

Cytostatic Safety Cabinet  
**BERNER** FlowSafe®  
C-[MaxPro]<sup>3</sup>-70

Compact **protection** for  
maximum **safety**



*the safety system*

# Proven technology for your safety

## ■ Safe drug production

The C-[MaxPro]<sup>3</sup>-70 Cytostatic Safety Cabinet was designed, among other things, for GMP-compliant production of potentially toxic, aseptic parenteral preparations. The device belongs to the **BERNER FlowSafe®** product group and ensures maximum personal, product and cross contamination protection through its proven three-filter system.

## ■ Exceptionally high level of protection

The three-filter system with its compact filter arrangement provides twice as much personal, product and cross contamination protection as a two-filter system:

- Redundant HEPA filter system for sustained and reliable protection
- Very high overall degree of filtration of at least 99.9999975% (in MPPS)
- Extremely safe main filter position
- A central main filter protects important areas from contamination

! **NEW:** Guards prevent mechanical filter damage, e.g. when cleaning the work area

## ! Special filter change technology

The bag change technology, which is based on research from the field of nuclear technology, guarantees a safe filter change with low risk of contamination:

- ! Simple bag change technology (bag-out system)
  - Main filter change with low contamination
  - Easy disposal in special waste transport containers

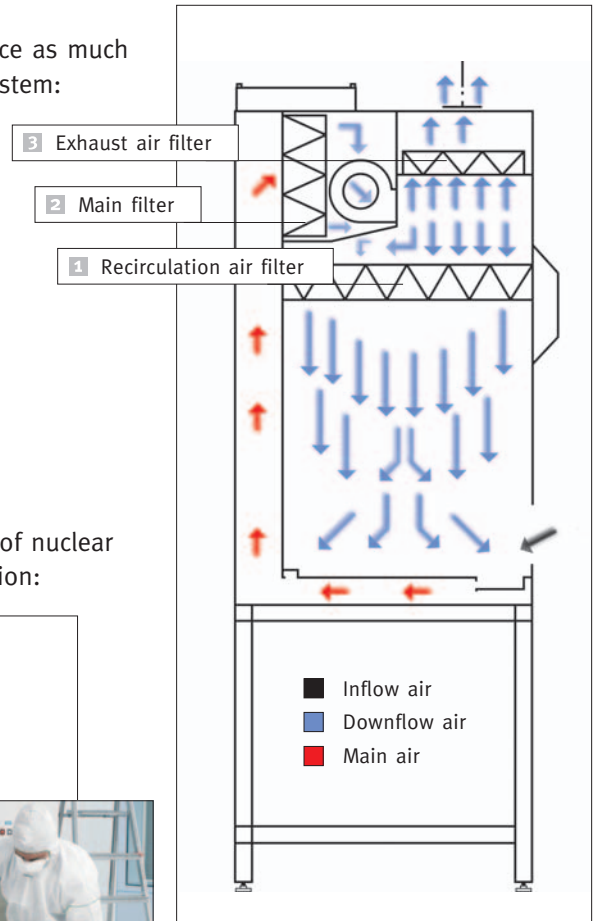


Safe and simple filter change.

## ■ Complies with the latest safety regulations

The new generation of safety cabinets offers the ideal equipment for today and for the future:

- Type tested and certified in accordance with DIN 12980 (06.2005) and DIN EN 12469 (09.2000)
- TÜV GS certificate and EC declaration of conformity
- Certified quality assurance system – DIN EN ISO 9001:2000



Structure and functional principle of the three-filter system.

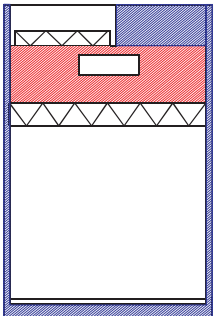


# Safe operating conditions and integrated armholes maximise personal protection

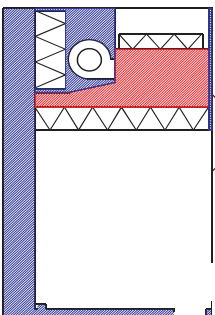
## ■ Safe operating conditions at all times

The stable barrier of air in the work opening and a laminar displacement flow with no backflow in the work area, the so-called **UDF – Uniform-DownFlow**, guarantee you the best possible personal, product and cross contamination protection. The safety control system controls and monitors flow conditions and the safety vacuum continuously. This keeps your operating conditions safe at all times:

Cross-sectional view of the front:




Cross-sectional view of the side:



■ Vacuum  
■ Overpressure in the plenum

- ❗ **NEW:** The **IDR – Inflow-Downflow-Regulator** provides ideal flow conditions and a safe point of operation
- ❗ **NEW:** The **BGP – Block-Guard-Plus** prevents obstruction of exhaust air and ensures maximum personal protection
  - Sensor-controlled monitoring system for safe flow conditions
  - Clear fault signals and information thanks to large control lamps
  - Safety vacuum and gas-proof casing: All contamination remains safely inside the casing
- ❗ Work area with maximum vacuum recirculation for added safety



**BGP – Block-Guard-Plus prevents obstruction of exhaust air.**

**Extra safe thanks to optimal distribution of high and low pressure.**

## ■ Extremely safe work opening

The front window is almost closed and has integrated armholes for added safety:

- The armholes in the front window increase closure of the work area by around 60% compared to continuous work openings
- Higher armholes prevent partial obstruction of the air intake ports
- Cross contamination by the forearms is minimised effectively
- ❗ Provides much greater protection from spray than a continuous work opening
- ❗ Protection from interference such as external air turbulence
- ❗ Prevention of careless arm movements



**Integrated armholes provide greater protection from spray.**

# The functional design creates pleasant working conditions



## ■ Drug production in an ergonomic sitting position

The positioning of the main filter level in the upper section of the safety cabinet gives you unlimited legroom at all times. Unsafe working positions are a thing of the past. All activities can be performed comfortably and current operating conditions monitored from the central sitting position:

- ! Ample legroom in any sitting position
  - No more painful knees or loss of feeling in your legs
  - Pleasant and flexible sitting position
- ! **NEW:** Clear displays in your field of vision
- ! **NEW:** Buttons are quick and easy to reach
  - Safe, clear and quick orientation at all times



Work comfortably  
in every sitting position.

## ■ Relaxed operation

Optimal operating parameters and functional design ensure pleasant working conditions with no premature signs of tiredness:



- Very low noise level of less than 58 dB(A)
- Powerful lighting of over 850 lx in the work area
- Power socket in the work area
- Relay for exhaust air system control
- Unrestricted view of the work surface, all instruments and additional equipment at all times
- ! Comprehensive operating instructions that are easy to understand
- ! Easy to load and unload through fully tilting front window

Easy to load and unload.

## ■ Optional flexibility

Optional extras for the diverse requirements of daily use:

### ■ Draught diverter for exhaust air system

The draught diverter guarantees operation without backflow even if the exhaust air system fails.

### ■ Base frame

The robust metal base frame keeps the cabinet stable and gives you plenty of legroom.

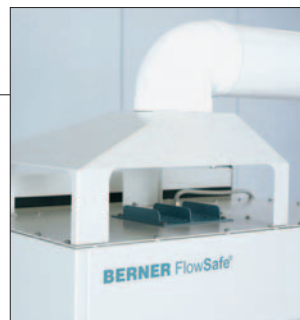
### ■ Armhole closure system

The close-fitting cover prevents cross contamination and contamination of the work area during breaks.

### ■ GMP-Cover

The 3-sided GMP-compliant lining keeps the need for cleaning of the surfaces above the safety cabinet to a minimum. This device also serves as a connection for safe extraction of exhaust air.

Draught diverter for  
faultless operation.



Close-fitting cover  
for the armholes.



# A user- and service-friendly solution you can trust



## ■ Quick and safe servicing

When designing the safety cabinet, our priority was to ensure that all servicing work can be carried out safely and quickly. In addition, highly qualified service engineers are available if required:

- All servicing work can be carried out from the front and from above
- Safe and quick filter changes
- ! **NEW:** Efficient setting of all operating parameters through the safety control system
- ! **NEW:** The **IDR - Inflow-Downflow-Regulator** and the fan control system can be used to set precise flow conditions
- All components after the main filters are located in the clean area
- Connections for the particle counter and aerosol generator are located in the contamination-free area
- Specially trained and certified service engineers



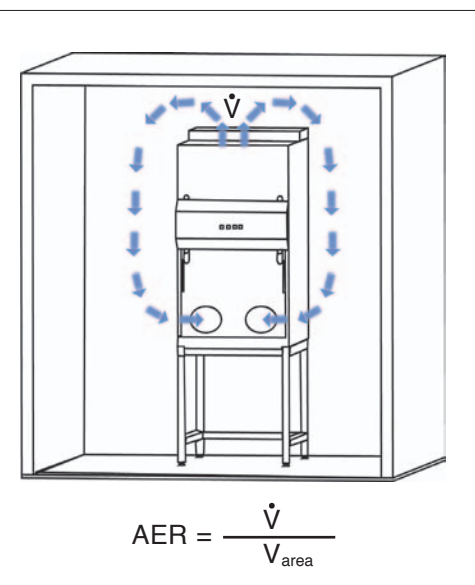
Quick and safe servicing.

## ■ Easy to clean

The work area is designed to be easy to clean and made entirely of stainless steel and Plexiglas®. Daily cleaning and disinfection routines are completed in no time:

- Large surfaces with welded joints and seals kept to a minimum
- Rounded corners and edges
- The worktop is easy to lift up and install
- For easy cleaning of the work area, the front window lifts up fully

The work area is designed to be easy to clean.



## ! **NEW: Compact design**

This safety cabinet provides a safe working environment, even in the smallest rooms:

- Maximum safety, even in the smallest spaces
- Low volumetric flow rate of exhaust air
- The relatively low air exchange rate (AER) in recirculation mode is an advantage in small rooms
- Can be used as a tabletop unit on a stable work surface
- Its low net weight and compact dimensions make it easy to position and set up

Principle of air exchange rate (AER) in recirculation mode.



the safety system

# Technical data Cytostatic Safety Cabinet

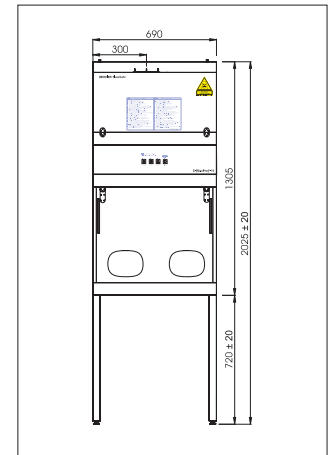
## **BERNER** FlowSafe®

### Model C-[MaxPro]<sup>3</sup>-70

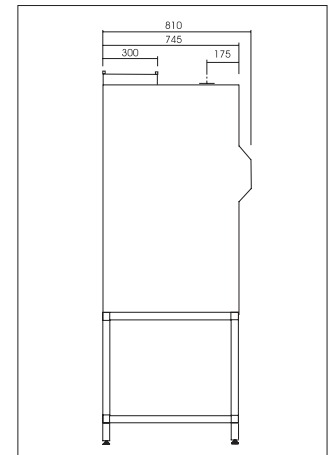
General Data	
Product group	<b>BERNER</b> FlowSafe®
Device	Laboratory device
Device type	Cytostatic Safety Cabinet
Construction type	DIN 12980; DIN EN 12469
Certificate	TÜV GS certificate
Marking	CE
Production	DIN EN ISO 9001:2000
Model	C-[MaxPro] <sup>3</sup> -70
Item number of safety cabinet	01 01 10 0070
General Technical Data	
Sound pressure level pursuant to ISO 11201	≤ 57,4 dB(A)
Nominal illuminance	> 850 lx
Work area material	1.5 mm "V2A" stainless steel, material number: 1.4301
Casing material	Painted Zincor sheet steel, material number: 1.0131
Paint colour (RAL)	Casing: 9002; base frame: 5024
Front window	Plexiglas®
Electrical Data	
Rated voltage and frequency	230 V AC; 50 Hz
Rated current) and rated power	6.3 A and/or 1449 VA
Protection class	I
Type of protection	IP 20
Connection	Three-pin plug
a): The total rated current increases by up to 5 A when using the socket in the work area. The total load on the sockets must not exceed 5 A.	
Mechanical Data: Breadth / Height / Depth (in mm)	
External dimensions including base frame b)	690 / 2025 ± 20 / 810
External dimensions without base frame	690 / 1305 / 810
Work area	635 / 640 / 630
Weight including base frame	~147 kg
b): The upper part of the device and base frame are set up and installed.	
Ventilation Data for "3-Filter System"	
Volumetric flow rate of recirculating air	~ 585 m³/h
Volumetric flow rate of exhaust/inflow air	~ 133 m³/h
Heat loss to surroundings at 20 °C	~ 0,27 kW
Filter class(es) of 3-filter system with main recirculation and exhaust air filters	≥ H 14 gem. DIN EN 1822-1 Degree of filtration <sup>0</sup> : E = 99.995%
Clean room class in work area	EC GMP Guide: A DIN EN ISO 14644-1: 5 VDI 2083 Sheet 1: 3
0): Integral degree of filtration calculated as minimum degree of filtration, i.e. with max. penetration, i.e. with particles of so-called Most Penetrating Particle Size	
Item Number Options	
Base frame	01 01 10 0071
Armhole closure system	01 01 10 0073
Draught diverter for exhaust air system	01 01 10 0074
GMP-Cover	01 01 10 0075

#### Functional principle and dimensions [mm]

Front view



Side view



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