

Advanced in vitro exposure systems



APPLICATION NOTE
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VITROCELL® Cigarette Holder Systems

Secure and tight connections for nearly any smoking-related device to our machines

In addition to our combustion cigarette holders, we offer a range of holders specifically designed for electronic cigarettes, including ENDS (Electronic Nicotine Delivery Systems) and HTP (Heated Tobacco Products). The diverse mouthpiece shapes of these products make it difficult to use conventional holders with labyrinth seals.

At VITROCELL®, we have developed a new modular holder system that flexibly adjusts to various mouthpiece shapes, ensuring compatibility with a broad range of e-cigarettes. The system has been tested with popular products such as JUUL, blu, Alto, Logic, IQOS, vype, GLO, and tank devices.

Our holders are designed to seal airtight and are robustly constructed, durable, and easy to clean. They are compatible with all VITROCELL® Smoking Machines and Robots. In most cases, simply exchanging the inner seal is enough to accommodate specific shapes.



VITROCELL® VC 1/7 Smoking Machine with ENDS holders

VITROCELL® Vapestarter

For automatic button activation of e-cigarettes

Button-activated e-cigarettes present a challenge for smoking machine users: should the button really be pressed manually every 30 or 60 seconds? Additionally, Heated Tobacco Products require activation before the first puff as well.

The VITROCELL® Vapestarter offers a convenient solution by automatically pressing the button in a precise and repeatable manner. It connects effortlessly to any VITROCELL® Smoking Machine, with the trigger frequency and duration easily controlled through the Smoking Robot Software.

For HTP devices, VITROCELL® Smoking Machines feature a specialized HTP trigger function. The Vapestarter unit can also be tailored to fit various tank products with different diameters and unique shapes.



The system consists of Vapestarter Controller, e-cigarette holder and different Vapestarter units.



VITROCELL® Smoking Machine VC 1

Holder	Product Picture	Standard	Necessary Accessories	Products	Activation
Cigarettes		Yes	Smoke Box	Conventional Cigarettes	Manually
Electronic cigarettes		No	Software Option (Square Profile)	Standard draw actuated E-Cigarettes	Draw actuated
ENDS cigarette (Electronic Nicotine Delivery)		No	Software Option (Square Profile) Seals depending on product	Different ENDS products possible (e.g. Juul, blu, Alto)	Draw actuated
Renova Zero (ENDS product)		No	Software Option (Square Profile)	Renova Zero product	Draw actuated
SMOK (ENDS product)		No	Software Option (Square Profile)	SMOK product	Draw actuated
IQOS (Heated Tobacco Product)		No	Software Option (HTP Mode)	IQOS product	Manually/ Automatically
GLO (Heated Tobacco Product)		No	Software Option (HTP Mode)	GLO product	Manually/ Automatically
Ploom (Heated Tobacco Product)		No	Software Option (HTP Mode)	Ploom product	Manually/ Automatically
Vapestarter		No	Software Option (Vapestarter)	Different HTP products possible	Automatically
Cigar Holder System		No	Smoke Box	Cigar like products OD 6-22 mm	Manually



VITROCELL® Smoking Machine VC 1 Standard version



Standard: for Conventional Cigarettes



Option: for draw actuated e-cigarettes



Option: for Heated Tobacco Products (HTP)



Option: for button actuated e-cigarettes



Option: for any puff-actuated device

VITROCELL® Smoking Machine VC 1 S-Type

Holder	Product Picture	Standard	Necessary Accessories	Products	Activation
Cigarettes		Yes	—	Conventional Cigarettes	Manually
Electronic cigarettes		No	Software Option (Square Profile)	Standard draw actuated E-Cigarettes	Draw actuated
ENDS cigarette (Electronic Nicotine Delivery)		No	Software Option (Square Profile) Seals depending on product	Different ENDS products possible (e.g. Juul, blu, Alto)	Draw actuated
Renova Zero (ENDS product)		No	Software Option (Square Profile)	Renova Zero product	Draw actuated
SMOK (ENDS product)		No	Software Option (Square Profile)	SMOK product	Draw actuated
IQOS (Heated Tobacco Product)		No	Software Option (HTP Mode)	IQOS product	Manually
GLO (Heated Tobacco Product)		No	Software Option (HTP Mode)	GLO product	Manually
Ploom (Heated Tobacco Product)		No	Software Option (HTP Mode)	Ploom product	Manually
Vapestarter		No	Software Option (Vapestarter)	Different HTP products possible	Automatically
Cigar Holder System		No	—	Cigar like products OD 6-22 mm	Manually



VITROCELL® Smoking Machine VC 1 S-Type standard version



Smoke Box and Impinger for Conventional Cigarettes



Option: holder system for ENDS products (e.g. blu)



Option: for ENDS products (e.g. button or draw actuated and tank products)



Option: rack for ENDS products

VITROCELL® Smoking Machine VC 1/7

Holder	Product Picture	Standard	Necessary Accessories	Products	Activation
Cigarettes		No	Software Option (Bell-shaped Profile) Smoke Box	Conventional Cigarettes	Manually
Electronic cigarettes		Yes	—	Standard E-Cigarettes	Automatically
ENDS cigarette (Electronic Nicotine Delivery)		No	Seals depending on products	Different ENDS products possible (e.g. Juul, blu, Alto)	Draw actuated
Renova Zero (ENDS product)		No	—	Renova Zero product	Draw actuated
SMOK (ENDS product)		No	—	SMOK product	Draw actuated
IQOS (Heated Tobacco Product)		No	Software Option (HTP Mode)	IQOS product	Automatically
GLO (Heated Tobacco Product)		No	Software Option (HTP Mode)	GLO product	Automatically
Ploom (Heated Tobacco Product)		No	Software Option (HTP Mode)	Ploom product	Automatically
Vapestarter		No	Software Option (Vapestarter) Rack System	Different HTP products possible	Automatically



VITROCELL® Smoking Machine VC 1/7 standard version



Mode 1: draw actuated cigarettes



Mode 2: vape starters with button activatos for tank products



Mode 3: smoke boxes for combustion cigarettes



Holder system for ENDS products (e.g. blu)

VITROCELL® Smoking Robot VC 10

Holder	Product Picture	Standard	Necessary Accessories	Products	Activation
Cigarettes		Yes	—	Conventional Cigarettes	Automatically
Electronic cigarettes		No	Software Option (Square Profile) Additional E-Cig holder	Standard E-Cigarettes	Draw actuated
ENDS cigarette (Electronic Nicotine Delivery)		No	Rack System Seals depending on products	Different ENDS products possible (e.g. Juul, blu, Alto)	Draw actuated
Renova Zero (ENDS product)		No	Rack System	Renova Zero product	Draw actuated
SMOK (ENDS product)		No	Rack System	SMOK product	Draw actuated
IQOS (Heated Tobacco Product)		No	Software Option (HTP Mode) Rack System	IQOS product	Manually
GLO (Heated Tobacco Product)		No	Software Option (HTP Mode) Rack System	GLO product	Manually
Ploom (Heated Tobacco Product)		No	Software Option (HTP Mode) Rack System	Ploom product	Manually
Vapestarter		No	Software Option (Vapestarter)	Different HTP products possible	Automatically



VITROCELL® Smoking Robot VC 10 standard version



Option: holder system for ENDS products (e.g. blu)



Standard: automatically lighted cigarettes

VITROCELL® Smoking Robot VC 10 S-Type

Holder	Product Picture	Standard	Necessary Accessories	Products	Activation
Cigarettes		Yes	—	Conventional Cigarettes	Automatically
Electronic cigarettes		No	Software Option (Square Profile) Additional holder	Standard E-Cigarettes	Automatically
ENDS cigarette (Electronic Nicotine Delivery)		No	Software Option (Square Profile) Seals depending on products	Different ENDS products possible (e.g. Juul, blu, Alto)	Automatically
Renova Zero (ENDS product)		No	Software Option (Square Profile) Rack System	Renova Zero product	Automatically
SMOK (ENDS product)		No	Software Option (Square Profile) Rack System	SMOK product	Automatically
Heated Tobacco Products (HTP)		No	Including different holder Software Option	Different HTP products	Automatically
IQOS (Heated Tobacco Product)		No	Rack HTP Software	IQOS product	Manually
GLO (Heated Tobacco Product)		No	Rack HTP Software	GLO product	Manually
Ploom (Heated Tobacco Product)		No	Rack System	Ploom product	Manually
Vapestarter		No	Rack System Software Option (Square Profile)	Different HTP products possible	Automatically



VITROCELL® Smoking Robot VC 10 S-Type Standard version



Option: quick-lock holder for HTP products



Option: quick-lock holder for HTP products



Holder for cigarettes



Option: holder for ENDS products



Option: holder system for ENDS products (e.g. blu)

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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