

Advanced in vitro exposure systems



VITROCELL® Cloud MOVE

For fully automated and repeated row-by-row exposure of 12-, 24- and 96-well sized cell culture inserts. Testing of up to 12 dose ranges in one experiment.

The VITROCELL® Cloud Alpha MOVE is our newest innovation and presents another great leap forward in fully automated exposure of cell cultures. It is the ideal device to obtain a dose-response relationship in one experiment.

The development is based on the well-known and frequently published VITROCELL® Cloud formats. It's functionality enables a fully automated process with an all-in-one control unit.



Developed with a focus on automation

The new Cloud Alpha MOVE is capable to expose mammalian cell cultures in Corning® HTS Transwell® 96-Well Permeable Support Systems as well as 12- and 24-well sized inserts.

The Cloud system is suitable for nebulization of solutions and suspensions. Fields of application are screening of inhaled drugs, toxicity testing of inhaled substances such as chemicals or nanoparticles and virus research.

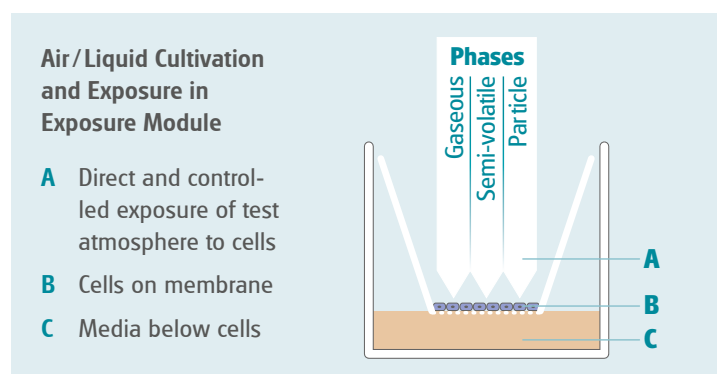
Choice of three types of nebulizers

It comes with a choice of 3 types of vibrating mesh nebulizers having droplet MMAD ranges of 2.5–6.0 µm, 2.5–4.0 µm, 4.0–6.0 µm and in a special version with 9.0–12.0 µm.

The device is particularly suitable for testing whenever small quantities of testing materials are available.

Exposure at the Air/Liquid Interface

All VITROCELL® Cloud Alpha exposure devices have been specifically designed to enable direct exposure of mammalian cells or tissue at the Air/Liquid Interface in physiologically relevant conditions. Here the cell cultures are not covered with media as opposed to submerged conditions which cause an undesired interaction of the formerly airborne substances with the culture media.



This approach allows for more credible and authentic results than by submerged exposure due to a closer replication of the human physiology.

96-well: 12 Individual Doses

Sequential Exposure of Corning® HTS Transwell® 96-Well Permeable Support Systems in up to 12 steps @8 replicates.



24-well: 6 Individual Doses

Sequential Exposure of 24-well sized culture inserts in up to 6 steps @4 replicates.



12-well: 4 Individual Doses

Sequential Exposure of 12-well sized culture inserts in up to 4 steps @3 replicates.



For each of the exposures applies: After each nebulization the exposure chamber is automatically evacuated by vacuum pump to enable equal exposure conditions for the following nebulisation.

Dosimetry using Quartz Crystal Microbalance (QCM)

The QCM sensor is integrated in the Cloud Alpha MOVE exposure module. It is capable of measuring the deposited mass in nanogram/cm². Results are recorded in the VITROCELL® Monitor software. Data is presented in graphs and stored in MS Excel®



Key Features:

- Fully automated row-by-row exposure of 12-, 24- and 96-well sized cell culture inserts
- Aerosolisation defined by nebulization time or volume
- Integrated controller for aerosol generator
- Optional integrated microbalance controller
- Programmable experiment recipes
- Output rate database for nebulizers
- Heating system
- PowerVent function: evacuation of residual aerosols via vacuum pump
- Designed for screening of inhaled drugs, toxicity testing of inhaled substances such as chemicals or nanoparticles and virus research

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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