

# User manual

## Phileas® 5

Fixed and mobile for very small volumes

From 50 to 1000L

Two nozzles on cords

Ideal for isolator, incubator, RABS & BSC



Made in France

Airborne Surface  
Disinfection (ASD)  
Expert

## Multi nozzles and separable unit

Autonomous Airborne Surface Disinfection (ASD) device, with unique technique of dry fog using the piezoelectric technology. For more efficient disinfection of very small volumes: nozzles to be placed inside the space to be treated, the control box remains outside for easy and safe monitoring.





## Phileas 2 key points

Hello,

You have just acquired a **Phileas® 5** and we thank you for it. To ensure your satisfaction, we invite you to check the following points:

# 1. Check your delivery

Your package contains:

- ✔ Phileas® 5 with a protection on its two nozzles
- ✔ One 250mL tank
- ✔ One adapter and one power cable
- ✔ One document pouch containing:



1. User manual
2. Guarantee certificate
3. Safety instructions and precautions for use
4. Return goods document
5. Declaration of Conformity
6. Brochure



## Recommendations before using your Phileas® 5:

- ✔ Remove the biocide tank in order to avoid any product spill.
- ✔ Use the side handles when carrying Phileas® 5.
- ✔ Make sure to remove the nozzles protection caps before diffusion.
- ✔ Before diffusion please make sure that the tank connectors are well positioned to avoid any air intake.
- ✔ Put back the nozzle protection caps after diffusion (biocide or rinse cycle).
- ✔ Please note that the electrical connectors and the nozzles connection cables are secure: cables must be unscrewed and **not be pulled**.
- ✔ In order to obtain optimal results, it is necessary to perform a rinse cycle with water on a regular basis in order to avoid that biocide stay inside the device.
- ✔ If your device won't be used during several consecutive weeks, we highly recommend to proceed to a rinse cycle before the inactivity period (procedure outlined on page 13).

# 2. Test Phileas® 5

To check the operation of Phileas® 5, we recommend that you perform a water test (rinse cycle):

1. Remove the separable unit
2. Plug the power cable into the Phileas® 5 main module
3. Fill the tank with water
4. Plug in the power cable to an electrical outlet  
➡ **Note:** There is no ON/OFF button on Phileas® 5. If you want to switch it ON, just connect it to the power supply.
5. Follow the procedure outlined on page 13



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# Preamble



Separable unit

Main unit

**Airborne Surface Disinfection** or ASD aims at disinfecting spaces or premises, by creating a dry fog that spreads in a confined area and ensures effective contact of biocide on surfaces.

This “terminal” disinfection comes in after cleaning of sensitive surfaces and in particular enables disinfection of areas normally deemed inaccessible (too high, shielded or even normally closed).

Note that this method is carried out **outside of human presence (so without risk to the user)** and can be achieved in down time (no production time loss).

**However, ASD is not a method of disinfecting the air.**

# Guarantee

Parts of the Phileas® devices are **guaranteed 1 year**.

**ASD** uses a device/product couple. The Devea company ensures that the Phileas® process has been designed to be used with the disinfectant products O2SAFE 7.4® and PHILEASAFE®. You must **therefore only use Devea disinfectants or approved by Devea**.



**O2SAFE 7.4®:** disinfectant composed of 7.4 % hydrogen peroxide



**PHILEASAFE®:** disinfectant composed of hydrogen peroxide and peracetic acid

**Any change in disinfectant without prior agreement of the DEVEA company voids this validation and voids the unit manufacturer's warranty.**

Additionally the unit should not, under any circumstances, be disassembled without the prior agreement of the relevant maintenance service provider.





## First use

How to use your Phileas® 5 for the first time?

# First use

## Preparing the room or equipment before disinfection

### ***“We only disinfect what is clean”***

Simply clean the space or equipment to be disinfected and tidy as usual. You can leave your equipments, and tools in the area treated. They will remain functional and dry, ASD with Devea solutions does not lead to corrosion (see *Safety Instructions and Precautions for use* in the document pouch).  
There is no need to seal openings.

## Is Phileas® 5 fragile?



Phileas® 5 is a robust and accurate machine that has just two **points of vigilance**:

- **its two piezoelectric nozzles.** They generate the formation of fine, dry fog ensuring perfect disinfection every time.
- **its electrical connectors.** Indeed, we designed it to be secured connectors, hence please mind to unscrew the cables rather than tearing them off, it would damage them.

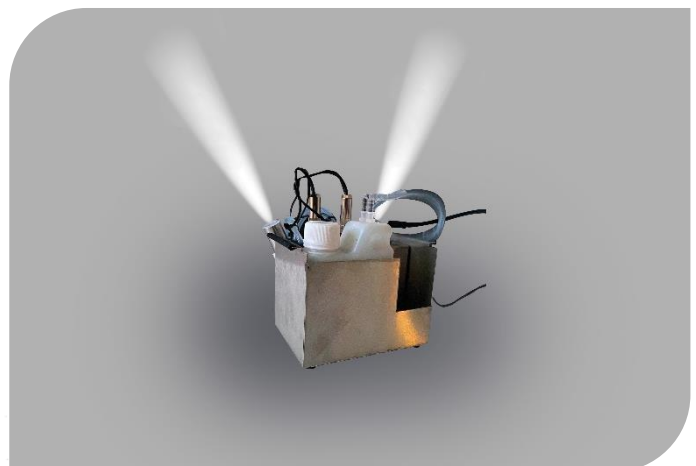
Therefore, nozzles must be protected by their caps when not in use and during the transport. **Nozzle caps must be removed before diffusion.**

Please remember to **remove the tank before transportation** to avoid biocide spill.

## How does your Phileas® 5 work?

The pump draws in the disinfectant tank and deliver it to the two nozzles through the pipes and connectors.

The biocide is then projected through the nozzles, creating a non-wetting fog (microdrop effect). This allows to spary the dry-fog and to cover the entire surfaces.



# First use

## Placing Phileas® 5 nozzles for optimal results

It is important to set the **nozzles in the upper part of the equipment** to be decontaminated. Your distributor is available to help recommend the most appropriate disinfection protocols to achieve your desired results. Phileas® 5 can be set in multiple ways inside a very small volume:

1. Install the entire Phileas® 5 (main and separable units) inside the equipment to decontaminate. Nozzles located in their placeholder on the separable unit, or can be placed and secured anywhere inside the equipment for optimal diffusion.

OR

2. Install only the separable unit inside the equipment, main unit being plugged outside. Nozzles located in their placeholder on the separable unit, or can be placed and secured anywhere inside the equipment for optimal diffusion.

OR

3. Integrated solution: the nozzles can be mounted into the equipment through the wall. The main and separable units being outside the equipment.

## How to fill the tank with Devea's disinfectant?

Before starting a cycle, fill up the bottle with **Devea's biocide**. The container used as a biocide tank is housed in the central part of the Phileas® 5. To remove it, simply disconnect the tubes.

- 🕒 Wear protective gloves and glasses.
- 🕒 Open the disinfectant cap.
- 🕒 Slowly pour disinfectant into the 250 mL tank.
- 🕒 Tighten the Phileas® 5 tank and the biocide caps.

→ Suggestion: we suggest you to use our 2L O2SAFE® (reference O27.48) or our 1L PHILEASAFE® (reference PHISAF6). Easier and lighter to manipulate.



For more information on **safety instructions and precautions**, a specific card is included in the document pouch.



A person wearing a full-body white protective suit, hood, and mask is kneeling in a cleanroom environment, working on a piece of industrial machinery. The machinery has various cables and components visible. The background shows a cleanroom with glass partitions and other equipment.

# Phileas Programming

How to program your Phileas® 5?

# How to program your Phileas® 5?

## Practical information

Each program memorises a particular volume (in liters), a dosage (mL/m<sup>3</sup>), the number of cycles and the delay time. The total time needed to perform the disinfection will be automatically calculated from these parameters.

- Up to 20 consecutive cycles.
- A delay time can be set (optional)
- Maximum diffusion time 36 minutes.

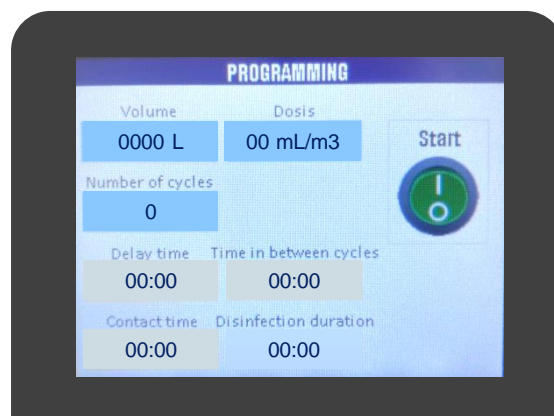
## How to start your Phileas® 5?

To start your device, connect the power cable to the Phileas® and to the mains power outlet. You will find the power cable on the back of the main unit under the separable unit.

## Checking out the home screens



1



2

Once the device is switched ON you can select your language (1):

Press the language of your choice on the screen.

Once you select the language you will access the programming screen (2).

**Volume** Volume of the area to treat

**Dosis** Dosage of biocide diffused (mL/m<sup>3</sup>)

**Number of cycles** Number of cycles (diffusion + delay time)

**Delay time** Time before the beginning of the first diffusion

**Contact time** Time after the last diffusion - time for the biocide to be effective on microorganisms

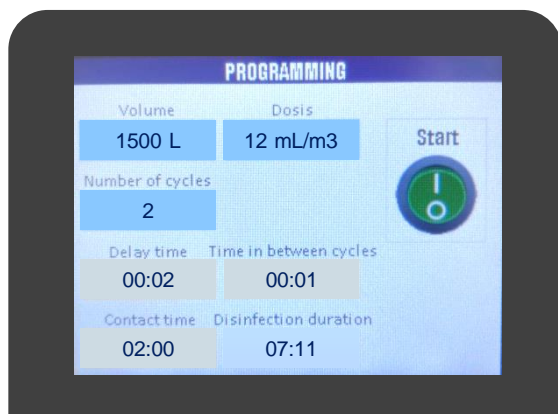
**Time in between cycles** Time in between each cycle

**Disinfection duration** Automatic calculation of the total time needed to perform disinfection (delay time + cycles time + time in between cycles + contact time)

# Programming | Diffusion procedure

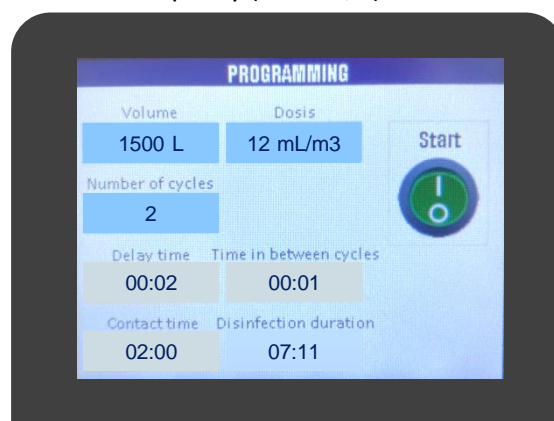
## Starting a diffusion

**Note:** The last variable integrated in the program will remain even if the Phileas® 5 has been switched off.

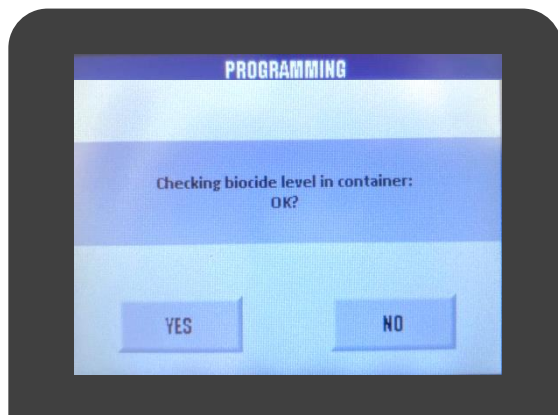


3

Once you enter the different parameters according to your protocol and your requirements, just **press the green digital switch "Start" (4)**.



4



5

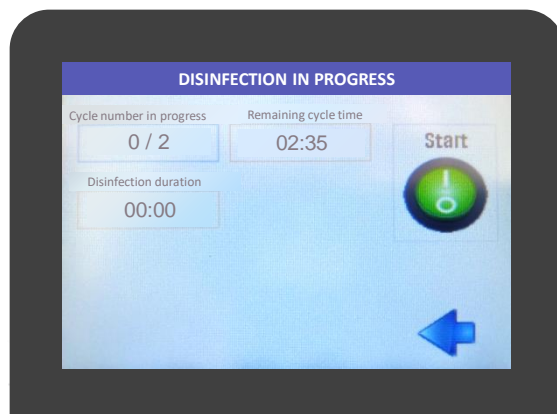
A safety message will prompt on the screen (5). Please check if the biocide tank is filled up with biocide.

- ☑ If there is **not enough biocide** please fill the tank before diffusion (according to the tank filling procedure page 8).
- ☑ If there is **enough biocide** press "Yes" on the digital screen.

The disinfection monitoring screen then appears (6). You can check a few different parameters:

- ☑ The current cycle number
- ☑ The amount of time remaining in the cycle in progress
- ☑ The total disinfection duration.

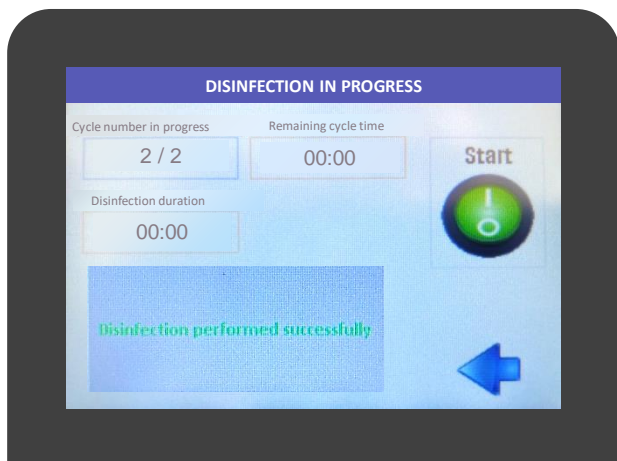
The blue arrow allows you to come back to the programming screen while the diffusion is still running.



6



# Programming | Diffusion procedure



7


When the disinfection is completed, the following message will prompt on the screen: **"Disinfection performed successfully"**(7).

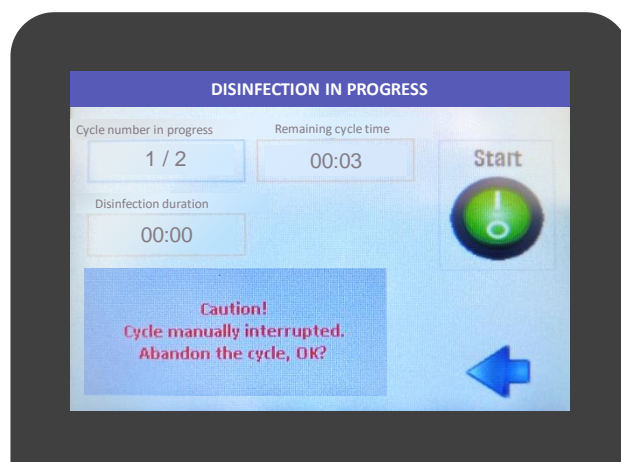
You can then click on the blue arrow to come back to the programming screen.

**Devea's tips:** we recommend to perform a rinse cycle (according to the procedure page 13) from time to time in order to evacuate any biocide residue inside the tubing system.

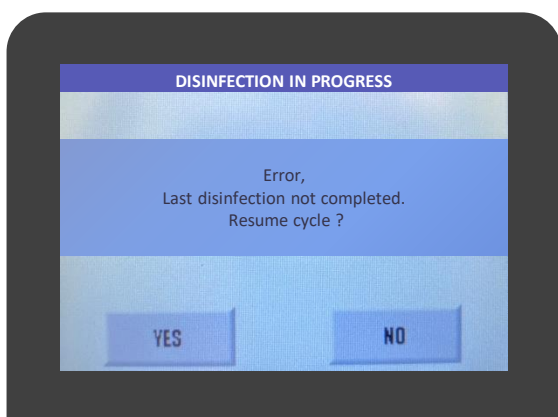


**Emergency Stop (8):** The device can be stopped at any time during the diffusion process.

Just press the digital switch . The device will prompt the following message: **"Caution! Cycle manually interrupted. Abandon the cycle, OK?"**. Press anywhere on the screen to come back to the programming screen.



8



9



**Unexpected diffusion stop (9):** If the diffusion has stopped during the cycle process (ex: power outage), the device has been set to inform you of this interruption. Thus the following message will prompt on the Phileas® screen:

**"Error, last disinfection not completed. Resume cycle ?"**

Click on YES to restart the cycle with the same parameters.

## When can you re-use the area that was treated ?

The usual contact time is 2 hours.

After this time, we recommend that **the treated area be ventilated for 30 to 60 minutes depending on the speed of air renewal (HVAC) in your installation**. A renewal of **20 volumes of fresh** air is necessary to recover <1ppm. If the treated zone is not ventilated, we usually recommend to leave the area overnight.



# Programming | Rinse cycle

## Why performing a rinse cycle?

A rinse cycle is recommended from time to time, and must be performed before a period of inactivity of several weeks. You can safely stay nearby the Phileas® 5 during the diffusion of water. A rinse cycle with water consists in two consecutive steps:

- ④ **Clean connectors** of any biocide residues
- ④ **Empty and purge** the tank and connectors to avoid any water residues. It is important that the tubes be empty after the rinse cycle and during a period of inactivity.

→ **Note:** Because the rinse cycle aims at emptying the connectors the volume and the dosis entered in the programming section will be more important than the actual quantity of water.

First pour **10 mL of water** into the Phileas® 5 tank.

On the home screen enter the following parameters into your device:

④ **Volume** = 1000 L

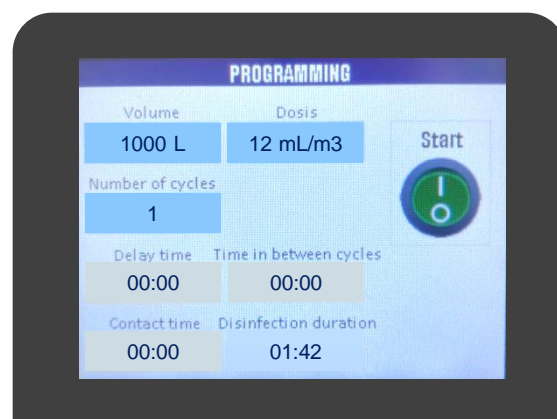
④ **Dosis** = 12 mL/m<sup>3</sup>

④ **Number of cycles** = 1

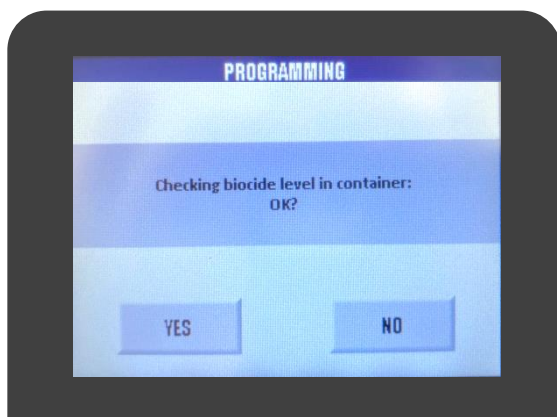
④ **Delay time** = 0 min

④ **Time in between cycles** = 0 min

④ **Contact time** = 0 min

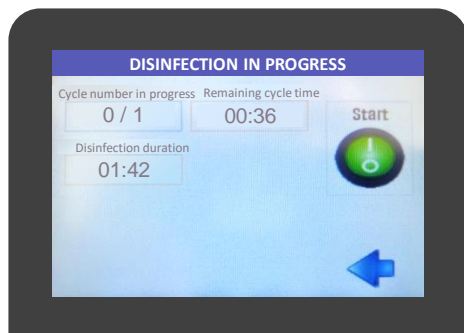


10



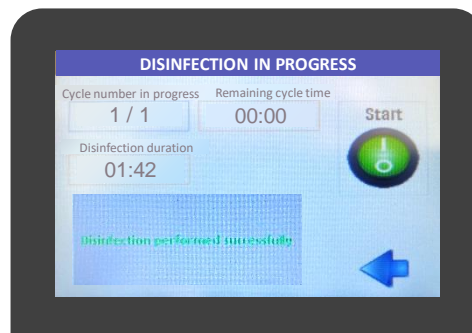
11

A safety message will prompt on the screen. After checking that the biocide tank is filled with 10 mL of water, press "YES" on the digital screen.



12

You will access to the disinfection monitoring screen: **the rinse cycle or water test only takes a few moments.**



13

Once the rinse cycle is completed, the success message will prompt.

# Additional information

## How to clean your Phileas® 5?

The bodywork of the unit must be cleaned regularly by using a piece of clean cloth soaked in a detergent solution. The tubes are rinsed during the rinse cycle.



## How to store your Phileas® 5 for future uses?

Make sure you rinse the machine's liquid circuit with water after the last use before storage. When in doubt, you can do the following :

- ✔ Fill your container with water.
- ✔ Check the correct positioning of the suction tube.
- ✔ Start the machine and proceed to perform the **rinse cycle with water**.

**Note:** the rinsing procedure is described in detail on page 13.

## Consumables

 <b>O2SAFE® 7.4</b>	Liquid disinfectant composed of 7.4% hydrogen peroxide. Available in the following sizes: <ul style="list-style-type: none"><li>- 4 X 2L (reference O27.48)</li><li>- 10L (reference O27.410)</li></ul>
 <b>PHILEASAFE®</b>	Liquid disinfectant composed of 7.3% hydrogen peroxide and 0.15% peracetic acid. Available in the following sizes: <ul style="list-style-type: none"><li>- 6 X 1L (reference PHISAF6)</li><li>- 10L (reference PHISAF10)</li></ul>

## Characteristics

Digital screen

Designed top handle and 2 side handles

Programming number of cycles, delay time and volume of diffusion.

Automatic calculation of diffusion time

2 piezoelectric nozzles on cords, to be positioned on the wall of the surface to be treated

Liquid quantity security check

Works on mains power

**Maximal volume of treatment:** 1500 L

**Flow rate:** 420 mL/hr

**Granulometry:** 4 to 12 microns

**Tank:** 250 mL

**Dimensions (l x w x h):** 212 x 295 x 243 mm /  
Separable unit: 148 x 123 x 160 mm

**Weight:** 5.5 Kg / Separable unit: 1.5 Kg

**Power:** 3 W

# Additional information

## Ensuring a safe use

**Phileas® devices are meant to be used outside of human presence** because they diffuse hydrogen peroxide during the operation.

Here is the user risk analysis:

Risk assessment						Risk management						
Dangerous phenomenon	Cause, origin	Associated risks	S	P	R	Means to control	S	P	R	Audit of efficiency	Establishment	Induced hazards
Filling the container	Transfer disinfectant from container to the tank	Spatters in eyes and on hands	3	2	2	Use equipments of individual protections (gloves and goggles, use a Major pump)	3	1	1	Purchase of the pump	Technical notice	no

**S:** indicates the Seriousness

**P:** indicates the Probability

**R:** indicates the category of the Risk

Probability	Rating	Seriousness	Rating
Frequent	5	Catastrophic	4
Probable	4	Serious	3
Possible	3	Middle	2
Rare	2	Minor	1
Improbable	1		

The device has to be exclusively used inside closed areas (animal facilities, laboratories...) or placed into equipments like microbiological safety cabinets.

In addition, it has to be exclusively used with DEVEA disinfectants or those approved by DEVEA. The manufacturer DEVEA assumes no liability if the user:

- ☑ Uses other products than those recommended. They could damage the device or threaten the safety of the user or be harmful for the alive and non-alive environment.
- ☑ Uses the device in other situations than those described above. Any exceptional use has to be controlled and validated or not by DEVEA.

## Compliance

Any change in equipment on the initiative of the distributor or the user (that might affect security conditions) causes the cancellation of the statement of conformity CE completed by the manufacturer and disclaims all liability. This is also true for the exchange of an original part with a non-original one.

**Note:** The manufacturer or its representative are the only ones authorized to examine or deliver the diffusion head.

## Technical data of the power supply

External power supply call II

To disconnect the device: unplug the power supply