

Hy spray



User Manual

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1 About this manual

1.1 Purpose of this manual

This manual provides instructions to:

- prepare your Hyspray for disinfection;
- disinfect a room with the Hyspray; and
- keep your Hyspray in a good condition.

1.2 For whom is this manual intended?

This manual is exclusively intended for trained staff operating the Hyspray.

1.3 Use of this manual

■ STRUCTURE

- This manual sets out with a functional description of the Hyspray. Read this section first to familiarize yourself with the location and function of the various parts and controls.
- The following sections of the manual give procedures to prepare, use and maintain your Hyspray.

■ ORIENTATION CONVENTION

Figure 1 shows the orientation convention. Wherever you stand relative to the Hyspray, the indications 'Front', 'Back', 'Right' and 'Left' are always as shown on *Figure 1*.



Figure 1

■ PROCEDURES

Procedure steps are clearly identified by the ▲ sign followed by a number in the margin that indicates the order in which the procedure should be executed.

■ ELECTRONIC VERSION

This manual is also available electronically as a pdf file on our internet website <http://www.disinfection.be>.

- The pdf file features a bookmarks panel that enables you to quickly navigate to specific information.
- Cross references in the text are executed as hyperlinks. Whenever the cursor turns into a hand symbol , you can click on the text behind to land immediately on the referenced section or picture. Simply press 'Alt' + '←' to get back from where you came.

1.4 Disclaimer

- Failure to follow the instructions in this manual and the damage that may result from it, voids the warranty of your Hyspray.
- The warranty does not apply if the defect results from an operational intervention in the device, normal wear and tear, negligence or lack of maintenance.

1.5 Additional information and support

A video user's guide is also available on <http://www.disinfection.be> or online on youtube. For the overall procedure to disinfect a room with the Hyspray, check the following movie clip <https://youtu.be/7UUSs97NnQc>

A dedicated website about disinfection is also available. For more specific information about Hymetec's disinfection solutions, check <http://www.disinfection.be>

For additional information and support, please contact:



Analisis sa/nv
Rue de Néverlée 11
5020 Suarlée (NAMUR)
Belgium
Tel +32 (0)81 25 50 50
disinfection@analisis.be

2 Safety guidelines

- ! *Read the following safety guidelines carefully before working with the Hyspray and follow them strictly.*
- ! *Keep these guidelines in a safe place, accessible to the user.*

2.1 General safety guidelines

■ WORKING ENVIRONMENT

- Do not expose the Hyspray to rain.
- Do not use the Hyspray in a wet or damp environment.
- Provide good lighting.
- Do not use the Hyspray near flammable liquids or gases.
- Provide enough space around the Hyspray when it is working and make sure the ventilation grid in the bottom of the unit is not obstructed.
- Keep the handle of the Hyspray dry, clean and free from oil and grease.
- Do not expose the Hyspray to temperatures below 10 °C or above 40 °C



■ AVOID ELECTRICAL SHOCK

- Prevent body contact with grounded surfaces (e.g. pipes, radiators...) while operating the Hyspray.
- Do not pull the power cord to move the Hyspray.
- Keep the power cord clear of heat sources, oil and sharp edges.
- Inspect the power cord periodically and replace if damaged.
- Disconnect the Hyspray from the mains when not in use.
- Use only the power cord provided with the Hyspray.

■ KEEP VISITORS AWAY

- Do not let visitors touch the Hyspray or the power cord.
- Keep children and visitors away from the working area.

■ STORAGE

When not in use, store the Hyspray in a dry, high or locked-up place, out of the reach of children.

■ AVOID UNINTENTIONAL STARTING

- Do not carry a plugged-in Hyspray while holding a finger on the Start/Stop key or the ON/OFF switch.
- Make sure the ON/OFF switch is OFF when connecting the unit to the mains.

■ STAY ALERT

- Watch what you are doing. Use common sense.
- Do not operate the Hyspray when you are tired.

■ ACCESSORIES

- The Hyspray can only be used with the accessories specified in this user manual.
- The use of any accessory other than the ones recommended in this user manual may present a risk of personal injury.

■ REPAIR

- Do not attempt to open the Hyspray yourself.

- Only trained technicians are entitled to service the Hyspray; otherwise it may cause danger for the user.
- When changing the fuses, use only the type advised in 'Technical characteristics' on [p. 17](#).
- **SERIOUS INCIDENTS**
Serious incidents must be reported according to the local safety guidelines.

2.2 Specific safety guidelines for the Hyspray

- **EXPLOSION**
Do not use the Hyspray in areas that are subject to explosion protection regulation.
- **LEAVE THE AREA**
 - Once the start button is pressed, you must leave the room in the pre-set time (90 – 600 sec).
 - Do not enter the area to be disinfected when the spraying procedure has started.
- **HANDLING OF THE CONSUMABLE HYPRO TECHNICAL 7% H₂O₂**



- Use safety gloves and safety goggles when working with HyPro Technical 7% H₂O₂.
- Wear clothing that covers the whole body (for example: long trousers and a sleeve shirt).
- Observe the applicable data and safety sheets when working with H₂O₂.
- **USAGE**
The Hyspray may be operated only for its intended use and according to the procedure described in this manual, in order to avoid danger for humans and animals.
- **NOZZLE**



Figure 2

- ! *Do not pour any consumable directly into the nozzle of the Hyspray, no matter whether the unit is switched ON or OFF.*
- **HANDLING OF THE CONSUMABLE**
Hypro Technical 7% H₂O₂

2.3 H₂O₂ related safety guidelines

■ PRODUCT

Use only stabilized H₂O₂ solution (HYPRO TECHNICAL POMME/UNSCENTED concentration 7%) for disinfection.

■ GENERAL H₂O₂ GUIDELINES

The Hyspray nebulizes H₂O₂, therefore it is necessary to observe the following guidelines:

- Stay out of the room during the spraying process.
- Do not smoke near the Hyspray.
- Do not orient the Hyspray towards an incandescent zone.
- Do not use with a flammable and/or non-admitted product.
- Do not inhale the substance.
- Do not spray directly towards an object in the room.

■ SPRAYING MATERIAL UNDER PRESSURE

- ! *Do not aim the nozzle at human beings or animals. Exposure to the product can cause acute cauterization of the eyes, skin and unprotected parts of the body.*
- ! *Check that there are no people and no animals in the room to be disinfected, when spraying begins.*
- ! *In case of eye or skin injury, rinse the concerned parts of the body immediately and abundantly with water and immediately call a doctor for fast, expert treatment visit.*
- ! *Inform the doctor about the spraying material: hydrogen peroxide 7% (H₂O₂)*

3 About the Hyspray

3.1 Function

- Hyspray is a nebulizing appliance that rapidly disinfects rooms and surfaces by using the HyPro technical solution.
- Hyspray disinfects volumes of 5 m³ to 165 m³ with a diffusion time of 11 min for 50 m³.
- For rooms with a volume > 165 m³, an additional Hyspray can be placed for optimal disinfection. Likewise, a third Hyspray can be placed if the room volume exceeds 320 m³.
- Hyspray is not a medical device.

3.2 Intended use

- Hyspray can be used with HyPro technical, which is a 7 % hydrogen peroxide solution. For more details, refer to the technical data of HyPro technical.
- This solution is available in 1L and 5L packaging.
- Hyspray efficiently disinfects surfaces and non-invasive medical equipment by nebulization.
- Hyspray is suited for operating rooms, intensive care, emergency units, mobile units, ambulances etc.



Figure 3

3.3 Advantages

- Easy to use
- Rapid operational availability
- Quick and easy change of the bottle of Hypro technical 7% H₂O₂
- Well-shaped and user friendly design
- The product (H₂O₂) is ecologically friendly and 99,99 % biodegradable
- Efficient disinfection method for a wide range of room volumes by creating a 'dry mist'
- Non toxic

3.4 Kit content

- 1 Hyspray (available in 3 colors)
- 1 nozzle
- 1 power cord
- 1 user manual
- 1 transportation bag



3.5 Main components

TOP VIEW



Figure 4

Ref.	Part
A	Handle
B	Latch
C	Nozzle
D	Operating panel, see details below
E	Flexible straw with filter

OPERATING PANEL

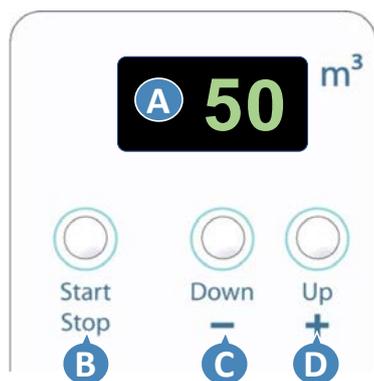


Figure 5

Ref.	Part
A	Display
B	Start/Stop key
C	Down key: decrease values
D	Up key: increase values

BACK VIEW



Figure 6

Ref.	Part
A	Fuse 1
B	On/off switch
C	Fuse 2
D	Power cord connector

▪ **BOTTOM VIEW**



Ref.	Part
A	Identification plate with CE mark
B	Ventilation grid
C	Power cord storage compartment
D	Support stud (4 x)

Figure 7

3.6 Accessories

▪ **TRANSPORTATION BAG**



Figure 8

▪ **HYSPRAY TROLLEY**



Figure 9

The trolley is not included in the package. Please contact Analis or your distributor.

4 Working with the Hyspray



! When handling products, always wear gloves and adequate eye protection!

4.1 Preparing the Hyspray for disinfection

- ▲ 1 Place the Hyspray on a stable surface (possibly onto the Hyspray Trolley).
- ▲ 2 Press the latch (as shown below) and take the nozzle out of its cradle.



Figure 10

- ▲ 3 Insert the flexible straw into the bottle and screw the nozzle clockwise onto the bottle.



Figure 11

- ▲ 4 Put the nozzle back into its cradle and press firmly until it clicks into position.



Figure 12

4.2 Disinfection procedure

- ▲ 1 Connect the power cord to the connector on the back of the Hyspray (A) and insert the plug into a wall outlet.



Figure 13

- ! Check that the voltage indicated on the identification plate (Figure 7 on p.10) corresponds to the local mains voltage before you connect the unit!
- ▲ 2 Check that there is sufficient product in the HyPro Technical 7% bottle to complete the entire disinfection process for the selected room volume!
- ▲ 3 Set the ON/OFF switch (B) to the ON position.
- ▲ 4 Place the Hyspray in a corner of the room to be disinfected, the nozzle pointing at the middle of the room.
- ▲ 5 Press the Start/Stop key on the operating panel.



Figure 14

The display shows the default value for a room volume of 50 m³.

- ▲ 6 Select the volume (in m³, cubic metres) of the room to be treated with the Up or Down keys on the operating panel.
 - Briefly tip the key to increase/decrease by steps of 5 m³.
 - Keep the key pressed for fast forward or backward.
 - The display shows the selected room volume.
- ▲ 7 Press the Start/Stop key to confirm.
- ▲ 8 Select the count down time 90 s or 600 s with the Up or Down keys.

The pre-set count down time is 90 s.

- ▲ 9 Press the Start/Stop key again.
 - The Hyspray beeps during the selected count down time (90 or 600 s) giving you enough time to leave the room to be disinfected. The frequency and the intensity of the beeps will increase as the countdown time elapses.
 - The display shows the elapsed countdown time.
 - If needed, you can stop the countdown period by pressing the Start/Stop button again. Likewise, you can start a new countdown by pressing the Start/Stop button.
- ▲ 10 Leave the room.
 - After the countdown, the Hyspray starts the disinfection by nebulizing the product into the room.



Figure 15

- The display blinks “Run” and stops automatically after the time corresponding to the set room volume.
- The display shows “End” when the nebulization process has ended.



Figure 16

- ▲ 11 Wait until the nebulization has stopped before re-entering the room and respect the recommended nebulization time until the H₂O₂ concentration wears off.
 - Standard value is 11 minutes per 50 m³.
 - The recommended contact time until the H₂O₂ concentration wears off is at least 60 minutes. The H₂O₂ concentration after disinfection depends on the ambient temperature,

the room volume and the ventilation with fresh air. In case of doubt, use a measuring instrument to plot the H₂O₂ concentration.

- To restart disinfection in the same room, set the main switch to OFF and then to ON again.

▲ 12 Set the ON/OFF switch to OFF to power off the unit.

▲ 13 Remove the HyPro Technical 7% bottle from the Hyspray for transportation.

To do so, proceed in reverse order as in 'Preparing the Hyspray for disinfection' on p. 11.

4.3 Emergency stop and restart

▲ 1 You can stop the Hyspray at any time by putting the ON/OFF switch at the back of the unit in the OFF position.

The Hyspray will stop the disinfection.

! *Doing so is not recommended since entering the room during disinfection represents a safety hazard!*

▲ 2 To restart the Hyspray, put the ON/OFF switch in the ON position again.

The display (3) shows "Err".

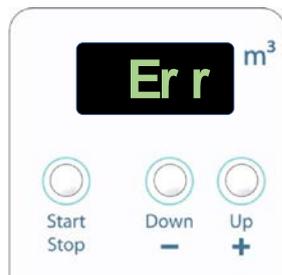


Figure 17

▲ 3 Confirm and clear the error message by pressing the "Start/Stop" key during 3 seconds to restart the Hyspray. The unit is ready to repeat the disinfection procedure.

5 Maintaining the Hyspray

5.1 Maintenance

- Store the Hyspray in a dry and clean place.
- Check your Hyspray after the 12-month warranty period.
- Regularly check the ventilation grid (see Figure 7 on p. 10) and remove any dust if necessary.

5.2 Troubleshooting

■ THE HYSPRAY DOES NOT START

- Check that the Hyspray is properly connected electrically to the wall socket and that the ON/OFF switch is set to ON.
- Check the fuses. Replace any blown fuse, (see 'Replacing the fuses' below).

■ THE HYSPRAY DOES NOT NEBULIZE THE PRODUCT

- Check that there is enough liquid in the bottle.
- Check that the jet of the nozzle is not clogged.
- Check that the bottle is properly installed.

■ THE DISPLAY SHOWS

- The disinfection cycle was interrupted, e.g. due to a power failure.
- Press the Start/Stop key during 3 seconds to clear the error message. The unit is ready to start the disinfection procedure again.

■ STILL NOT WORKING?

There are no serviceable parts inside the Hyspray. Do not attempt to repair the Hyspray yourself and contact the dealer.

5.3 Replacing the fuses



Figure 18

- ▲ 1 Disconnect the Hyspray from the mains.
- ▲ 2 Turn the fuse holder anticlockwise with a screwdriver and remove.



Figure 19

- ▲ 3 Remove the blown fuse.
- ▲ 4 Install a good fuse in the fuse holder. Check 'Technical characteristics' on p. 17 for the appropriate type of fuse.
- ▲ 5 Insert the fuse holder and turn clockwise with a screwdriver until it is locked into position.

5.4 Environmental disposal



Check the ISO14000-guidelines and local regulations for scrapping, disposal and recycling.

6 Technical Data

6.1 Technical characteristics

Type	Hyspray 115 V	Hyspray 230 V
Disinfection method	Nebulization	Nebulization
Voltage	115 VAC, 50/60 Hz	230 VAC, 50/60 Hz
Power	1300 W	1300 W
Current	11,5 A	6,0 A
Dimension	Length: 347 mm Height: 289 mm Width: 372 mm	Length: 347 mm Height: 289 mm Width: 372 mm
Weight (without bottle and cable):	5300 gr	5300 gr
Mode of operation	Continuous operation	Continuous operation
Protection class	Class I	Class I
Degree of protection of enclosure	IP20	IP20
Fuses	<ul style="list-style-type: none"> • 12,5 A slowly acting • Rated breaking capacity: 500 A @ 125 V • Type Schurter 0001.2515 • IEC 60127-2, UL 248-14 	<ul style="list-style-type: none"> • 8 A slowly acting • Rated breaking capacity: 1500 A @ 250 VAC • Type ESKA 522.700
Room size for disinfection	5 m ³ to 165 m ³	5 m ³ to 165 m ³
Disinfection throughput	Approximately 50 m ³ per 11 minutes	Approximately 50 m ³ per 11 minutes
Ambient temperature	10 °C to 40°C	10 °C to 40°C

6.2 Warranty and service

- Warranty period: 12 months (parts and labour)
- The warranty is void if the defect results from an operational intervention in the unit, normal wear and tear, negligence or lack of maintenance by the customer.
- The warranty is void if abnormal corrosion is found on the unit because of use of another product than the one advised in this user manual.
- For any further information about warranty and service, please contact the dealer.

6.3 Compliance

- EC-DECLARATION OF CONFORMITY


BLOWER TECHNOLOGIES

EC-Declaration of Conformity

In accordance with the EEC machine directive 2006/42/EG of 17. May 2006, appendix II A We hereby certify that the following described machine in it's conception, construction and form put by us into circulation is in accordance with all the relevant essential health and safety requirements of the EC machinery directive 2006/42/EEC as amended and the national laws and regulations adopting this directive.
This declaration is no longer valid if the machine is modified without our consent

Manufactors name:
actiro Power Blower GmbH
Simsonstrasse 38
98529 Suhl
Germany
phone: +49 3681 3516-0

Description of the machine:

- function: room disinfection device
- type/modell: 1064-X-0000 / HYSPPRAY
- year of construction: 2012

The agreement with further valid guidelines/regulations following for the product is explained:

- EMC Directive 2004/108/EG
- Low Voltage Directive 2014/35/EU

Applied one harmonized standards in particular:

- DIN EN 12100-1:2010 Safety of machinery - Basic concepts, general principles for design – Part 1: Basic terminology, methodology
- DIN EN 12100-2:2010 Safety of machinery - Basic concepts, general principles for design – Part 2: Technical principles
- DIN EN 60204-1:2007 Safety of machinery - Electrical equipment of machines – Part 1: General requirements
- DIN EN 55014-1:2006+A1:2009 Electromagnetic compatibility
- DIN EN 60601-1-2:2007 Medical electrical equipment - Electromagnetic disturbances

Place/date:
Suhl, 24/06/19

Personal data of the signer:
Thomas Niehle, General Manager

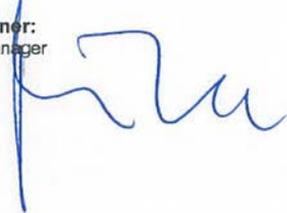
Signature: 

Figure 20

■ EMC

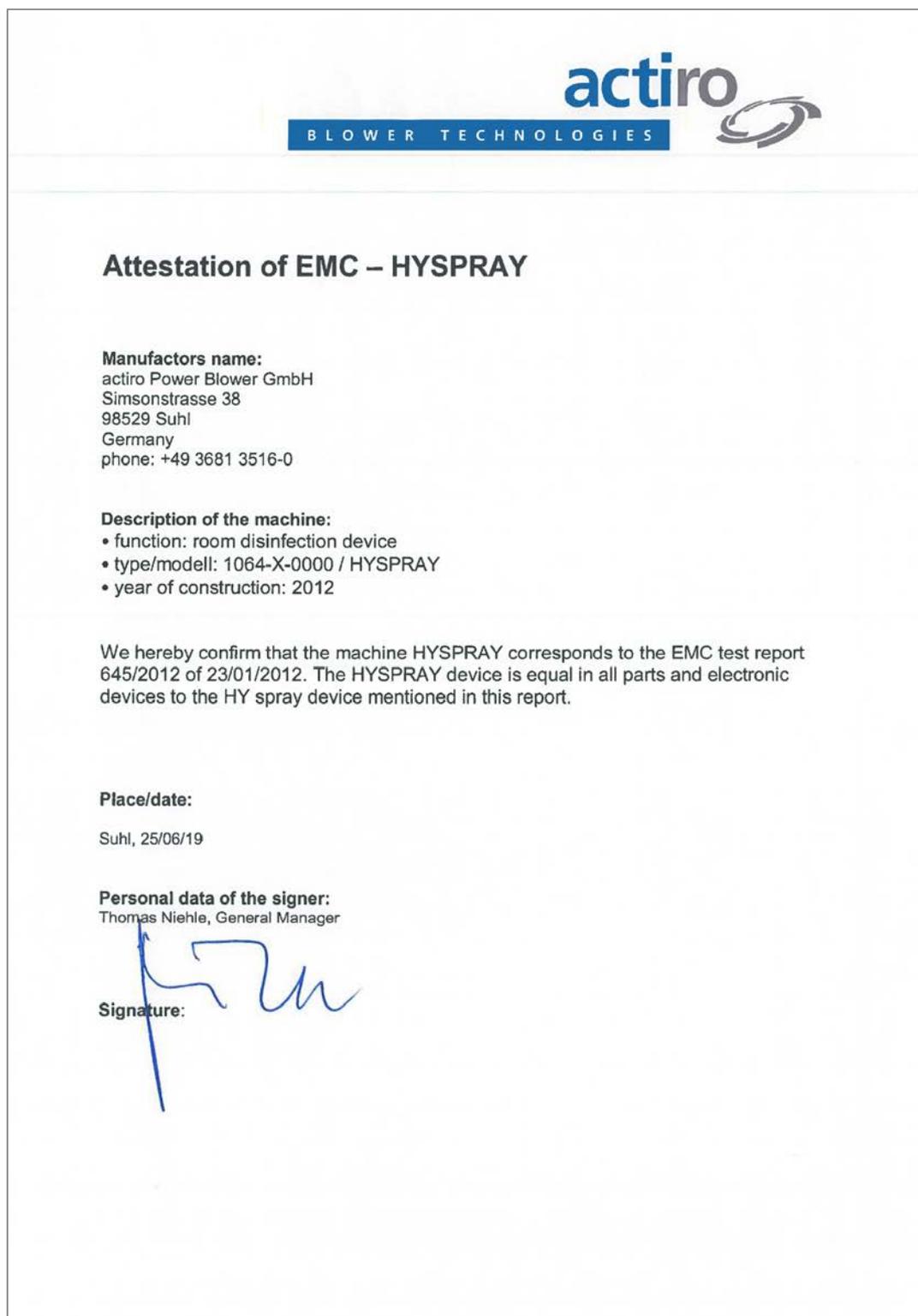


Figure 21

NOTES

DEALER

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