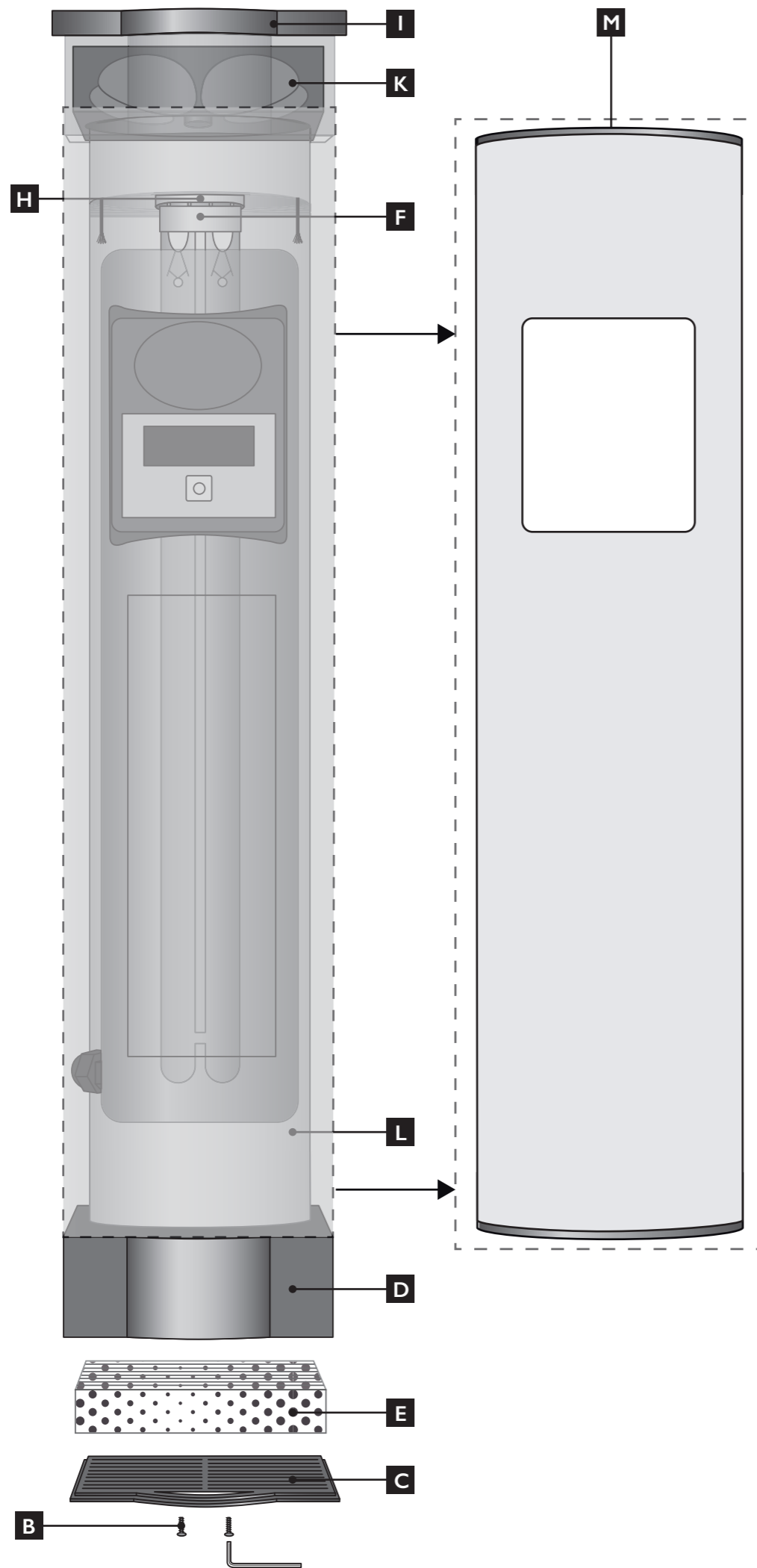**ENGLISH**

AIR160 *AIR PURIFIER*

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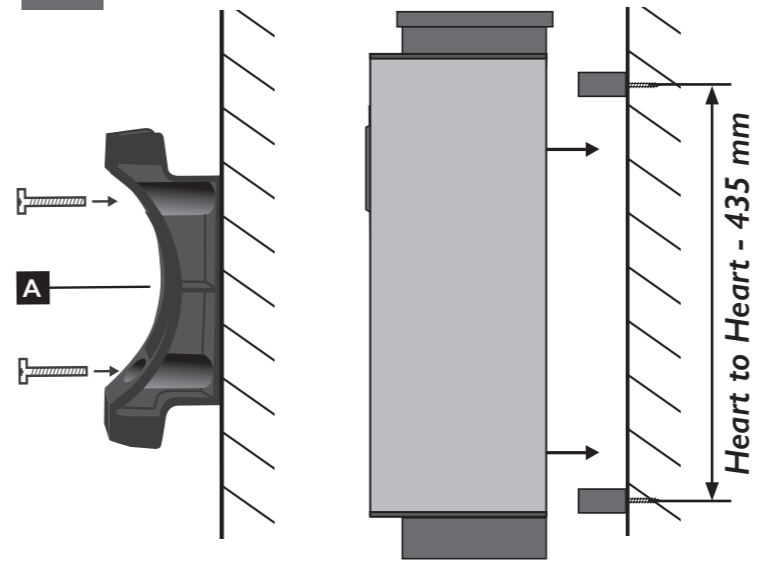info@Vectothor.com

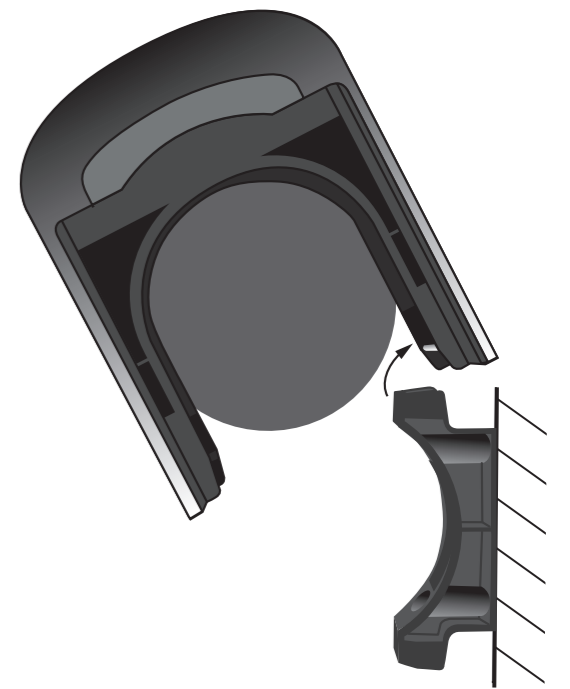version 1.3

ENSYSTEX ™

1

I
K
M
H
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E
C
B

2

A

Heart to Heart - 435 mm

3

4

5

6

G
F
D
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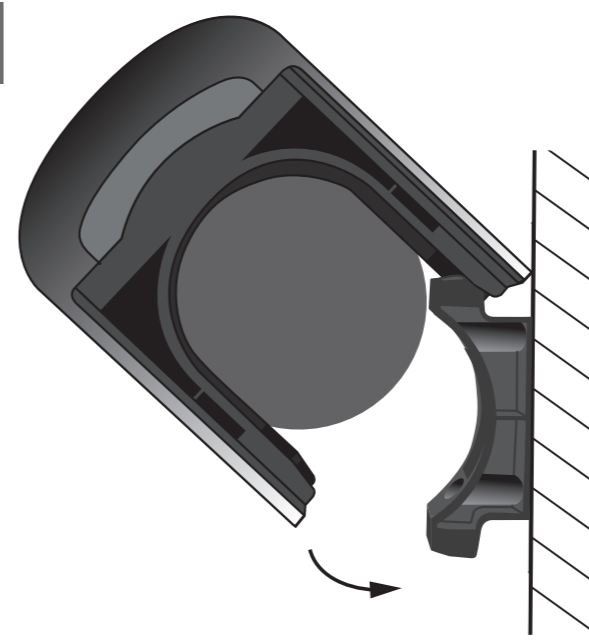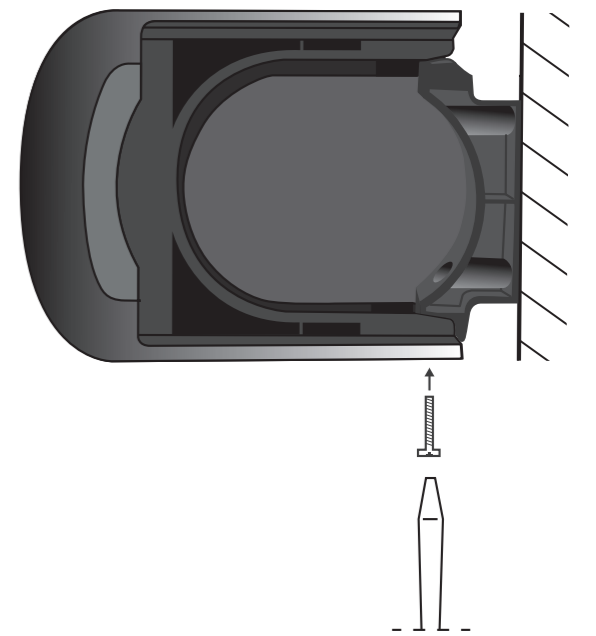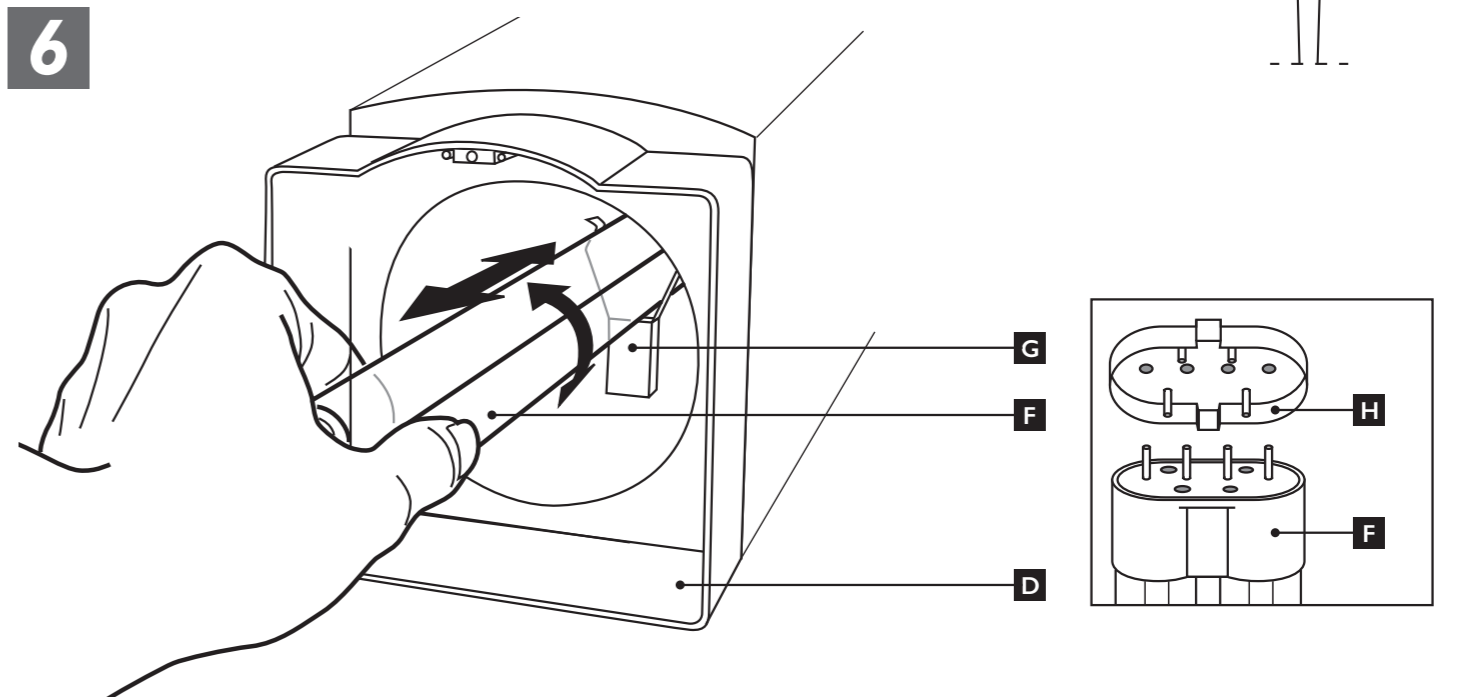# User manual AIR 160 *Please read carefully through these instructions for use before installing this device.*

Congratulations on your purchase of your AIR 160.
The AIR 160 is based on existing air disinfection methods that are already being used to purify the air in hospital operating theatres. Three successful methods have now combined into a single device that is suitable for smaller areas. These three methods are: air ionization, filtration and UV-C disinfection.

Purifying the air you breathe is no longer a superfluous luxury. An increasing number of micro-organisms can be found in the air, including viruses, bacteria and moulds, and these make our air less healthy to breath. We are increasingly made aware of how dangerous these micro-organisms could become for human beings.

As these micro-organisms cannot be seen with the naked eye and are spreading through the air, this hazard becomes even more pronounced.

Research indicates that the air quality in enclosed spaces can be very poor indeed. Office areas, children's day-care centres, classrooms, old people's homes and family doctors' or dentists' surgeries are examples of areas where many people come together, and where the risk of infection through the air is correspondingly higher.

Our houses are also much better insulated than they used to be, with the result that natural ventilation is steadily reduced. The quality of the air inside is therefore often poorer than we think. Poor air quality at home is not only responsible for diseases, but can also be the cause of headaches, respiratory irritation, insomnia and allergies.

With an AIR160 device, you can disinfect the air up to 99.99% in areas up to 300 m^3. In the case of larger areas, you can install several devices. Viruses, bacteria, moulds and other micro-organisms that are present in the air are rendered harmless by the device and are removed from the air, together with pollen, dust and odours.

You will quickly notice how the quality of the air has improved, and will feel fitter and more comfortable. Your AIR 160 is the ideal tool to keep the air around you safe and healthy.

Operation
The air is drawn into the underside of the device using a ventilator, thereby creating air circulation in the room.
The ventilator circulates 50 m^3 of air through the unit per hour.

Depending on the size of the room, the ventilator can be set to the "low" position (25 m^3 air per hour / noise level 25 decibels) or to the "high" position (50 m^3 air per hour / noise level 28 decibels). By setting a starting and a finishing time with the digital timer, you can set the positions and the timing as you wish.

For the best results, it is recommended to keep your unit running 24 hours a day. If you place the unit in your bedroom, for example, you could use the "low" position, which is at the same time the setting for a reduced noise level.

The air that is drawn into the unit first flows through the "3M High Air Flow (HAF) Filter with Antimicrobial".

This high-quality filter is also used in hospitals, among other areas. The 3M filter removes larger particles from the air. This special filter has an antimicrobial film that prevents the development of micro-organisms on the filter. The antimicrobial film also reduces clogging of the filter and increases the filter's service life.

After passing through the filter, the air is treated with UV-C radiation. The special Philips UV-C lamp in the unit generates an ultraviolet radiation with a wavelength of 253.7 nanometres. The UV-C light destroys viruses, bacteria, moulds and other primitive organisms. The radiation damages the DNA structure of micro-organisms and prevents their reproduction.

The special aluminium interior of the housing provides additional reflection of the UV-C radiation, thereby increasing the efficiency of the UV-C radiation up to 50%. The reflection ensures optimum operation by completely exposing micro-organisms to the eliminating UV-C radiation from all sides. After the UV-C treatment, the ionizer launches 8.5 million negative ions per cubic centimetre into the air. The large number of negative ions in the air improves the resistance of the body, and may even promote healing processes.

Outside air contains between 1,500 and 4,000 negative ions on average. This figure is much lower in enclosed areas, between 0 and 50 ions per cubic centimetre. Poor air contains a lot of positive ions. Micro-organisms easily spread through the air using positive ions, and this also applies to dust and pollen.

The negative ions that are introduced into the air form a compound with the positive ions. These compounds are too heavy to float in the air; they sink to the ground or are stopped by the filter.

The integrated timer keeps an accurate record of the number of operating hours of the lamp. This will tell you precisely when to replace the lamp and the filter. In areas where more dust is present, the filter must be replaced more often. The air that is blown out from the outlet at the top of the unit has been filtered, ionized and disinfected.

Clean air in your living environment is better for your health. Pure air not only increases the resistance of the body against diseases, but also reduces respiratory problems, or could prevent such problems completely. Anxiety and depression are reduced, or disappear completely. But the major effect is the prevention of diseases.

Advantages of the AIR 160:
• Disinfects and purifies the air up to 90% in a single pass (2 hours) and 99.99% after 24 hours.
• Eliminates micro-organisms that are present in the air
• Provides protection against diseases
• 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

Properties of the AIR 160:
• Suitable for areas up to 100 - 300 m^3
• Adjustable to 25 m^3 or 50 m^3 air per hour
• Reduced noise level
• Replacement of the UV-C lamp and filter once a year
• The unit indicates when the lamp and filter should be replaced
• Up to 50% more UV-C yield as a result of reflection in the aluminium housing
• Simple installation and maintenance
• Stand-alone system and immediately ready-for-use through "plug and play"
• 2-year guarantee on manufacturing faults

The AIR 160 is effective against:
• Viruses   • Bacteria   • Moulds
• House-dust mites   • Dust and particulates • Pollen
• Cigarette smoke   • Harmful gases   • Odours

The AIR 160 is recommended for the following areas:
• Schools   • Day-care centres   • Old people's homes
• Nursing homes   • Hotels   • Offices
• Copying areas   • Doctor's surgeries   • Dental surgeries
• Veterinaries   • Animal shelters   • Kennels
• Lounges   • Bedrooms   • Hobby rooms
• Computer rooms   • Studies   • Play rooms
• Holiday homes   • Caravans   • Boats
• Fitness areas   • Smoking areas   • Restaurants
• Hairdressers   • Beauty parlours   • Public toilets
• Pubs   • Meeting rooms   • Dressing rooms

Safety
This device produces harmful radiation. Direct contact could impair the eyes and skin. Only check the operation of the UV-C lamp through the air vents at the top of the unit. The openings will light up blue if the lamp is on.
• When switching on the device for the first time, you may notice a burning smell from the UV-C lamp for a short time. This odour is similar to the odour you notice when using a sun bed, and will disappear after a short time.
• Always comply with the electricity company's regulations with regard to any permanent connection to the mains. If there is any doubt regarding the connection, consult a recognized electrician or the electricity company. Always work with an earth leakage current circuit-breaker (residual current trip).
• Always remove the plug from the socket before carrying out any maintenance or repair work on the unit. Never insert the plug / pull the plug from the socket when you are standing in water or if your hands are wet.
• Never submerge this device in water.
• Never install the unit in an area subject to full sunlight.
• Keep children away from this device and from the cable.
• The cable of the device cannot be replaced. The complete unit must be replaced if there is any damage to the power cable. Never remove the plug, but always leave the electrical unit intact. An electrical unit with the plug removed will no longer be covered by the guarantee.
• Once the device has been switched off, the lamp will remain hot for approximately 10 minutes.
• Do not use the device if any of the components are damaged.
• This product can only be used according to the guidelines described in these instructions for use.

Installation of the device
Determine where the device will be installed. When selecting a location for the device, please bear in mind that the unit must be able to circulate the air in the room freely and without obstructions. Also ensure that there is a power socket near the selected location.

Install the device in a dry place. Ideally, the unit should be mounted in the vertical position, with a free space of at least 50 cm underneath for carrying out maintenance and for the replacement of the filter and/or UV lamp.

1. Remove the clips **(A)** (see Drawing 2) from the AIR160 by unscrewing the cover **(M)** (see drawing 5) and position the clips **(A)** at the selected location so that you can mark where the clips should be fitted onto the solid back wall.
2. Fix the clips at the selected location with suitable screws and/or plugs (see Drawing 2).
3. Place the AIR 160 in the fixed clips in the hinge and place the brackets into its place (see Drawing 3, 4). Finally screw the cover on the clips (see drawing 5).
4. Insert the plug into the socket and check the operation of the UV-C lamp **(H)** - only do this through the air vents at the top of the unit! Blue light can be seen through the air vents of the lid **(I)** if the lamp is on (see Drawing 1).
5. Check the operation of the ventilator **(K)** by holding your hand underneath the filter grid **(C)**. If you feel an air flow, the ventilator **(K)** is working (see Drawing 1).

Key

(hand icon)	press briefly
(hand icon)	press for 3 sec.
5 sec	wait 5 sec.
✓	selection confirmed
8000	lamp operating time
09.52	real-time clock
tESt	test
t-LO	air circulation, low position
t-HI	air circulation, high position
SEt	set clock
rSt	reset
FAIL	fail
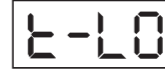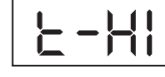
Setting the digital display

The AIR 160 can be set using the display on the front of the device. The display can be easily operated with just the one button. *Drawing 7* of these instructions for use shows how to navigate through the menu. Details on each setting can be found below.

After the start-up, the validity of the time will be tested first. When you switch the device on for the first time, the software will automatically take you to the 'clock set mode'. You can set the current time here.

You can set the hours by pressing the button briefly. The time is displayed in a 24-hour format. After the hours have been correctly set, you can jump to the minute setting by pressing the button for 3 seconds. You can now set the minutes by briefly pressing the button as many times as necessary. As soon as the time has been correctly set, wait 5 seconds. The software will automatically save the time, and the dot next to the second digit will blink every second.

'8000.': If you press the button once in the rest position, the operating hours will be displayed. The display will automatically start from the factory setting of the timer, i.e. 8,000 hours. The UV-C lamp operates at 100% radiation for up to 8,000 hours. After 8,000 operating hours, the UV-C radiation will weaken, and may be insufficient to obtain the desired results. If the device is switched off and then on again, the hour counter will start counting backwards from the value it had when it was switched off.

't-LO': If you press the button twice in the rest position, the indication 't-LO' will appear. This means: The low position of the air circulation. The ventilator is hereby set for an air circulation of 25 m³ per hour, and the device is virtually silent. The low air circulation can be set by pressing and holding the button for 3 seconds while the 't-LO' indication is visible on the display. When the hour digits start blinking, you can set the hour at which the device should switch to the low position. The hours will start counting upwards as soon as the button is pressed. You can set the desired hour by briefly pressing the button again. The minutes will start blinking 5 seconds after you have released the button, and you can then set the minutes. The settings will be saved, and the current time will be displayed after 5 seconds.

't-HI': The 't-HI' indication will appear if you press the button three times in the rest position. This means: The high position of the air circulation. The ventilator hereby is set for an air circulation of 50 m³ per hour. The high air circulation can be set by pressing and holding the button for 3 seconds when the indication 't-HI' is visible on the display. When the digits for the hours start blinking, you can set the hour at which the device should switch to the high position. The hours will start counting upwards as soon as the button is pressed. You can set the desired hour by briefly pressing the button again. The minutes will start blinking 5 seconds after you have released the button, and you can then set the minutes. The settings will be saved, and the current time will be displayed after 5 seconds.

'SEt': The 'SEt' indication will appear if you press the button four times in the rest position. This means: Set clock. The real time clock is hereby set. The clock can be set by pressing and holding the button for 3 seconds when the 'SEt' indication is visible on the display. You can set the hours when the digits for the hours start blinking. The hours will start counting upwards as soon as the button is pressed. You can set the desired hour by briefly pressing

the button again. The minutes will start blinking 5 seconds after you have released the button, and you can then set the minutes. The settings will be saved, and the current time will be displayed after 5 seconds.

'rSt': The 'rSt' indication will appear if you press the button five times in the rest position. This means: Reset. This option is used to reset the timer. After you have replaced the lamp and the filter, you can reset the timer to 8,000 hours. The timer can be reset to 8,000 hours by pressing and holding the button for 3 seconds while the 'rSt' indication is visible on the display. The settings will be saved, and the current time will be displayed after 5 seconds.

'0000.': The display will indicate 0000 when the 8,000 operating hours of the lamp have expired. The actual time will blink in the display, alternating with four blinking zeros. The filter and the UV-C lamp must now be replaced. See item 'rSt' for resetting the timer.

'FAIL': The software stops if there is a problem with the real time clock or with the ventilator connection. As soon as the device is switched on, the program will carry out a self-test to check the proper operation of the product. The units that are checked are the real time clock and the ventilator connection. Any problems with these items will be indicated on the display.

Switching off the display illumination

The display illumination can be switched off by pressing and holding down the display button for 10 seconds. This will not switch the device off, and the settings will be retained. The display illumination is switched on again by briefly pressing the display button once.

Switching off the device

It is not necessary to switch off the device during the day because it has been designed to operate 24 hours a day to avoid the formation of new micro-organisms. You can switch the device off by removing the plug from the socket.

Dismantling / Maintenance

During maintenance work, or when dismantling the device, always switch off the power supply by removing the plug from the socket. The device must be cleaned at least once a year.

If dust deposits on the filter more quickly, the filter should be replaced more than once a year. The special lamp must be replaced after 8,000 operating hours at the latest. Clean the aluminium interior with a soft cloth.
1. Unscrew the AIR 160 + cover the clips (see Drawing 4) open and remove the AIR 160 from the clips **(A)**.
2. Using a screwdriver, unscrew the 2 screws **(B)** from the filter grid **(C)** on the underside of the device.
3. Loosen the filter grid **(C)** and remove the filter **(E)** from the filter holder **(D)**.
4. Carefully pull the UV-C lamp **(F)** from the lamp fitting **(H)**, then turn it by a quarter-turn to enable you to easily remove the UV-C lamp **(F)** from the lamp clip **(G)** of the device.
5. Clean the interior of the aluminium housing **(L)** with a soft cloth.
6. Carefully insert the (new) UV-C lamp **(F)** into the lamp clip **(G)** in a vertical position, pushing the UV-C lamp **(F)** through until it almost reaches the lamp fitting **(H)**. Turn the lamp by a quarter-turn to fix it more tightly into the lamp clip **(G)**, and then carefully push the lamp into the lamp fitting **(H)** (see Drawing 6).

ATTENTION:

The lamp **(F)** will only fit into the lamp fitting **(H)** in one way (see Drawing 6).

7. Place the (new) 3M High Air Flow (HAF) filter **(E)** into the filter holder **(D)**.
8. You can now reinsert the filter grid **(C)** into the filter holder **(D)** and tighten it with the 2 screws **(B)**.
9. Insert the plug into the socket and check the operation of the UV-C lamp **(H)** - only do this through the air vents at the top of the unit! Blue light can be seen through the air vents of the lid **(I)** if the lamp is on (see Drawing 1).
10. Check the operation of the ventilator **(K)** by holding your hand underneath the filter grid **(C)**. If you feel an air flow, the ventilator **(K)** is working (see Drawing 1).

Technical specifications
• AIR 160   65 Watt
• Philips PL-L *60W/4P HO lamp*   60 Watt
• UV-C Dose   4.23 mJ/cm² (air flow 50 m³/hr)
• UV-C (W) output   19.0 Watt
• UV-C (%) after 8,000 hours   85 %
• Filter (HAF)   3MTM High Air Flow Air Filter
• Ventilator   12 Volt
• Max. throughput   50 m³ of air per hour
• Dimensions of the device   60 x 17 x 15 cm

Type of UV-C system
Article number: **2.25.1000** AIR 160
                            65 Watt (230V/120V; 50/60 Hz)
Replacement articles
Article number: **2.25.1050** Philips PL-L 60/4P HO (60 Watt)
Article number: **2.25.1150** 3M AIR 160 filter

Terms of guarantee

The guarantee for this product covers manufacturing faults for a period of 24 months following the date of purchase. The lamp is not included in this guarantee.

Claims under the guarantee can only be considered if the product is returned post-paid together with a guarantee registration form and a valid purchase receipt.

Repairs under the guarantee may only be carried out by the supplier. Guarantee claims that are caused by errors in the installation or in the operation of the device will not be considered.

Defects originating from poor maintenance are also excluded from the guarantee. The supplier will not be held responsible in any way whatsoever for any damage caused by the incorrect operation of the product.

The supplier will not be liable for any consequential damage caused by the breakdown of the device. Complaints regarding transport damage will only be considered if the damage was established or confirmed on delivery by the carrier or the postal authorities.

A claim can only be made against the carrier or the postal authorities if this has been done.

7

tESt
09.52
Display off
Display on
7998   t-LO   t-HI   SEt   rSt
5 sec
22.00   07.00   09.00   8000
5 sec   5 sec   5 sec   5 sec
22.30   07.30   09.52
5 sec   5 sec   5 sec