



## Filter possibilities of Coronavirus

### Which precautions can be taken?



#### Mouth-Nose-Protection

Protects against drops in the exhaled air of the person wearing the mask






#### Respiratory protective mask

Protects the person wearing the mask from inhaling the smallest airborne particles, filtrates at least 78% of viruses or bacteria



#### Extraction System

Protects against viruses and bacteria in the room air, filtrates them up to 99.95%

	 Mouth-Nose- Protection	 Respiratory pro- tective mask	 Extraction system
<b>Protection</b>	Protects against drops in the exhaled air of the person wearing the mask; however, it does not reliably protect against viruses and bacteria	Protects the person wearing the mask from inhaling the smallest airborne particles, filtrates at least 78% of viruses or bacteria from the air breathed by the wearing person	Protects against viruses and bacteria in the room air, filtrates them up to 99.95%
<b>Suitability</b>	For medical and nursing staff to protect patients from respiratory emissions	Without exhalation valve: for medical and nursing staff, rescue and emergency services to protect against transmission of viruses/bacteria  With exhalation valve: for non-medical use to protect against aerosols containing viruses/bacteria	For protection against persons in waiting or treatment rooms, offices, public facilities;  Is no medical device according to §3 Art. 1 of the MPG (German Medical Products Law)
<b>Usage</b>	Comprehensible handling, protection of other persons, if one's infected	Use of mask only after instruction, otherwise no sufficient protective effect	Comprehensible handling, greatly reduces the number of particles (=viruses, bacteria) in the room due to 4-times room air change and H13 filter
<b>Period of usage</b>	Have to be disposed after each use	Depending on classification up to 8 hours or suitable for reuse	System for continuous operation, filter change after status display
<b>Tested</b>	According to EN 14683, standard for "Surgical masks" by the manufacturer	According to EN 149, standard for "Particle filtering half masks" by independent testing body	According to EN 1822, standard for "HEPA filters with very high efficiency (EPA, HEPA, ULPA)" by the manufacturer



DF 10



DF 230



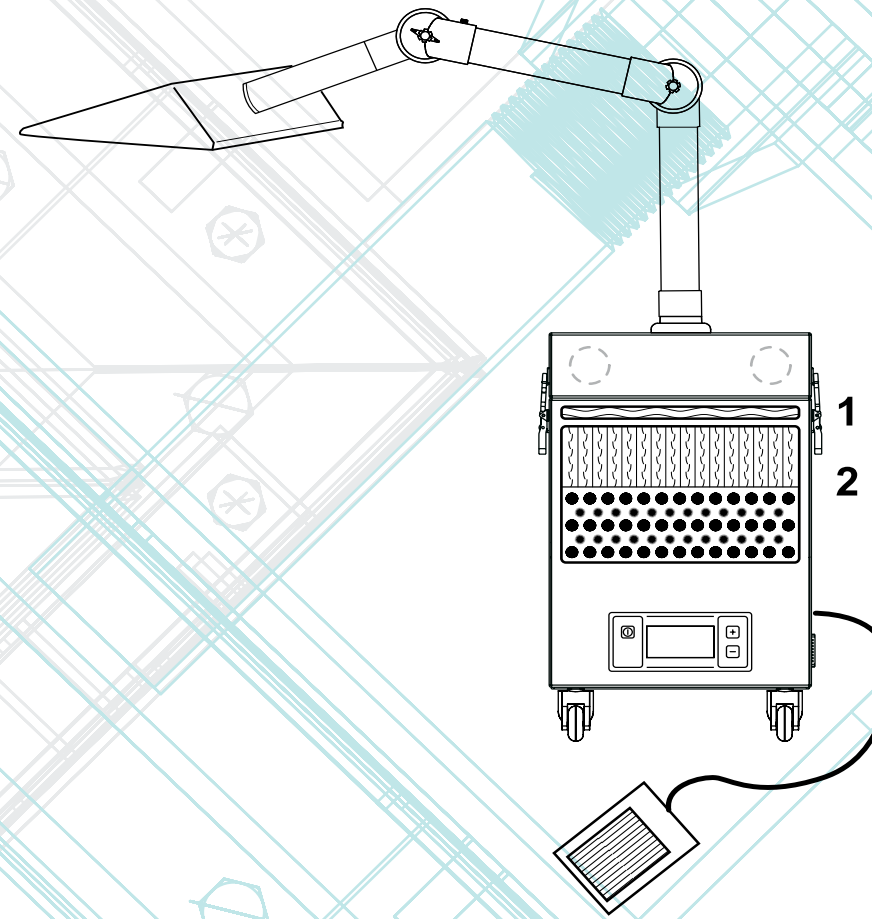


## Delivery scope

- Fully assembled (incl. casters for mobile use)
- Power cord
- Filter equipment
- Additional pre filter mats (3 pieces)
- Extraction arm incl. suction hood
- Foot switch
- Power cord



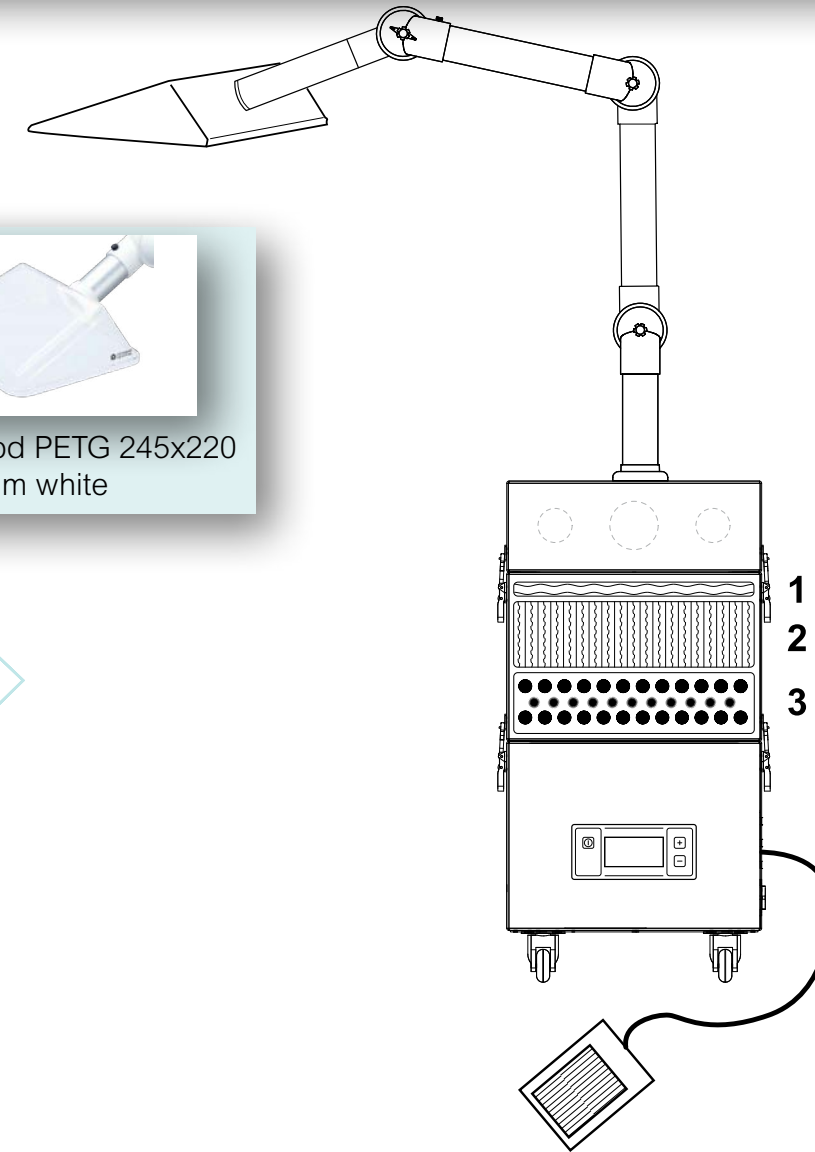
## Ordering Data



DF 10 STANDARD

DESIGNATION	ART.-NO.
DF 10 100-240V 50/60Hz	90471

SPARE FILTER	ART.-NO.
Pre-filter mat (20 pcs)	11141 1
2-Stage-filter (Particle filter + activated carbon filter)	11140 2



DF 230 STANDARD

DESIGNATION	ART.-NO.
DF 230 100-240V 50/60 Hz	90472

SPARE FILTER	ART.-NO.
Pre-filter mat (10 pcs)	10040 1
Particle filter	10013 2
Activated carbon filter	10004 3

## Technical data



	UNIT	DF 10	DF 230
Effective air flow rate	m <sup>3</sup> /h	20-200	100-300
Voltage	V	100-240	100-240
Frequency	Hz	50/60	50/60
Motor output	kW	0,6	0,6
Class of protection	-	1	1
Drive type		cont. running	cont. running
Sound level	db(A)	ca. 64	ca. 53
Weight	kg	24	45
Dimensions (HxWxD) System height without extraction arm	mm	510x300x300	700x350x440
Color (housing)	RAL	7035	7035
Color (of lid)	RAL	7037	7035

## Accessories



USE	DESCRIPTION	ART. NO.
DF10	suction tube with grid	12777



USE	DESCRIPTION	ART. NO.
DF10	suction tip system 50 AL 210mm	10199
DF230	suction tip system 75 AL 250mm	10213



USE	DESCRIPTION	ART. NO.
DF10	suction hood system 50 AL PETG 330x240mm white	13279
DF230	suction hood system 75 AL PETG 330x240mm white	14355

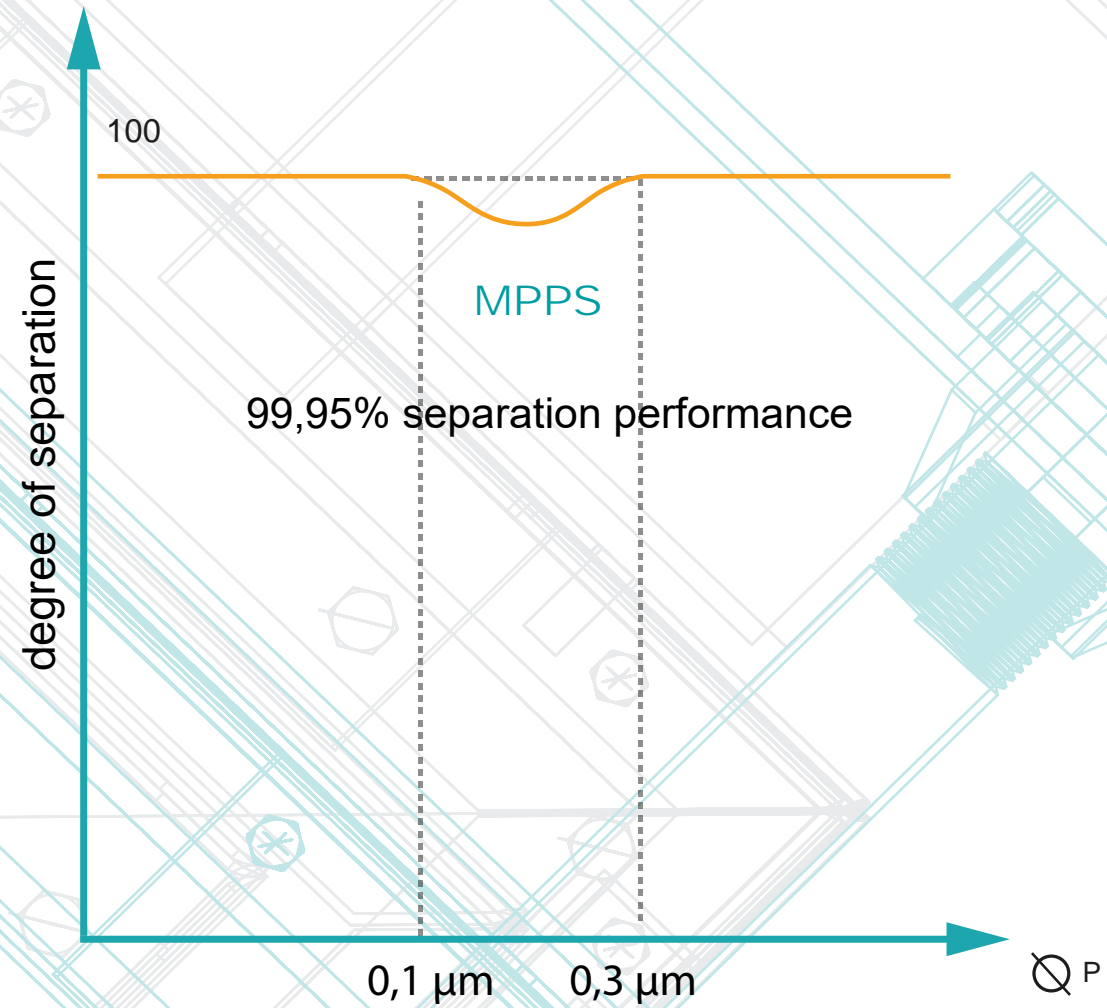


USE	DESCRIPTION	ART. NO.
DF10	suction hood round system 50 AL PETG, Ø 385mm, white	10359
DF230	suction hood round system 75 AL PETG, Ø 385mm, white	10412



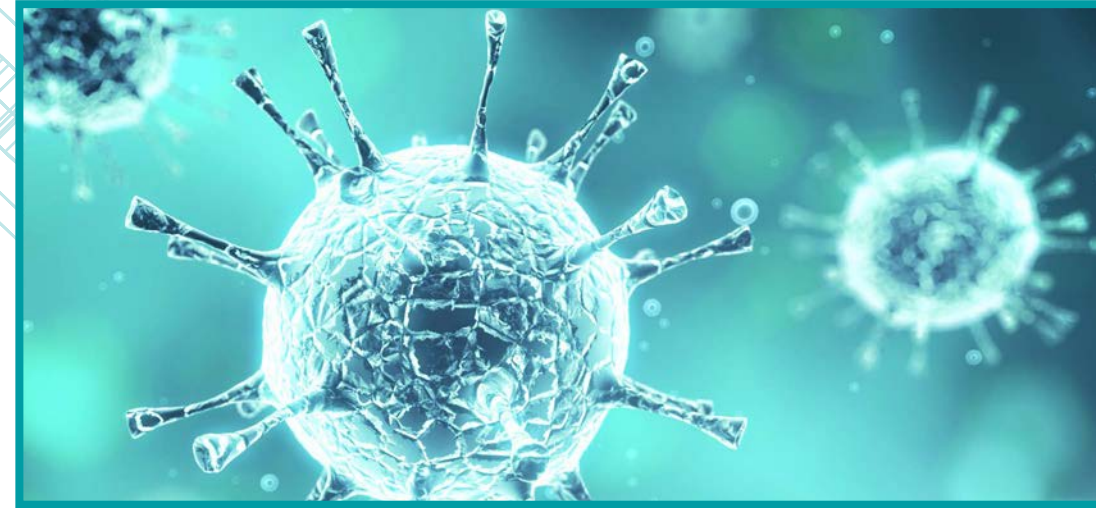


## Safety through tested particle filters

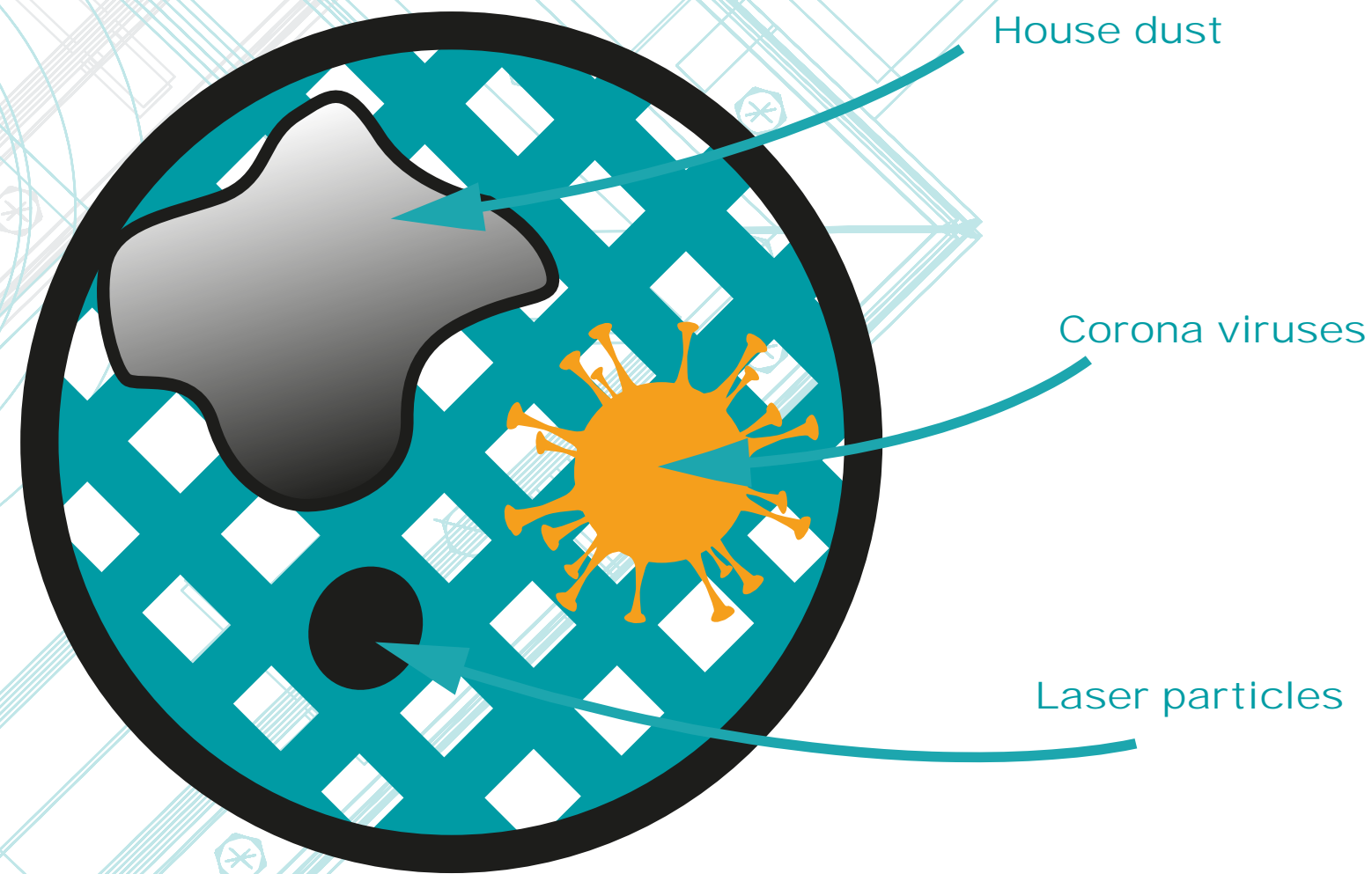
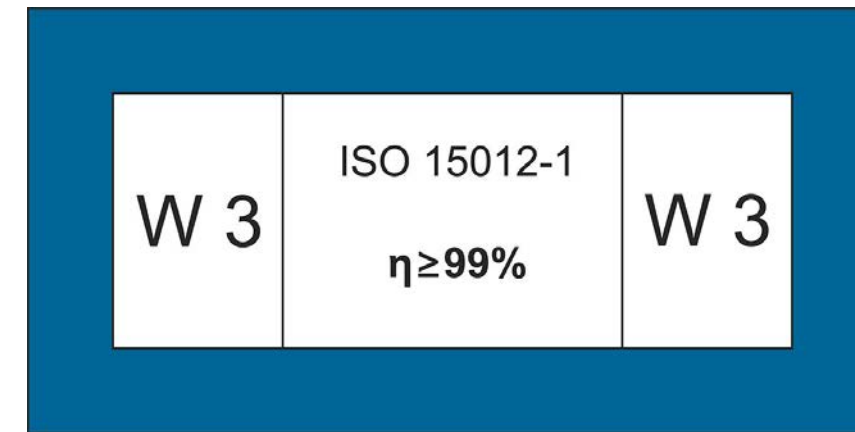


MPPS = most penetrating particle size

Corona viruses have a size of 20 - 160nm, which is 0.02 - 0.16 $\mu\text{m}$ . Our systems extract and separate all particles <0.1 $\mu\text{m}$  and >0,3 $\mu\text{m}$  to 100%, and particles in between to 99.95%.



Corona viruses are easy to extract for this system. The integrated TBH H13 filters are tested in accordance with EN1822 criteria and their effectiveness in accordance with ISO 15012-1. High safety requirements are thus met. Awarded W3 and the DGUV seal, TBH filter and extraction systems offer triple protection for humans, environment and machinery and are, depending on the model, accordingly listed on the "IFA positive list". TBH is specialized in laser dusts with a confirmed separation efficiency of up to 1nm in laser processes.



H13-Filter



H13-Filter = 99,95% separation efficiency  
 Influences on degree of separation:

- Larger filter surface
- Longer contact times
- Reducing volume flow
- Criteria in accordance with EN 1822 approved efficiency tested in accordance with ISO 15012-1



### Double adsorption power

### Absorbs odors due to integrated activated carbon filter



Active carbon



BAC granulate



Active carbon / BAC

The adsorption of the gaseous substances takes place with activated carbon (physical adsorption) and BAC granulate (chemical adsorption).

In addition, they take up a very broad spectrum

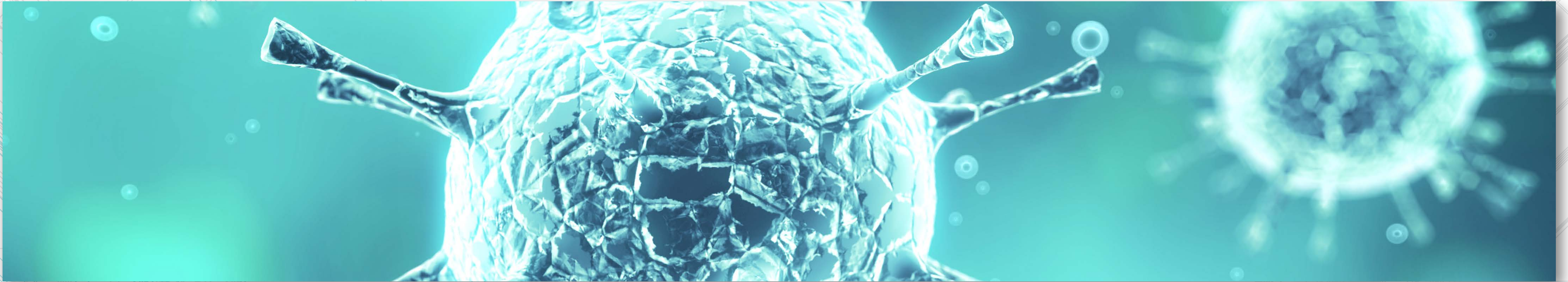
of gases and odours.

-> Neutralization through chemical bonding with the reaction substance applied to the substrate material.





## Recommendations



### Recommendations for capturing and avoiding emissions that are hazardous to health

1. Place the extraction system or the detection element as close as possible to the patient or the treatment site.
2. If possible, place guiding elements such as Plexiglas panels or walls to limit the extracting area.
3. Use adequate PPE to change filters.
4. If possible, change the filters in a separate room.
5. Use a disposable pad when changing the filter.
6. Immediately, pack the used filter in a sealable packaging, such as a plastic bag, and seal it.
7. Have suitable practice and hospital standard cleaning agents available for cleaning the extraction system and the surrounding area.

### General protective measures:

For personal protection, regular hand washing with soap for at least 20 seconds and keeping a distance of 1.5 to 2 meters from other people must be observed.

In particular, contact with persons of the (high) risk group such as persons over 60 years of age or with a weakened immune system should be avoided.

Coughing and sneezing into the crook of your arm and, if possible, stay at home, even if no symptoms of illness are obvious. Removing harmful particles from the air preferably with an extraction system with integrated H13 filters.

Wearing a mouth and nose protector in public can protect especially other people from a possible infection.