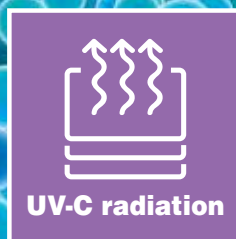
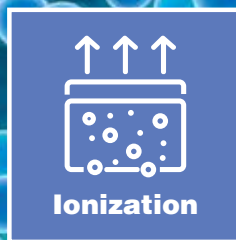


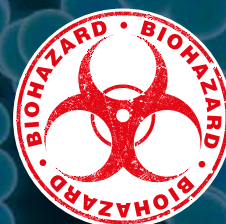
# Viroxid<sup>®</sup> HABITAT 3

AIR 160  
AIR PURIFIER

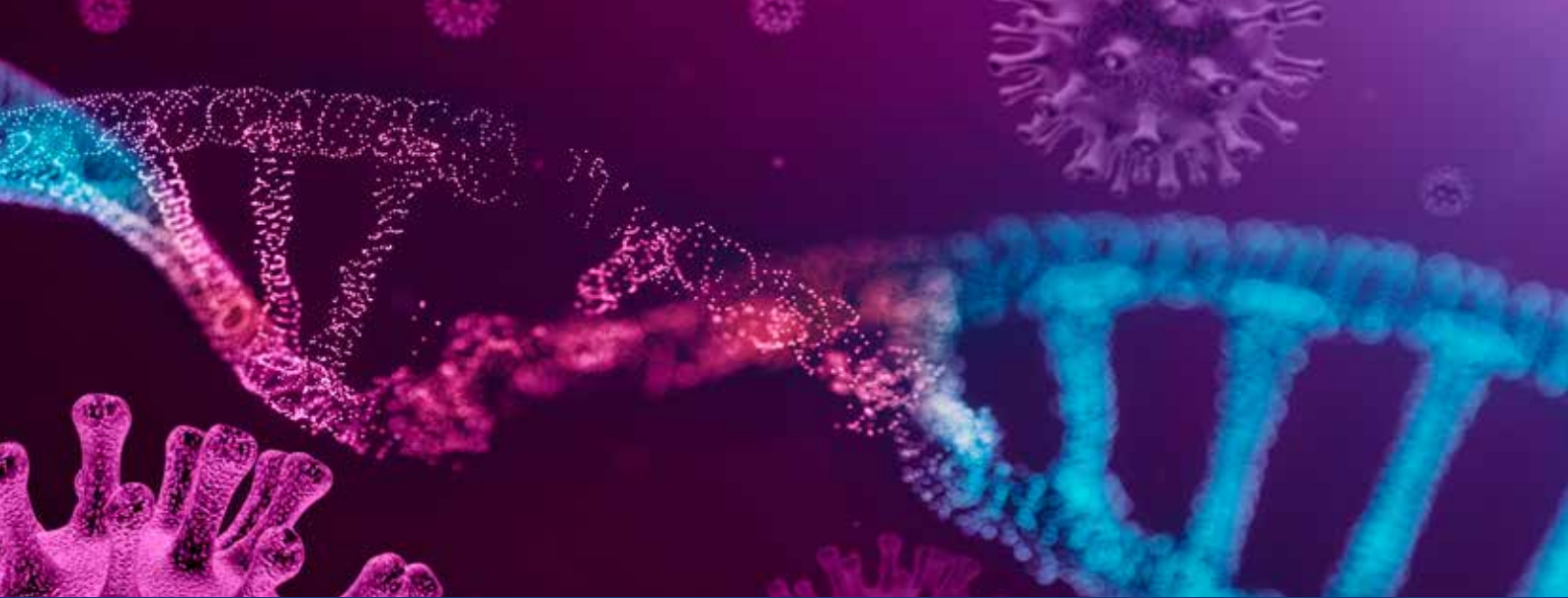
Get rid of viruses, bacteria and molds  
Disinfect the air you breathe



**Disinfect**



**INFECTION  
CONTROL**



## IN THE FRONT LINE IN THE FIGHT AGAINST THE CORONA VIRUS

### VIROXID® HABITAT 3 - AIR 160 AND CORONA VIRUS IN CHINA

The Dutch company Alcochem Hygiene, manufacturer of the air purifier Viroxid® Habitat 3 - Air 160, has managed to put in security some of the largest structures in China for disinfection of air in areas where Covid19 is a potential threat.

After the outbreak of the Corona Virus epidemic, the Chinese health authorities have conducted several testing of the disinfection technologies to check their ability to control this lethal virus.

The UV-C disinfection system - which is the heart of the Air 160 device - was found to be very effective against this lethal microorganism.

This technology has been given the green light to fight the Corona Viruses in areas where the outbreak of a Corona epidemic could have harmful effects.

The Air 160 was chosen as one of the preferred disinfection systems of the authorities and operators. This is due to the fact that the Air 160 offers a pretreatment, which removes larger particles from the air, making it easier for UV-C light to target smaller ones like viruses.

Operators appreciate the ease of installation, operation and maintenance.



### ULTRAVIOLET GERMICIDAL IRRADIATION (UVGI)

Ultraviolet Germicidal Irradiation (UVGI) is a mean of established disinfection and can be applied to prevent spread of some infectious diseases.

Lamps discharging low pressure mercury are commonly used in UVGI applications and emit short wave ultraviolet radiation C, mainly at 254 nm.

UV-C radiation kills or inactivates bacteria, viruses, fungi and others harmful microorganisms, although resistant to other methods of disinfection, damaging their deoxyribonucleic acid (DNA).

UVGI effect on selected 95% killing rate	Time (min)	Dose (mJ/cm²)
<i>Salmonella enterica</i>	45.2	0.804
<i>S. typhimurium</i> (type 14)	37.3	0.684
<i>S. paratyphi</i>	33.9	0.618
<i>S. agona</i>	27.9	0.518
<i>S. agona</i> (type 1)	18.0	0.330
<i>Campylobacter jejuni</i>	11.8	0.218
<i>Campylobacter jejuni</i> (type 1)	10.0	0.190
<i>Campylobacter jejuni</i> (type 2)	10.7	0.203
<i>Campylobacter jejuni</i> (type 3)	12.8	0.243
<i>Shigella flexneri</i>	11.4	0.222
<i>Shigella flexneri</i> (type 1)	10.0	0.190
<i>Shigella flexneri</i> (type 2)	10.0	0.190
<i>Shigella flexneri</i> (type 3)	10.0	0.190
<i>Shigella flexneri</i> (type 4)	10.0	0.190
<i>Shigella flexneri</i> (type 5)	10.0	0.190
<i>Shigella flexneri</i> (type 6)	10.0	0.190
<i>Shigella flexneri</i> (type 7)	10.0	0.190
<i>Shigella flexneri</i> (type 8)	10.0	0.190
<i>Shigella flexneri</i> (type 9)	10.0	0.190
<i>Shigella flexneri</i> (type 10)	10.0	0.190
<i>Shigella flexneri</i> (type 11)	10.0	0.190
<i>Shigella flexneri</i> (type 12)	10.0	0.190
<i>Shigella flexneri</i> (type 13)	10.0	0.190
<i>Shigella flexneri</i> (type 14)	10.0	0.190
<i>Shigella flexneri</i> (type 15)	10.0	0.190
<i>Shigella flexneri</i> (type 16)	10.0	0.190
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<i>Shigella flexneri</i> (type 98)	10.0	0.190
<i>Shigella flexneri</i> (type 99)	10.0	0.190
<i>Shigella flexneri</i> (type 100)	10.0	0.190

### REALISTIC REDUCTION BY UV-C IRRADIATION

Air flow	Virus	Bacteria	Fungi and molds
Single	99%	90%	< 25%
12 hours air pass	99,9%	99%	50-75%
24 hours air pass	> 99,9%	> 99%	90%

Note: differences in disinfectant performance can occur according to the different microorganisms.



Guangzhou Zhongke Testing Technology Service Co., Ltd.  
4 Marzo, 2020

# TEST RESULTS OF THE CHINESE AUTHORITIES

## ULTRAVIOLET RADIATION ILLUMINANCE:

The radiation of the ultraviolet lamp for the prototype "AIR 160 disinfection and sterilization purifier", 1m below the vertical center illumination value is  $113 \mu\text{W}/\text{cm}^2$ , corresponding to the nominal power in GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors". The requirement of ultraviolet radiation illumination is not less than 93%.

## ULTRAVIOLET LIGHT LEAKAGE

Radiation exposure of the prototype "AIR 160 disinfection and sterilization purifier" at a diagonal distance of 30 cm left, middle, and right. The degree value is  $1 \mu\text{W}/\text{cm}^2$ , which conforms to GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors"  $\mu\text{W}/\text{cm}^2$  requirements.

## OZONE LEAKAGE

The prototype "AIR 160 disinfection and sterilization purifier" was started for disinfection under the "maximum wind speed" and "ultraviolet" for 60 minutes, The average ozone concentration in the indoor air environment is  $0.005 \text{ mg}/\text{m}^3$ , and the amount of ozone leakage conforms to GB/T 18202-2000 "Odor in indoor air Oxygen Hygiene Standard".

## DISINFECTION EFFICACY TEST 1

The air simulation field test shows that the prototype "AIR 160 disinfection and sterilization purifier" starts to consume at "highest wind speed" and "ultraviolet" The toxic effect was 120 minutes, and the killing rate of Staphylococcus aureus was 3 times. The test results were all  $\geq 99.90 \%$ . Technical Specifications (2002).

## DISINFECTION EFFICACY TEST 2

Field test of air shows that the prototype "AIR 160 disinfection and sterilization purifier" is started at "highest wind speed" and "ultraviolet" for disinfection. In 120 minutes, the extinction rate of natural bacteria in the air of an unoccupied room with a volume of about  $30 \text{ m}^3$  was 3 times. The results were  $\geq 90.00 \%$ . Disinfection is qualified and meets the requirements of the Disinfection Technical Specification (2002).



# Viroxid® HABITAT 3



## FOR A BETTER AIR QUALITY

**The Viroxid® Habitat 3 is based on existing air disinfection methods that are already being used to purify the air hospital operating theatres.**

*Three successful methods have now combined into a single device that is suitable for smaller areas up to 100 m<sup>3</sup>. These three methods are: air ionization, filtration and UV-C light disinfection.*

*Purifying the air you breathe is no longer a superfluous luxury. An increasing number of micro-organisms and chemical pollutants are commonly found in the air we breathe in indoor environments, including viruses, bacteria and moulds, and these make our air less healthy to breathe. But also smoke and pollen can be successfully diminished.*

*The Viroxid® Habitat 3 is a compact, stand-alone system, immediately ready-for use with simple installation and maintenance.*

**Easy to service, stylish and effective; it's the perfect air purifying system for so many applications.**



**PURIFY  
YOUR AIR WITH  
99,99%  
DISINFECTION**

# Viroxid<sup>®</sup>

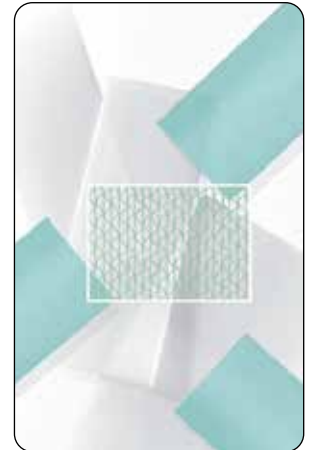
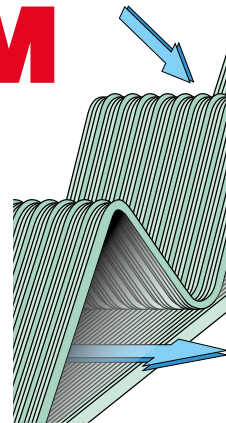
## HABITAT 3

### CLEAN YOUR AIR IN 3 STEPS...

#### 1 - FILTRATION

- A quiet, high-performance Ventilator draws the air through a hospital-grade 3M High Air Flow Electrostatic (HAFE) Filter into the Disinfection Chamber.
- 3M HAFE filters use an electrostatic charge, to operate with twice the efficiency of standard washable foam filters. Consequently they attract, capture, and retain more pollutants and particles than traditional filter media.
- The 3M HAFE filter keeps the Disinfection Chamber of the Viroxid<sup>®</sup> Habitat 3 cleaner, so optimised air disinfection is guaranteed. Plus, the filter's open channel structure offers minimal airflow resistance ensuring maximum particle removal and maximum airflow.
- The 3M HAFE filter includes an antimicrobial agent that prevents mould growth further increasing performance.
- Airborne dust capture also helps maintain productivity of in-room heating and air conditioning units.

**3M**

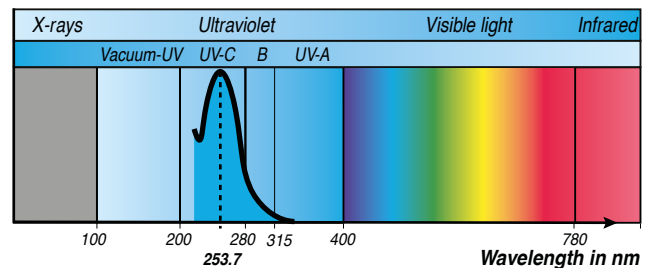


#### 2 - UV-C RADIATION

- The air is then treated with UV-C radiation via the special Philips UV-C lamp, generating ultraviolet radiation with a wavelength of 253.7 nm. The UV-C light destroys the DNA (cellular structure) of viruses, bacteria, moulds, fungi and other micro-organisms and prevents their reproduction. This ensures 99,99% disinfected air in a healthy and efficient way.
- The unique aluminium interior of the Disinfection Chamber provides additional reflection of the UV-C radiation, thereby increasing the efficiency of the UV-C radiation up to 50%. This completely exposes micro-organisms to the eliminating UV-C radiation from all sides.

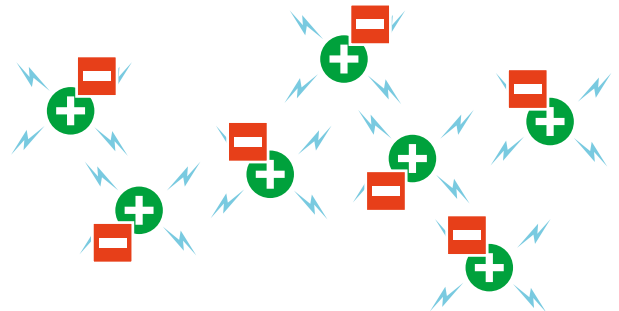
**PHILIPS**

The spectrum of light



#### 3 - IONIZATION

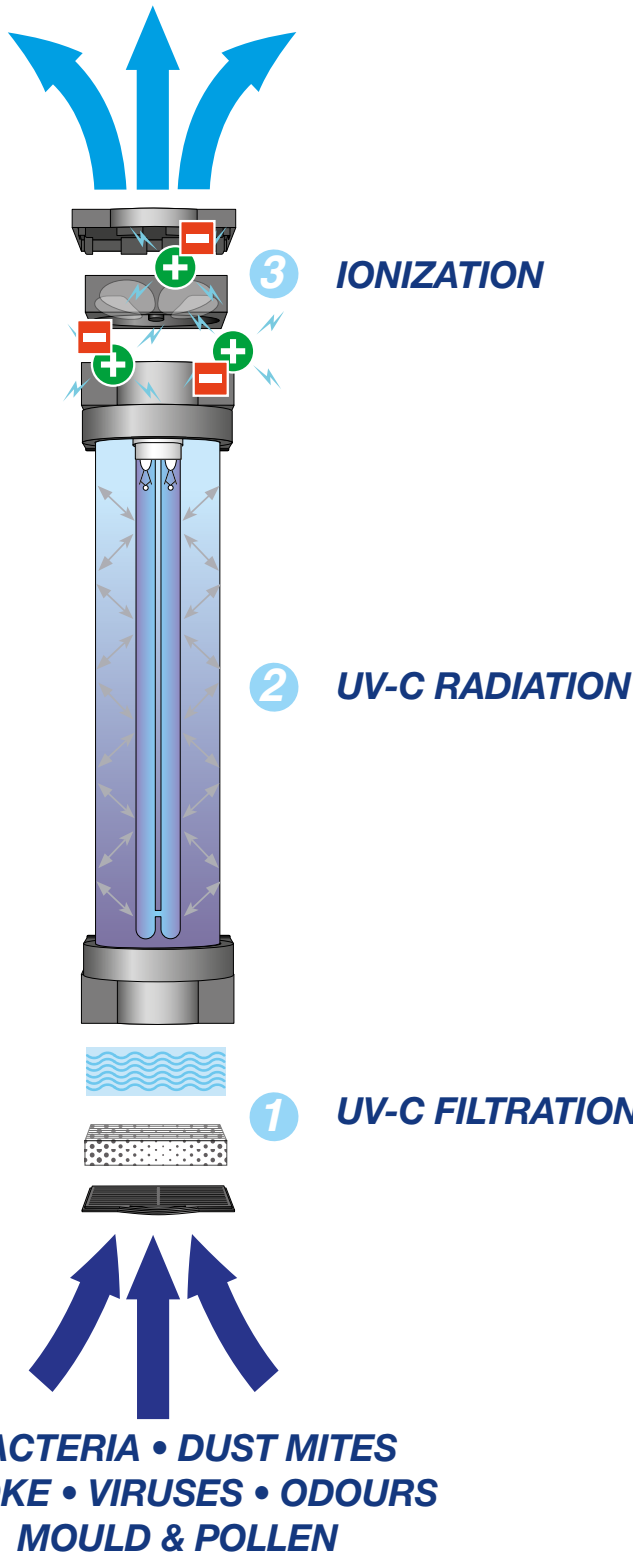
- After the UV-C treatment, the ionizer launches 8.5 million negative ions per cm<sup>3</sup> into the treated air.
- Poor air contains many positive ions. Micro-organisms easily spread through the air using these positive ions, as do dust, pollen and other pollutants. Fresh air typically contains up to 4,000 negative ions per cm<sup>3</sup>, but this figure is much lower in enclosed rooms, often between well below 50 ions per cm<sup>3</sup>.
- The negative ions introduced by the Viroxid<sup>®</sup> Habitat 3's Ioniser form compounds with the positive ions present. The compounds thus formed are too heavy to float in the air; so they sink down and are captured by the 3M HAFE filter.
- The large number of negative ions produced improves the resistance of the human body, and may even promote healing processes.



# Viroxid<sup>®</sup>

## HABITAT 3

**FILTERED, IONIZED  
& DISINFECTED AIR**



### ADVANTAGES OF THE VIROXID<sup>®</sup> HABITAT 3

- Disinfects and purifies the air up from 99% to 99.99%
- Eliminates micro-organisms that are present in the air
- Improves the quality of the air and promotes a comfortable feeling
- Purifies the air in enclosed areas
- Has a positive effect on your health
- Strengthens the resistance of the body against diseases
- Inhalation allergies are reduced or disappear
- Anxiety and depression can be reduced, or disappear
- Diseases can be prevented

### EFFECTIVE AGAINST

- Viruses - including influenza
- Whooping cough & more
- Bacteria
- Moulds
- Fungi
- Mites
- Dust and particulates
- Pollen
- Cigarette smoke
- Harmful gases
- Odours

# Viroxid<sup>®</sup>

## HABITAT 3

### CLEAN AIR

Clean air in our living environment is better for our health.

Pure air not only increases the resistance of the body against diseases, but also reduces respiratory problems, and can prevent such problems completely.

The Viroxid<sup>®</sup> Habitat 3 was developed with this in mind and offers following:

- Suitable for areas up to 100 m<sup>3</sup> - circulating up to 50 m<sup>3</sup> air per hour.
- Draws air into the underside using a ventilator creating good air circulation.
- Uses a Hospital Grade 3M High Air Flow Electrostatic (HAFE) Filter with Antimicrobial Coating to remove airborne particles and pollutants.
- Uses a Philips UV-C lamp to disinfect the air with Ultraviolet Radiation destroying viruses, bacteria, moulds and other micro-organisms.
- Uses a high-performance ionizer to purify and refresh the air.
- Employs integrated time monitoring to keep accurate track of operating hours.
- Features reduced noise levels and compact unit size.



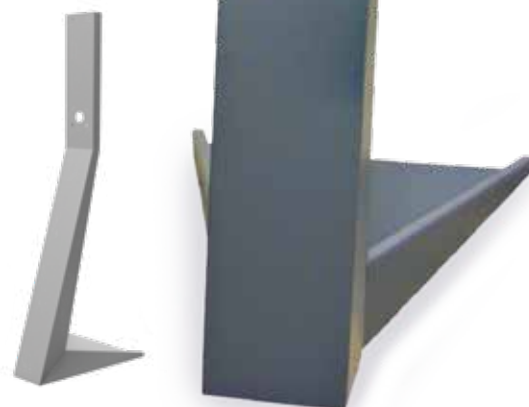
### TECHNICAL SPECIFICATIONS VIROXID<sup>®</sup> HABITAT 3

- Total power consumption: ..... 65 Watt
- Philips PL-L 60W/4P HO lamp:..... 60 Watt
- UV-C Dose: ..... 4.23 mJ/cm<sup>2</sup> (air flow 50 m<sup>3</sup>/hr)
- UV-C (W) output: ..... 19.0 Watt
- UV-C (%) after 8,000 hours: ..... 85 %
- Filter: ..... 3MTM High Air Flow (Electrostatic HAFE) Air Filter
- Ventilator: ..... 12 Volt (low noise)
- Max. area capacity: ..... 100 m<sup>3</sup>
- Air flow ..... low speed 25 m<sup>3</sup>/h  
high speed 50 m<sup>3</sup>/h
- Noisiness ..... 15 dB (low speed)  
19 dB (high speed)
- Dimensions of the device: ..... 60 x 17 x 15 cm

Packaging: 680102 - Viroxid Habitat 3 (floor stand not included)

### FLOOR STAND

Packaging:  
680106 - Floor stand optional



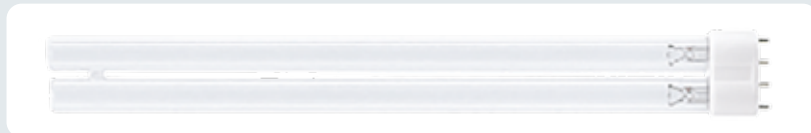
# Viroxid®

## HABITAT 3

### UV-C LAMP & HAF FILTER

#### PL-L UV-C LAMP

UV light has the ability to destroy micro-organisms without creating any unwanted by-products. It has no effect on the smell, PH, temperature, purity or humidity of the air. UV light is therefore more and more chosen by professionals to safely disinfect air or water.



Name lamp: .....	60 Watt PL-L UV-C	Lifetime: .....	9.000 hrs
Brand: .....	Philips Europe		12 months 24/7
Applicable for: .....	Disinfection of air		18 months 24/5
Product dimensions: .....	42 x 1,8 x 3,8 cm		30 months 8/5
UV-C output emission: .....	Peak at 253,7 nm		
Article number: .....	2.25.1050	UV-C value at begin of lamp life: .....	19 Watt
Voltage: .....	84 Volt	UV-C output drop end of lamp life: ....	15%
Lamp connector: .....	2G11	Packaging:	
Power: .....	60 Watt	680104 - UV-C Lamp Viroxid Habitat 3	
Lamp current: .....	0,80 A		

#### DANGER

Risk Group 3 Ultra Violet product. These lamps emit high-power UV radiation that can cause severe injury to skin and eyes. Avoid eye and skin exposure to unshielded product. Use only in an enclosed environment which shields users from the radiation.



#### 3M HAFE FILTER

##### DOUBLE THE EFFICIENCY

By using an electrostatic charge, 3M HAFE filters are able to operate with twice the efficiency of washable foam. They attract, capture, and retain more particles than traditional filter media.

##### GET MAXIMUM WATER REMOVAL PERFORMANCE

A 3M HAFE filter keeps the disinfection chamber of the Viroxid® Habitat 3 cleaner, so optimized disinfection is guaranteed. Plus, the filters open channel structure has minimal airflow resistance.

With an HAF filter, you get maximum dust removal and maximum airflow to handle more volume.

##### RESISTS MOULD GROWTH

A 3M HAFE filter includes an antimicrobial agent that prevents mould from growing on its surface.

In the warm Viroxid® Habitat 3 disinfection chamber, this can keep your filter from becoming a mould colony, which is quite possible with foam or paper filters.



Dimensioni: 120 x 120 x 20 mm

Packaging: 680105 - HAFE Filter Viroxid Habitat 3

