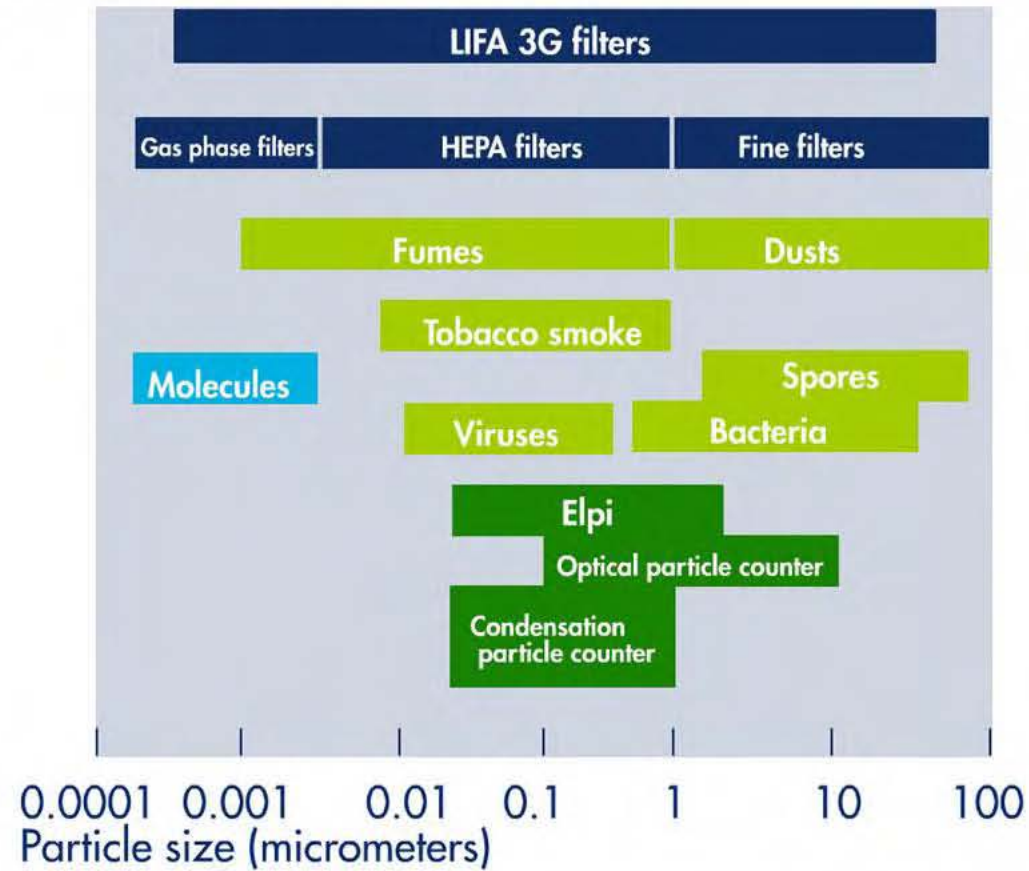




## Basics about filtration mechanisms

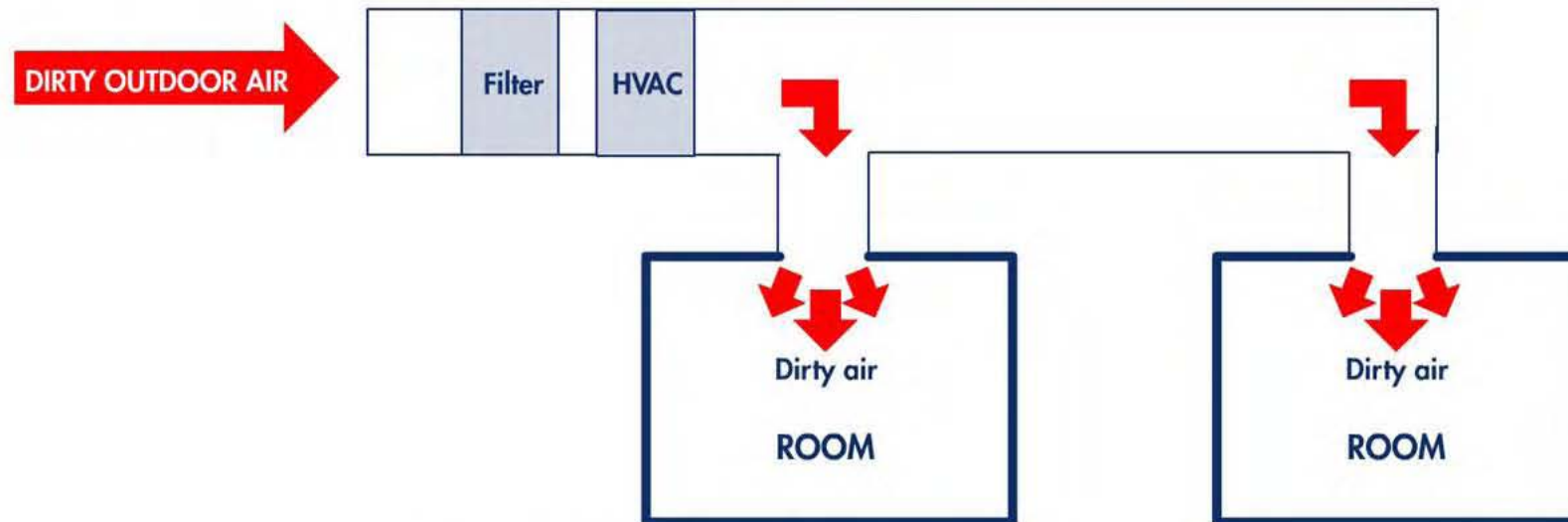
### Air contaminant sizes





## LIFA 3G filters

### Typical HCAV -technology (HVAC = heating, ventilation and air conditioning)

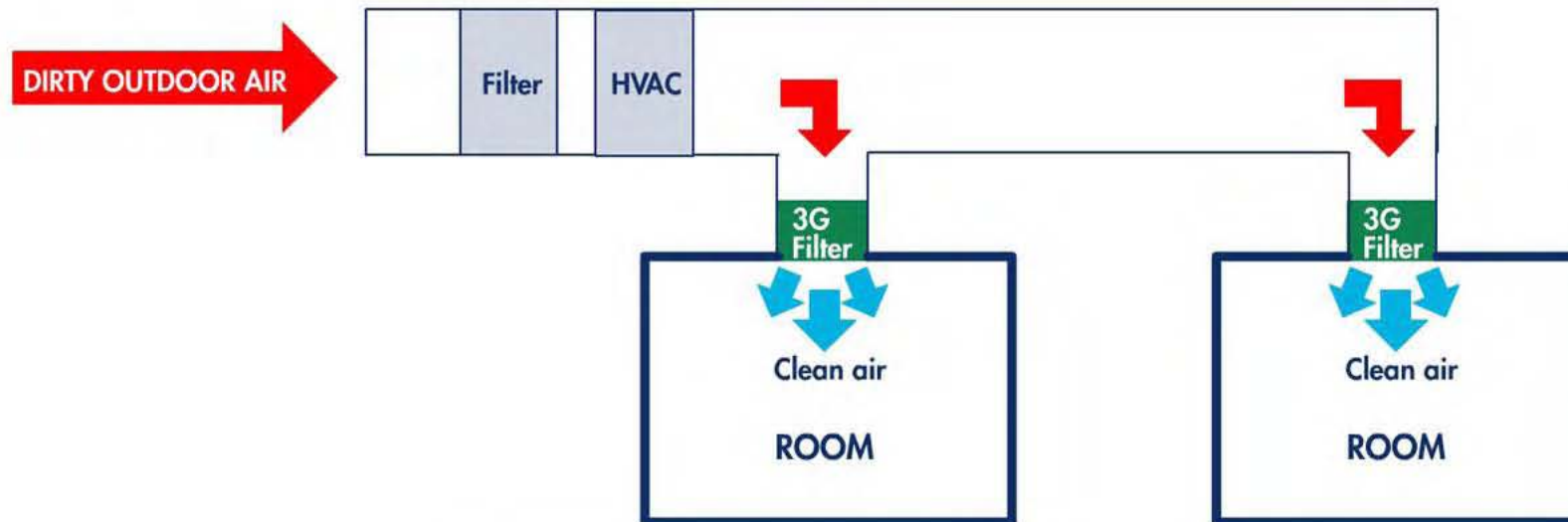


- > HVAC filter is designed to protect HVAC system
  - Very coarse, filters only large particles
- > Current methods to help clean indoor air include:
  - Filtration of air at the point of entry into HVAC system
  - Regular cleaning of air ducts and vents



## LIFA 3G filters

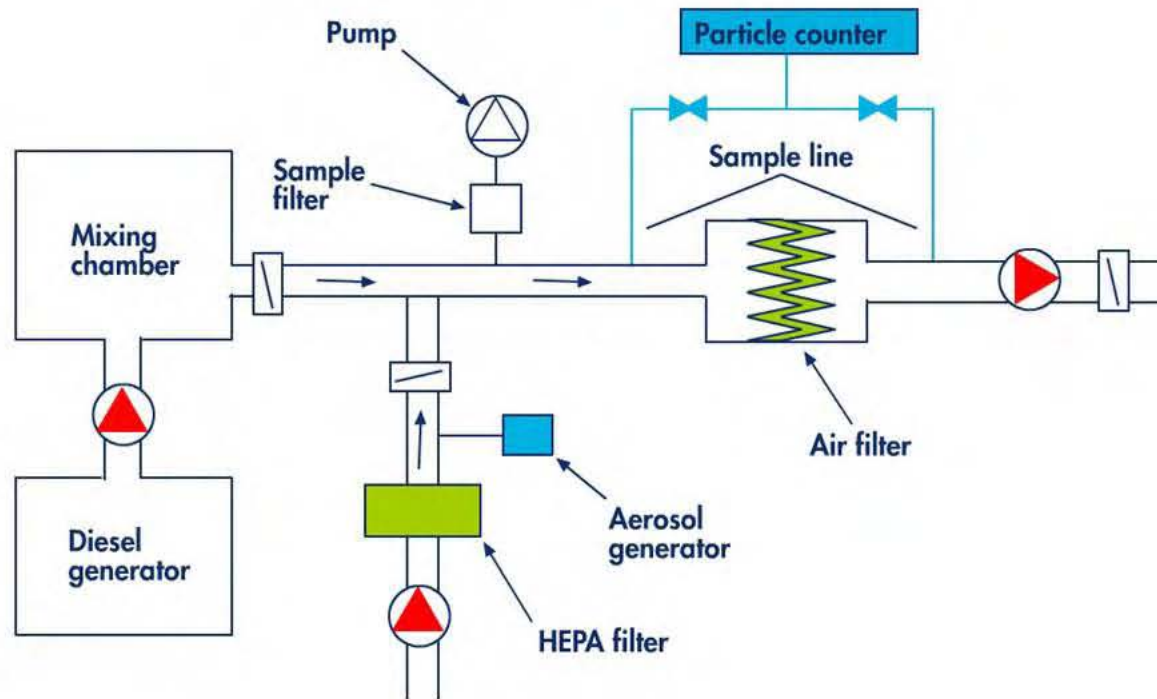
### 3G filter - placement



> Placement cleans both dirty outdoor air and pollutants/molds in the air ducts



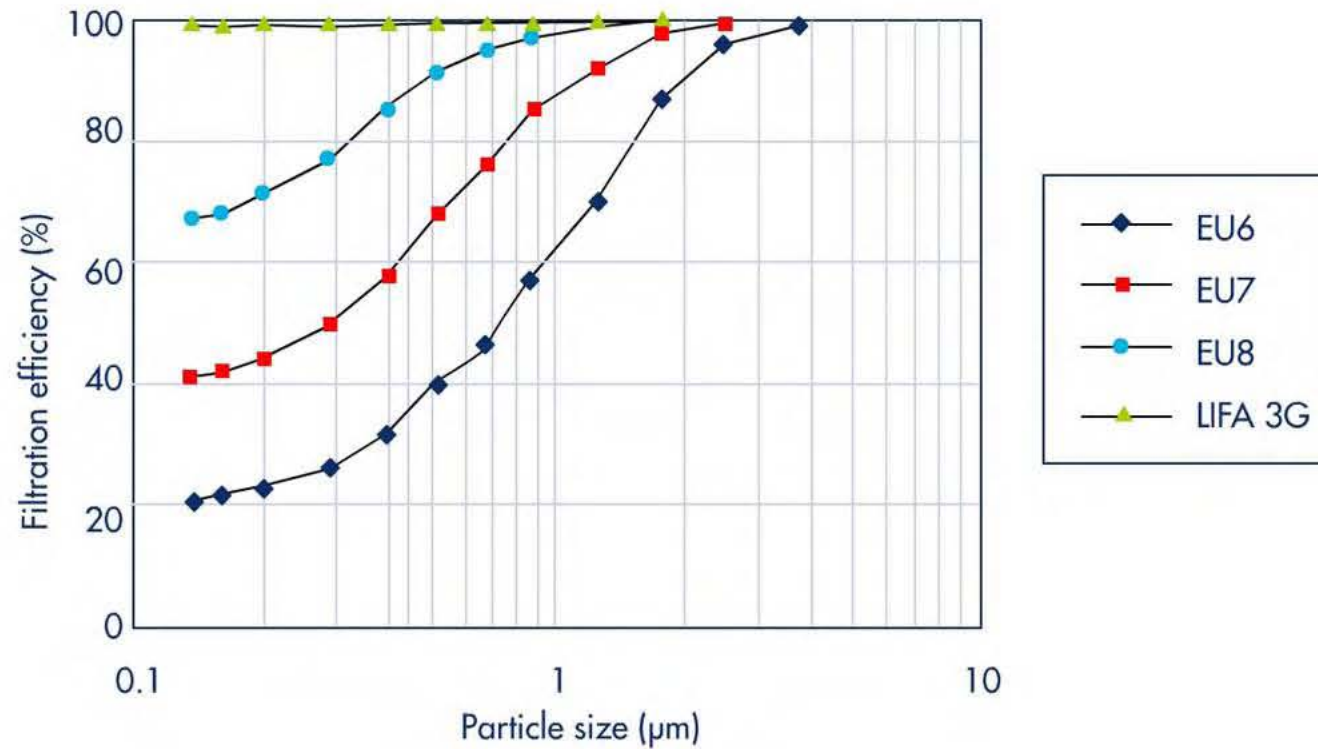
### Filter testing system





## Superior filtration efficiency

### Filtration efficiencies





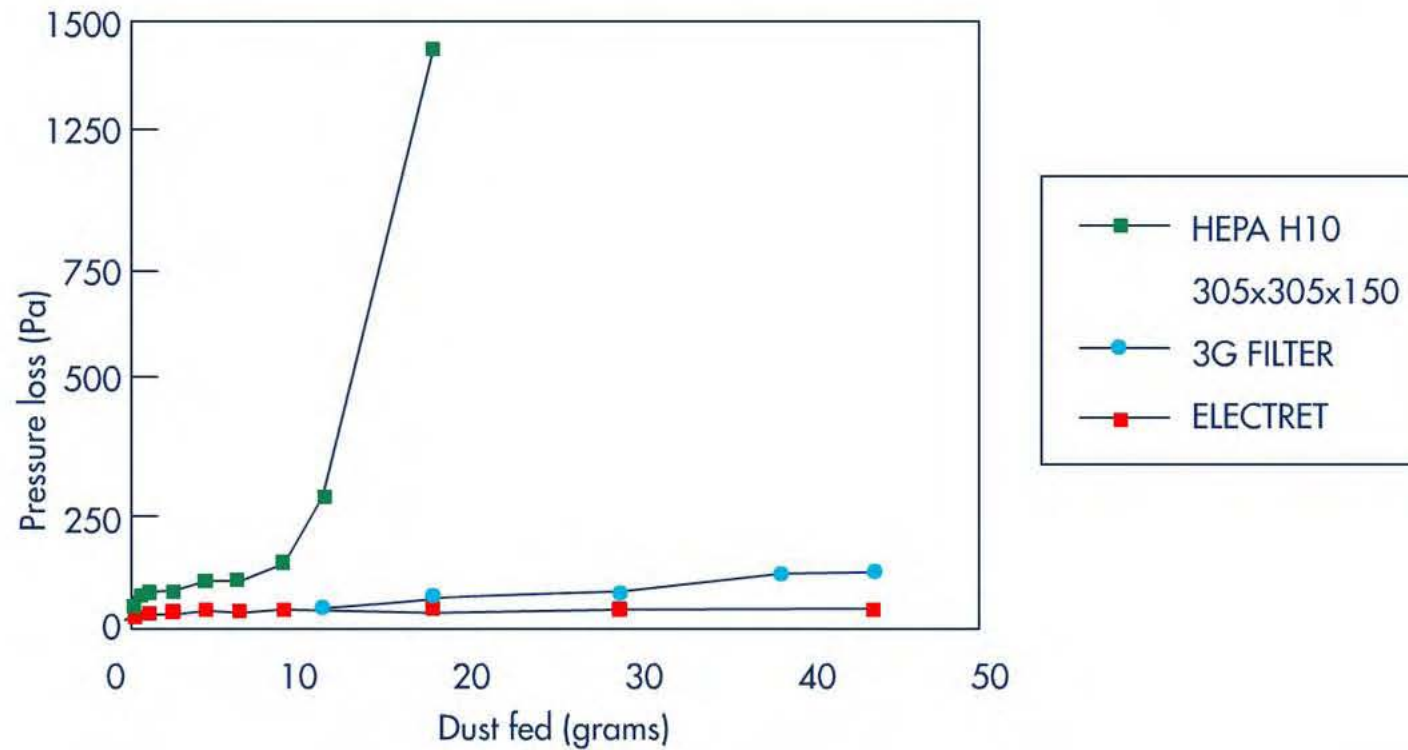
Secure solutions for IAQ

Superior filtration efficiency



www.lifa.net

## Filter loading tests with diesel exhaust fumes: pressure drop



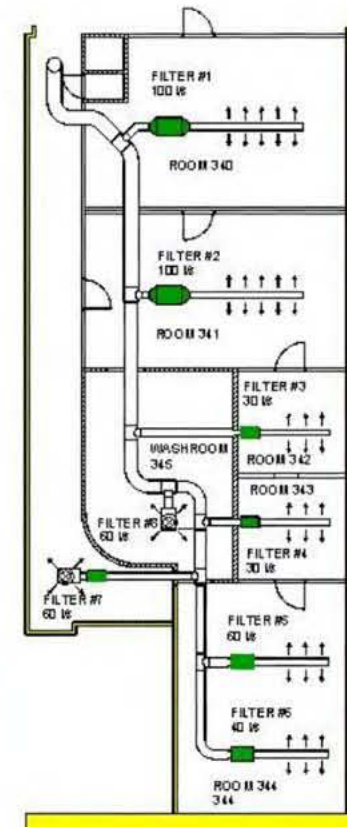


Secure solutions for IAQ

Superior filtration efficiency

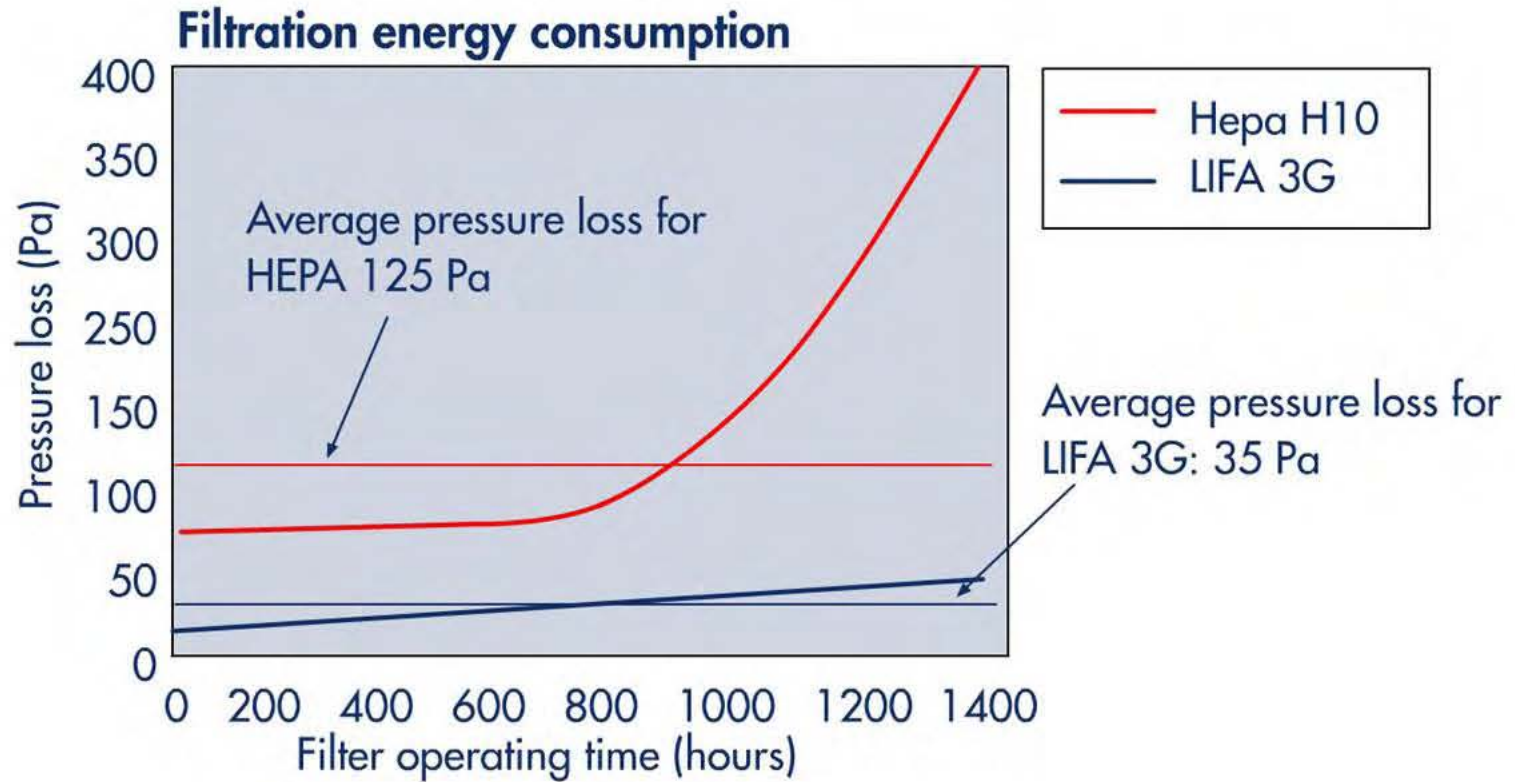
**LIFAIR**  
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## Field tests: allergy house





## Low energy consumption



The use of the centralized charger needs special instructions from the manufacturer.

Systems can be installed as an integrated part of the ventilation system and supported as necessary to the roof.

LIFA TJ 3G Filter system do not have a blower/fan.

System has to be connected to electricity in those models including a charger.

Filtration efficiency has been measured for particles ( $> 0,1\mu\text{m}$ ) and gases.

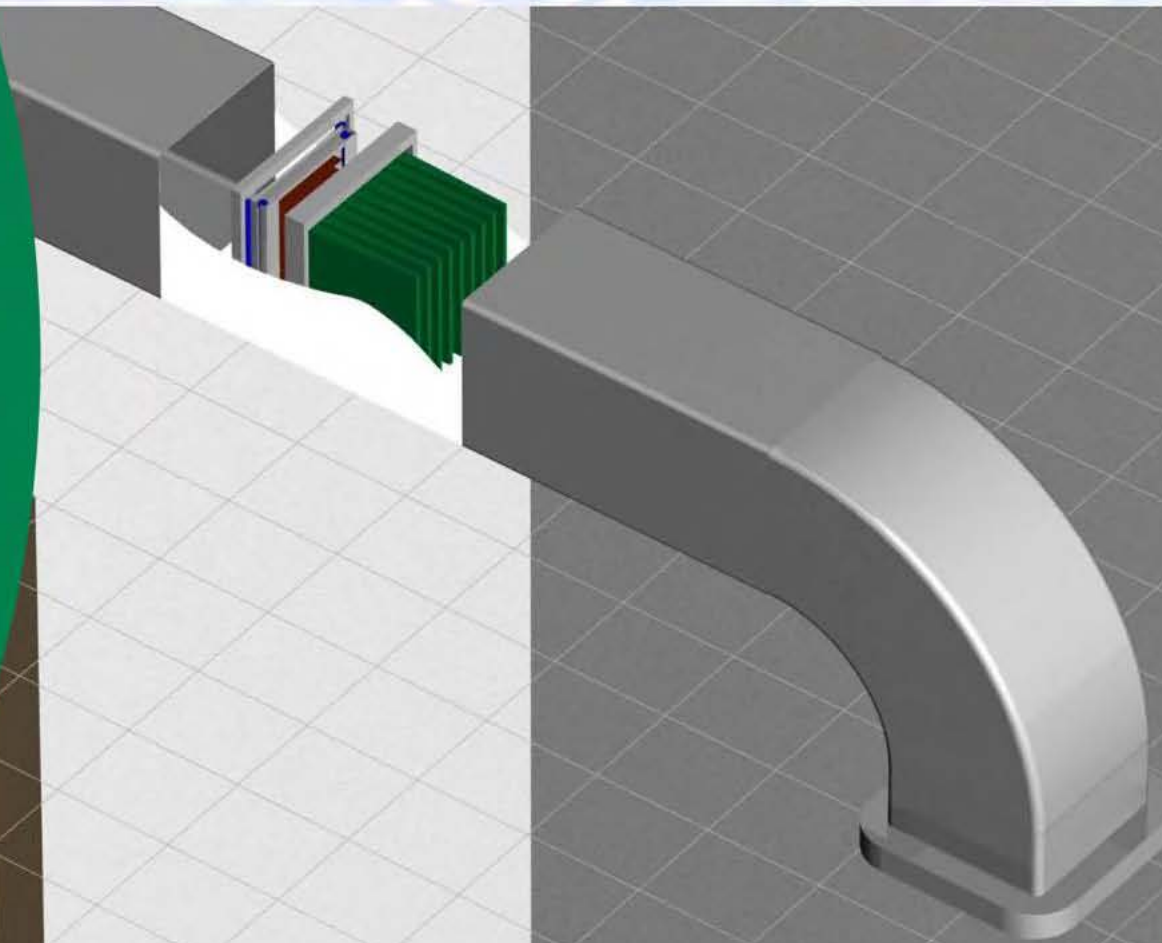
UV-light can be installed separately as an accessory to models including a charger

Systems are installed as an integrated part of the ventilation system.

When the system (LIFA TJ 3G) is used without the charger then the efficiency might reduce.



- Size (exterior):  
310 x 310 x 600 mm
- Airflow capacity:  
100 l/s, 360 m<sup>3</sup>/h, 212 CFM
- Pressure drop:  
30-60 Pa
- Efficiency (Particles/gases):  
99,5% / 95%
- Frame:  
part of the duct



System has to be connected to electricity 12 V.

Filtration efficiency has been measured for particles ( $> 0,1\mu\text{m}$ ) and gases.

UV-light can be installed separately as an accessory.

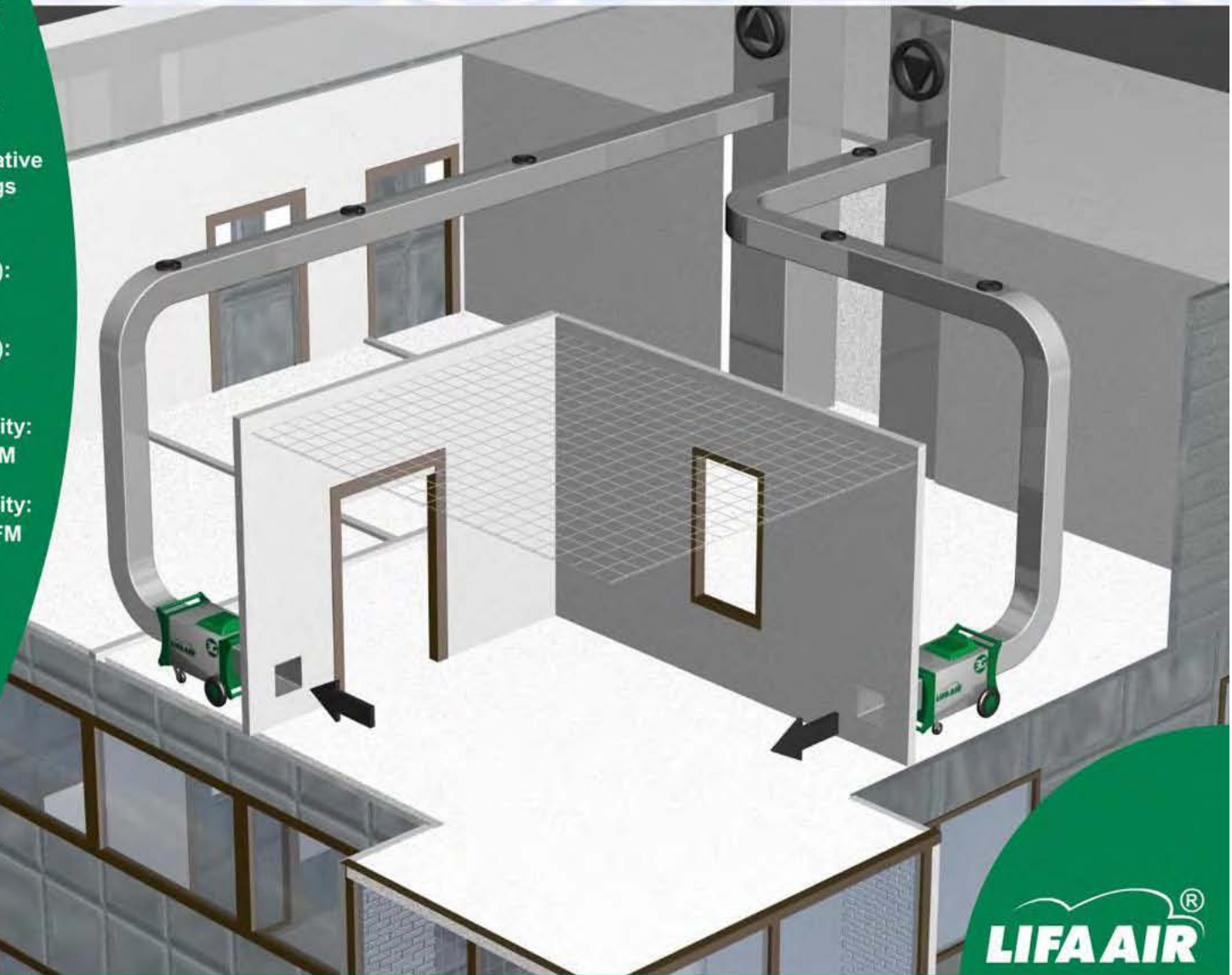
- Size (exterior):  
600 x 160 x 500 mm
- Airflow capacity:  
90 l/s (324 m<sup>3</sup>/h, 191 CFM)
- Pressure drop:  
40 Pa
- Efficiency (Particles/gases):  
99,5% / 95%
- Frame:  
covering



Negative / Positive / Neutral  
Pressurization

It can be used to prevent the spread of contaminants e.g. by isolating an enclosed area and maintaining negative pressure relative to the surroundings (airborne infection isolation).

- Lifa IAQ M 3G 300 size (exterior):  
> 400 x 600 x 850 mm
- Lifa IAQ M 3G 450 size (exterior):  
> 550 x 750 x 1050 mm
- Lifa IAQ M 3G 300 airflow capacity:  
100 l/s, 360 m<sup>3</sup>/h, 212 CFM
- Lifa IAQ M 3G 450 airflow capacity:  
300 l/s, 1080 m<sup>3</sup>/h, 636 CFM
- Efficiency (Particles/gases):  
99,99% / 95%

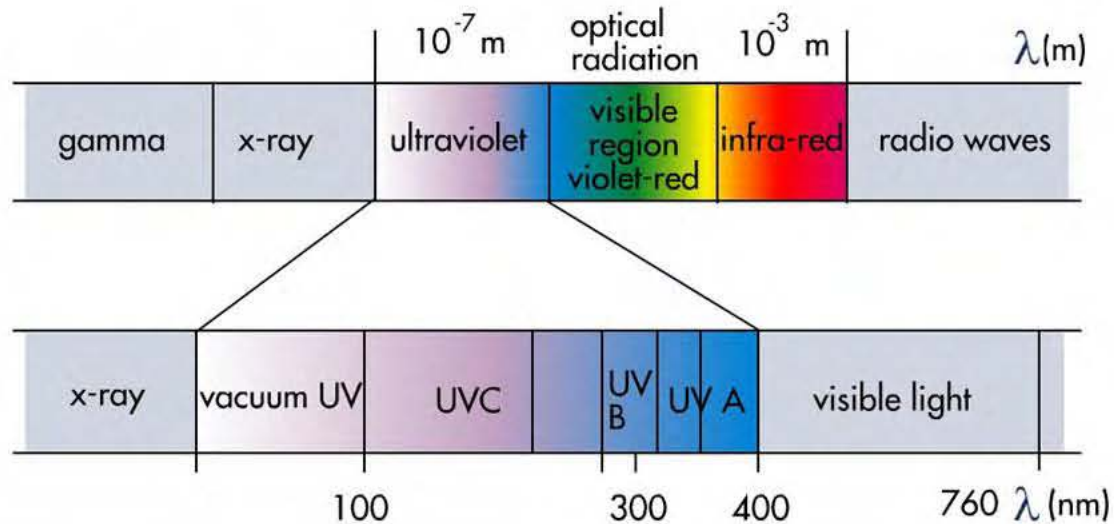




## UVC disinfecting

### UVC basic principles

- > Ultraviolet radiation (UV) is a part of electromagnetic spectrum
- > UV area is subdivided into three areas
  - UVA (long waves) 320-400 nanometers
  - UVB (middle waves) 280-320 nm
  - UVC (short waves) 100 - 280 nm

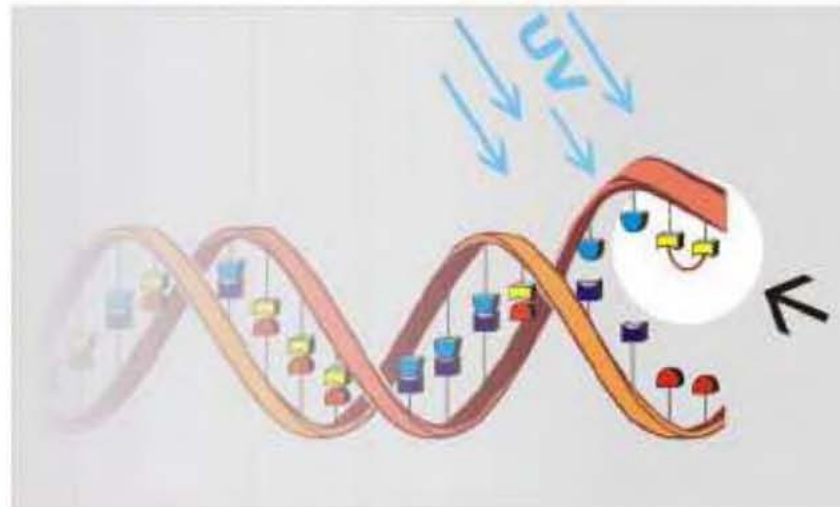




## UVC disinfecting

### UVC disinfecting

- > The most effective sterilizing range for UV is within the C bandwidth (UVC)
- > UV rays at 240 to 290 nm destroy the DNA structure of microbes and thus destructs them
  - UVC (short waves) 100 - 280 nm



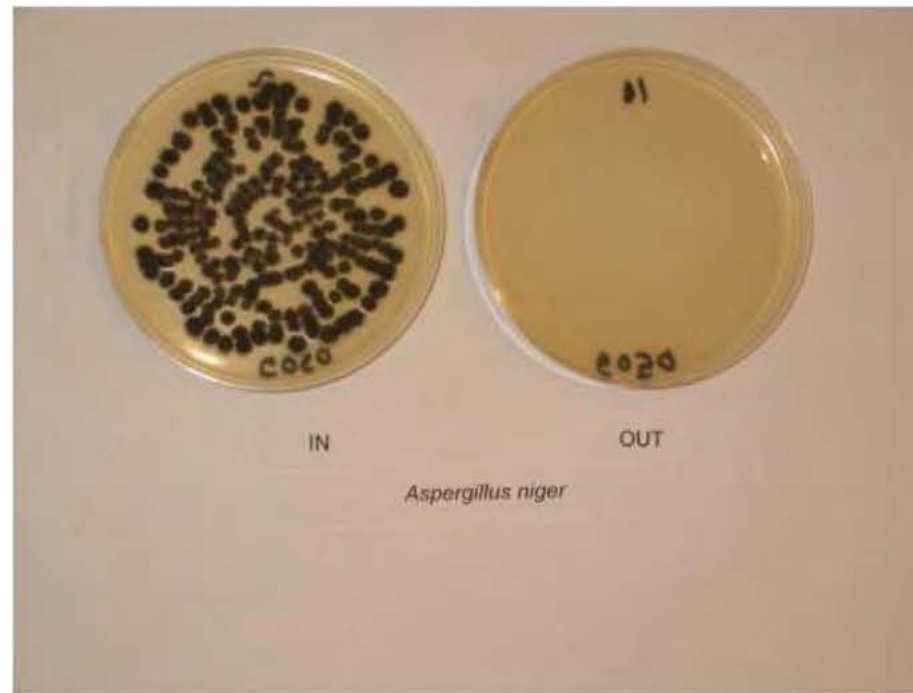


Secure solutions for IAQ

**LIFA AIR**  
www.lifa.net

## UVC disinfecting

### Examples of microbial samples



## Secure solutions for IAQ

### LIFA TJ

#### TJ-model

**3G Filter system to be installed as  
an integrated part of the ventilation system  
Buildings and vehicles**

Product name	Size /exterior mm	Parts			Technical information						
		Charger	Voltage	3G Filter mm	Air flow / Capacity			Pressure drop	Efficiency Particles/gases	Frame	Notes
LIFA TJ 3G 01	310*310*600	10 W	6-10 kV	Particle/active carbon 305*305*305	100 l/s	360 m <sup>3</sup> /h	212 CFM	30-60 Pa	99,5% / 95%	part of the duct	no blower
LIFA TJ 3G 02	560*310*800	10 W	6-10 kV	Particle/active carbon 550*305*375	165 l/s	594 m <sup>3</sup> /h	350 CFM	25-40 Pa	99,5% / 95%	part of the duct	no blower
LIFA TJ 3G A	600*160*500	10 W	6-10 kV / 12 V	Particle/active carbon 585*150*235	90 l/s	324 m <sup>3</sup> /h	191 CFM	40 Pa	99,5% / 95%	covering	vehicle with blower

When the system (LIFA TJ 3G) is used without the charger then the efficiency might reduce

The use of the centralized charger needs special instructions from the manufacturer

Systems are installed as an integrated part of the ventilation system

Systems can be installed as an integrated part of the ventilation system and supported as necessary to the roof

LIFA TJ 3G Filter system do not have a blower/fan

System has to be connected to electricity in those models including a charger

Filtration efficiency has been measured for particles (> 0,1 µm) and gases

UV-light can be installed separately as an accessory to models including a charger

## Secure solutions for IAQ

### LIFA IAQ

#### IAQ-model

3G Filter units that can be moved  
with blower/fan

Buildings etc.

Product name	Size /exterior) mm	Parts						Technical information			
		Prefilter	UV-light	Charger	Voltage	3G Filter bag mm	Blower	3G Filter bag mm	Air flow	Efficiency Particles/gases	Frame
LIFA IAQ M 3G 300	400*600*850	EU 3	30 µW/cm	10 W	6-10 kV	particle/active carbon 305*305*250	0,155 kW 2600 l/min	particle/active carbon 305*305*93	100 l/s 360 m <sup>3</sup> /h 212 CFM (measured)	99,99% / 95%	cart
LIFA IAQ M 3G 450	550*750*1050	EU 3	50 µW/cm	10 W	6-10 kV	particle/active carbon 450*450*293	0,225 kW 2700 l/min	particle/active carbon 450*450*293	300 l/s 1080 m <sup>3</sup> /h 636 CFM (measured)	99,99% / 95%	cart
LIFA IAQ K 3G 450	550*550*1500	EU 3	50 µW/cm	10 W	6-10 kV	particle/active carbon 450*450*400		particle/active carbon 450*450*400	600 l/s 2160 m <sup>3</sup> /h 1271 CFM (approximate)	99,99% / 95%	sealed box
LIFA IAQ K 3G HF	670*670*2000	EU 3	70 µW/cm	20 W	6-10 kV	particle/active carbon 610*610*550		particle/active carbon 610*610*550	1000 l/s 3600 m <sup>3</sup> /h 2119 CFM (approximate)	99,99% / 95%	floor box
(theoretical)											

Filtration solutions are equipped either with fixed stump (model k) or wheels (model m)

System can be installed as an integrated part of the ventilation system or as a separate unit to filtrate and circulate indoor air

System (model k) can work simultaneously as an as an integrated part of the ventilation system and as a unit to filtrate and circulate indoor air

When system is installed as a part of the ventilation system, there is no prefilterer

System has an own blower in each unit

System has to be connected to electricity

Filtration efficiency has been measured for particles (> 0,1 µm) and gases

UV-light can be installed as an accessory

Systems are EMC protected

When the system is equipped with UV-lights then the letters UV will be added to the end of product name