Biological Safety Cabinets
Class II

Clean Air.

Fully certified by TÜV NORD ✓

Series EuroFlow

Operator, product and environmental protection

Series EuroFlow

Superior quality. Proven reliability.
From standard cabinet till custom made.

Series EuroFlow, the Clean Air Biological Safety Cabinets Class II range, has been on the market for many years and has definitely proven its superior quality, reliable performance and solid construction. Series EuroFlow is designed and manufactured according to the highest biological safety standards, meets customer latest requirements like ergonomics and usability and is equipped with the latest version of microprocessor based flow control.

Series EuroFlow provides operator, product and environmental protection, which makes it suitable for biosafety levels 1, 2 and 3 and production of (cyto-) toxic medicines. Within Series EuroFlow there are several standard types, each designed for specific applications. All types are available with a numerous amount of optional features, like UV light, gas tabs etc.

Type EF

DOWNFLOW   INFLOW

Type EF/B

DOWNFLOW   INFLOW

V-shaped HEPA-FILTER

Type EF

Type EF is commonly used for microbiological research that requires protection for both operator and product, like working with biological agents (bacteria, viruses, etc) and allergens. Type EF is tested and certified in accordance with EN 12469:2000 and available in sizes 4,5 and 6 ft (120, 150 and 180 cm). Other sizes available upon request.

Type EF/B

Type EF/B is commonly used for the production of cytotoxic medicines and high risk microbiological applications. Air will first pass the extra V-shaped HEPA-filter section (H14) underneath the work surface, and then reach the internal construction of the cabinet. Therefore, the air within the internal construction remains free of contamination. This results in two major benefits: The HEPA-filters can de exchanged easily and without the need for decontamination and it also provides extra safety. Type EF/B is tested and certified in accordance with EN 12469:2000 and DIN 12980 (2004-02) and available in sizes 4 and 6 ft (120 and 180 cm). Other sizes available upon request.

Type EF/B TE

Type EF/B TE (Total Exhaust) is specially designed for studies and applications with gasses, vapours and chemicals that do not allow air recirculation. Total Exhaust cabinets are always connected to a duct.

Features & benefits

Fully Certified by TüV Nord

Series EuroFlow cabinets are designed and manufactured in accordance with EN 12469:2000 and comparable international standards. Type EF and EF/B are fully certified by TüV Nord in accordance with EN 12469:2000. Type EF/B is also certified in accordance with DIN 12980 (2004-02).

Advanced Hinge-Slide Window

☑ **Safety** | The window is made of 8 mm laminated safety glass (2 layers) and protected against disinfectant influences by an aluminium strip.

☑ **Ergonomics** | The advanced hinge system fully opens the front of the cabinet and makes it easy to load large objects into the work area. The window opening in work mode is 165 mm. Sliding the window upwards maximizes the opening to 350 mm.

☑ **Cleaning** | Fully open the front window to clean the window and work area effectively. Because the grips are glued on the outside, the inner surface of the front window is smooth and easy to clean.

☑ **Decontamination** | The rubber window sealing and optional available decontamination locking kit make the cabinet gas- and airtight and allows gaseous decontamination of the cabinet. VHP connections optional available.
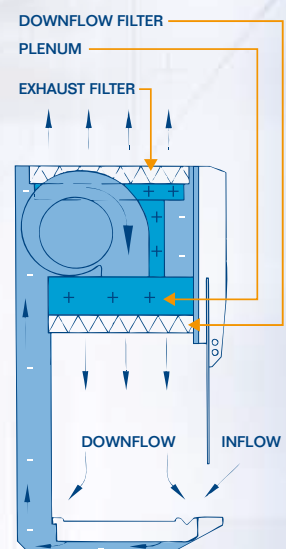
Accurate Flow Control & User Friendly Control Panel

☑ **User Friendly** | The LCD control panel is easy to use and provides the operator all relevant parameters, settings and alarms to indicate if the cabinet is providing the recommended safety. Including advanced features like disinfection mode, user code, service code and fail safe alarm.

☑ **Safety** | Microprocessor technology controls the air flow within the cabinet with great accuracy, due to sensitive and fast sensors measuring both downflow and exhaust (inflow) air. When clogging of the HEPA-filters occurs, it will be compensated by the microprocessor by increasing the air speed.

Solid Construction & Design

☑ **Quality** | The cabinet is constructed out of 1,5 - 2 mm epoxy coated or stainless steel. This creates a very solid cabinet with a reliable performance and significantly longer lifetime.

☑ **Safety** | The cabinet has a double wall construction with negative pressure in the spaces between, including the pressure plenum and surrounding of the work area (see figure) to provide extra safety.

☑ **Maintenance** | The filters can be replaced independently and easily: the exhaust filter via the top of the cabinet, the downflow filter via the front of the cabinet. The pressure plenum construction is made out of durable aluminium. In contrast to other available solutions, our pressure plenum does not need to be replaced during thereplacement of the filters.

DOWNFLOW FILTER
PLENUM
EXHAUST FILTER

DOWNFLOW   INFLOW

Lifetime Increasing Pre-Filter & Drip Tray
(Standard to Type EF/B, optional to Type EF)

☑ **Safety & Maintenance** | The G3 pre-filter prevents dust, dirt and particles from the inflow air entering the ventilator and HEPA filters of the cabinet. This respectively eliminates fire hazard in the ventilator and it significantly increases the lifetime of the HEPA-filters.

☑ **Decontamination** | The drip tray collects spilled fluids up to 1,5 Litres. This prevents contamination of the construction of the cabinet.

Work Top with Air Slits

☑ **Safety** | The V-shaped air slits, positioned at the front of the work top, prevent contamination of the operators' sleeves and blocking of the inflow air.

☑ **Cleaning** | The work top is made out of one piece of stainless steel, has no seams and is safe and easy to clean. The work top is deepened and collects spillage up to 2-3 liters, this prevents spillage into difficult to reach areas within the cabinet.

Comfortable Work Area

☑ **User Friendly** | The large work area makes the cabinet comfortable to work with and suitable for many applications.

☑ **Cleaning** | The total work area is easily and effectively to clean because it is constructed out of a seamless, single piece of stainless steel.

☑ **Ergonomics & Safety** | The epoxy coated aluminium arm rest contributes to the operator's comfort. Because the armrest is partly constructed outside the work area, it also contributes to the safety of the operator.

Ergonomic Lighting

☑ **Ergonomics** | The lighting is positioned on the front of the cabinet, outside the work area. The lighting will not obstruct cleaning the work area or create any inconvenient shades.

3 Year Warranty

☑ **Quality** | We are confident in the superior quality of our cabinets and provide a full three year warranty. Ask for our warranty conditions.

Many Options & Accessories

UV light | Gas tabs etc. | Power sockets | Bunsen burner sockets | Decontamination connection | Double exhaust HEPA-filter | Pre-filter & drip tray | Exhaust connection and Thimble | Support frame (standard, electrical or GMP compliant) | Decontamination equipment | Decontamination locking kit | Bunsen burners | Documents & tests (IQ/OQ, FAT, SAT) | Service & maintenance | Training | Support | Etc.

Thimble

Technical Specifications

Type	EF 4	EF 5	EF 6	EF/B 4	EF/B 6
Part numbers					
Epoxy coated exteroir + stainless steel interior	P0301104ARN	P0301105ARN	P0301106ARN	P0302104RN	P0302106RN
Stainless steel exterior + interior	P0301204AN	P0301205AN	P0301206AN	P0302204N	P0302206N
Dimensions					
Work opening lxh (in work mode) (mm)	1190x165	1495x165	1800x165	1190x165	1800x165
Work opening (maximum height) [1] (mm)	350	350	350	350	350
Exterior dimensions lxdxh [2] (mm)	1333x844x1552	1638x844x1552	1943x844x1552	1333x844x1552[3]	1943x844x1552[3]
Interior dimensions lxdxh (mm)	1190x605x725	1495x605x725	1800x605x725	1190x605x725	1800x605x725
Work area lxd (mm)	1109x440	1414x440	1719x440	1109x440	1719x440
Total height [4] [5] (working height 900) (mm)	2297	2297	2297	2297	2297
Total height [4] [5] (working height 800) (mm)	2197	2197	2197	2197	2197
Weight (kg)	255	275	315	300	380
Exhaust connection Ø (mm)	250	250	250	250	250
Performance					
Exhaust airflow [7] (m³/h)	400	500	600	400	600
Heat emission (in work mode) [8] [9] (W) (J/s)	552	709	877	805	950
Heat emission (in stand-by mode) [8] [10] (W) (J/s)	303	513	568	533	766
Light Intensity [9] (lux)	1000	1100	1550	1000	1550
Sound Level dB(A)	< 57	< 58	< 56	< 60	< 60
Electrics					
Electrical connection [11] (V)/(Hz)	230/50	230/50	230/50	230/50	230/50
Power consumption (in stand-by mode) [9] (W) (J/s)	552	709	877	805	950
Power consumption (in stand-by mode) [10] (W) (J/s)	303	513	568	533	766
Maximum power consumption [12] (W) (J/s)	725	992	1036	1613	1956
Window					
Safety glass (8 mm laminated)	Yes	Yes	Yes	Yes	Yes
Leak-tight [13]	Yes	Yes	Yes	Yes	Yes
Filters					
Pre-filter (EN 779)	G3	G3	G3	G3	G3
Downflow HEPA-filter (EN 1822)	H14	H14	H14	H14	H14
Exhaust HEPA-filter (EN 1822)	H14	H14	H14	H14	H14
1st HEPA-filter (V-shaped)	-	-	-	H14	H14
Standards (build according to)					
EN 12469	Certificied	Certificied	Certificied	Certificied	Certificied
DIN 12980	-	-	-	Certificied	Certificied
NSF 49 B2	Yes	Yes	Yes	Yes	Yes
AFNOR	Yes	Yes	Yes	Yes	Yes
CE 2006/42/EC	Yes	Yes	Yes	Yes	Yes
EN 61010-01	Certificied	Certificied	Certificied	Certificied	Certificied
EMC 2004/108/EC	Certificied	Certificied	Certificied	Certificied	Certificied
EN 1822	Yes	Yes	Yes	Yes	Yes
EN 779	Yes	Yes	Yes	Yes	Yes

[1] Maximum height work opening is based on using the slide window. By using the hinge window you can totally open the front of the work space
[2] Height without support frame and exhaust hood
[3] Height without 1st V-shaped HEPA-filter unit (650mm)
[4] Height without exhaust hood
[5] Total height = exterior height (1552 mm) + height support frame (745 mm) at work height is 900 mm
[6] Total height = exterior height (1552 mm) + height support frame (645 mm) at work height is 800 mm
[7] Margin of ± 25 m³/h
[8] At ambient room temperature, in recirculation mode. For information concerning connecting the cabinet to a duct, please contact us
[9] With light switched on and power socket (max. 725 W) off
[10] With light switched off and power socket (max. 725 W) off
[11] Margin of ± 5%
[12] In maximum fan mode, with light switched on and power socket (max. 725 W) off
[13] Leak-tight with optional available decontamination locking kit

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Products

Class I - Biological Safety Cabinets
Operator and environment protection
• MSC I

Class II - Biological Safety Cabinets
Operator, product and environment protection
• EF
• EF/B (extra HEPA-filter)
• EF/S (slope window)
• EF/SB (slope window + extra HEPA-filter)

Class III - Biological Safety Cabinet
Operator, product and environment protection
• MSC III

Laminar Air Flow
Product protection
• CLF (horizontal flow)
• DLF (vertical flow)

Laminar Air Flow
Operator protection
• NEG

Isolators
Operator, product and environment protection
• Sterilator
• Cytolator

Custom Made Solutions
• Microscope cabinet
• Animal care cabinet
• Isolators
• Etc.

Training & Support
• Operator training
• Disinfection training
• Maintenance training

From standard till custom made
Besides the many options and accessories, also weighing systems, microscopes etc. can be incorporated, using our company values like flexibility and expertise. In collaboration with the customer, our skilled and experienced engineering department will also design and manufacture completely custom made solutions like isolators for pharmaceutical, bio-technical and food industry. Some examples of custom made solutions, based on Series EuroFlow: