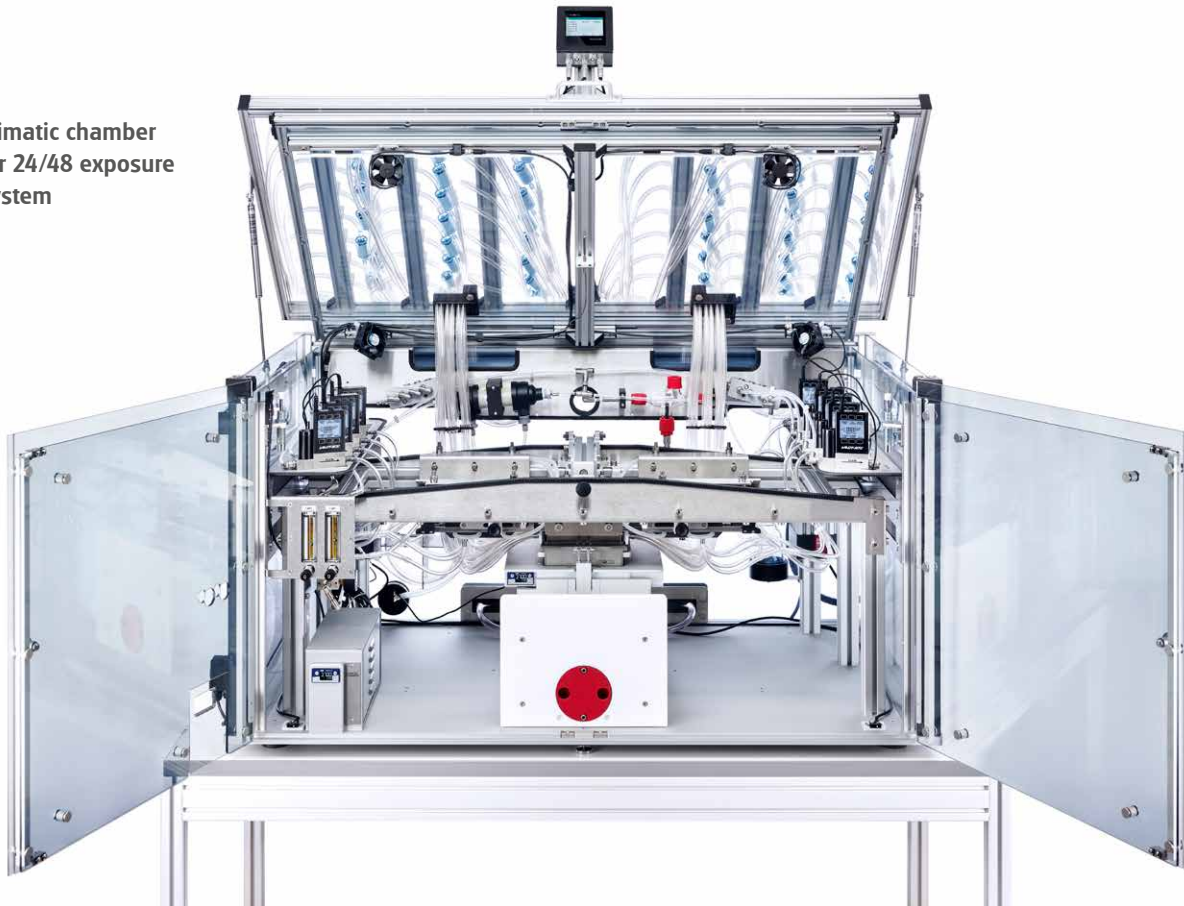
Higher Throughput

**7 doses @ 6 replicates
1 control @ 6 replicates**

VITROCELL® 24/48 Exposure System

For 48 cell culture inserts (24-well size)

Climatic chamber
for 24/48 exposure
system



The VITROCELL® 24/48 module 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, nanoparticles and fibers. The system authentically simulates the conditions of human physiological exposure.

7 dilutions with 6 inserts each are used for exposure to the substances and 6 inserts in the same system for clean air control. Each dilution represents a different dose concentration, so that a complete dose/response profile can be obtained in one experiment.

Climatic Chamber

The Climatic Chamber enables a condensation-free operation. It accommodates all required components of the VITROCELL® 24/48 System. The humidification station, pre-heating system for dilution air and flow controllers are mounted inside the chamber for constant temperature and increased humidity output.

Base module



8 rows @ 6 replicates

The base module with 48 wells (24-well-size) is made of electropolished stainless steel. An optional transparent control window facilitates the external monitoring of media levels and may be easily removed from the integrated heating base. Temperature can be programmed individually.



Insert size

The module has been designed for 24-well sized cell culture inserts.

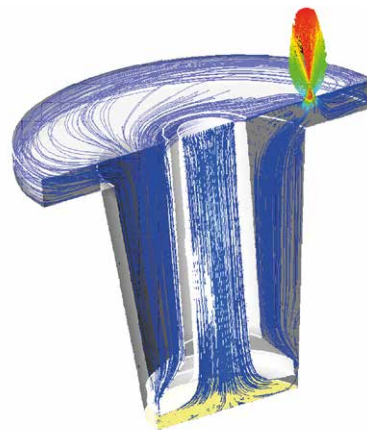
Aerosol exposure top



48 inlets with individual vacuum flow

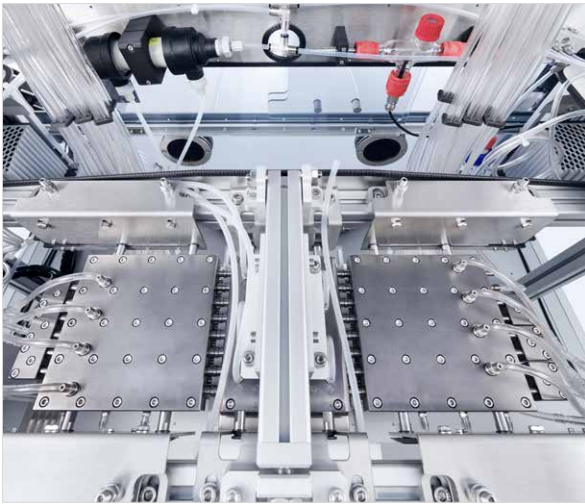
Special sealing and connection mechanisms guarantee a hermetic connection of the base module with the aerosol exposure top.

The aerosol exposure top guides the test atmosphere at an individually controlled flow rate to each cell culture membrane.



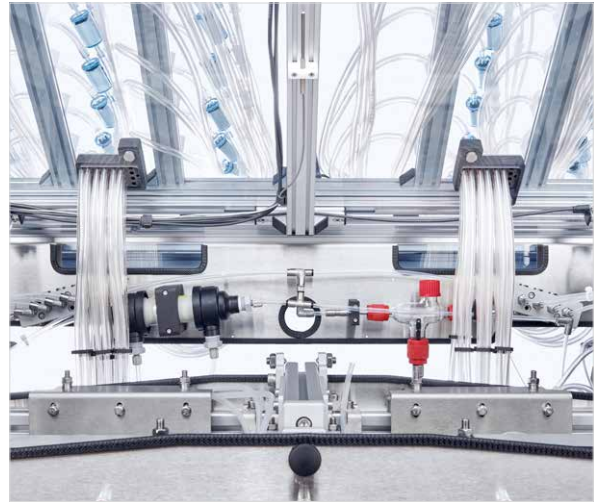
Controlled inlet flow

VITROCELL® exposure systems have been specifically designed and engineered to give researchers the possibility of directly exposing mammalian cells or tissue at the air/liquid interface. Thus, all cell types cultivated on microporous membranes can be used. This approach allows for more credible and authentic results than by submerged exposure due to a closer replication of the human physiology.



Integrated Dilution Systems

Support and quick-mounting mechanism of dilution systems and exposure top for easier handling



Integrated Humidification Station

The Humidification Station inside the chamber allows for a stable delivery of humidified dilution air.



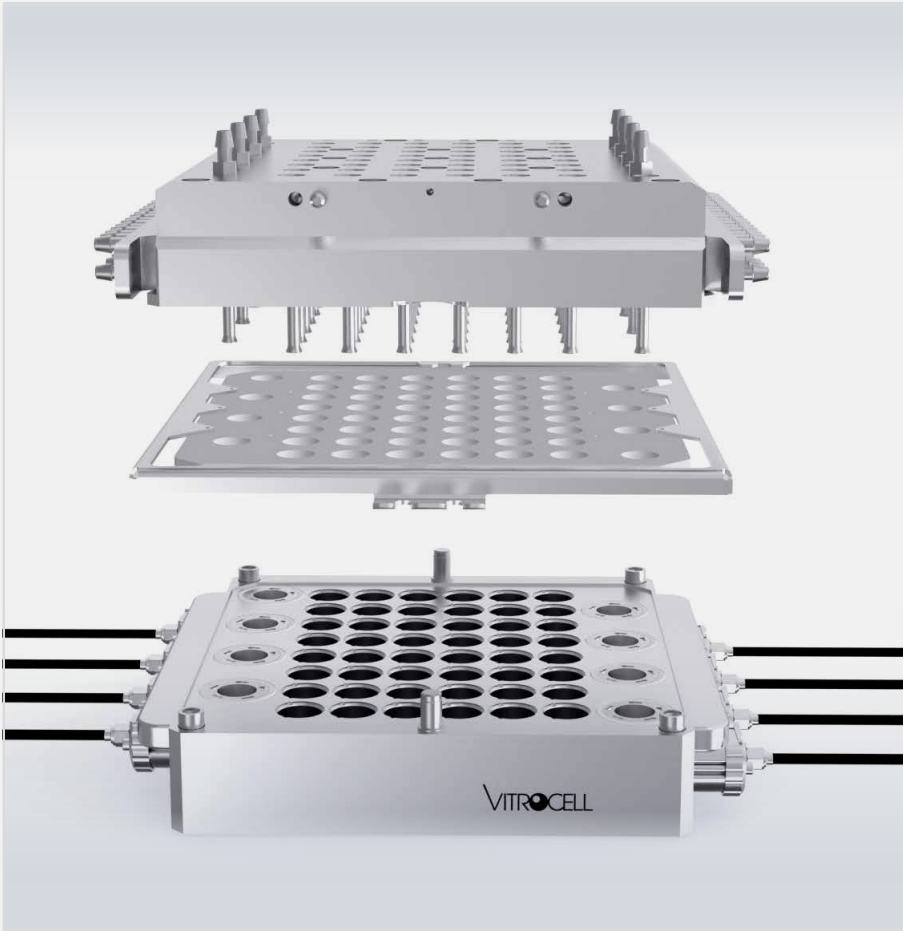
Integrated Flow Controllers

Flow controllers integrated in climatic chamber.



Controlled Heating System

Climatic Chamber can be heated to 37 °C to avoid condensation and enable stable humidity level.



24/48 PLUS Version

The 8 dosimetry positions can be equipped with either Quartz Crystal Microbalances, TEM Grid Holders or stainless Dosimetry Inserts for aerosol trapping in liquids.

Features

- Base module for 24-well sized inserts
- 8-fold Dilution/Distribution System
- 8 mass flow controllers for humidified air
- Flow controllers mounted inside of chamber
- 7 dilutions @ 6 replicates
- 1 clean air control @ 6 replicates
- Electronic heating system for base module
- Climatic Chamber for condensation-free operation if using liquid aerosols
- Housing with double-doors
- Heating systems with two RH/T sensors for temperature monitoring
- Integrated humidification system
- Optional dosimetry compartments

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:



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