skan

Safety weighing cabinet
HFC^{pro}

e-mode

Together always one step ahead

Founded in **1968** as the trading company for Scandinavian laboratory equipment – today's SKAN Pure Solutions division – SKAN is now the world's leading supplier of isolators for aseptic applications.

One of our core competencies is the manufacture of process isolators for aseptic pharmaceutical production. One in three vaccines administered is produced in a SKAN isolator.

Our experts can meet even the most complex demands, thanks to research in our in-house laboratories into innovative solutions covering every aspect of isolator technology. Our teams are working on pioneering techniques for hydrogen peroxide decontamination throughout the entire process isolator, including the filling line with all its various components. Scientific papers have been published in a host of journals by the Parental Drug Association (PDA) and the International Society for Pharmaceutical Engineering (ISPE), becoming internationally recognised and referenced master documents. A comprehensive support programme is available to deliver the best possible customer support throughout the entire product life cycle. This is backed up by a global service network using in-house and external specialists. To guarantee the transfer of knowledge, we provide training for our employees, partners and customers at the SKAN Academy.

We are also able to supply integrated total solutions. Our focus is on horizontal and vertical integration of our systems into building technology, as well as systems in the field of data intelligence and VR/AR and digital twins. We currently employ around 1300 people from over 40 nations. More than half of our employees are based at our headquarters in Allschwil in Switzerland, while the rest are distributed across our subsidiaries in Stein (Switzerland), Germany, Belgium, Italy, Japan and the USA.

SKAN Pure Solutions

The Pure Solutions division supplies workplace solutions for pure air. Whether for decontamination, filtration or protected areas, we have the best systems for guaranteeing effective protection for products, users and the environment. With our many years of experience and innovative approaches, we are continually refining our solutions. This means we can ensure our products and services deliver the added value our customers need, both today and going forward.

Our product range is unique – it embraces applications in a wide variety of sectors and is geared towards the individual needs of our customers. This know-how, along with our premium-quality service provision, has made us leaders in the industry.

Safety weighing cabinet
HFC^{pro}
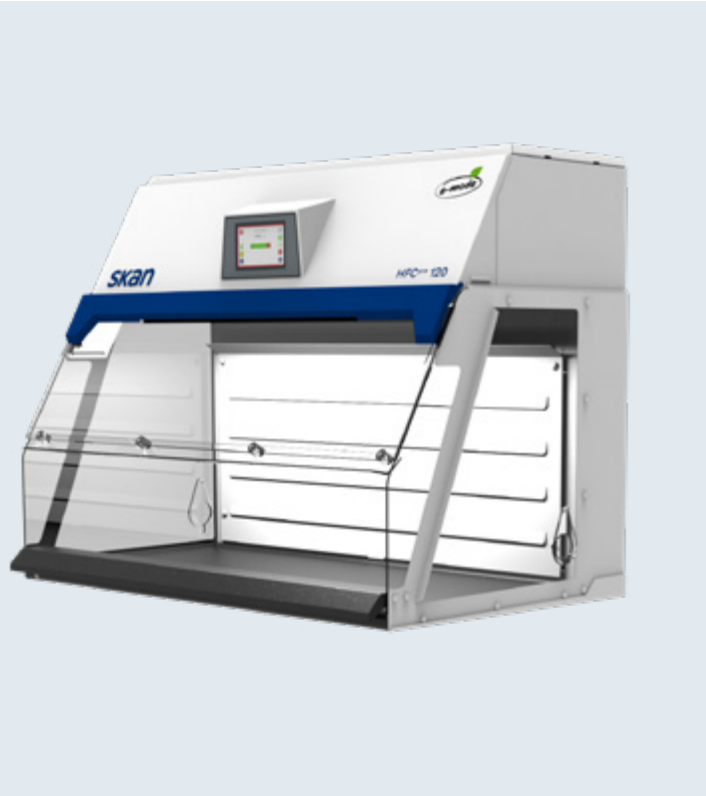
Combining accuracy and safety

Requirements

⟶   Safe handling of active and toxic substances in powder form such as active pharmaceutical ingredients
⟶   Sampling and product transfer
⟶   Weighing in accordance with the latest USP requirements with analytical, precision and ultra-micro balances

Solution

Optimum research results start with a robust environment.
The HFC^{pro} safety weighing cabinet provides reliable weight readings combined with proven safety (OEL level <1 µg/m³). As with other recent developments (such as the Workstation^{evo} fume cupboard), the concept of sustainability has been applied throughout.
The safety weighing cabinet comes with an energy-saving e-mode: basic functions are automatically reduced when not in use, all while maintaining continuous protection (OEL level <1 µg/m³). This reduces energy requirements, which in turn saves costs and resources. Thanks to smart features, user-friendliness and safety have been further increased. Clearly visible illuminated signals indicate the current operating status and any alarms.
The HFC^{pro} safety weighing cabinet comes as a surface-mount version, for installation on existing laboratory equipment, or with a base stand.
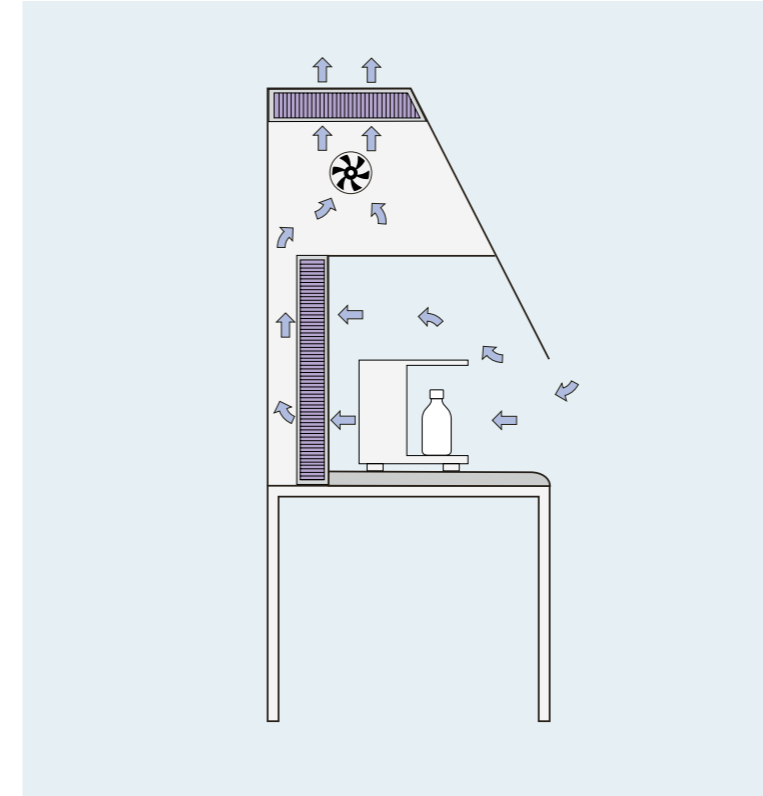
Functional principle

Low-turbulence airflow is directed inwards to prevent particles and aerosols escaping from the work zone. The option of using two consecutive HEPA H14 filters means contaminants can be captured efficiently at source. The optimised flow design delivers proven maximum safety. This ensures personal and environmental protection.

Tested
According to EN 14175 Part 3
Weighing certificates according to USP chapter 41
OEL level <1 µg/m³

Field of application

⟶   Laboratory & Research
⟶   Biotech & Life Science
⟶   Hospital & Pharmacy
⟶   Food

Additional products and options

⟶   Standard base stand and EasyClean base stand with powder-coated panelling
⟶   Additional HEPA filter
⟶   Wide range of activated carbon
⟶   Stainless steel or ceramic work surface
⟶   Antistatic unit for working with statically charged powder
⟶   Disposal unit with foil hose
⟶   Exhaust duct connector

Users come first

Aimed at the needs of the user, the HFC^{pro} safety weighing cabinet comes with a variety of new functions.

Energy-saving e-mode

The "e" in e-mode stands for economic as well as ecological. The e-mode enables cost- and resource-saving operation. This is achieved by reducing airflow velocity, while not impairing the safety function of the system in any way, preserving a verifiably protected environment. Please see the "Containment test" section. E-mode is specifically not a work mode. Motion sensors detect whether the system is currently being worked on. In the operating settings you can specify whether to switch to e-mode manually (via touchscreen) or automatically (5, 10, 20 minutes after using the system). A blue illuminated signal tells the user when the system is in energy-saving mode.
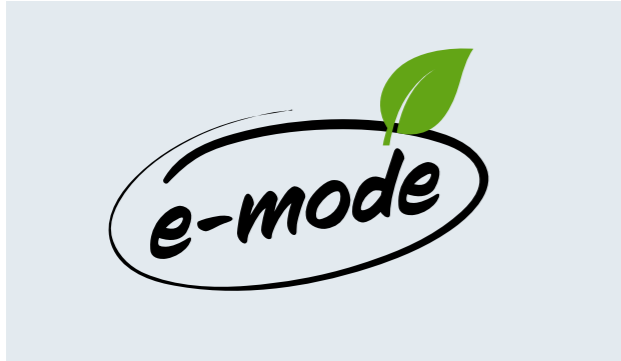
Illuminated signal shows operating status

The HFC^{pro} safety weighing cabinet tells you at a glance whether the personal and environmental protection is currently at the required level. Illuminated signals, clearly visible in the laboratory, indicate operating status, alarms and faults.

Colour of illuminated indicator	Operating mode	Personal protection	Environmental protection
Green	Working mode	●	●
Blue	e-mode	○	●
Red	Alarm	○	○
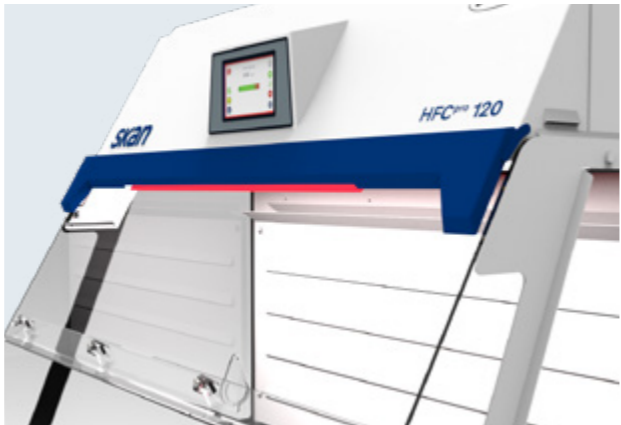
Smart activated carbon filter

When using activated carbon filters, users have the benefit of two functions which improve safety even more. On the one hand, the saturation is permanently monitored and displayed. Next to this, the user is informed during the startup of the cabinet which activated carbon is being used and whether it is suitable for the application. This minimises the risk of using a saturated or unsuitable activated carbon filter.

Verified accuracy and safety

Weighing test

Weighing and diluting are often the first steps in analysis. Errors while weighing can spread along the entire process, meaning final results cannot be reproduced.
The best research results start with a solid infrastructure, which includes not only the weighing unit itself but also the environment too, such as the safety weighing cabinet.
Chapter 41 of the USP (US Pharmacopeia) specifies weighing requirements.
The HFC^{pro} safety weighing cabinet has been tested and certified in partnership with Mettler-Toledo, based on chapter 41 of the USP. Analytical, precision balances and ultra-micro-balances were used for this.
The HFC^{pro} safety weighing cabinet offers verifiably reliable weight readings. Using an ultra-microbalance, it is possible to weigh down to approx. 0.7 mg according to the USP (with no safety margin).

Based on regulatory framework

Fume cupboards of all kinds represent important safety equipment in laboratories. Safety aspects for laboratory fume cupboards are therefore based on European standard DIN EN 14175. The HFC^{pro} safety weighing cabinet provides verified personal protection in accordance with DIN EN 14175-3.

Containment test

Independent experts carried out a containment test based on SMEPAC guidelines to demonstrate personal protection.
During weighing by a laboratory worker, air samples were collected from three measuring points (from the user's body, at the sash opening and in the room). Analysing these samples provided information about the precise containment capacity of the cabinet and its containment performance. The sample weight was simulated using a surrogate for active pharmaceutical ingredients. This real-world test meant the protective function could be demonstrated clearly, both in normal mode and e-mode. Amounts detected for all readings were well below 1 μg/m^3.

Detailed reports on the weighing and containment tests available on request.

Features
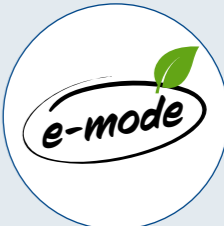
Filter types
The standard HEPA filter with bag-out system can be used in conjunction with other filters:
HEPA safety filter – option to connect two HEPA H14 filters in series.
Activated carbon filter – including display of filter type and saturation level.

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

Exhaust air
The optional outgoing exhaust duct connector means the HFCpro safety weighing cabinet can be connected to the building ventilation.

Touch screen
For simple, intuitive operation as well as monitoring the most important parameters.

LED light indicator
Clearly visible in the laboratory, indicates the current operating mode as well as alarms and faults.
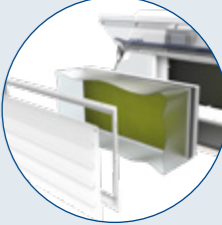
Extraction at the source
Contaminants and powder extracted efficiently. Contamination-free filter changes thanks to bag-out system.
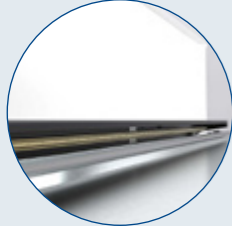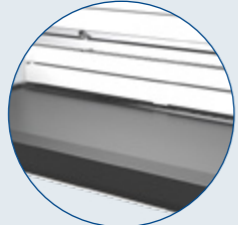
Armrest
For ergonomically correct, relaxed working. An antistatic unit can be fitted as an option.

Work area
With LED lighting. Side glazing offer a wide range of options (such as for grommets or connecting to other systems).

Tabletop surface
Robust and scratch-resistant. For verified precision when weighing, in accordance with chapter 41 of the USP.

Placement
Mounting on existing laboratory furniture or with a base stand.

Options and accessories

Base stand / Table version

The HFC^{pro} safety weighing cabinet is available as a table version, for installation on existing laboratory equipment, or with a base stand. The base stand version provides maximum legroom and thus ergonomic working. The alternative EasyClean base stand option is encased to make cleaning even easier.
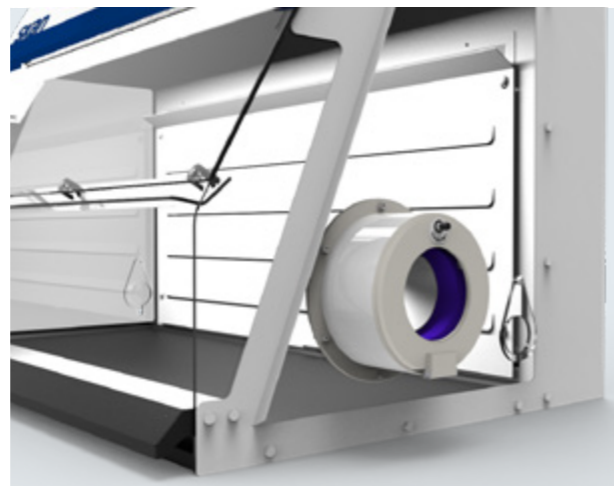

Antistatic module

An antistatic module can be installed beneath the armrest to prevent powder and equipment becoming electrostatically charged. As the airflow is directed inwards, this is effective throughout the cabinet.

Disposal unit

Disposal units with a foil hose can be installed in the side panels to facilitate removal of contaminated waste.


Work surfaces

Available in stainless steel or ceramic, the work surfaces offer high chemical resistance and are particularly resistant to impact and scratching. The ceramic work surface is designed with a rounded lip to prevent liquid media from leaking out.
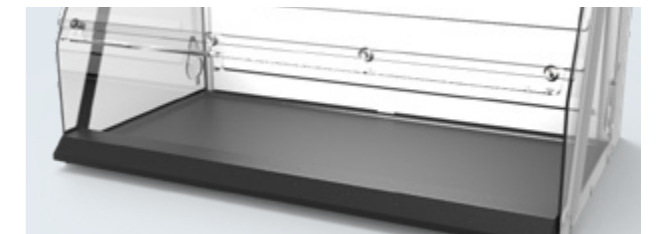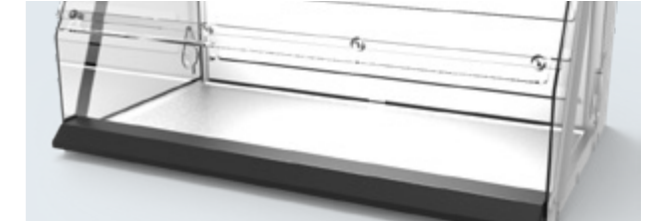
Glazing

The front and side panels are acrylic; a ceramic coating makes the panels highly resistant to scratching and chemicals.
The side panels are fitted with cable grommets and are easy to replace at a future time.
Other configurations are available upon request.
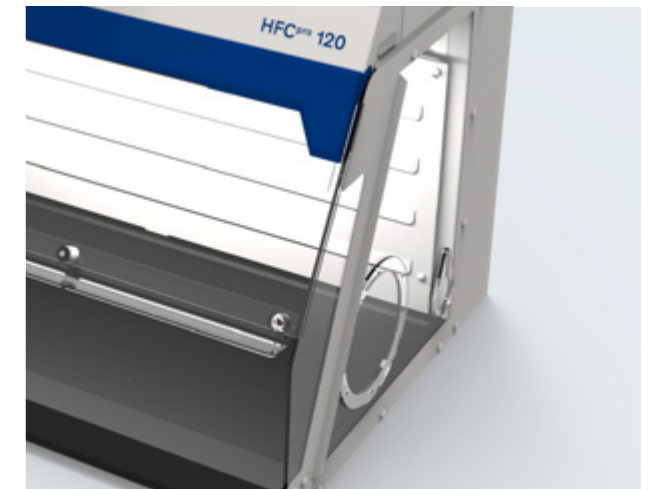
Exhaust duct connector

The optional exhaust duct connector means the HFC^{pro} cabinet can easily be hooked up to the building ventilation if required. Thanks to the filtration, no contamination gets into the building's air system.

Filter

HEPA filter

A HEPA filter is included as standard in the HFCpro safety weighing cabinet; an additional HEPA filter stage can be used for additional protection. The H14 HEPA filter is very efficient at capturing airborne particles (separation efficiency 99.995%).

Bag-out filter change

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

Activated carbon filter

Solvent fumes and odours are efficiently captured at source. Activated carbon filters are available as an option for the following applications: General organic compounds, acids, aldehydes. The activated carbon mixture can also be tailored to individual requirements.
The saturation level of the activated carbon is monitored with sensors and so user safety is assured.
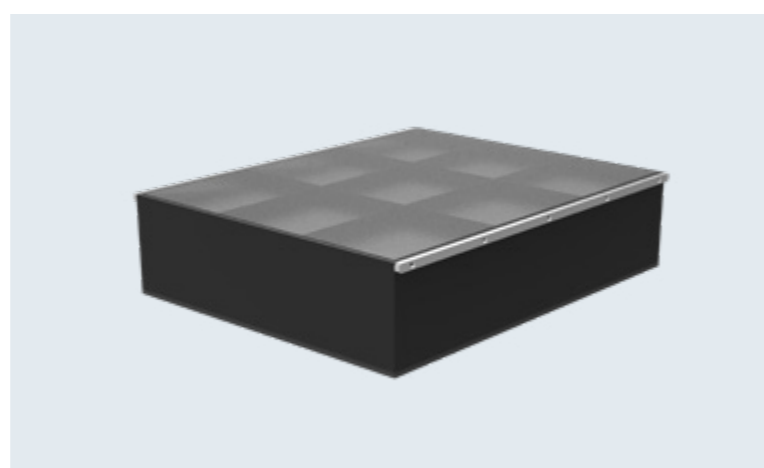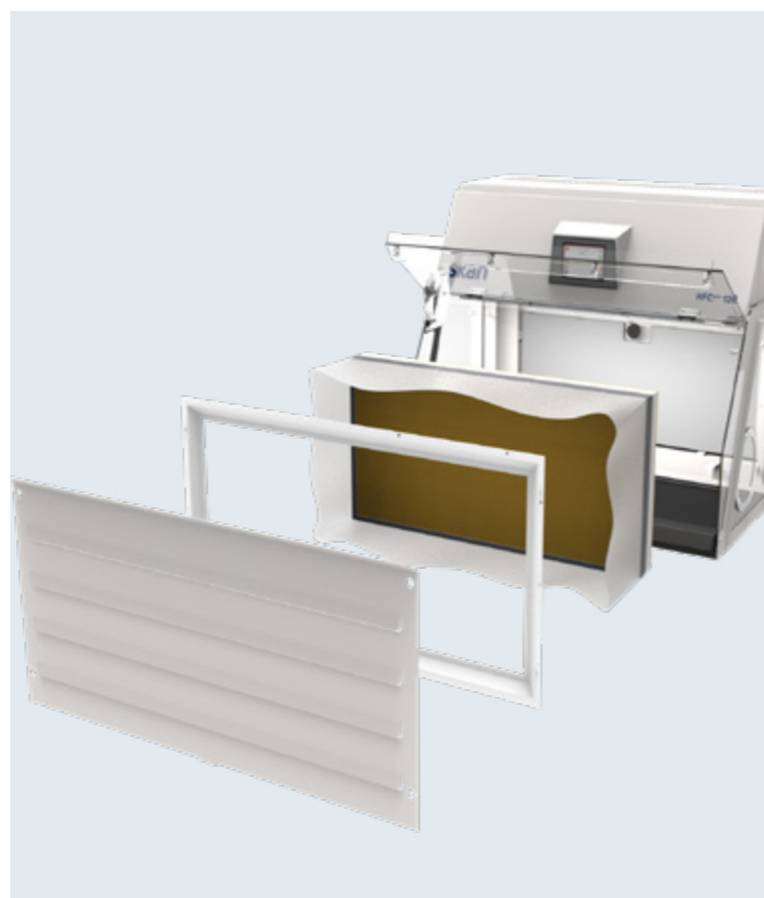
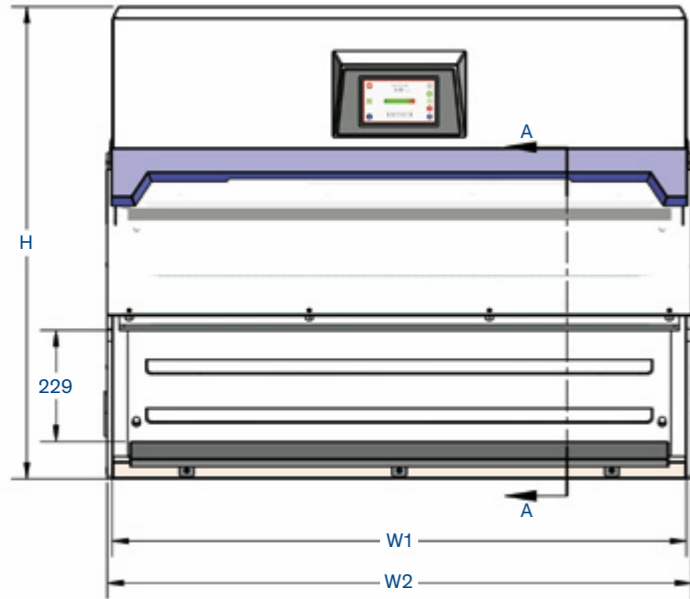| Type	HFCpro 90	HFCpro 120	HFCpro 150
External dimensions (W×D**×H)	926×860×971 mm	1226×860×971 mm	1526×860×971 mm
External dimensions inc. base stand* (W×D**×H)	926×860×1741/ 1791/1841 mm	1226×860×1741/ 1791/1841 mm	1526×860×1741/ 1791/1841 mm
External dimensions inc. outgoing airflow connector* (W×D**×H)	926×860×1102 mm	1226×860×1102 mm	1526×860×1102 mm
External dimensions inc. activated carbon filter* (W×D**×H)	926×860×1103 mm	1226×860×1103 mm	1526×860×1103 mm
External dimensions inc. exhaust duct connector* + activated carbon filter* (W×D**×H)	926×860×1263 mm	1226×860×1263 mm	1526×860×1263 mm
Usable working area (W×D) Ceramic work surface*	816×490 mm	1116×490 mm	1416×490 mm
Airflow rate (+/- 5 %)	375 m³/h	504 m³/h	720 m³/h
Airflow velocity Operating 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	–
Sound 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

*optional   **incl. Armrest

Exhaust duct connector

The following should be taken into account when connecting the HFCpro safety weighing cabinet to the building's extract airflow system:

⟶ If the outgoing airflow system develops a fault, the safety weighing cabinet must continue to provide protection.

⟶ The outgoing airflow system must not be allowed to have an adverse effect on the HFCpro safety weighing cabinet.

⟶ Recommended flow rate for the outgoing airflow system: HFCpro extract airflow +33%.

⟶ A flexible ventilation hose (Ø 200 mm) is needed for installation.

⟶ Documents relating to safety, such as the GS certificate and the EC declaration of conformity, are invalidated if there is a permanent connection to the outgoing airflow with no flow diverter.
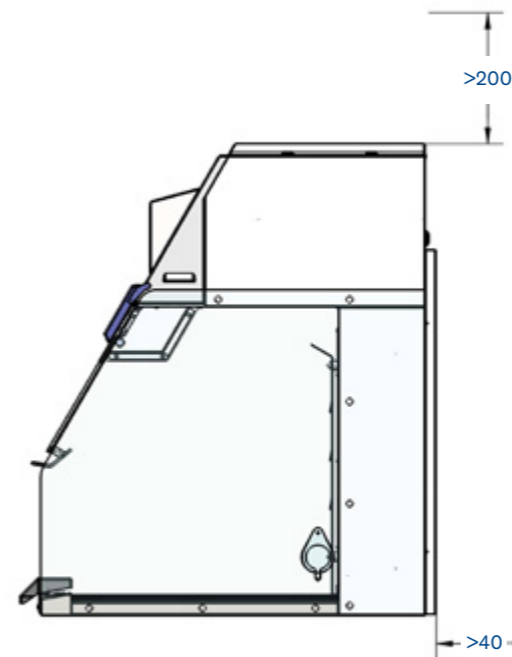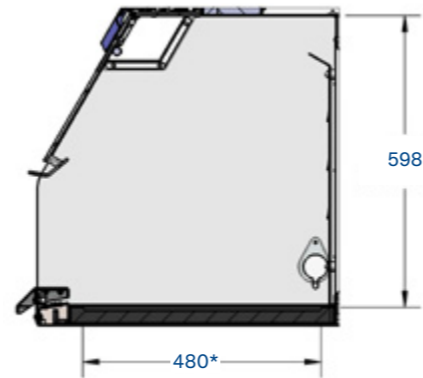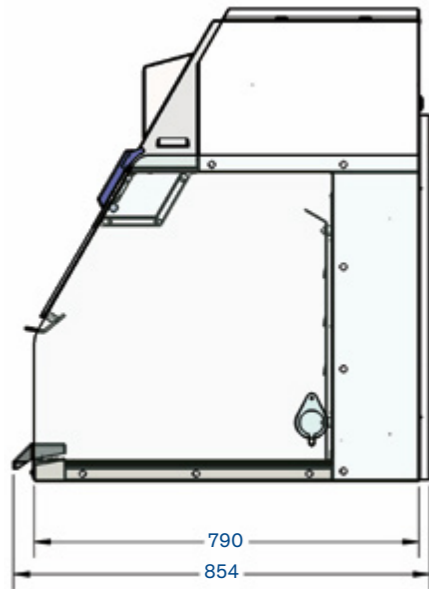
Technical drawings

	HFC^{pro} 90	HFC^{pro} 120	HFC^{pro} 150
W1	880	1180	1480
W2	926	1226	1526
H	971	971	971
H with outgoing airflow connection	1102	1102	1102
H with activated carbon filter	1103	1103	1103
H with exhaust duct connector + activated carbon filter	1263	1263	1263

Activated carbon filter frame

Exhaust duct connector

HEPA filter cover

HEPA safety filter frame

HEPA safety filter
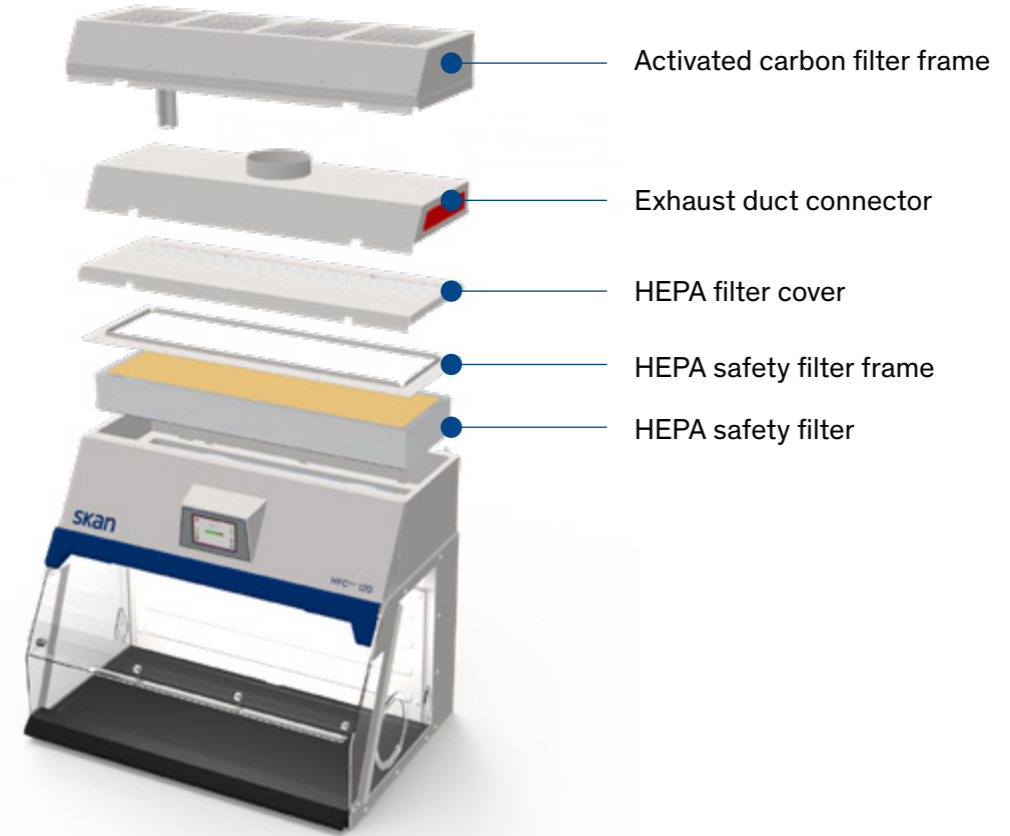
Section A-A (internal dimensions)

598

480*

790

854

All dimensions in mm
*With optional ceramic work surface

Positioning

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

⟶ Clearance to rear of unit: min. 40 mm.
⟶ Power cable connection is at the rear of the unit on the right-hand side.
⟶ Clearance above unit: min. 200 mm.

>200

>40

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