

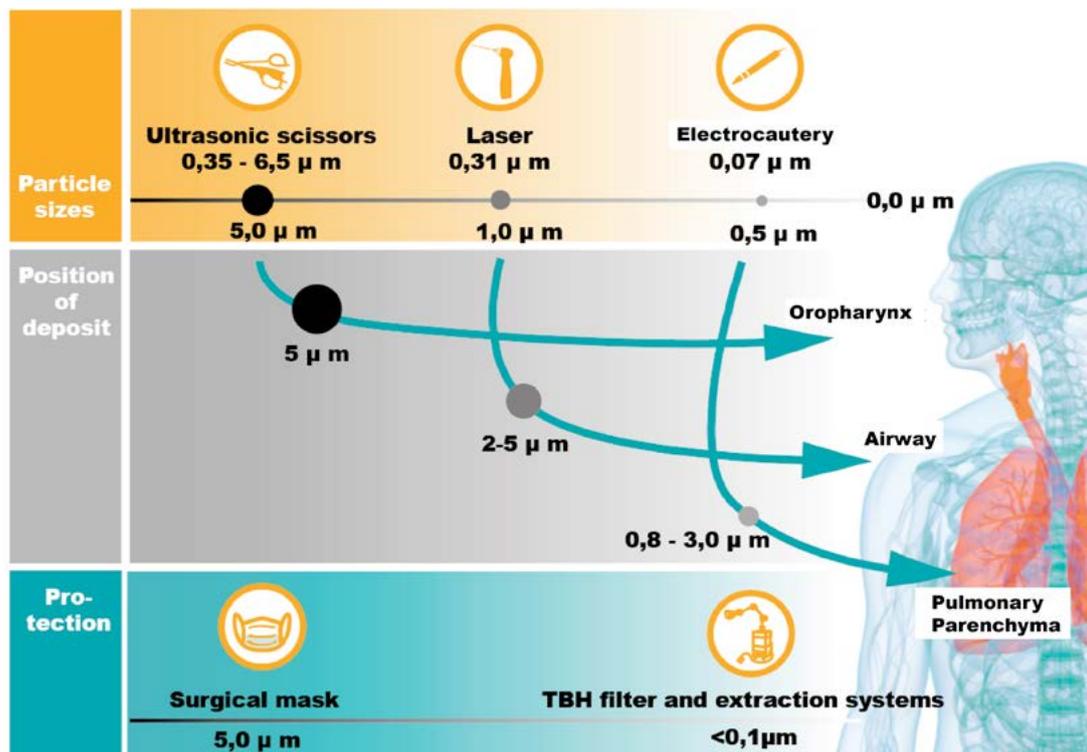
MEDICINE & AESTHETICS



Dangers in dermatology practices

NOXIOUS GASES / GAS MOLECULES	IMPACTS
Benzene (classified as carcinogenic to humans by IARC)	Bone marrow aplasia, leukemia, nausea, dizziness, headache
Toluol and xylene	Depressive properties on nervous system, irritation of skin, eyes and respiratory mucosa
Formaldehyde	Irritation to airways, allergen to skin and respiratory system, carcinogen to sinuses
Acetaldehyde, acrolein	Irritation of the airways
Cresols	Affects nervous system, indigestions, damage to liver, kidneys and lungs
Phenol	Irritation of eyes and respiratory mucosa, difficulty swallowing, vomiting, diarrhea, hematuria, loss of appetite, headache, drowsiness
Hydrogen cyanide (HCN)	Do not cause acute symptoms, however, it is a chronic poisoning that shows in headache, weakness, dizziness, tremors, nausea, vomiting, stomach pain, weight loss and conjunctivitis, etc.

Which size have particles in laser smoke when removing hair or warts?





High protection against infection during laser treatment



Laser eye treatment (illustration similar)

Lasers are used in a variety of ways, for example in medical surgery, eye surgery and dermatological treatments. Laser surgery produces aerosols with a particle size of 0.1µm-2µm. These laser aerosols (LGAC = Laser Generated Airborne Contaminants) consist of various components of human tissue.



Laser treatment with TBH smoke evacuation (illustration similar)

Depending on the dose, surgical smoke can cause acute symptoms of poisoning in the form of headache, weakness, nausea, muscle weakness, and also irritation of the eyes and respiratory tract². The danger comes from microorganisms such as bacteria, viruses and fungi. These have a particle size of less than 2µm. Humans can inhale them completely. In this case, the particles are deposited in the lungs.



Laser treatment without TBH smoke evacuation (illustration similar)

During the removal of warts, for example, papillomaviruses and multidrug-resistant pathogens have been detected in laser smoke¹. Please keep in mind that the surgical mask does not provide protection against airborne particles, as up to 25% of the respiratory air passes through the mask. Therefore, effective extraction is strongly recommended to protect patients and staff.

1: Ferenczy A, Bergeron C, Richart RM. Carbon dioxide laser energy disperses human papillomavirus deoxyribonucleic acid onto treatment fields. *Am J Obstet Gynecol.* 1990;163:1271-4

2: Eickmann U, Falcy M, Fokuhl I, Rügger M, Bloch M, Merz B. Chirurgische Rauchgase: Gefährdungen und Schutzmaßnahmen. Hrsg: Internationale Sektion der IVSS für die Verhütung von Arbeitsunfällen und Berufskrankheiten im Gesundheitswesen. 2011



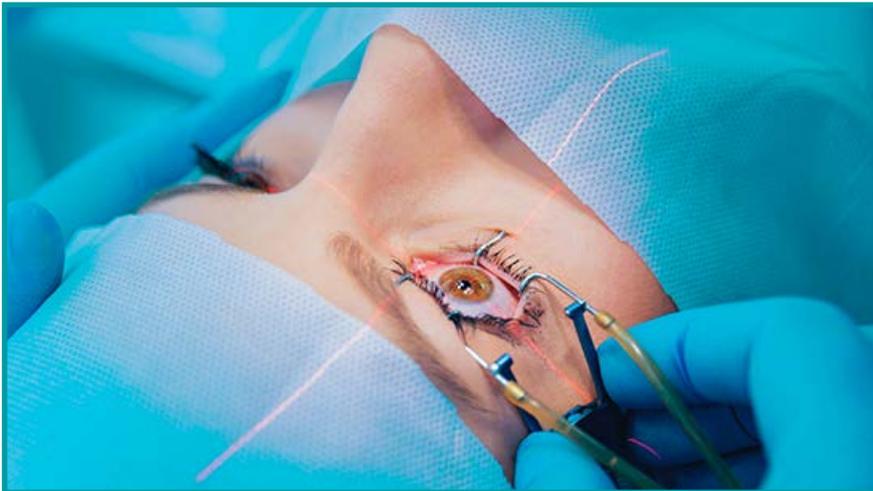
Application areas



Removing skin tags (illustration similar)

Removing skin tags / skin care

Skin tags are small growths which tend to hang off the skin. Laser therapy removes specific skin layers in a controlled manner. The particles that arise in this process, should be extracted from the air completely. Our filter and extraction systems collect all particles safely from the air.



Lasering eyes (illustration similar)

Lasering eyes

Laser eye surgery is one of the most common procedures in modern laser surgery. More and more patients have their eyes lasered to see well without glasses or contact lenses.



Pigment removal (illustration similar)

Pigment removal

Laser therapy is an effective way of removing pigments such as age spots. The selective destruction of tattoo pigments takes place by adsorption of laser radiation. The doctor and medical staff want themselves and their patients to be safe during the treatment.



Application areas



Dental treatment (illustration similar)

Aerosol/ Dental

Any treatment in a dental practice creates high aerosol concentrations. Oral suction only eliminates coarse particles. The smallest ones are lighter than air and thus continuously whirl around and disperse when they are not extracted from the air.



Birthmarks removal (illustration similar)

Removing birthmark with lasers

If a birthmark has to be removed, it can either be cut out completely or removed by laser treatment. All conspicuous moles that can potentially degenerate malignant should be completely removed. The birthmark removal takes place under local anesthesia.



Hair removal (illustration similar)

Hair removal

A laser eliminates hair follicles. Its light destroys the target structures. The generated heat can cause slight burns. This leads to smoke, unpleasant smells from burned skin and dangerous gases.



TBH filter concept: operation principle

- **InLine filter captures particles/bacteria/aerosols.**
- **Filter mat absorbs humidity.**
- **Particle filter guarantees separation efficiency.**
- **Activated carbon filters gases/odors.**

BF9 / BF10 SET-D:



BF9/ BF 10 SET-D + suction tip or optionally with InLine filter (Illustration similar)

- **Compact best price baseline model**
- **Optionally orderable with InLine filter**
- **Combined 2-stage filter: (Particle filter H13 + activated carbon)**
- **BF9: carbon running motor, > 1 operating hour per day, incl. warranty: 600h**
- **BF10: continuous running motor, <1 operating hour per day, incl. warranty: 1000h operating hours or 2 years.**

GL230 SET-D:



GL230 SET-D, incl. InLine filter (Illustration similar)

- **InLine filter included**
- **Quiet and comfortable**
- **Higher air volume and more power**
- **Larger filter area**
- **Lower follow-up costs of replacement filters: (Particle filter and activated carbon can be exchanged).**
- **Particle filter H14**
- **Continuous running motor, incl. warranty: 1000h operating hours or 2 years.**

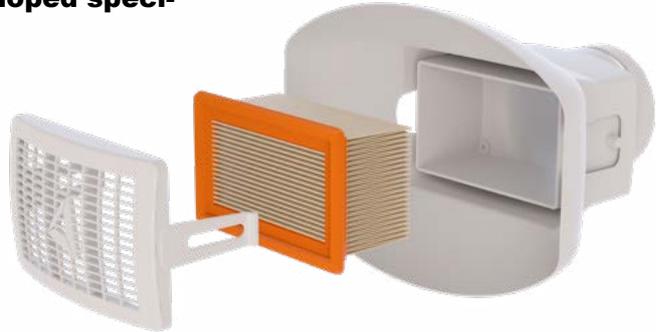
Technical data:

	UNIT	BF9 SET-D	BF10 SET-D	GL230 SET-D
Effective air flow rate	m³/h	20-200	20-200	100-300
Motor output	kW	0,7	0,6	0,6
Drive type		carbon running	continuous running	continuous running
Sound level	db(A)	ca.64	ca. 62	ca. 53
Weight	kg	ca.24	25	45
Dimensions (HxWxD) System height without extraction arm	mm	510x300x300	510x300x300	700x350x440



The new, patented InLine filter

- **The InLine filter has been designed and developed specifically for your applications and needs.**
- **Fewer cases of illness due to clean air in the treatment room.**
- **Ensures optimal capture.**
- **Minimizes internal contamination of the extraction arm.**
- **Reduces cleaning effort and maintenance costs.**
- **Extends the service life of the high-tech main filters.**



Hygiene features of the InLine filter

- High-tech polycarbonate in medical quality
- High temperature stable - up to 121 ° C for autoclaving
- Improved durability for disinfectants
- Improved durability for alkaline and enzymatic cleaners
- Designed for cleaning in disinfection sink



Adsorption of gaseous substances



Activated carbon granules

The adsorption of the gaseous substances takes place with activated carbon granules (physical adsorption). It collects a very wide range of gas-

es and odors. If requested, special mixtures are possible that are adapted to each customer's process. For more info ask our TBH sales team.



Tool-free filter change



- Fast and smooth change
- No special skills / tools required
- Easy handling



Simple InLine filter removal



- Purify hood with clean cloth
- Remove protective grid.
- Detach InLine filter,
- pack it safely into a closed, tear-proof bag and dispose it.

Cleaning instructions video





TBH hygiene concept

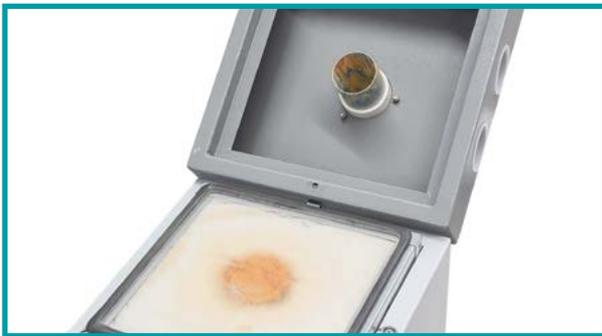
- Effectiveness of the TBH hygiene concept tested and confirmed by the independent, accredited test laboratory CleanControlling Medical GmbH & Co. KG in Emmingen-Liptingen.
- Change InLine filter 1x daily.
- Clean the protective grid in the thermodisinfector.
- Clean the extraction hood by wiping with disinfectant wipes.
- Cleaning the extraction hood in the thermodisinfector.

In addition to capturing particles during treatment, the filter and extraction system can also continue to run during pause times, filtering all the air in the treatment room several times an hour. This significantly reduces the risk of contamination and infection.

Only effective collecting and filtering in combination with cleaning and disinfecting of surfaces protects against the spread of viruses/bacteria between patients.



Efficiency of the InLine filter



BF10 without using the InLine filter (illustration similar)



BF10 without using the InLine filter (illustration similar)



BF10 with using the InLine filter (illustration similar)

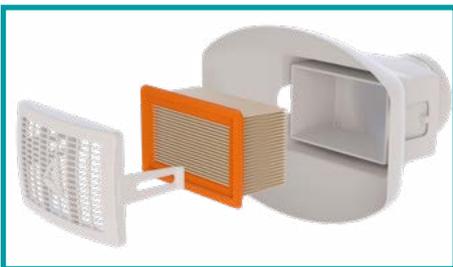


BF10 with using the InLine filter (illustration similar)



Optional capture elements and accessories

For various processes and applications



InLine filter (illustration similar)

The new, patented InLine filter works as pre-filter and captures potentially infectious aerosols and particles from the practice air. It prevents them from spreading. Thus, the InLine filter offers the most efficient protection. The occupational health and safety guidelines, such as TRBA 250, stipulate that extracting is required and that wearing personal protective equipment alone is not sufficient. Only the combination provides optimal protection. (Standard GL230 SET-D/ Optional BF9/ BF10 SET-D)



Suction tip (illustration similar)

The suction tip is generally used for smoke and particles where no grid cover is required. (Standard)



Suction tip with grid (illustration similar)

The suction tip with integrated protection grid ensures avoiding extraction of foreign bodies. The grid has a convex design to reduce the risk of material being sucked - non-intentionally or intentionally - onto the grid surface during a procedure, thus blocking the air flow and the extraction arm. (Optional)



Optional capture elements and accessories

For various processes and applications



Flat extraction hood (illustration similar)

The transparent, flat extraction hood enables a wider capture range of particles. The flat hood's dimensions are 330x240 mm. Its transparent design in polycarbonate allows the physician and medical staff a clear view to the work surface. (Optional)



Angular extraction hood (illustration similar)

The transparent, square extraction hood, with dimensions of 245x220 mm, increases the capture range of particles. Due to the transparent polycarbonate design, the physician and medical staff can look directly at the work surface. (Optional).



Round extraction hood (illustration similar)

The transparent, round extraction hood enables an extended range of capture. The hood has a diameter of 385 mm and is made of polycarbonate. This allows the doctor and medical staff to view the work surface directly. (Optional).



Foot switch (illustration similar)

The foot switch provides a hands-free Start/ Stopp operation. The foot switch is connected to the interface. (Optional)



Cleaning set (illustration similar)

The cleaning set includes a brush and ten handling bags and enables easy cleaning of the extraction arm. (Optional)



Technical data BF9/ BF10 SET-D



Illustration similar



Delivery scope

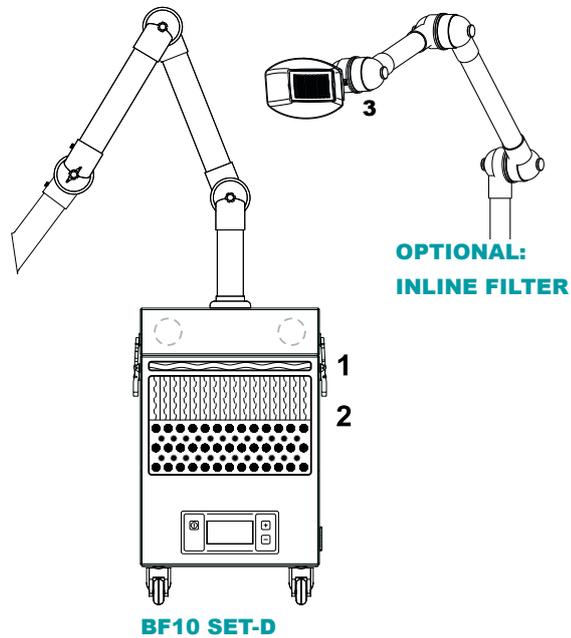
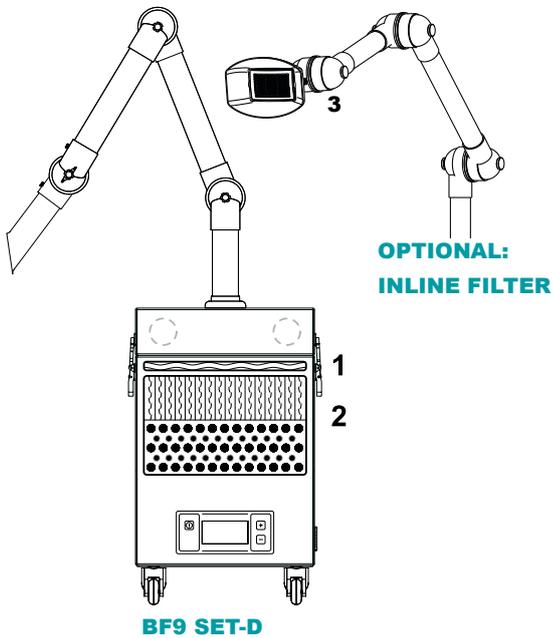
- Unit incl. extraction arm 50mm
- Suction tip
- Filter equipment
- 4 casters for mobile use
- Additional filter mats (3 pieces)
- Power cord
- Extraction hood with InLine filter 50mm (optional)

TECHNICAL DATA	UNIT	BF9 SET-D	BF10 SET-D
Air volume flow with free air delivery	m ³ /h	max. 220	max. 250
Effective air flow rate	m ³ /h	20-200	20-200
Motor output	kW	0.7	0,6
Drive type	-	carbon running	continuous running
Sound level	db(A)	ca. 64	ca. 62
Serial interface	Sub-D	25-pin	25-pin
Weight	kg	ca. 24	ca. 25
Dimensions (HxWxD) <small>System height without extraction arm</small>	mm	510x300x300	510x300x300
Intake sleeve	Pcs.	2	2
Color (housing)	RAL	7035	7035
Color (of lid)	RAL	7037	7037

FILTER CONFIGURATION	BF9 SET-D	BF10 SET-D
Pre-filter mat M5 (ISO ePM ₁₀ > 50%)	✓	✓
2-stage filter (particle filter H13 + activated carbon filter)	✓	✓
Optional InLine filter (ISO ePM ₁₀ 65%)	✓	✓



Ordering data BF9 / BF10 SET-D



DESIGNATION	ART. NO.
BF9 SET-D 230V	90389
BF9 SET-D 120V	90390
InLine filter InLine filter + grid + hood	20400

DESIGNATION	ART. NO.
BF10 SET-D 100-240V	90374
InLine filter InLine filter + grid + hood	20400

SPARE FILTER	ART. NO.	
Pre-filter mat set (20-pcs.)	11141	1
2-stage filter (Particle- and activated carbon filter)	11140	2
InLine filter (10 pcs)	20399	3
InLine filter (50 pcs)	20288	3

SPARE FILTER	ART. NO.	
Pre-filter mat set (20-pcs.)	11141	1
2-stage filter (Particle- and activated carbon filter)	11140	2
InLine filter (10 pcs)	20399	3
InLine filter (50 pcs)	20288	3

Medical device notice

The BF9 SET-D and BF10 SET-D filter and extraction systems are no application parts according to DIN EN 60601-1, as the systems are designed and the extraction arm is positioned in such a way that they do not touch the patient in the application, during extraction, as intended. In order to guarantee the increased safety requirements in the medical field, an analysis according to DIN EN 62353 (VDE 0751-1), as required in DIN EN 60601-1, is possible.



Technical data GL230 SET-D



Delivery scope



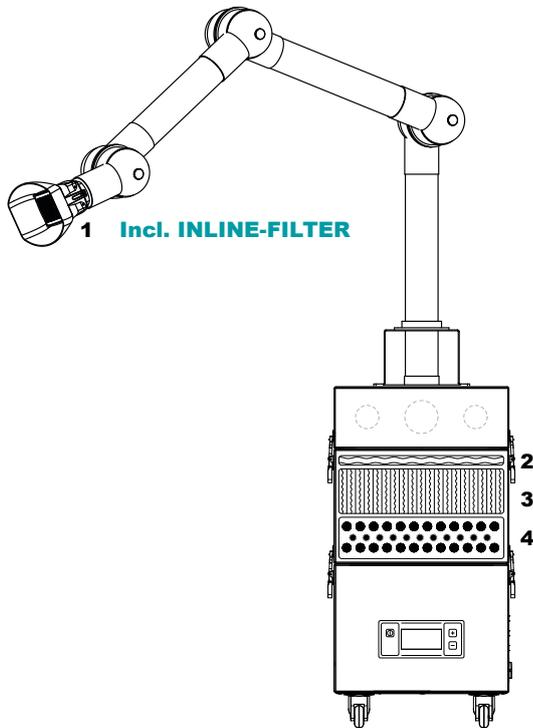
Illustration similar

- Unit incl. extraction arm 75mm
- Extraction hood with InLine filter
- Filter equipment
- 4 casters for mobile use
- Additional filter mats (3 pieces)
- InLine filter (50 pieces)
- Power cord

TECHNICAL DATA	UNIT	GL230 SET-D
Effective air flow rate	m ³ /h	100-300
Motor output	kW	0,6
Class of protection	-	1
Drive type		cont. running
Sound level	db(A)	ca. 53
Weight	kg	45
Dimensions (HxWxD) <small>System height without extraction arm</small>	mm	700x350x440
Color (housing)	RAL	7035
Color (of lid)	RAL	7035



Ordering data GL230 SET-D



DESIGNATION	ART.-NO.
GL 230 SET-D 100-240V 50/60Hz	90477

SPARE FILTER	ART. NO.	
Pre-filter mat set (10pcs)	10040	2
Particle filter H14	13032	3
Activated carbon filter	10004	4
InLine filter 10 pcs.	20399	1
InLine filter 50 pcs.	20288	1

Medical device notice

The GL230 Set-D filter and extraction systems are no application parts according to DIN EN 60601-1, as the systems are designed and the extraction arm is positioned in such a way that they do not touch the patient in the application, during extraction, as intended. In order to guarantee the increased safety requirements in the medical field, an analysis according to DIN EN 62353 (VDE 0751-1), as required in DIN EN 60601-1, is possible.



Ordering data accessories



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	InLine filter (InLine filter + grid + hood)	20400



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	Cleaning set extraction arm 50 (1x cleaning brush 10 handling bags)	20291
GL230 Set-D	Cleaning set extraction arm 75 (1x cleaning brush 10 handling bags)	20292



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	extraction tip with grid	12777



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	extraction hood PETG 330x240 mm	13279



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	extraction hood PETG 245x220 mm	10308



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D	extraction hood, round 385 mm	10359



USE	DESIGNATION	ART. NO.
BF9 / BF10 Set-D GL230 SET-D	foot switch	16369



Features

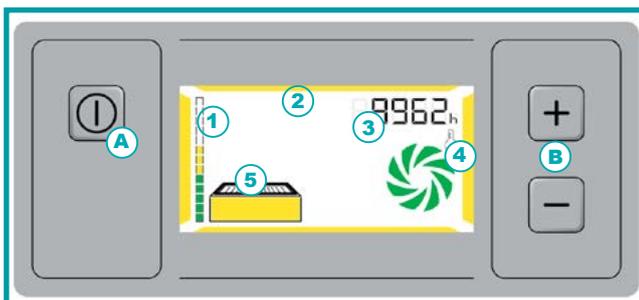
- Optional capture elements for different applications
- Electronic features and display functions
- Differential pressure indicator monitoring the filter saturation.
- Easy and clean filter change from the top
- Optimize functionality by using the optional foot switch
- Warning when filter saturation reaches 75%



Illustration similar



Inspiring control

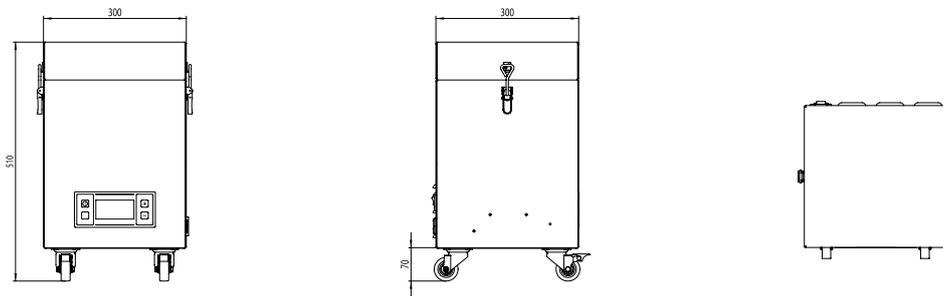


- A - Start/ Stop button
- B - Manual speed control
- 1 - Saturated filter notification
- 2 - System status indication
- 3 - Power-setting indication/ operating hours counter
- 4 - Temperature and turbine-status indication
- 5 - Filter-status indication

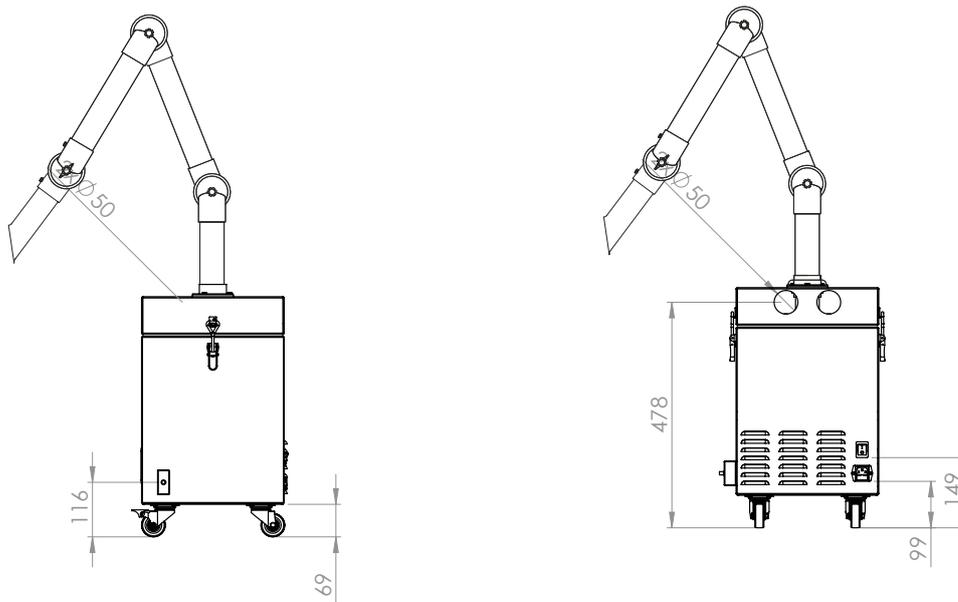
*Except BF9 SET-D



Technical drawings



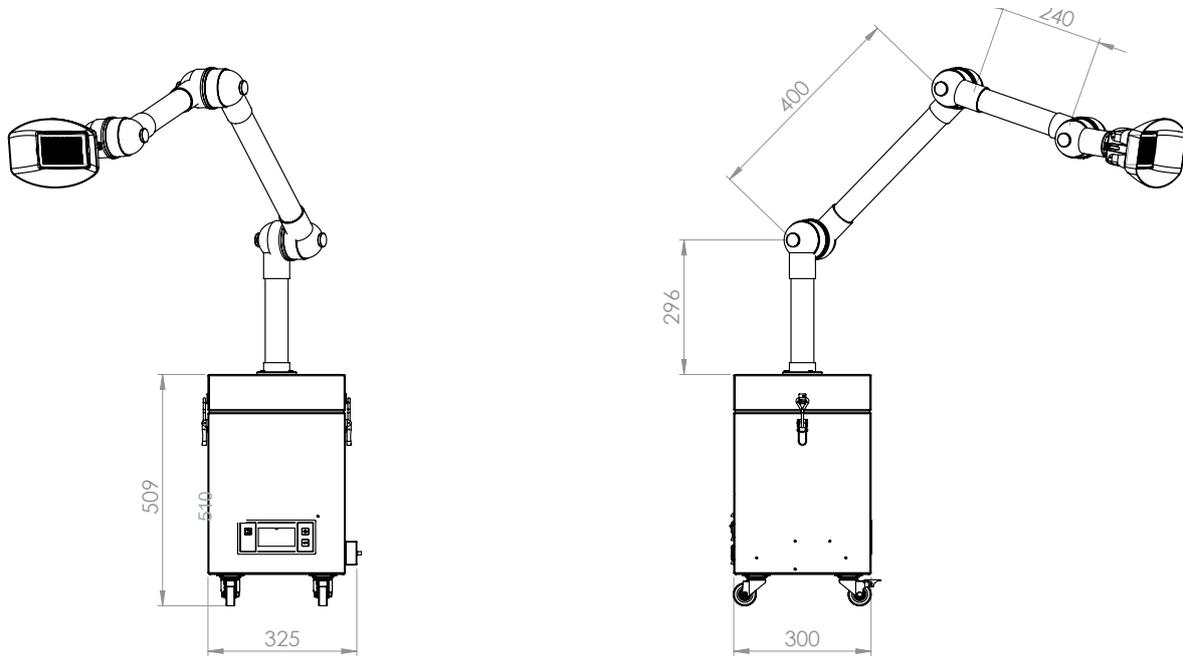
BF9 / BF10



BF9 / BF10 SET-D with suction tip

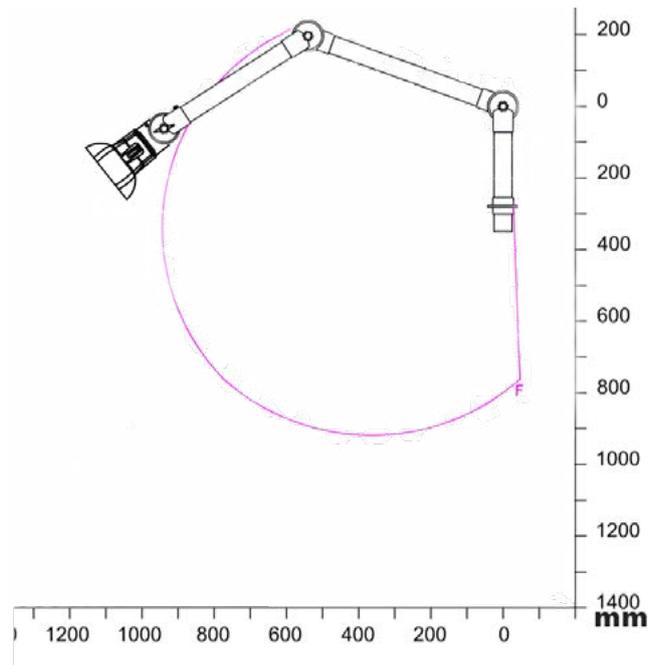


Technical drawings



BF9 / BF10 SET-D: with InLine filter (optional)

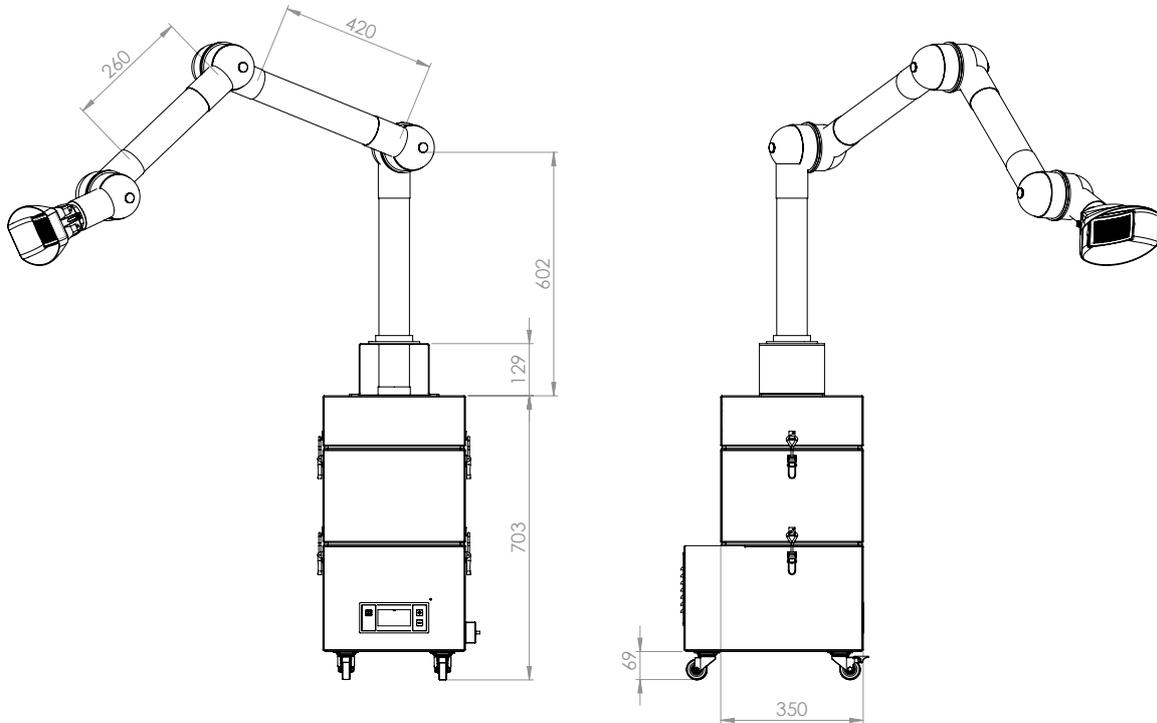
Range



F: Modell 50-4737-1-4 / 5 / -50

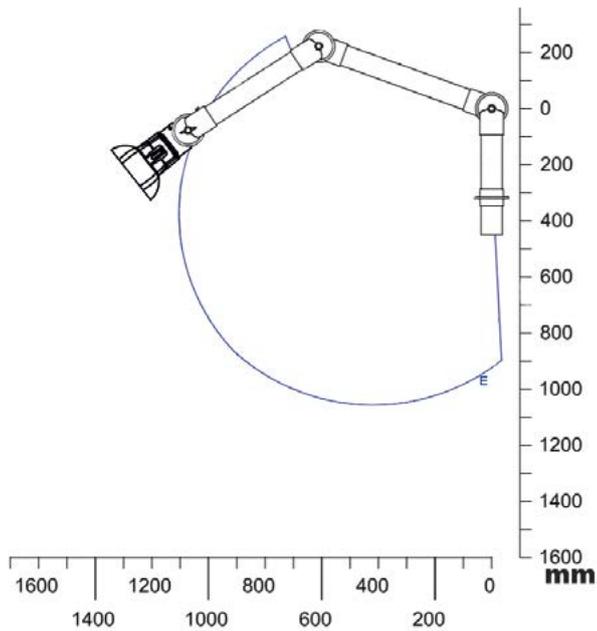


Technical drawings



GL230 SET-D

Range



E: Modell 75-5545-1-4 / -5



FILTER / EXTRACTION / ENVIRONMENTAL // TECHNOLOGY

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More information

