

# MASTER OF THE AIR

Microbiological safety cabinets

EN12469



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# AIR SUPREMACY

## ENVAIR DEUTSCHLAND GMBH

ENVAIR Deutschland GmbH has been on the market since 2009. Since then, our young company has come into its own, and we now do more than just hardware for laboratories, pharmacies, medical practices, and universities. We also focus on delivering excellent service and solutions that are tailored to meet the needs of customers. We started out with a strong focus on insulators, but our product portfolio has now been expanded to include microbiological and cytostatic safety cabinets and various laboratory devices.

All our microbiological safety cabinets are manufactured at our Italian production site. However, because we have chosen to establish our headquarters in Germany, German warranty laws apply. With a purchase, our customers also receive on-site servicing by TÜV-qualified engineers, no matter what design or dimensions they choose. Our custom packages include far more than punctual delivery of the devices. We remain at your side with help and advice long after that.

This dedication to customer service is particularly evident in our special constructions. Talk to us so that we can transform your needs into solutions. And take a look at our brochure if you need some inspiration in terms of what equipment you might need. You're in safe hands with us.

ENVAIR Deutschland. Custom device solutions.

# SECURE IN THE FLOW



## PRODUCT CHARACTERISTICS

ENVAIR safety cabinets control the flow of air. This air supremacy benefits all our customers. You can also benefit from our products, which are:

- Energy efficient
- Quiet
- Customisable
- Covered by our 24/7 maintenance and repair service



## ENVAIR ECO SAFE

Building great safety cabinets requires a good understanding of air flows. Our class II microbiological safety cabinets are a testament to our expertise in this area.

They are part of the latest generation of vertical laminar flow systems. Our products comply with even the strictest safety standards because we select construction materials of the highest quality. This benefits both people and the environment. And you as a customer have an impressive range of options. With the basic model and standardised design as a starting point, the safety cabinet can be tailored to your individual needs. This results in affordable solutions that work one hundred per cent.

All of our safety cabinets are quiet and energy efficient. But you can opt for even greater energy efficiency by choosing an energy-efficient motor. Our microbiological safety cabinets have self-regulating blowers and they comply with the requirements of EN 12469. 70% of the

recirculating air is passed through the main Class H14 HEPA filter, and the remaining approximately 30% is passed through a Class H14 HEPA exhaust air filter.

Furthermore, all our safety cabinets are equipped with automatic controls and a micro-processor-based recording system. Safety cabinets from this series are suitable for handling microorganisms and pathogens, as defined in the relevant European standards and other international standards. But product protection is not the only attractive feature of our safety cabinets. Protection of personnel is of course also guaranteed in accordance with health and safety guidelines. Our products provide complete protection for operators, products and the environment, as required.



# A HIGH FLYER

QUIET, EFFICIENT, AND WELL MAINTAINED







## STRATOSPHERIC SERVICE

Our repairs and maintenance service is there for you. We are not only up to date when it comes to technical expertise and precision.

Our service technicians are also always on the ball when it comes to dealing with your concerns in a quick and helpful manner. With a full re-qualification contract, we can support you around the clock, 365 days a year, anywhere in the world. In addition, we can carry out maintenance on your devices at any time at your request – even if you did not purchase the devices from us.



## CERTIFICATIONS

All our microbiological safety cabinets are designed and manufactured in such a way that they meet the requirements of the European standard EN 12469, and some have a TÜV certificate.



## QUIET

Our safety cabinets are extremely quiet. This means that you can decide how important quiet operation is to you during daily operations. As the motor size increases, the installation space required for the filters also increases, and thus also the amount of insulation required. For instance, ENVAIR eco safe Comfort Plus has an excellent value of under 42.5 dB(A).



## EFFICIENT

The sustainable design of our safety cabinets not only includes carefully chosen high-quality materials, but also low energy consumption. With a consumption of less than 84.4 watts per hour and average annual CO<sub>2</sub> emissions of less than 163kg, our top-of-the-range model also has excellent environmental credentials.

# QUALITY

# ENDURANCE AND PRECISION



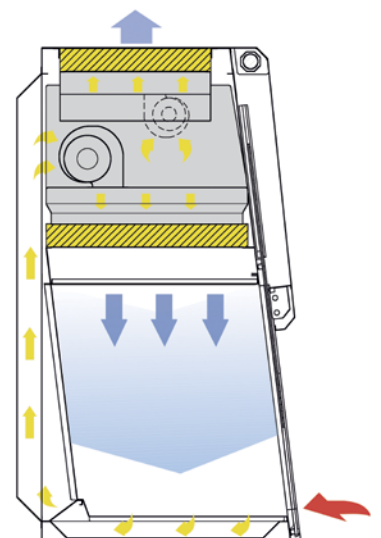
In order to perfectly master the air, it takes experience, expertise, and uniformly high-quality parts. That's why we strive to ensure a high level of automation and quality assurance, right from production in our factory. There, our machines precisely shape and connect the best quality steel. All of this is what makes ENVAIR safety cabinets so durable and high-quality.

## HEPA H14 FILTER

A HEPA filter is a "High Efficiency Particulate Air" filter. We now primarily use HEPA H14 filters in our safety cabinets. Filters of this particle filter class are used to filter out viruses, inhalable dust, mite eggs and excretions, pollen, smoke particles, asbestos, bacteria, various toxic dusts and aerosols from the air.

## LAMINAR FLOW

This graphic illustrates the interaction between the ECS processor and the reliable blower. Air flow stabilises both visibly and audibly. The flow therefore remains reliably laminar throughout the entire working process.



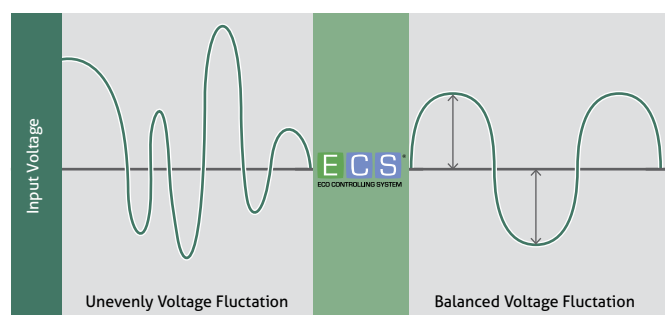


# ON



## ECO CONTROL SYSTEM (ECS)

The new ECS® microprocessor allows fully integrated management of all of the main functions of ventilation and filtration. The new, innovative solution: All main filtration and ventilation systems are self-regulating and compensate for both drops in pressure and power outages. By combining high-quality blowers and certified filters with a low level of pressure loss, the new ECS control system reduces energy consumption, which in turn helps to reduce CO<sub>2</sub> emissions.



The new ECO control system guarantees an even air flow.

## LED LIGHTING



Lighting with LEDs has many advantages over conventional lighting systems with standard luminants. The light can be dimmed, which means it can be customised to suit individual needs. What's special about this variety is that it allows you to border the working area with light. And all of this is achieved

in a very energy-efficient manner with only 7 watts of power instead of 70 watts. This LED lighting is fitted as standard with the ENVAIR eco safe Comfort Plus, and it is an option for all other safety cabinets.

# CONVENIENCE

# MAKE A SPOT LANDING

## **BUSINESS CAN BE A PLEASURE.**

We are not satisfied with simply mastering air flows and achieving excellent standards. We are constantly using our expertise to reflect on how our products can achieve new heights in everyday use. This approach is how we came up with safety cabinets that make your day-to-day work even more comfortable. And because we are practitioners ourselves, we know exactly what we need to do to achieve this – and we do it.

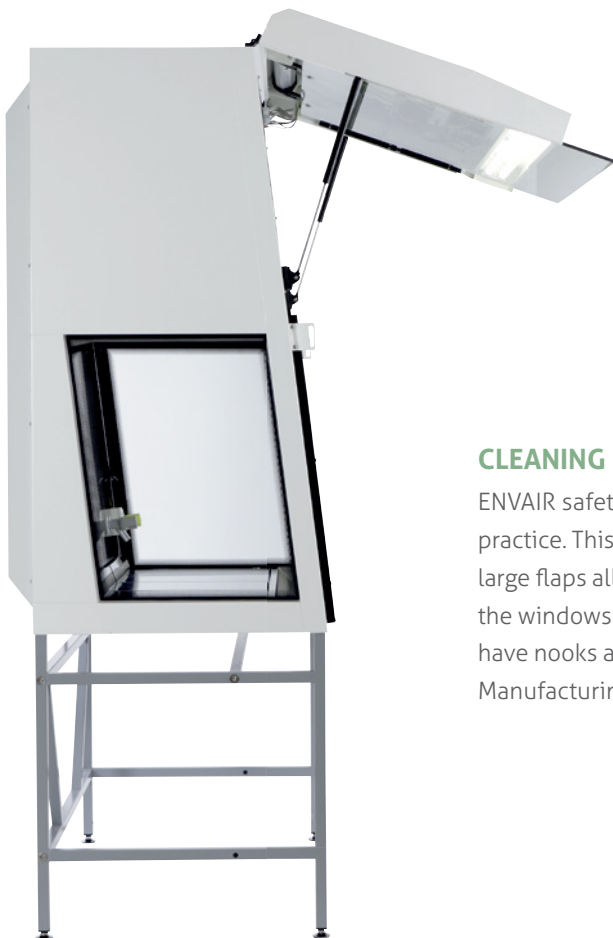
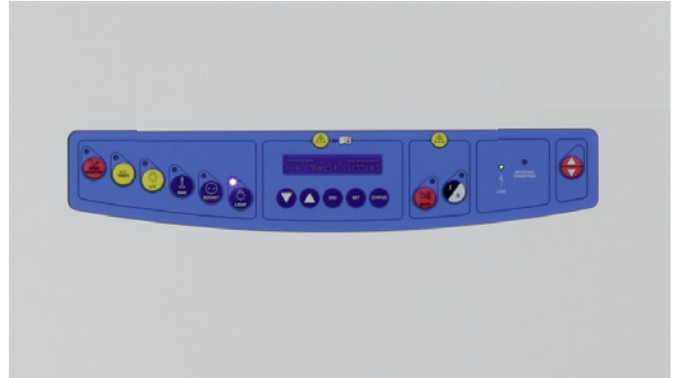


## USER-FRIENDLY CONTROL PANEL

The control panel is clearly laid out and easy to use. The user-friendly design with easy-to-operate keys and a backlit LCD display ensures that the user can see all the relevant data at all times. A status report for the safety cabinet can be called up at any time. A touch display with the same functions is also available upon request. The display includes:

- Display of laminar airflow velocity and frontal air barrier velocity
- Display of inside and outside temperature
- Display of the remaining filtration time and UV lamp time (if present)
- Display of total operating hours
- Display of saturation level of HEPA filters

With this system, all functions and safety alarm systems are monitored seamlessly and completely automatically in accordance with the EN 12469 standard. A high-performance lithium battery ensures that the safety data is stored in the microprocessor.



## NOISE LEVEL

ENVAIR safety cabinets are among the quietest in their class. Their quiet motors are also additionally insulated by the filter materials.

## CLEANING

ENVAIR safety cabinets are the result of years of experience in practice. This is why they are so easy to clean and maintain. The large flaps allow thorough and easy cleaning of the interior and the windows. They are frameless, which means that they do not have nooks and crannies that are difficult to clean. GMP – Good Manufacturing Practice at its best!

**EASY**  
cleaning





### POWDER COATING

All of our steel casings come with an antibacterial powder coating. With the Alesta® AM powder coating, a coating that contains silver, the renowned manufacturer DuPont has taken up a tried



and tested idea and applied it to the present. The silver ions of the coating penetrate the cell membranes of microbes, destroying them. This is why the coating has a lasting antibacterial effect.

### MONITOR

The touch monitor that is built into the back panel is always in the user's direct field of view. It allows you to work transparently for the purposes of teaching and research and optimises work processes, for instance in laboratories or pharmacies. Using interfaces, the monitor can be connected directly to scales/microscopes, or to databases.

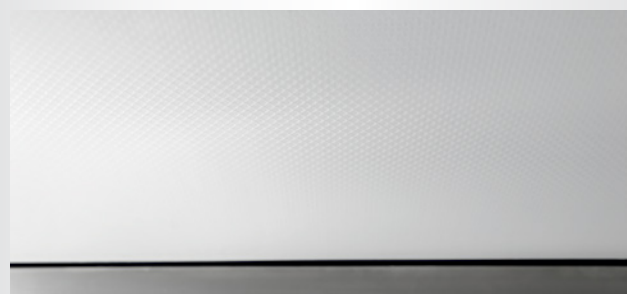


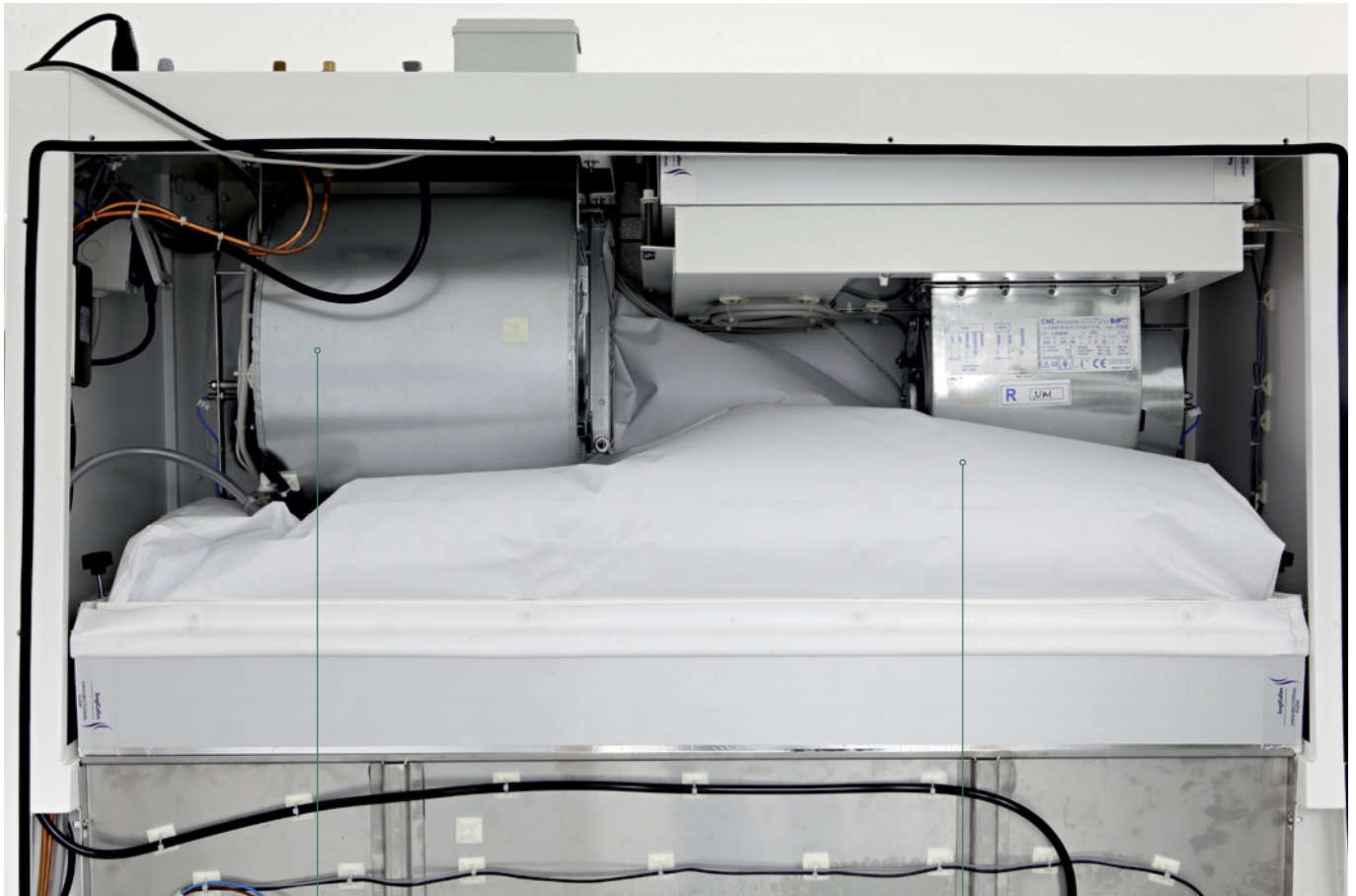
### REMOTE CONTROL FUNCTION

With our new PC software, the safety cabinet can also be switched on or off remotely – for instance from outside a clean room. This increases convenience for users and often dispenses with the need for time-consuming loading and unloading.

### LAMINATOR FOIL

The laminator foil makes a subtle but important difference. It is mounted directly on the filter and it supports laminar flow with its fine-pored, air-permeable structure.





### DC BLOWER

The most important thing that is required for our safety cabinets to work perfectly is a stable air flow. This guarantees protection while keeping the system quiet and discreet. Our ENVAIR eco safe Comfort Plus comes with an electronic DC blower as standard. This generates an even, reliable laminar flow. The DC blower is also available as an option for all of our other safety cabinets. What is special about ENVAIR is that the filters are installed slightly slanted, which ensures that the air flows evenly over the front sash window. This prevents turbulence at the sides, meaning that even the furthest corner receives an even air flow.

### TEXTILE PLENUM

The "textile plenum" is positioned between the blowers and the working area. In contrast to fully enclosed rooms, this system noticeably damps the vibrations caused by the blower fan in a lasting manner.



Low-vibration suspension



# PROTECTION

# PALPABLE SAFETY

## THE NAME SAYS IT ALL.

Our safety cabinets offer a variety of protections. Depending on what you use the safety cabinet for, the cabinet can be used either to protect the product, the person working with the cabinet, or the environment. Whatever your applications, our high-quality construction standards ensure reliable functionality. This includes acoustic alarms for a variety of possible security risks. In this way, you always see the bigger picture and can act to prevent problems long before you have to.







#### ACOUSTIC/VISUAL ALARMS FOR

- Laminar flow outside the bandwidth
- Incorrect laminar flow velocity and face velocity at the front
- Incorrect positioning of the front sash window
- Saturation level of HEPA filter
- End of the life cycle of the UV lamp (if present)
- Blockage in the exhaust air connection
- Malfunction of the blower motor
- Power outage
- Maximum blower output

#### PROGRAMMED SAFETY

In "Energy Save Mode", the safety cabinet offers a pre-programmed safety standard with the quick-start function. Even when the front sash window is slightly open, the program automatically ensures protection of personnel.



#### KI DISCUS TEST FOR IMPECCABLE PROTECTION OF PERSONNEL

Whereas the KI Discus test is mandatory for the installation or commissioning of cytostatic safety cabinets, in the case of the commissioning of microbiological safety cabinets, it is an additional "voluntary" procedure. ENVAIR has tested its safety cabinets using this test in order to guarantee the highest possible level of protection for personnel. According to DIN standards 12469 and 12980, the KI Discus test is defined as a test method for determining containment capacity. The test is intended to determine whether aerosols can escape from the working area into the surrounding environment.



# EQUIPMENT VARIANTS

## Accessories

Our safety cabinets are made to the highest standards. The standard equipment that comes with them varies from model to model. However, you can always select whatever extras you need from our range of optional accessories. Equip your chosen product according to your needs.

### WORK SURFACES

All work surfaces are made of stainless steel. As standard, we offer segmented and perforated work surfaces that both facilitate cleaning and optimise the vertical air flow. You can also order the following options: a working tray, segments without perforation, and V-shaped work surfaces.



### BASE FRAME WITH ELECTRONIC HEIGHT ADJUSTMENT

We offer a base frame with electronic height adjustment as an alternative to the manually adjustable base frame. It elevates and lowers the entire working area using two integrated lifting cylinders, which means it can be adjusted for any user. The lifting cylinders are conveniently controlled using a remote control. We also offer a base frame with castors, which can be used for animal changing stations or other similar applications.



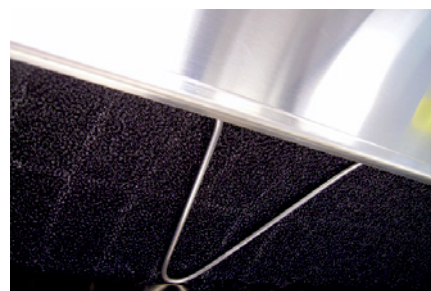
### TOUCH SCREEN, 19 INCHES

The touch screen is a very useful tool particularly for research applications, group work, or process optimisation in laboratories or pharmacies. It can be easily controlled via various interfaces and can also have additional information recorded on it from outside.



### PREFILTER

The prefilter is used for additional filtering. It can be used for abrasive applications, for example. Depending on your requirements, thick, strong filter fleeces can be inserted on an ad-hoc basis to relieve the main system in advance.



## PARTICLE MONITORING

ENVAIR has a particle counter to help you ensure continuous compliance with your specified cleanliness class. It allows sustained measurement and monitoring of particulate cleanliness class A in the working area for the duration of operation of the safety cabinet. Top of the class for your safety.



## EXHAUST THIMBLE

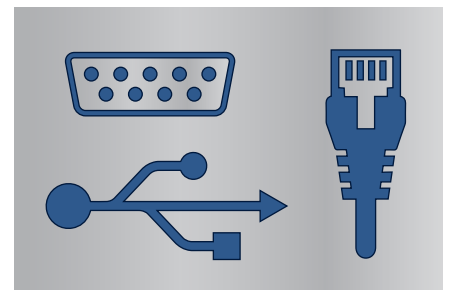
Narrow openings between the safety cabinet and the hood allow additional ambient air to be drawn in throughout the exhaust air regulation process. This prevents the formation of strong negative pressures and keeps the pressure conditions in the safety cabinet and the environment constant, resulting in a stable exhaust air flow. Suitable for decoupled connection to on-site exhaust air systems.



## INTERFACES

Connect your safety cabinet with the world. We offer the following selection of interfaces for connection to various devices and for immediate access to all data:

RS 232, RS 485, USB/USB 3.0, RJ45/CAT6



## TAPS

Depending on your requirements, connections for a wide range of liquids and gases are possible. The laboratory fittings are ergonomic and can be integrated into the side panel or back panel.

Some examples for the different taps:

- Nitrogen
- Carbon dioxide, CO<sub>2</sub>
- Combustible gases
- Non-combustible gases
- Service water
- Pressurised air
- Drinking water
- Purified water
- Ultrapure water





# EQUIPMENT VARIANTS

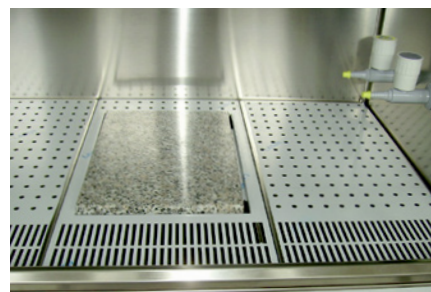
## HEATABLE WORK SURFACE

Especially for IVF applications, we offer a heated work surface as life support for biological material. The temperature can be controlled via an integrated input field. The work surface is reliably warmed for all in-vitro fertilisations.



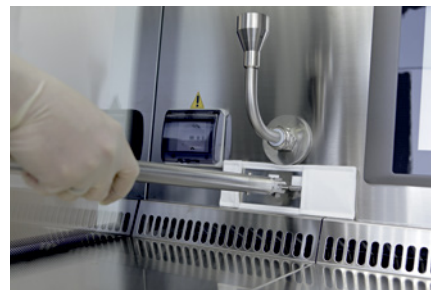
## WEIGHING WORK SURFACE

The weighing work surface, which is flush-fitted into the stainless-steel worktop, offers an extremely stable and low-vibration working surface, e.g. for the operation of scales or vibration-sensitive analytical instruments.



## CLEANING TOOL

The cleaning tool for cleaning hard-to-reach areas prevents direct contact with the interior of the safety cabinet, which could be contaminated.



## KEYBOARD SHELF FOR SAFETY CABINETS

The ergonomic keyboard shelf can be mounted either on the left or right side of the safety cabinet. There are no sharp edges or corners to hinder smooth operation of the keyboard. The shelf is made of antibacterial powder-coated sheet steel and can be swivelled even when securely mounted.

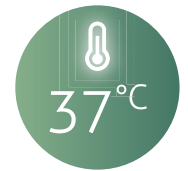


## MANY OTHER OPTIONS ARE AVAILABLE

- Armrests
- Hydrogen peroxide fumigation
- Volt-free contacts
- UV lamps
- Activated carbon filters
- Hanging bars
- etc.

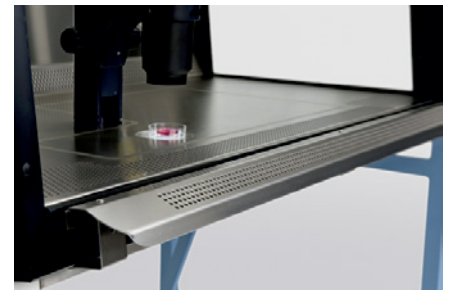
# IVF EQUIPMENT VERSION

## ENVAIR eco air IVF In-Vitro-Fertilisation safety cabinet



### NEW LIFE NEEDS SPECIAL PROTECTION.

That's why our safety cabinet is also available as an IVF version. The ENVAIR eco safe IVF safety cabinet has been specifically designed for use in fertilisation laboratories and for research in the fields of human and animal reproduction. A controlled working environment is essential if you want to achieve the best possible results during the complex process of creating new life. It's not child's play – but it's feasible with ENVAIR technology.



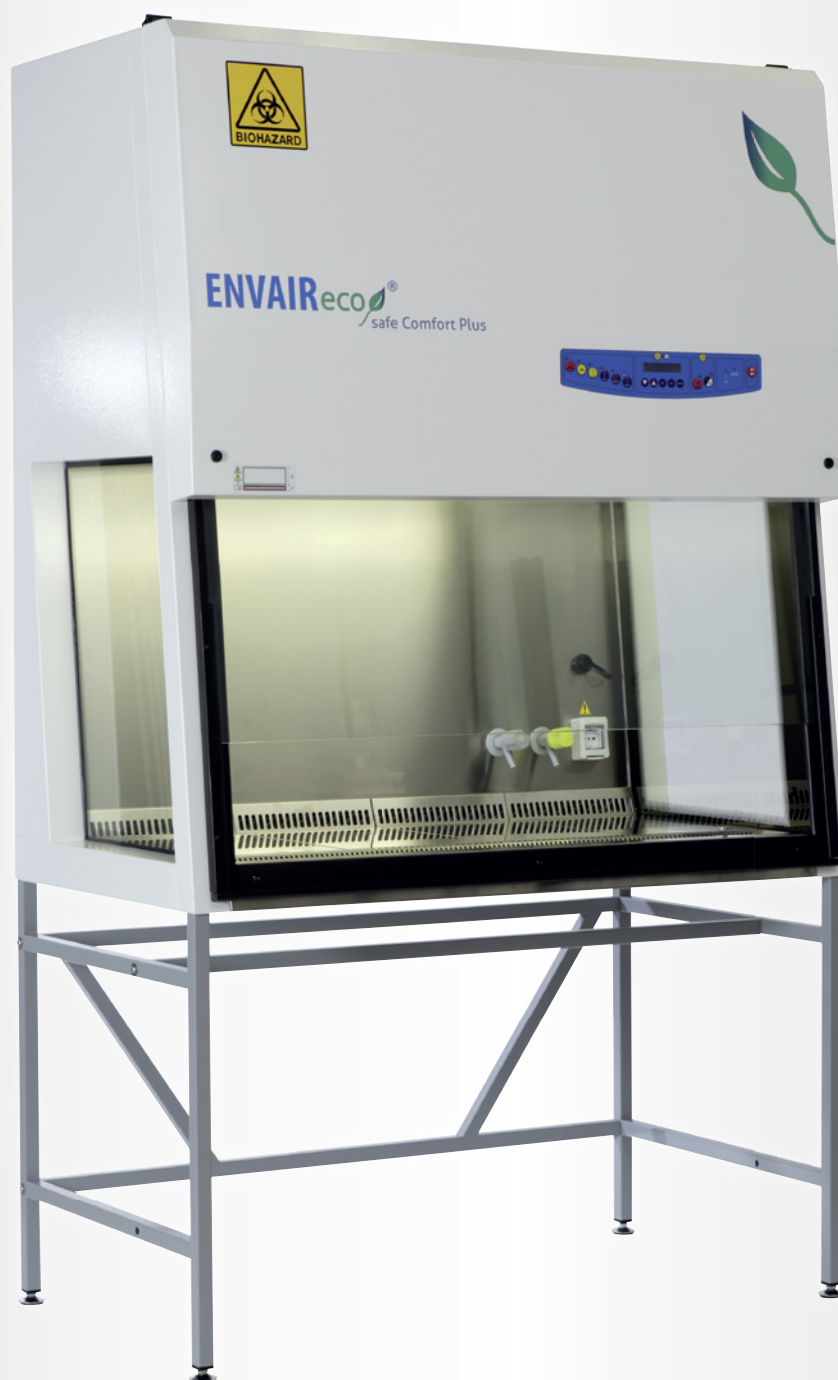
The risk of microbial contamination is minimised using integrated UV lighting and an antibacterial environment. Microscopes can be integrated easily and a heated work surface provides the warmth required to sustain the biological material used. Sophisticated air management does the rest.

- The ENVAIR IVF safety cabinet offers ISO Class 3 air purity within the working area according to ISO 14644.1 – considerably cleaner than the usual Class 5 classifications of safety cabinets by competitors.
- The ergonomically designed work surface with curved front edge offers maximum user-friendliness and comfort.
- The interior of the safety cabinet is made of stainless steel, which makes the work area easy to clean. The inner surfaces do not rust, chip, or generate any particles.
- A heat block for storing test samples is available as an option and it can be lowered into the working area from above, thus dispensing with the need to constantly move sensitive samples.

# ENVAIR ECO SAFE COMFORT PLUS

## The jack-of-all-trades

- Lowest energy consumption <84.4W
- Lowest CO<sub>2</sub> emissions <163kg/year
- Lowest noise level <42.5 dB(A)





# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Comfort Plus			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×1500×855	1350×1500×855	1655×1500×855	1960×1500×855
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm	2345			
Working height (seated workstation)	mm	880			
Working aperture	mm	160 (adjustable)			
Max. elect. front opening	mm	440			
Complete front sash window opening	mm	740			
Weight	kg	170	196	225	260
Exhaust flow rate	m <sup>3</sup> /h	290	390	485	585
Inflow	m/s	0.45 (adjustable)			
Downflow	m/s	0.25 (adjustable)			
Noise level (2)	dB(A)	39.5	42.5	47	49
Luminosity	lux	> 1200	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)				
Total current (2) (3)	A	0.3	0.6	0.9	1.2
Power consumption	W	79.5	84.4	128	171
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	51	53	78	98
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	3	3
Other HEPA filters		●	●	●	●
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

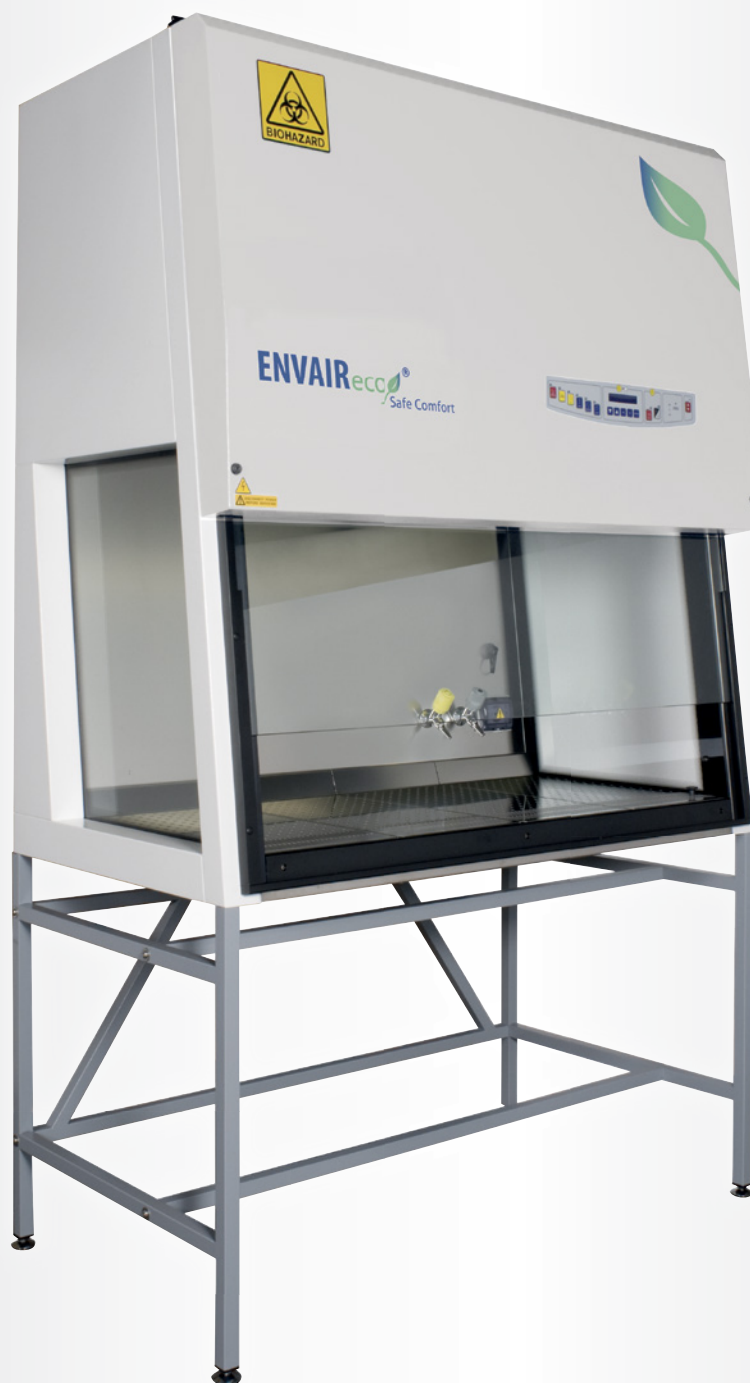
● Optional

○ Not present

# ENVAIR ECO SAFE COMFORT

## The high-performer

- Stainless steel usable space
- Fold out front sash window
- GMP design



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Comfort			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×1500×855	1350×1500×855	1655×1500×855	1960×1500×855
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm	2345			
Working height (seated workstation)	mm	880			
Working aperture	mm	200			
Max. elect. front opening	mm	440			
Complete front sash window opening	mm	740			
Weight	kg	170	195	225	260
Exhaust flow rate	m <sup>3</sup> /h	290	390	485	585
Inflow (2)	m/s	0.45			
Downflow (2)	m/s	0.40			
Noise level (3)	dB(A)	< 49	< 51	< 52	< 53
Luminosity	lux	> 1100	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)				
Total current (3) (4)	A	1.9	2.1	3.4	3.6
Power consumption	W	211	320	517	621
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	3	3
Other HEPA filters	Available as optional extra for double blower				
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Values can be configured individually in the case of a double blower

(3) Measured in operating condition according to EN 12469:2000

(4) Measured with clean filters, lighting on, internal sockets off

● Standard

● Optional

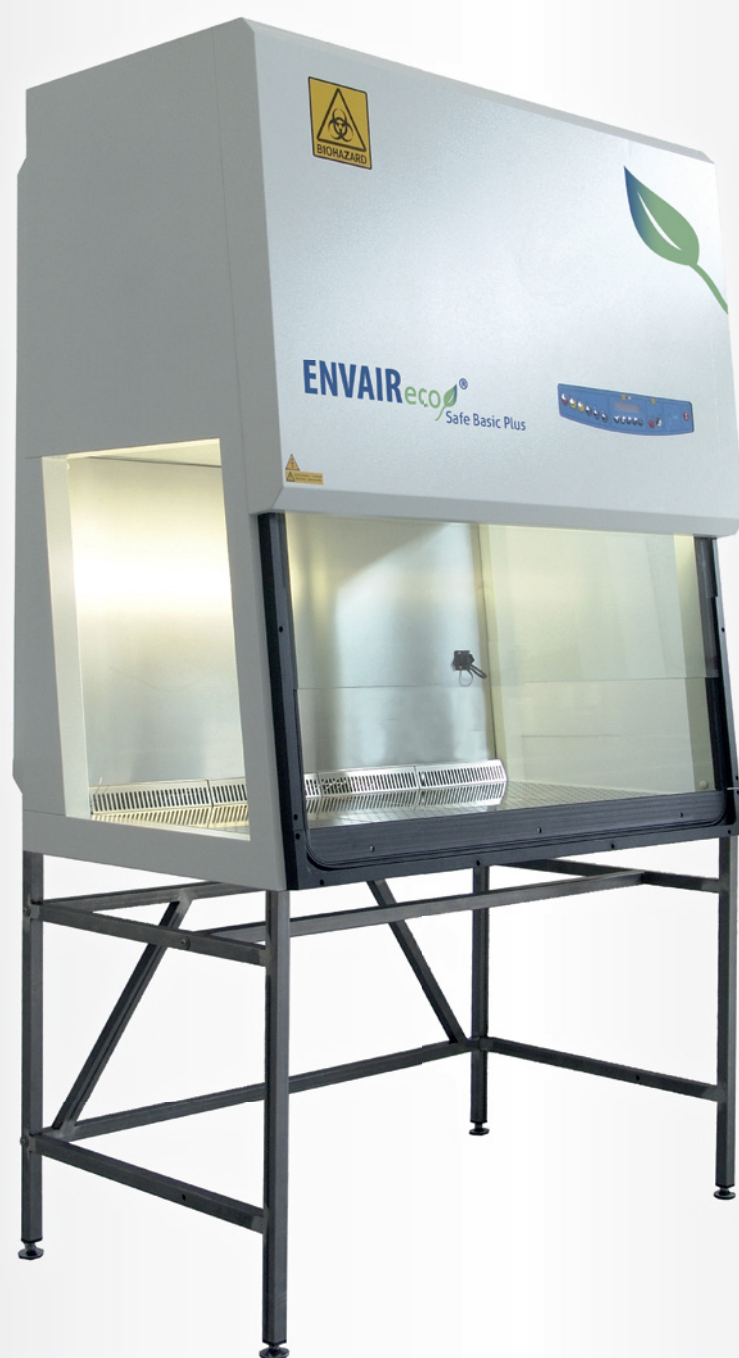
○ Not present



# ENVAIR ECO SAFE BASIC PLUS

## The all-rounder

- Cost effective
- Microprocessor control
- AC blower technology



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Basic Plus			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×1500×810	1350×1500×810	1655×1500×810	1960×1500×810
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm	2350			
Working height (seated workstation)	mm	880			
Working aperture	mm	200			
Max. elect. front opening	mm	440			
Complete front sash window opening (fold out)	mm	740 (optional)			
Weight	kg	170	195	225	260
Exhaust flow rate	m <sup>3</sup> /h	290	390	485	585
Inflow (2)	m/s	0.45 (adjustable)			
Downflow (2)	m/s	0.40 (adjustable)			
Noise level (3)	dB(A)	< 53	< 54	< 55	< 56
Luminosity	lux	> 1100	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)				
Total current (3) (4)	A	1.9	2.1	3.4	3.6
Power consumption	W	256	364	539	644
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		○	○	○	○
Quick Start Function / Energy Save Mode		○	○	○	○
Sockets		1	1	2	2
Other HEPA filters	Available as optional extra for double blower				
Timer for programmable start/stop	Available as optional extra for double blower				

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Values can be configured individually in the case of a double blower

(3) Measured in operating condition according to EN 12469:2000

(4) Measured with clean filters, lighting on, internal sockets off

● Standard

● Optional

○ Not present

# ENVAIR ECO SAFE BASIC

## The specialist

- Manual fold-out window
- Usable space made of a single piece of stainless steel
- With rounded corners





# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Basic			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1015×1470×785	1320×1470×785	1625×1470×785	1930×1470×785
Usable dimensions W×H×D	mm	885×660×580	1190×660×580	1495×660×580	1800×660×580
Device height with base frame (standard)	mm	2270			
Working height (seated workstation)	mm	905			
Working aperture	mm	200			
Max. elect. front opening	mm	430			
Complete front sash window opening	mm				
Weight	kg	185	215	260	300
Exhaust flow rate	m <sup>3</sup> /h	290	390	485	585
Inflow (2)	m/s	0.45			
Downflow (2)	m/s	0.40			
Noise level (3)	dB(A)	< 57	< 58	< 59	< 60
Luminosity	lux	> 1000	> 1100	> 1200	> 1200
Electrical connection		1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)			
Total current S series (3) (4)	A	1.9	2.1	3.4	3.6
Total current D series (3) (4)	A	2.2	2.4	3.9	4.2
Power consumption	W	281	390	587	691
Protection class / IP		1 / 20			
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		○	○	○	○
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		1	1	2	2
Other HEPA filters		Available as optional extra for double blower			
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Values can be configured individually in the case of a double blower

(3) Measured in operating condition according to EN 12469:2000

(4) Measured with clean filters, lighting on, internal sockets off

● Standard

● Optional

○ Not present

# ENVAIR ECO SAFE BASIC MINI

Magnificently small

- Space-saving
- Easy to clean
- Ideal for medical and veterinary practices



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Basic Mini
		0.7m
General dimensions W×H×D (1)	mm	830×980×650
Usable dimensions W×H×D	mm	732×600×380
Device height with base frame (standard)	mm	1780
Working height (seated workstation)	mm	865
Working aperture	mm	200
Max. elect. front opening	mm	○
Complete front sash window opening	mm	440
Weight	kg	90
Exhaust flow rate	m <sup>3</sup> /h	296
Inflow	m/s	0.45
Downflow	m/s	0.35
Noise level (2)	dB(A)	< 51
Luminosity	lux	> 800
Electrical connection		1Ph+E - 230V 50Hz, cable length 2.5 m (Schuko plug)
Total current (2) (3)	A	0.8
Power consumption	W	120
Protection class / IP		1 / 20
Internal fuse	A	4
Heat output	W	75
Operating mode for energy saving		●
Remote Control Function		○
Quick Start Function / Energy Save Mode		○
Sockets		1
Other HEPA filters		○
Timer for programmable start/stop		○

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

● Optional

○ Not present



# ENVAIR ECO SAFE ROBOT

## The giant

- Working depth 1m
- Width up to 2.2m
- Heavy duty bases



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Robot			
		1.2m	1.5m	1.8m	2.2m
General dimensions W×H×D (1)	mm	1233×1885×1190	1637×1885×1190	1942×1885×1190	2398×1885×1190
Usable dimensions W×H×D	mm	1190×1000×1000	1495×1000×1000	1800×1000×1000	2256×1000×1000
Device height with base frame (standard)	mm	2600			
Working height (seated workstation)	mm	810			
Working aperture	mm	200			
Max. front opening	mm	600			
Complete front sash window opening	mm	1000 if front sash window is removed			
Weight	kg	310	376	450	600
Exhaust flow rate	m <sup>3</sup> /h	390	486	585	715
Inflow	m/s	0.45			
Downflow	m/s	0.32			
Noise level (2)	dB(A)	< 61	< 63	< 65	< 65
Luminosity	lux	> 950	> 950	> 950	> 950
Electrical connection		1Ph+E - 230 V 50Hz, cable length 2.5 m (Schuko plug)			
Total current (2) (3)	A	9.45	9.7	10	13
Power consumption	W	1960	2300	2400	2600
Protection class / IP		1 / 20			
Internal fuse	A	4			
Heat output	W	○			
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	2	2
Other HEPA filters		●	●	●	●
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

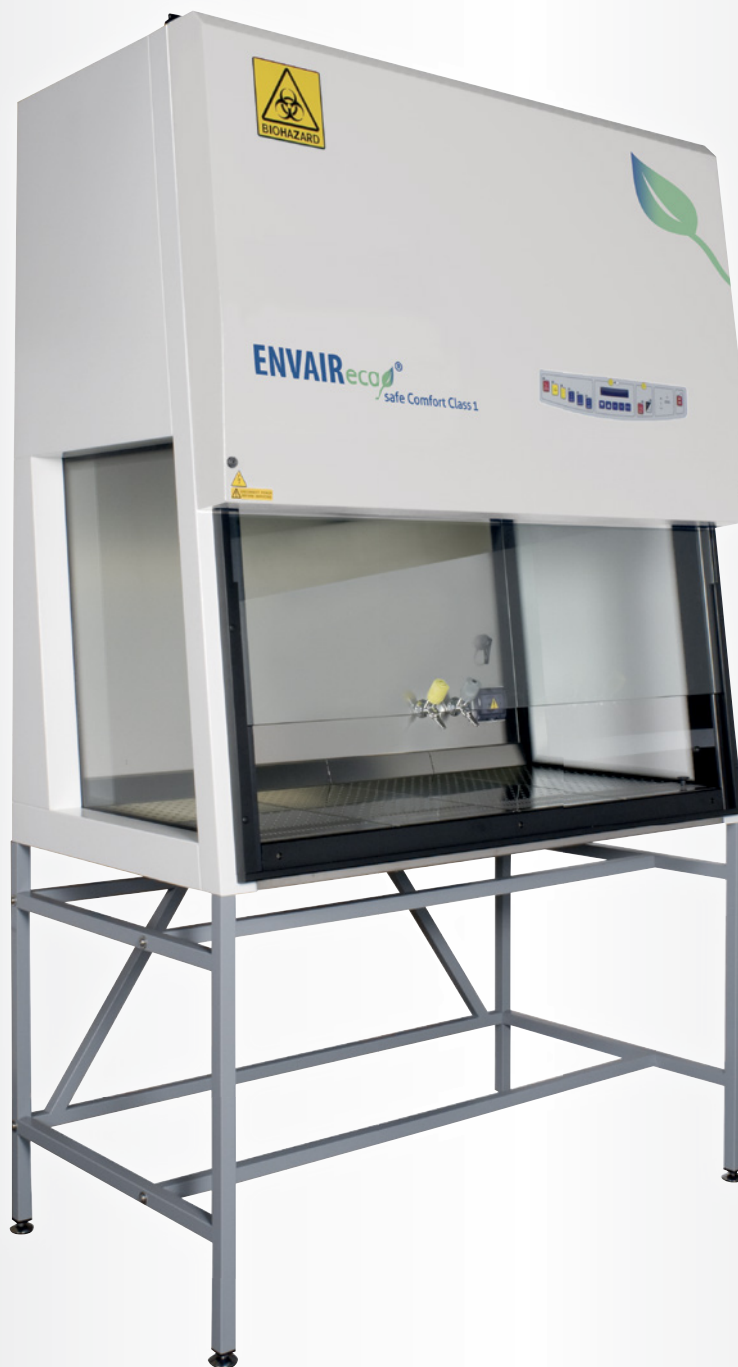
● Optional

○ Not present

# ENVAIR ECO SAFE COMFORT CLASS 1

## The people protector

- Protection of personnel (no product protection)
- 100% exhaust flow rate





# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Comfort Class 1			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×1500×860	1350×1500×860	1655×1500×860	1960×1500×860
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm	2350			
Working height (seated workstation)	mm	880			
Working aperture	mm	200			
Max. elect. front opening	mm	440			
Complete front sash window opening	mm	740			
Weight	kg	170	195	225	260
Exhaust flow rate	m <sup>3</sup> /h	290	390	485	585
Inflow	m/s	0.7 (adjustable)			
Downflow	m/s	○			
Noise level (2)	dB(A)	< 49	< 51	< 52	< 53
Luminosity	lux	> 1100	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230V 50Hz, cable length 2.5 m (Schuko plug)				
Total current (2) (3)	A	1.9	2.1	3.4	3.6
Power consumption	W	211	320	517	621
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	3	3
Other HEPA filters		●	●	●	●
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

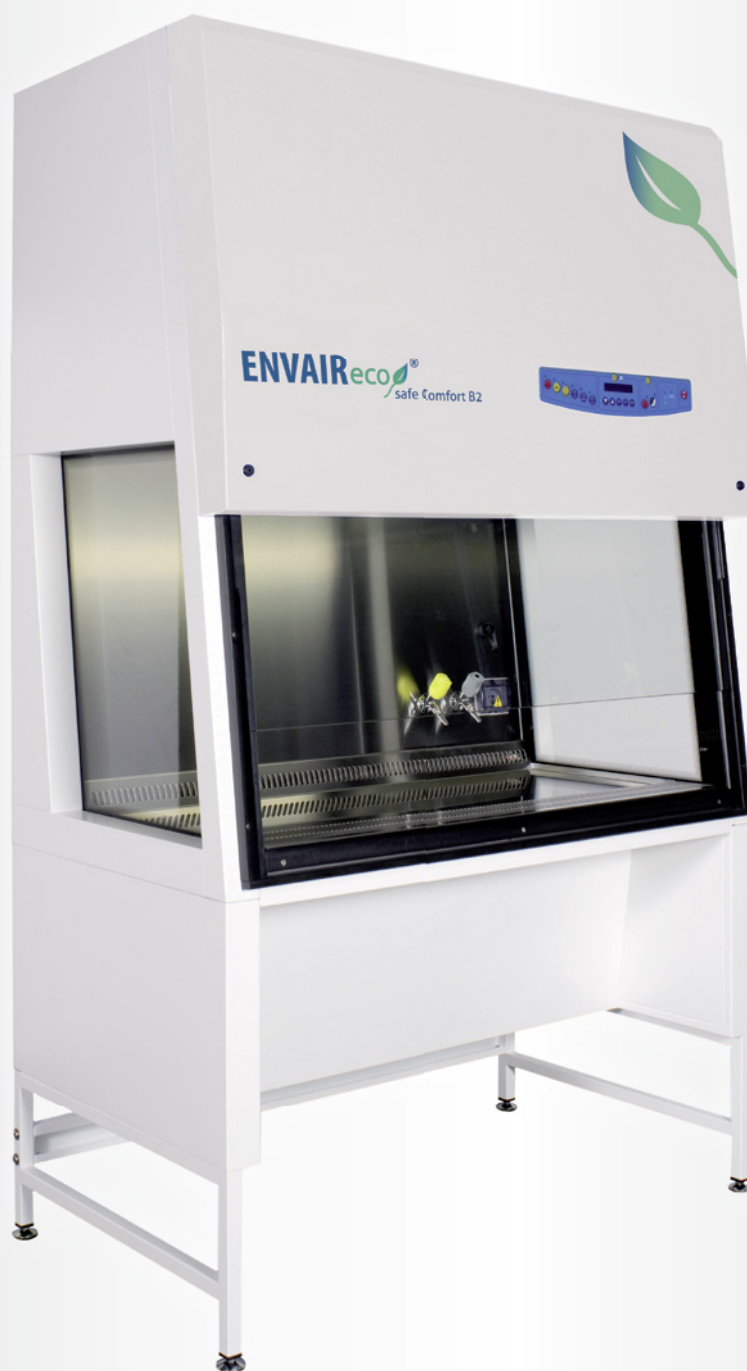
● Optional

○ Not present

# ENVAIR ECO SAFE COMFORT B2

The exotic one

- NSF/ANSI 49-compliant
- 100% exhaust flow rate
- No recirculating air



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Comfort B2			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×2345×855	1350×2345×855	1655×2345×855	1960×2345×855
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm	2350			
Working height (seated workstation)	mm	880			
Working aperture	mm	200			
Max. elect. front opening	mm	440			
Complete front sash window opening	mm	740			
Weight	kg	215	245	290	325
Exhaust flow rate	m <sup>3</sup> /h	1065	1420	1780	2140
Inflow	m/s	0.45			
Downflow	m/s	0.35			
Noise level (2)	dB(A)	< 51	< 52	< 54	< 55
Luminosity	lux	> 1100	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)				
Total current (2) (3)	A	2.3	3.0	4.5	4.5
Power consumption	W	211	320	517	621
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	3	3
Other HEPA filters		●	●	●	●
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

● Optional

○ Not present

# ENVAIR ECO SAFE COMFORT CLASS 3

## The vault

- 200 Pa vacuum
- Suitable for group 4 pathogens
- TÜV-certified pressure test





# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Comfort Class 3		
		1.2 m	1.5 m	1.8 m
General dimensions W×H×D (1)	mm	2010×1740×880	2315×1740×880	2620×1740×880
Usable dimensions W×H×D	mm	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard)	mm		2540	
Working height (seated workstation)	mm		800	
Arm sleeves	mm	2 Ports	2 Ports	4 Ports
Max. electr. front opening	mm		440	
Complete front sash window opening	mm		740	
Weight	kg	196	225	260
Exhaust flow rate	m <sup>3</sup> /h	150	150	150
Chamber pressure	Pa		-200	
Downflow	m/s		0,40	
Noise level (2)	dB(A)	50	52	54
Luminosity	lux	> 1200	> 1300	> 1300
Electrical connection		1Ph+E - 230 V 50 Hz, cable length 2,5 m (Schuko plug)		
Total current (2) (3)	A	3,0	4,5	4,5
Power consumption	W	340	380	420
Protection class / IP				
Internal fuse	A		6	
Heat output	W	53	78	98
Operating mode for energy saving		●	●	●
Remote Control Function		●	●	●
Quick start function / energy save mode		○	○	○
Sockets		2	3	3
Other HEPA filters		○	○	○
Timer for programmable start/stop		●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

● Standard

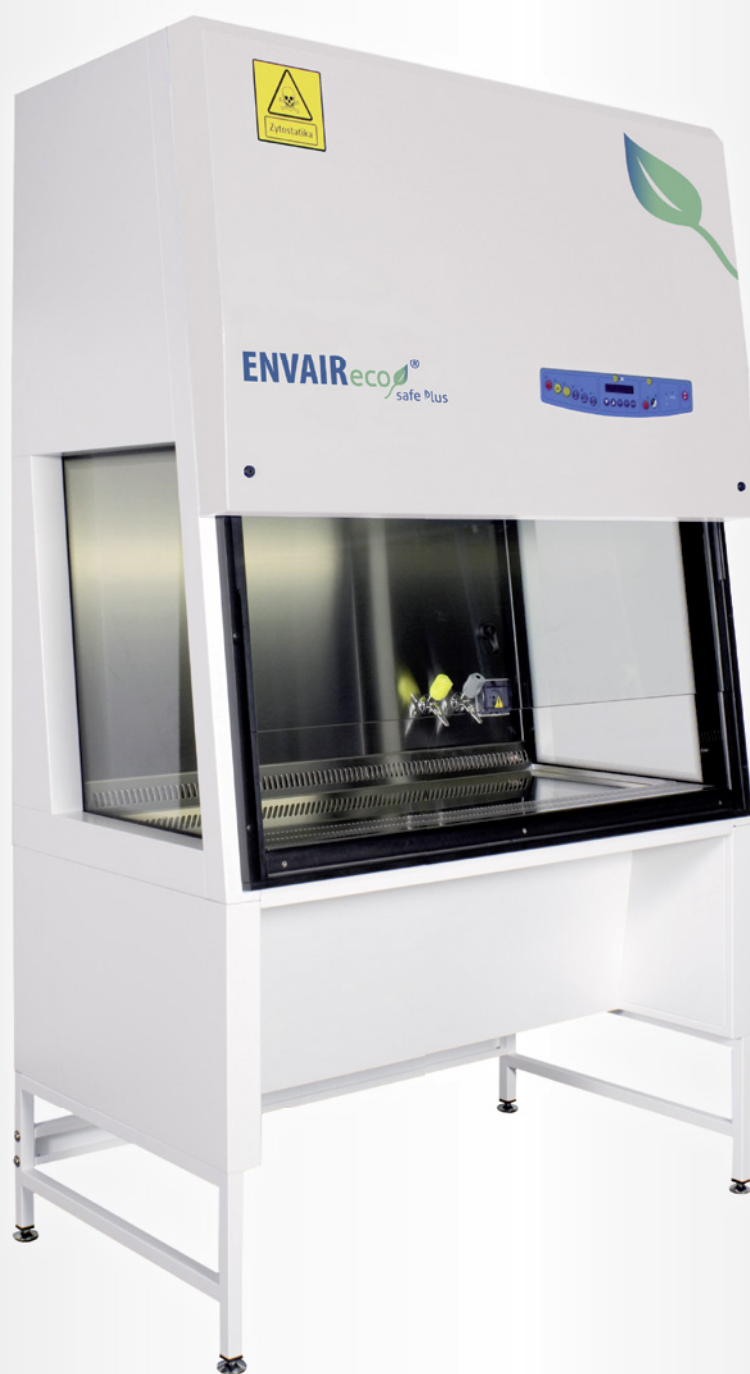
● Optional

○ Not present

# ENVAIR ECO SAFE PLUS

## The triad protector

- DIN 12980:2017
- Cytostatic safety cabinet
- 3-filter technology



# TECHNICAL SPECIFICATIONS

Description	Unit	ENVAIR eco safe Plus			
		0.9m	1.2m	1.5m	1.8m
General dimensions W×H×D (1)	mm	1045×2345×855	1350×2345×855	1655×2345×855	1960×2345×855
Usable dimensions W×H×D	mm	887×740×580	1192×740×580	1497×740×580	1802×740×580
Device height with base frame (standard) (4)	mm	2345			
Working height (seated workstation)	mm	880			
Working aperture	mm	200			
Max. elect. front opening	mm	440			
Complete front sash window opening	mm	740			
Weight	kg	215	245	290	325
Exhaust flow rate	m <sup>3</sup> /h	290	390	490	585
Inflow	m/s	0.50			
Downflow	m/s	0.45 GMP			
Noise level (2)	dB(A)	< 51	< 52	< 54	< 55
Luminosity	lux	> 1100	> 1200	> 1300	> 1300
Electrical connection	1Ph+E - 230 V 50 Hz, cable length 2.5 m (Schuko plug)				
Total current (2) (3)	A	2.3	3.0	4.5	4.5
Power consumption	W	211	320	517	621
Protection class / IP	1 / 20				
Internal fuse	A	4			
Heat output	W	175	240	295	360
Operating mode for energy saving		●	●	●	●
Remote Control Function		●	●	●	●
Quick Start Function / Energy Save Mode		●	●	●	●
Sockets		2	2	3	3
Other HEPA filters		○	○	○	○
Timer for programmable start/stop		●	●	●	●

(1) The total depth of the safety cabinet can be reduced to 780mm by dismantling the back panel

(2) Measured in operating condition according to EN 12469:2000

(3) Measured with clean filters, lighting on, internal sockets off

(4) For the purpose of loading via a door, the total height of the safety cabinet without the base frame is 1995mm

● Standard

● Optional

○ Not present

# Service at its finest

ENVAIR offers you service at its finest. We don't just sell you the devices, we cater to all your needs from A to Z.

**Delivery:**

We deliver all our devices ex-works. An assembly service and packaging disposal can be included upon request.

**Maintenance and repair service:**

- 24-hour on-site service and free-of-charge
- 24-hour telephone hotline
- 7 days a week

**Replacement parts guarantee:**

10 years  
Available within 24 hours  
For the Emmendingen warehouse

**Qualification:**

- IQ/OQ
- GMP
- GAMP
- 21 CFR Part 11

**Decontamination:**

We perform microbiological decontamination using state-of-the-art H<sub>2</sub>O<sub>2</sub> generators in clean rooms, insulators and safety cabinets.

**Maintenance:**

- Microbiological safety cabinets EN 12469
- Cytotoxic safety cabinets with KI-Discus Test DIN 12980
- Product protection cabinets
- Fume cupboards
- Cytostatic isolator DIN 12980
- Isolator EN 14644-7
- Clean rooms
- Steam sterilisers / autoclaves
- CO<sub>2</sub> incubators
- Ultra-low temperature freezers -86°C

Servicing by the pros. All work is carried out by TÜV Nord-qualified service technicians.

**Maintenance contract:**

Regular maintenance increases your safety. Through our maintenance contract, you are covered when it comes to the checking of all of the functions of your devices. You can rely on us to come at regular intervals to do these checks for you.

**Warranty and guarantee:**

With an ENVAIR maintenance contract, we also offer you a 2-year warranty on all devices, except for wear parts and compressed air components.

Your certified local retailer: