

skan

Balance enclosure HFC^{pro}

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Together always one step ahead

Founded in 1968 as a trading company for Scandinavian laboratory equipment, which corresponds to today's SKAN Pure Solutions division, SKAN is now the world market leader in the field of isolator production for aseptic applications.

One of our core competencies is the manufacture of process isolators for pharmaceutical aseptic production. One in three vaccines administered is produced in a SKAN isolator. Even the most complex customer requirements can be met thanks to the experts who research innovative solutions for all aspects of isolator technology in our in-house laboratories. Our employees perform pioneering work by developing methods for hydrogen peroxide decontamination within the entire process isolator, including the filling line with all its components. The scientific studies have been published in several publications by the Parental Drug Association (PDA) and the International Society for Pharmaceutical Engineering (ISPE) and are internationally recognised and applied master documents. A comprehensive support program is available to provide optimum customer support throughout the entire product life cycle. This is ensured by a global service network with in-house and external specialists. To guarantee the transfer of knowledge, we provide training for our employees, partners and customers in the SKAN Academy.

We are also able to offer integrated overall solutions. The focus is on the horizontal and vertical integration of our systems into building technology and solutions in the area of Data Intelligence as well as VR/AR and Digital Twins. We currently employ around 800 people from over 40 nations. More than half of our employees are based at our headquarters location in Allschwil in Switzerland, while all other employees are distributed across our subsidiaries in Stein (Switzerland), Germany, Belgium, Italy, Japan and the USA.

SKAN Pure Solutions

The Pure Solutions division offers workplace solutions in the pure air sector. Regardless of whether it is for decontamination, filtration or protected areas, we have the optimum solution to guarantee effective protection for products, users and the environs. With our many years of experience and innovative approaches, we are continually refining our solutions. In this way we can ensure that our products and services give our customers the added value they need, both today and in the future. Our offer is unique – it includes applications from a wide variety of segments and is geared towards the individual needs of our customers. This know-how as well as our high-quality services have made us a leader in the industry.

Balance enclosure HFC^{pro}

Precision and safety in a nutshell

Requirements

- Safe working with active and toxic, powdery substances (active ingredients)
- Sampling or product transfer
- Weighing work according to the latest USP requirements, with analytical, precision and ultra-micro balances

Solution

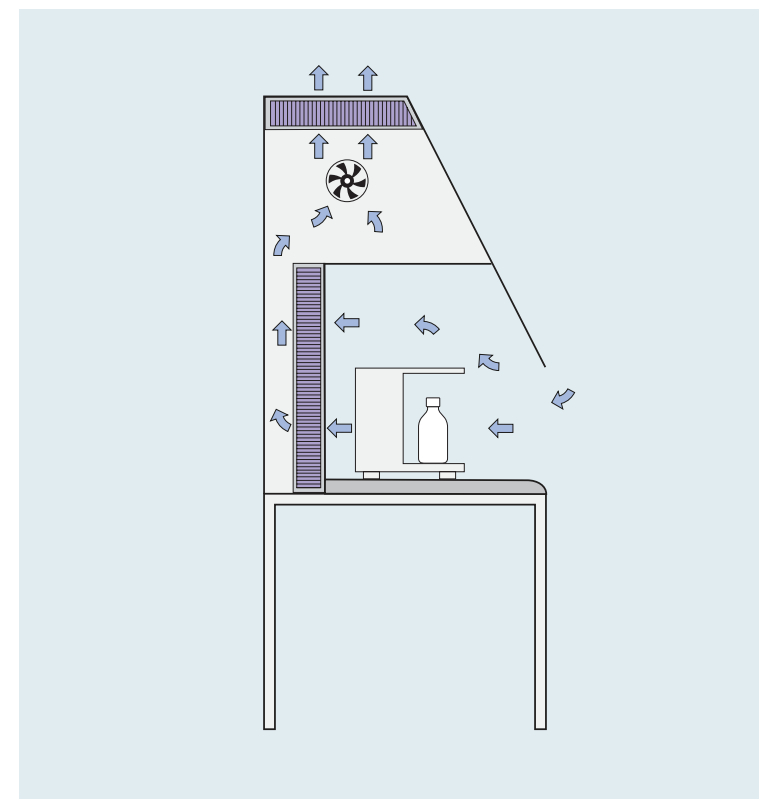
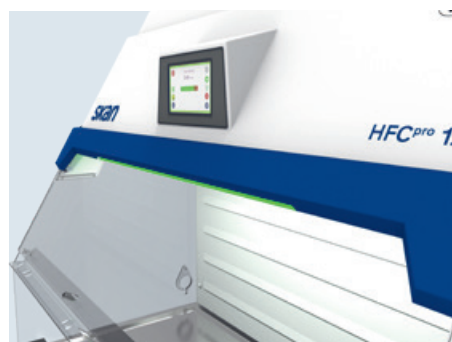
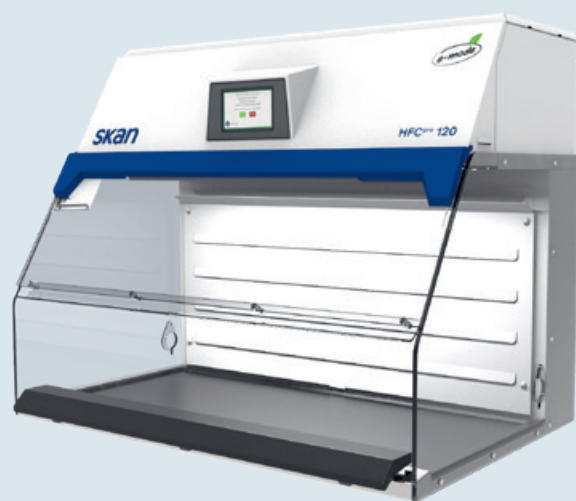
Optimum research results start with a robust environment. The balance enclosure HFC^{pro} offers the user reliable weighing results with proven safety (OEL Level <1 µg/m³). As with other new developments (e.g. the fume cupboard workstation^{evo}), the concept of sustainability has been consistently pursued. The balance enclosure has an “e-mode”.

While maintaining the same protection level (OEL Level <1 µg/m³), the basic functions are automatically reduced when not in use, resulting in a reduction in energy consumption, which in turn saves costs and resources.

Clever features further increase the ease of use and user safety. Clearly visible light signals indicate the current operating status or alarms.

The balance enclosure HFC^{pro} is available as a table version, for mounting on existing laboratory furniture, or with a base frame.

Thanks to optimum legroom, the base frame ensures ergonomic working.



Functional principle

The inwardly directed, low-turbulence air flow prevents particles and aerosols inside the work area from reaching the outside.

The possibility of connecting two HEPA H14 filters in series means that pollutants are effectively retained at the source. The optimised flow design ensures the highest possible level of safety.

This ensures personal and environmental protection.

Tested

Based on EN 14175 Part 3

Weighing certificates according to USP Chapter 41

OEL Level <1 µg/m³

Area of use

- Laboratory & research
- Biotech & life sciences
- Hospital & pharmacy
- Food industry

Additional products and options

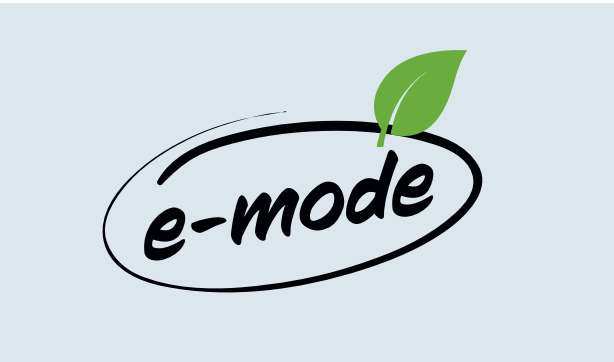
- Standard base frame as well as “EasyClean” base frame with powder-coated casing
- Additional HEPA filter
- Wide range of activated carbon
- Stainless steel or ceramic work surface
- Front and side panes made of glass or acrylic
- Antistatic unit for working with statically charged powder
- Disposal unit with endless hose
- Outgoing air connection

Focus on the user

Oriented towards the needs of the user, a large number of new functions were created during the development of the balance enclosure HFC^{pro}.

Energy saving mode e-mode

The “e” in e-mode stands both for economical and ecological. The e-mode ensures cost-saving and resource-saving operation. This is achieved by reducing the air speed, which does not impair the safety function of the system in any way and maintains the same verifiable level of environmental protection. Please refer to the section “Containment test”. The energy-saving mode is not a working mode. Motion sensors in the system detect whether work is currently being carried out on the system. In the operating settings, the user can specify whether the system is switched to e-mode manually (via the touch screen) or automatically (5, 10, 20 minutes after the system was last used). A blue light signal informs the user that the system is in energy-saving mode.



Light signal shows the operating status

With the balance enclosure HFC^{pro} you can see at a glance whether the system is currently providing the desired protection for people and the environment. Light signals on the housing and on the edge of the window, clearly visible in the laboratory, indicate the operating status, as well as alarms and malfunctions.

Light signal colour	Operational state	User protection	Environmental protection
Green	Operating mode	●	●
Blue	e-mode	○	●
Red	Alarm	○	○



Intelligent activated carbon filter

When using activated carbon filters, the user has 2 functions that further increase safety. On the one hand, the saturation is permanently monitored and displayed; on the other hand, the user is informed each time it is used which activated carbon is being used and whether this corresponds to the application. This minimises the risk of a saturated or incorrect activated carbon filter being used.

Tested precision and safety

Weighing test

Weighing and diluting is often the first step in analysis. Weighing errors can be carried over the entire process, such that the end results cannot be reproduced. Optimum research results therefore start with a robust infrastructure. In addition to the balance itself, this also includes the environment, for example a balance enclosure. Chapter 41 of the USP (US Pharmacopoeia) contains the requirements for weighing. In cooperation with Mettler-Toledo, the balance enclosure HFC^{pro} was tested and certified based on USP Chapter 41. Analytical balances, precision balances and ultra-micro balances were used. The balance enclosure HFC^{pro} offers proven reliable weighing results. The smallest possible weight for an ultra-micro balance is approximately 0.7 mg (without the safety factor).

Regulations as a basis

Fume cupboards of any kind are important safety devices in laboratories. For this reason, the safety-related components are based on the European standard DIN EN 14175 for fume cupboards. The balance enclosure HFC^{pro} offers tested personal protection based on the DIN EN 14175-3 standard.

Containment test

Independent experts carried out a containment test based on the SMEPAC guideline on the balance enclosure HFC^{pro} in order to provide proof of personal protection. During weighing by a laboratory employee, air samples were collected at 3 measuring points: on the user's body, at the work opening and in the room. The analysis of the samples provided information about the exact retention capacity of the fume cupboard and its containment performance. The initial weight was simulated with a surrogate for active pharmaceutical ingredients. This practical test provided clear evidence of the protective function, both in normal working operation and in e-mode. The proven quantities were included in all measurements < 1 µg/m³.



Detailed reports on the weighing test and the containment test are available on request.

Features



Filter variants

The standard HEPA filter can be combined with other filters:
Activated carbon filter - with indicator showing the filter type and saturation
HEPA safety filter - option of connecting two HEPA H14 filters in series.



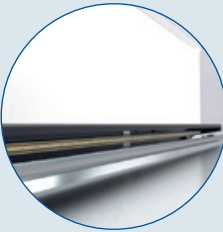
Outgoing air

Thanks to the option of an outgoing air connection, the balance enclosure HFC^{pro} can be connected to the building ventilation system.



LED light signal

Indicates clearly in the laboratory the current operating status as well as alarms and malfunctions.



Arm support

For ergonomic and relaxed working.
An antistatic unit can be fitted as an option.

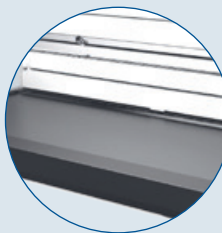


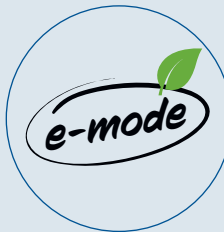
Table surface

Robust and scratch resistant. For tested precision in weighing work, according to USP Chapter 41.



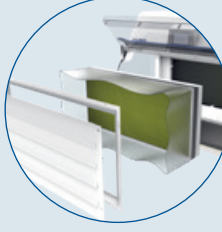
Energy saving mode e-mode

Ensures cost-saving and resource-saving operation. A motion sensor detects whether work is being done in the balance enclosure, and when it is not in use it can automatically switch to e-mode.



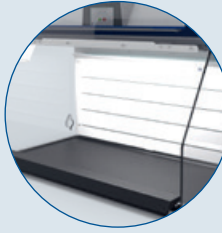
Touch screen

For intuitive and easy operation.



Extraction at the source

Efficient extraction of pollutants and powders. Contamination-free filter change thanks to the bag-out system.



Work area

Clearly visible and perfectly illuminated. Glass or acrylic glazing. The side glazing offers versatile options for feed-throughs, etc.



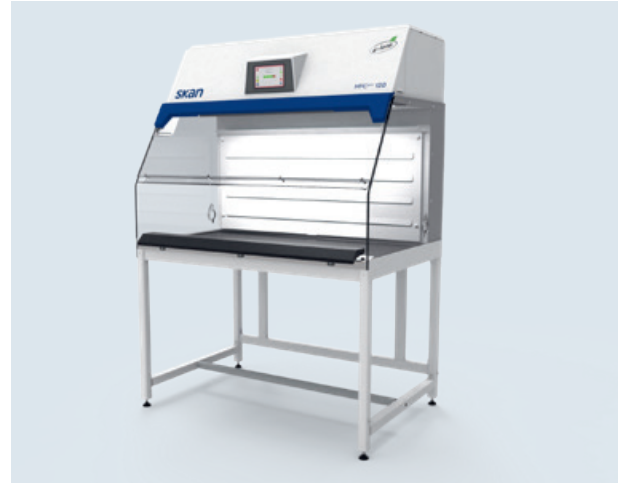
Placement

Table mounting on existing laboratory furniture or with a base frame.

Options and accessories

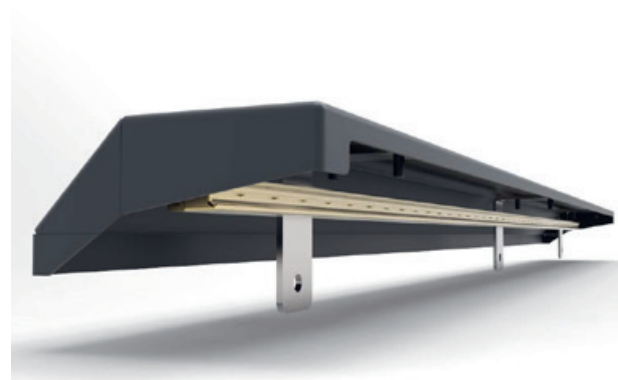
Base frame / Table version

The balance enclosure HFC^{pro} is available as a table version, for mounting on existing laboratory furniture, or with a base frame. The variant with the base frame guarantees the greatest possible legroom and therefore ergonomic working. The EasyClean base frame as a further option provides an enclosure for the base frame for improved cleaning.



Antistatic unit

An antistatic unit can be attached under the armrest to prevent the electrostatic charging of powders and devices. This is effective throughout the cabin thanks to the inward airflow.



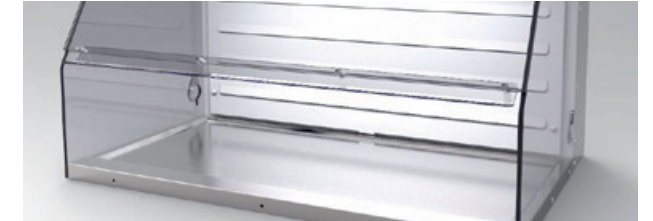
Disposal unit

Disposal units with a film tube can be installed in the side panes for easy disposal of contaminated waste.



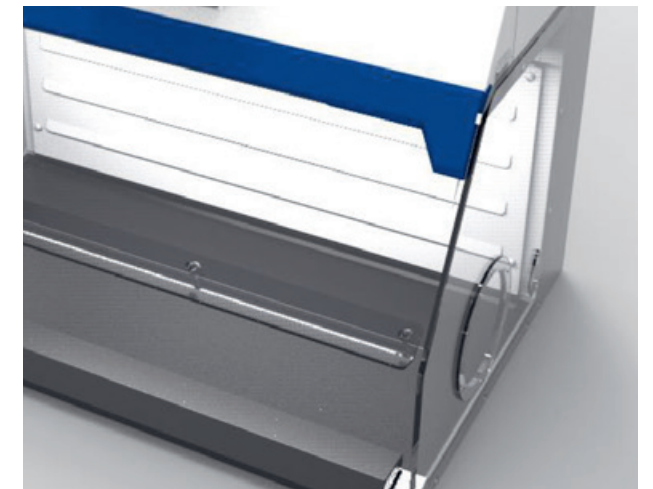
Work surfaces

Made of stainless steel or technical ceramics, the work surfaces offer high chemical resistance and are particularly impact- and scratch-resistant. The ceramic work surface has a curved edge to prevent liquid media from leaking out.



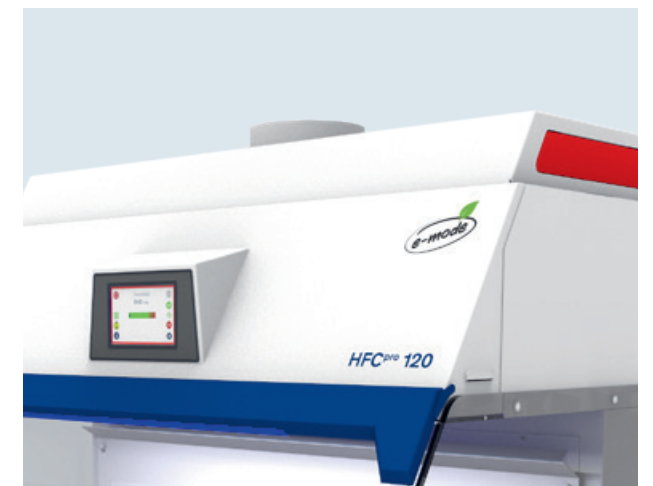
Glazing

The front and side panes are available in acrylic or glass. The side panes can be equipped with cable feed-throughs and can also be easily exchanged later.



Outgoing air connection

With the option of an outgoing air connection, the balance enclosure HFC^{pro} can easily be connected to the building ventilation system. Thanks to the filtration, no contamination gets into the outgoing air system of the building.



Filter

HEPA filter

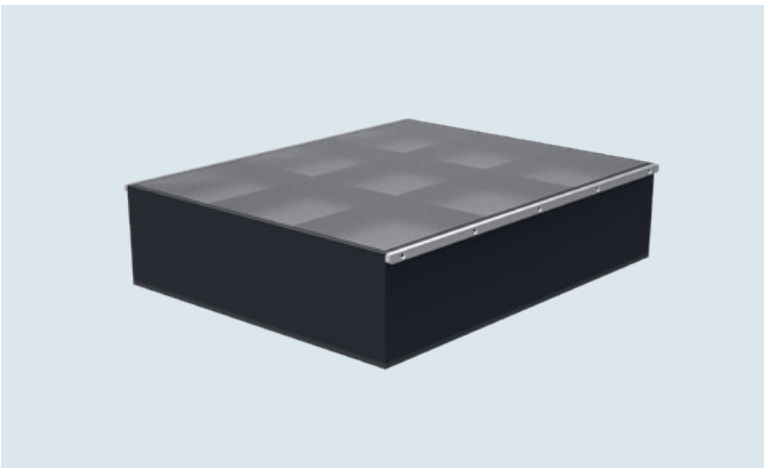
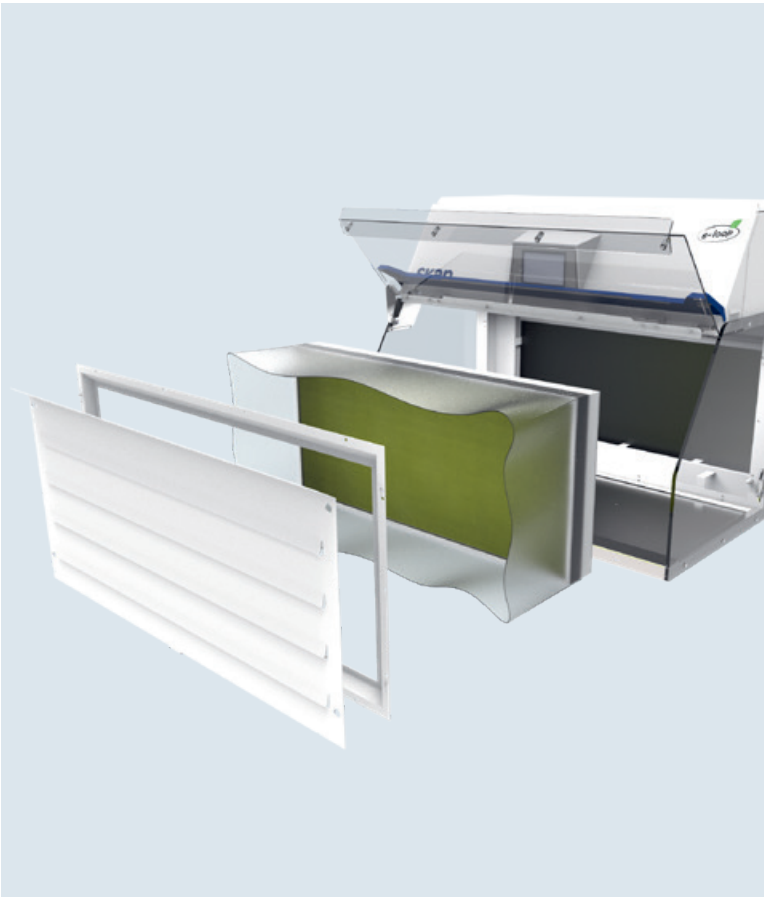
A HEPA filter is included as standard with the HFC^{pro}balance enclosure; an additional HEPA filter stage can be used for additional protection. The particulate filters effectively hold back particles from the air. You can choose between H13 (degree of separation 99.95%) and H14 (degree of separation 99.995%) filters.

Activated carbon filter

Solvent vapours and odours are effectively retained at the source. Activated carbon filters are optionally available for the following applications: general organic compounds, acids and aldehydes. The activated carbon mixture can also be adapted to your individual requirements.

Bag out filter change

The bag-out system is included as standard and ensures that the HEPA filter can be changed with little contamination. The contaminated filter surface is sealed in the safe environment by a plastic film. The filter can then be removed from the work area without exposing the environment or the user to hazardous substances.



Technical data

Type	HFC ^{pro} 90	HFC ^{pro} 120	HFC ^{pro} 150
External dimensions (W×D**×H)	900×854×970 mm	1200×854×970 mm	1500×854×970 mm
External dimensions incl. base frame* (W×D**×H)	900×854×1740/1790/1840 mm	1200×854×1740/1790/1840 mm	1500×854×1740/1790/1840 mm
External dimensions incl. outgoing air connection* (W×D**×H)	900×854×1105 mm	1200×854×1105 mm	1500×854×1105 mm
External dimensions incl. activated carbon filter* (W×D**×H)	900×854×1103 mm	1200×854×1103 mm	1500×854×1103 mm
External dimensions incl. outgoing air connection* + activated carbon filter* (W×D**×H)	900×854×1212 mm	1200×854×1212 mm	1500×854×1212 mm
Usable working area (W×D) Ceramic work surface*	812×480 mm	1112×480 mm	1412×480 mm
Air volume flow	approx. 330 m³/h	approx. 444 m³/h	approx. 554 m³/h
Air speed working mode	approx. 0,35 m/s	approx. 0,35 m/s	approx. 0,35 m/s
Power consumption	max. 170 W	max. 200 W	max. 250 W
Weight	98 kg	119 kg	–
Noise level	47,5 dB	52 dB	–
Power supply	1~230 V, min. 5 A	1~230 V, min. 5 A	1~230 V, min. 5 A

*optionally available **including armrest (optional)

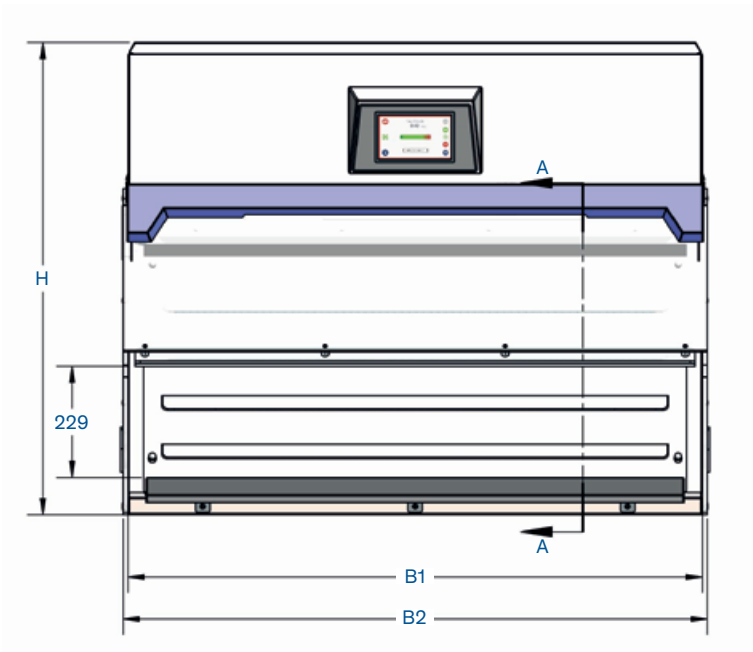
Outgoing air connection

When connecting an balance enclosure HFC^{pro} to the outgoing air system of the building, the following points must be observed:

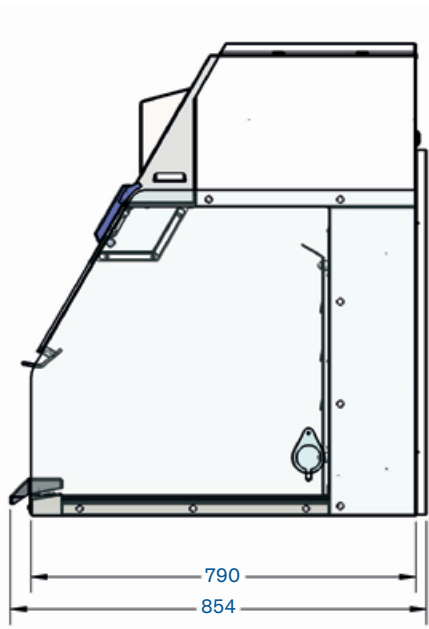
- In the event of a fault in the outgoing air system, the protective function of the balance enclosure must be maintained.
- Negative repercussions of the outgoing air system on the balance enclosure HFC^{pro} must be prevented.

- Recommended volume flow of the outgoing air system:
Exhaust air volume flow HFC^{pro} +33 %.
- A flexible ventilation hose (Ø 200 mm) must be provided for installation.
- Documents relevant to safety, such as the GS certificate and the EC declaration of conformity, lose their validity.

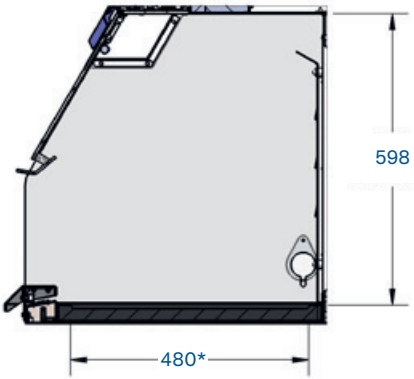
Technical drawings



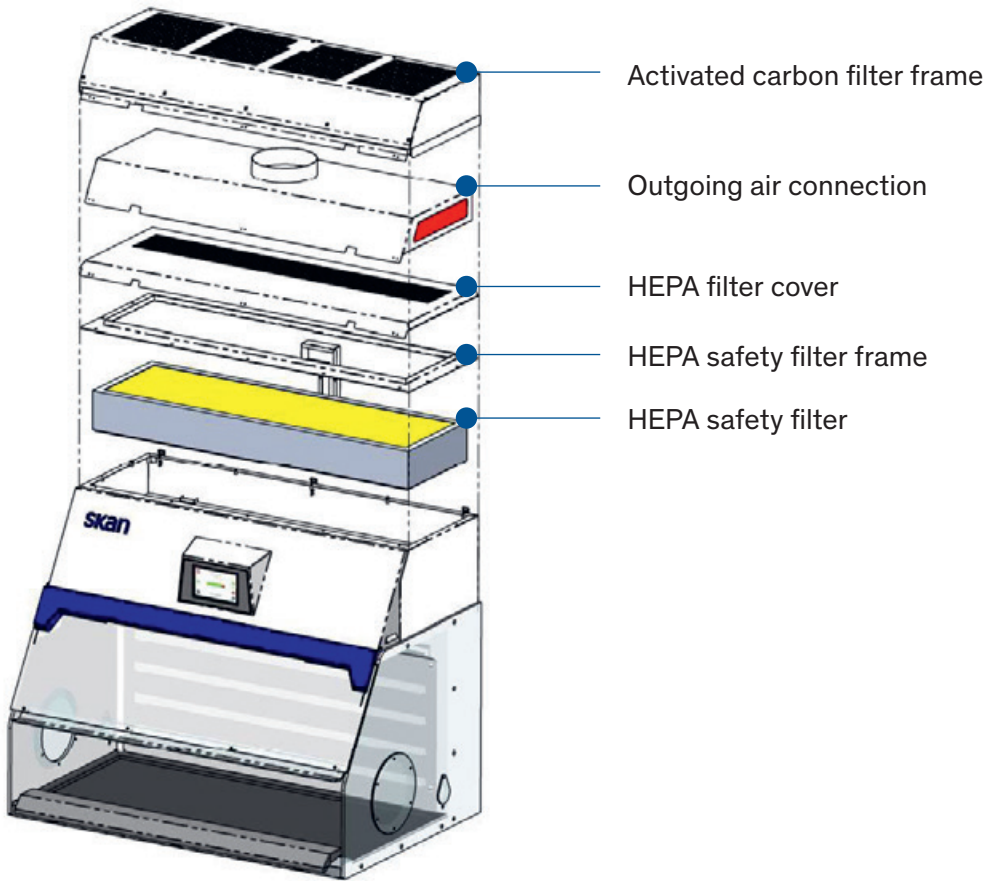
	HFC ^{pro} 90	HFC ^{pro} 120	HFC ^{pro} 150
W1	900	1200	1500
W2	880	1180	1480
H	970	970	970
H with outgoing air connection	1105	1105	1105
H with activated carbon filter	1103	1103	1103
H with outgoing air connection + activated carbon filter	1212	1212	1212



Section A-A (internal dimensions)



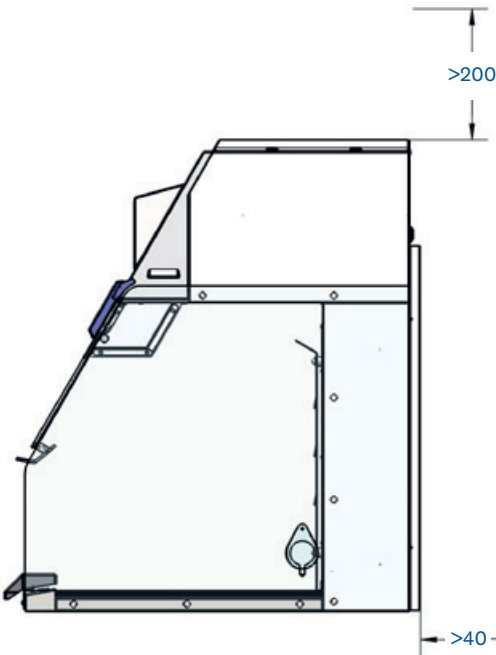
All dimensions in mm
*With optional ceramic work surface



Positioning

When positioning the unit in the room, please note the following:

- Clearance of unit's back wall: At least 40 mm.
- The connection for the power cable is at the rear of the unit on the right-hand side. Clearance above unit: At least 200 mm.



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