

# User manual

#### Phileas<sup>®</sup> 285

#### Power and volume

50 up to 1665 m<sup>3</sup> Double diffusion head Robust and resistant Ideal for intensive use

# Use of disinfectants respectful of the environnement

Made in France

Expert of Airborne Surface Disinfection (ASD)







Philes 2 key points

#### Hello,

You have just acquired a Phileas® 285 and we thank you for it. To ensure your satisfaction, we invite you to check the following points:

# 1. Check your delivery

You have just opened the parcel, you will find:

- The Phileas® 285 device with its two disc protection covers
- A 10 L container and its plunging cap
- One adapter and one power cable (EU norm)
- A documentation pouch including:



- 1. Guarantee certificate
- 2. Quality Control sheet
- 3. Return goods sheet
- 4. CE declaration

The other documents (technical data sheet, user manual, simplified manual, safety instructions and precautions for use) are sent electronically.







Optional: MyPhileas tablet with its power cord.

The MyPhileas application is already loaded and installed on the tablet. It allows remote control of the Phileas® device and guarantees a complete traceability of the previous disinfections performed.

#### Tips for moving:

- Remove (or reseal with the original cap) the canister to avoid spillage of product that could irritate the skin.
- If there is an obstacle to overcome, use the side handle to lift Phileas® 285. You can pull or push it.
- If you prefer to roll it: avoid jerking the device when moving it (door threshold, stairs, steps, etc.).

#### Note:

Any change of module board or pump requires a new calibration.

If you have any questions, contact your distributor. He is trained to assist you in the installation and use of the Phileas® 285.

# 2. Test your Phileas<sup>®</sup> 285

To check the operation of Phileas® 285 we recommend to perform a water test:

1. Connect the power supply to an electrical installation that complies with current safety standards. The cord supplied is standard and complies with UE, TUV, ANSI/AAMI CSA, UL, Denan (PSE).

➡ Insert the round plug of the power supply into the appliance in the correct direction: the flat part of the plug must be horizontal to the floor.

2. Fill the container with tap water

devea philea

- 3. Start Phileas® 285 by pressing (🕛
- 4. Follow the procedure outlined page 12



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## Preamble



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 efficiency of this process is verified according to EN 17-272:2020. Devea assures that the Phileas® process has been validated with the disinfectants O2SAFE 7.4® and PHILEASAFE®. You should therefore only use Devea disinfectants or those approved by Devea.



**O2SAFE 7.4**® : disinfectant composed of 7.4 % hydrogen peroxide. (see page 32)



**PHILEASAFE**® : disinfectant composed of hydrogen peroxde and peracetic acid. (see page 32)

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® 285 for the first time?



## First use

#### Preparing the equipment before disinfection

#### "We only disinfect what is clean"

Simple clean the space 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 documents sent). There is no need to seal openings.

#### Is Phileas<sup>®</sup> 285 fragile?



1. Phileas® 285 is a robust and efficient machine that has just one point of vigilance: its spinning disc:

The spinning disc generates the formation of fine, non-wetting fog ensuring perfect disinfection. You should **never touch it when it is spinning**.

It must be protected by its cover when not in use and during transport.

Any shock may cause deformation of the disc and damage the motor bearings.

**2.** Phileas® 285 is cleaned using a clean cloth soaked ni a detergent solution that is rubbed over the bodywork.



# **3.** Please make sure the biocide container has enough liquid before use, as the bottom of the container is hardly reachable.

#### How does your Phileas<sup>®</sup> 285 work?

- 1. The pumps draw the disinfectant liquid from the tank and deliver it to the disc through the hoses and stainless steel housing.
- 2. The liquid spreads over the bottom surface of the rotating disc and disperses into fine droplets.
- 3. The air current created by the fan draws the droplets upwards and allows them to spread throughout the volume to be treated.



# First use

#### How to install the plunging cap on Devea's disinfectant tank?

Before handling, protect your eyes and hands with glasses and gloves.

- 1. Unscrew the cap of the disinfectant canister.
- 2. Slide the 2 dip tubes into the canister and fit the top part.
- 3. <u>Carefully</u> and <u>correctly</u> position the canister on one of the plates inside Phileas® 285 deisgned for this purpose.
- 4. Connect each tube from the pumps to the cap:



#### To change canisters:

- 1. Disconnect the 2 hoses from the pumps
- 2. Leave the cap on the canister
- 3. Take the canister out
- 4. Remove the cap and its two dipping tubes and place it on the new canister
- 5. Place the new canister back on its place, flat
- 6. Reconnect the 2 tubes to the canister cap.

This precaution will avoid piercing hoses or disconnecting pumps.

#### How to install Phileas<sup>®</sup> 285 for optimal efficiency?

The placement of Phileas® 285 in the premises to be disinfected must be studied with Devea or your local distributor. They are at your disposal to validate with you the disinfection protocols that you wish to carry out.

Do not hesitate to ask for his expertise!









# Programming

How to program your Phileas® 285?



# Programming

## General information

Each program memorizes a volume (in m<sup>3</sup>), a dosage (mL/m<sup>3</sup>), the number of cycles and the delay time. The total diffusion time required for Disinfection will be calculated automatically using these parameters.

- Maximum number of cycles: 5
- Ø Maximum diffusion time with a 10L canister: 2hrs20

These 2 limits condition your Programming parameters.

If, by mistake, you exceed these maximums, Phileas® 285 will refuse validation and will require you to go back and modify your parameters (in particular the number of cycles).

# Home screen





You may see the following screens as you start the device:



Last diffusion stopped because of power failure

This message appears when a power outage occured during the last diffusion. Press ok to come back to screen B and start the program again.

If you see the messages below, please contact your distributor:





Last diffusion stopped because of liquid problem

This message appears when the biocide container was emptied during the last diffusion.

Fill up the container, press ok to come back to screen B and the program again.



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# Programming



# Diffusion timeIs the total diffusion time since the first use of the device Phileas® 285.Wifi channel 1Allows the remotely control Phileas® 285. When you want to remotely pilot your disinfection programs with the MyPhileas application on the tablet, your Phileas® device will automatically connect to the tablet. To modify the wifi channel on your Phileas® device: use the light arrow then ok to highlight the channel's number, then use the and arrows to select a channel between 1 and 10. Press OK then to exit the channel selection and come back to information screen.

Channels number 11-12-13 are dedicated to maintenance connections.



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## Programming Case #1: Rinse cycle / water test

#### Why perform a rinse cycle / water test?

A rinse cycle is recommended from time to time and must be performed before a long period of inactivity (several weeks). It is important that the cables by rinsed and emptied before this period. The rinse cycle consists in two steps:

- Clean the cables off of biocide residues
- Orain and purge the last drops of water in the cables.
- → Note: The rinse cycle / water test shows on the home screen, when turning the device on. Once in Disinfection mode, there is no way to come back to the rinse cycle option but to turn the device off, then on again.

The rinse cycle is **already programmed in the device**. It lasts about 2 minutes.

#### Start a rinse cycle



On the *Start-up* home screen (top right corner of the screen – home screen B), *Rinse cycle with water* is the first choice.

Make sure the container is full of water. Press

Press ok to *Confirm the diffusion* of the rinse cycle or the water test and confirm *GO* ! By pressing ok again.



(ok)



<u>In case of a rinse cycle</u> performed after a diffusion with a disinfectant product, it is recommended to move away from the device: some residual biocide may be diffused at first.

In case of a water test, you can stay close to the device, paying attention not to touch the spinning disc.

Rinsing starts after 1 minute. To stop the diffusion, press(ok). The following message appears: Cycle stopped!

Once the rinse program is over, the message *Diffusion complete* will appear.

The device completed its program and automatically drained.

You come back to the home screen which offers you the last diffusion program performed.





# Programming Case #2: Start a saved program

#### Start a saved program 1/2

On the *Start-up* home screen, select *Disinfection* by pressing the arrow. Press ok





Are you looking for another saved program?
Move down to ZONE with the arrow

Press(ok) to access the various existing zones

Move right using the  $\rangle$  arrow until the desired

The following screen is the *Process* mode. It shows the parameters of the last diffusion program used.

Here, the diffusion for a zone of 150 m<sup>3</sup>, with a biocide dose of 8 mL/m<sup>3</sup> for a total duration of 51 min.

This duration includes the number of cycles and the delay time in between each cycle (i.e. 2 cycles in this example).

If this program suits you, press **START** 

2.





In this example (4.), the arrow points ZONE 2, with different diffusion parameters (volume, dosage, cycles, total duration, delay time).

Do you confirm these parameters? Press **START** to start the diffusion program.



For security reasons, you must validate and *Confirm the diffusion* » by pressing **(k)** 

saved

zone.

# Programming Case #2: Start a saved program

#### Start a saved program 2/2



The selected program includes a delay time of 1 min. You have this time to make sure the disinfectant container is full and to leave the room.

To cancel this program, press



The following screen appears:





Once the program is complete, the message *Diffusion successful* appears.

The device has completed the treatment and has automatically emptied itself.





# Programming Case #3: Change a saved program

# Change a program (1/3)

Note: It is possible to change a saved program, but not to delete it!

On the home screen named *Start-up*, select *Disinfection* by pressing with earrow. Press ok





You will be taken to the *Process* mode home screen.

It shows the settings of the last diffusion program used.

- Scroll down to ZONE with the arrow 
   Press ok to access the different existing programmed zones.
- Move sideways to the right using the arrow to the desired area.





In the example, the cursor points to the ZONE 2; diffusion parameters before modification are the following:

- Ø Volume: 100 m<sup>3</sup>
- Ø Disinfectant dosage:12 mL/m<sup>3</sup>
- Ø Diffusion program in 3 cycles
- Total diffusion duration: 51 min
- 🮯 Delay time: 2 min.

Do you want to change the program for this ZONE?

Press ok twice (double clics).



# Programming Case #3: Change a saved program

#### Change a program (2/3)



You enter the *Programming* mode. The programming parameters for zone 2 appear.

When the cursor flashes on the zone number, press ok

For each parameter to be filled in:

- To position yourself (move from parameter to parameter), use the arrow
- Press ok: the box is highlighted. Enter the data using and arrows to inscrease or decrease the value.
- Solution Validate the information with or and you switch to the next parameter.
- → Note: If the parameters you are trying to enter exceed the diffusion maxima (see page 10), please modify your programming.





After entering the new settings, point the cursor to the arrow on the right of the screen .

→ Note: By changing the parameters, the diffusion time is automatically recalculated.

When programming several cycles, a minimum delay of 1 minute is scheduled before each cycle, including before the start.

Press (ok) to validate your changes.

3 options are possible:

- → Start the diffusion: press (k) , the device will prompt you to leave the room and will start the diffusion.
- → Save: press ok, the following summary screen appears.
- $\rightarrow$  Save and start a new entry



# Programming Case #3: Change a saved program

### Change a program (3/3)



Summary screen of the last modification.

Press **START** to start the program, then press **(ok)** 

The selected program includes 2 min of delay time. You have this time to make sure that the biocide container is full and to leave the room.

To cancel this programming, press ok The following screen appears:





Once the program is complete, the message *Diffusion complete* appears.

The device has finished the treatment and has emptied itself automatically.





#### For each parameter:

- Move and place the cursor using the arrow
   Press ok
   the box is highlighted
- Fill in the data using the and arrows.
- Confirm the information with or and go to the next parameter.
- → Nota: When programming several cycles, a minimum delay of 1 minute is systematically scheduled before each cycle, including before the start.



# Programming Case #4: Create a new zone

#### Create a new zone (2/3)



Go to volume, then to biocide dosage, delay time and number of cycles. The totdal diffusion time is calculated automatically.

If the parameters you are trying to enter exceed the diffusion maxima (see page 10), please modify your programming.

When you have finished, your cursor is on the right arrow of the screen .

Confirm the creation of the zone (here, zone 4) by pressing ok





7.

- → Start the diffusion: press(ok) , the device will prompt you to leave the room and will start the diffusion.
- → Save: press ok, the following summary screen appears.
- $\rightarrow$  Save and start a new entry

Summary screen of the zone created.

Press **START** to start the program, then press **ok** 

START







# Programming Case #4: Create a new zone

Create a new zone (3/3)

The selected program includes 1 min of delay time. You have this time to make sure that the biocide container is full and to leave the room.

To cancel this programming, press **ok** . The following screen *Diffusion stopped!* appears:





Once the program is complete, the message "Diffusion complete" appears.

The device has finished the treatment and has emptied itself automatically.



# When is it safe to enter the area that has just been decontaminated?

#### After diffusion, the contact time is usually 2 to 4 hours.

After this time, we recommend to **ventilate the treated zone for 30 to 60 minutes** according to the air renewal speed of your equipment (usually **20 volumes of fresh air** is necessary). If there is no ventilation, wait overnight before re-enter.

In all cases, we recommend to make sure that the treated area has  $< 1 \text{ ppm of residual H}_2O_2$  for human safety.



# LED operations control



Each diffuser head is equipped with an LED for remote visual check.

→ Note: Remote control can be done with the MyPhileas® application. For more information, contact us or visit our website.

#### Starting phase



The LED flashes <u>slowly in GREEN</u>: program is in progress but the the device is not yet diffusing (initial delay phase);

#### Diffusion phase



The LED is lit GREEN continuously: the diffusion is in progress;

#### **Diffusion** phase



The LED <u>flashes in RED</u>: diffusion is not working properly.

Press(ok) to return to the home screen.

 $\rightarrow$  The LED continues to <u>flash red</u>: restart a program to check if the

problem detected persists

The LED <u>lights in green</u>

Two situations are possible:

 $\rightarrow$  The problem is solved (e.g. you have refilled the canister), the LED remains green

→ The problem detected persists: the LED changes <u>back to</u> <u>flashing red</u>.



The LED is <u>continuously lit RED</u>: the tablet/device communication has blocked the Phileas® 285 functions. Unplug/plug your Phileas® back in and restart the programming.





# Maintenance

How to maintain your Phileas® 285?



## Maintenance

#### How to clean your Phileas<sup>®</sup> 285?

The body of the device should be cleaned regularly by simply using a cloth soaked in a detergent solution.

The cables should be cleaned by rinsing.

#### How to store your Phileas<sup>®</sup> 285 for future uses?

Just one precaution... Make sure you have flushed the fluid system of the device with water the last time you used it. If in doubt, you can do this:

- Fill your canister with water.
- One of the suction tube is correctly fitted.
- Start the appliance and choose the "*Rinse cycle / water test*" cycle. You can stay in the room during the water test. If your machine is already switched on, switch it off and on again to access the "*Rinse cycle / water test*" menu.

Note: the rinsing procedure is detailed on page 12.

#### Performance control and periodic maintenance

It is recommended to monitor the device performances regularly to ensure that biodecontamination is still up to qualified results.

In order to ensure reliable disinfection cycles and avoid down time and schedule changes due to unexpected repair, Devea recommends preventive maintenance to be performed on Phileas® devices.

The following parts and pieces namely must be assessed:

- Spinning disc,
- Plastic module head,
- Tubes and connectors,
- Equipment adjustment, and particularly pump calibration.

Note: individual spare parts can be purchased to your local Devea distributor, and a maintenance kit can also be supplied. For Phileas® 285 the maintenance kit contains 31 spare parts that address the main points of attention, to be checked and preventatively renewed on an annual basis. Note: maintenance trainings can be provided by your local distributor or by the Devea specialized team.







# Lexicon

Understanding what your Phileas® 285 wants to tell you!



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# Lexicon

## Phileas<sup>®</sup> 285 messages and codes



Diffusion head n°1 (left of the screen, when facing the screen

Diffusion head n°2 (right of the screen)

Messages/Codes	Meaning
ERROR liquid inlet No1! ERROR liquid inlet No2!	The liquid does not arrive under the disc in diffusion head 1 The liquid does not arrive under the disc in diffusion head 2
ERROR: Memory corrupted!	Communication problem between defective motor and control circuit board
ERROR: Module communication is missing!	Problem on control circuit board or on HMI card
ERROR: Module is on stand by!	Problem on control circuit board or communication problem between circuit board and HMI card
ERROR: Disc Motor No1! ERROR: Disc Motor No2!	Problem on disc motor of the diffusion head 1 Problem on disc motor of the diffusion head 2
ERROR: Fan No1! ERROR: Fan No2!	Problem on the fan in diffusion head 1 Problem on the fan in diffusion head 2
ERROR: Alimentation!	A power failure occured during the diffusion or there is a power issue (the green LED of the transformer is off or flashes)
Top up with product	The canister is empty or not full enough: fill it up





# Repair

How can the most common malfunctions be fixed?



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# Changing the spinning disc (1/2)



Estimated operation time: 5 minutes



#### Level of difficulty: Simple and delicate

Precautions tips: Install your Phileas® unit on a flat, stable surface.

The device will be unplugged and the biocide container removed

×

Necessary tools: 2 DEVEA screwdriver (ref: AR00780) DEVEA spanner (ref: AR00275)

#### Step 1

Remove the protective cover from the diffusion head.

Use the spanner to hold the nut fastened around the disc shaft. Place the screwdriver on the head of the shaft and turn it *clockwise* to unscrew the nut. Position the screw in the cover.

Carefully remove the disc.



#### Step 2

Take the new stainless steel disc and slide it along the rotation axis. (Both sides of the disc are identical)



#### Step 3

Using your fingertips, push in to the last edge at the bottom of the thread.

Put the nut on and tighten with the spanner and screwdriver in an anticlockwise direction.

The screw is self-tightening, so there is no need to tighten it very hard. Gently turn the disc with your finger.





# Changing the spinning disc (2/2)

Step 4

Turn the cap counter-clockwise very slowly until the disc is locked.





Turn the cap 1/8<sup>th</sup> turn in the opposite direction and run a test rinse with water to check that the setting is correct and that the diffusion is normal.

Test this new disc:

Fill the container with water and put it in place.

Turn on Phileas® and run a water test to validate the fog formation.





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# Annexes

References and technical specifications of the device



## Annexes

(	Consumables	
	025afe® 7.4	Liquidi disinfectant composed of 7.4% hydrogen peroxide. Available in the following sizes: - 4 X 2L (reference O2 7.4 8) - 10L (reference O2 7.4 10)
	Phileasafe® PHILEASAFE®	Liquid disinfectant composed of 7.3% hydrogen peroxide and 0.15% peracetic acid. Available in the following sizes: - 6 X 1L (reference PHISAF6) - 10L (reference PHISAF10)

## Technical characteristics

LCD screen	Maximal treated volume: 1665 m <sup>3</sup>		
Sturdy ergonomic handle and wheels	Flowrate: 4.2 L/hr		
Programming of the number of cycles, the delay	Droplet size: 5 to 10 microns		
time and the diffusion volume.	Biocide container: 2 x 10 L		
	<b>Dimensions (L x l x h mm):</b> 839 x 450 x 813		
Automatic calculation of the diffusion time	Weight: 25 Kg		
Number of diffusion heads: 2	<b>Power:</b> 120 W		
Disc rotation: counter-clockwise			

Mains operated



# Additional information

#### Risks associated with the use

Our devices must only be used when no one is present as they release hydrogen peroxide during operation.

During a water test, do not touch the rotating discs (risk of finger cutting).

Below is the user risk analysis:

Risk assessment						Risk control						
Dangerous phenomenon	Cause, origin	Associated risks	S	Ρ	R	Means of control	S	Ρ	R	Verification of effectiveness	Impleme ntation	Induced risks
1.Spinning risk	Diffusion technology	Finger cutting	4	1	1	Follow operating instructions	4	1	1	Programmin the device with delay time	Training	No

	Probability	Rating	Severity	Rating
S: indicates the Severity	Frequent	5	Catastrophic	4
P: indicates the Probability	Probable	4	Severe	3
	Possible	3	Moderate	2
R: indicates the Risk category	Rare	2	Minor	1
	Unlikely	1		

The device is used exclusively inside closed premises such as animal houses/laboratories, or placed in equipment such as microbiological safety stations, and operates without human presence. It works exclusively with DEVEA disinfectants or those approved by DEVEA. The manufacturer DEVEA SAS declines all responsibility if the user:

-Uses products other than those recommended which could damage the appliance or harm the safety of the user or the living or non-living environment.

-Use the device in situations other than those stated above. Any use in environments with exceptional parameters must be checked beforehand and validated or not by the manufacturer DEVEA SAS.

#### Compliance

Any modification of the equipment by the distributor or the user which may lead to a change in the safety conditions will invalidate the CE declaration of conformity issued by the manufacturer and will release the manufacturer from any liability. This also applies to the replacement of an original part with a non-original part.

Note: The diffuser head is the only part of the device that can only be examined or supplied by the manufacturer or his representative.



External power supply unit class II

Connection of the power supply to the socket directly on the device.

Means of disconnecting the equipment: pull the plug.