

HYGIO®

User Manual - a40 Medi



Read carefully this user manual before installing and using the device.

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Quick Help

1

Place the items in the device. The items must be placed loosely enough so that ozone can affect effectively.

2

Turn the power on.

3

Close the door and select program.

4

Press START and the ozone cleaning will start. The door will be locked automatically.

5

When the READY-light turns on, the process is finished and you can safely open the door.

Additional Information:

The process can be cancelled by pressing the CANCEL-button, after which the door can be opened in 15 minutes.

The disinfection progress is indicated on the control panel.

The door has an electrical lock which ensures that it cannot be opened during the process. In case of emergency the door can be opened by removing the power cord off the device.

Process only dry items.

Processing does not remove visible dirt, so you may want to wash the item first.

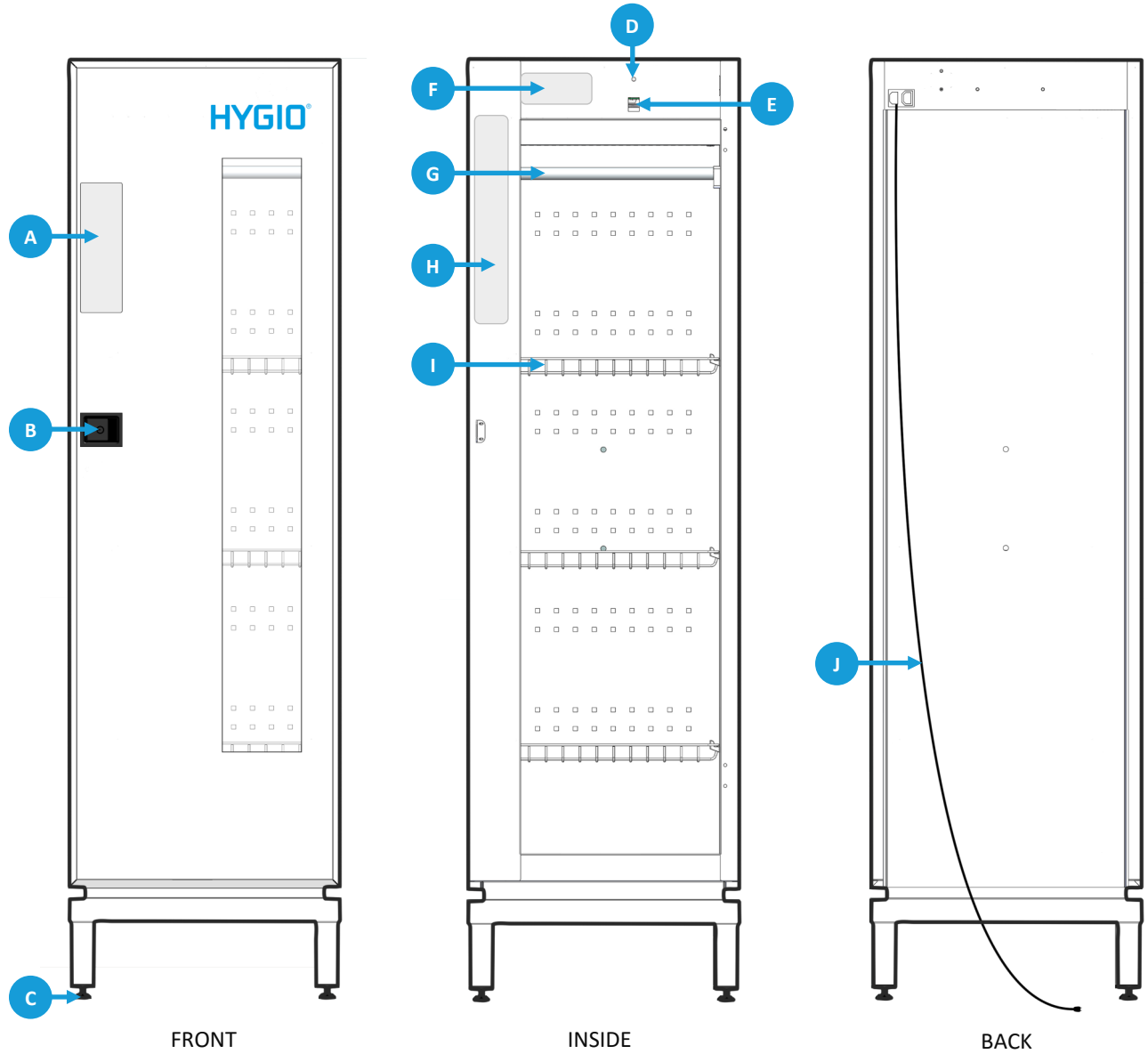
Clean the device's interior once a week or according to need.

Avoid using the device in high humidity (dew point over 16 °C or relative humidity above 60%).

Order service as soon as the service light indicator starts flashing. You can continue using the device until the service time. Unless stated otherwise, service is arranged by Hygio Oy.

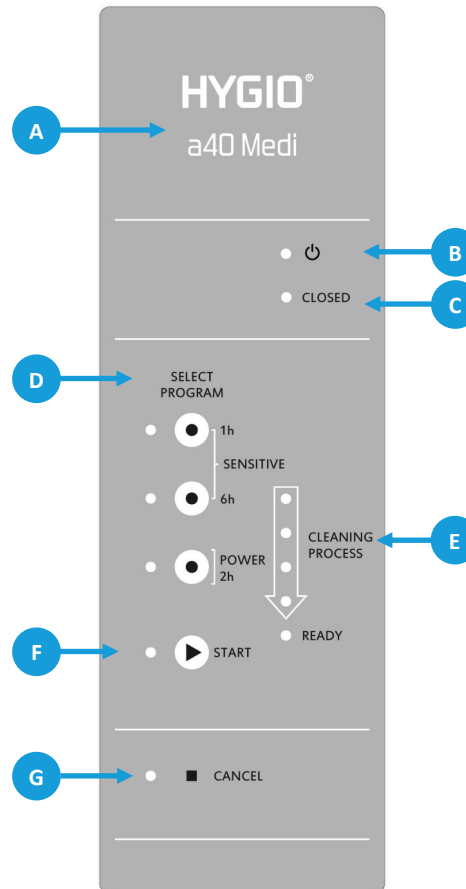
Exterior

- A control panel
- B door lock
- C adjustable legs or wheels
- D service indicator
- E main power switch
- F device plate
- G clothes rack, hangers
- H instructions and serial number
- I adjustable shelves, brackets
- J power cable



Control Panel

- A model designation
- B power
- C door closed indicator
- D program selection
- E progress indication
- F start button
- G cancel/ interrupt



Safety Instructions

- Only people familiar with the device should operate it.
- Children are not allowed to use the device.
- Do not put people or animals inside the device.
- The device should be serviced only by authorized professionals nominated by Hygio Oy.
- A damaged device may be a security risk. Check the device for external damage. Never use a damaged device.
- Do not use the device when empty. This shortens the maintenance intervals.
- The device must be connected to a grounded electrical output.

- Keep the device at normal room temperature. The device must not be exposed to moisture. Use the device only indoors.
- The device is intended for use in a dry place. High air humidity shall decrease the disinfection efficiency and shorten the maintenance interval.

Attention:

- Do not open the door by force during the process. Should this happen, the ozone concentration in the room rises momentarily and may affect everyone in the room. This does not cause permanent harm but the room must be ventilated properly. Leave the room until this is done. After ventilation, the room can be used normally.
- In case of electrical power loss, the program stops. Do not open the door. After power recovery, restart the program. The door can be opened when the program has finished.
- No chemicals are used in the device. Ozone does not leave any residuals inside or on the products. It will be neutralized back into normal oxygen at the end of each program.

- Make sure that only allowed items are processed. The following things are prohibited:
 - Human beings and animals.
 - Latex. When in doubt make sure that none of the items contain latex (natural rubber). Ozone weakens latex.
 - Wet and damp items.
 - Self-igniting materials. For example: Textiles that may contain significant amount of linseed oil, other fuels or traces of solvents.
- If you suspect that the device is not working properly, call for service.

How it operates

The Hygio device is designed for removing odors from textiles and other items and for dramatic improvement of the hygiene level.

The process is based on utilization of ozone and its ability to destroy harmful microbes and other organic material rapidly and safely.

During the process ozone is produced and kept in a fully enclosed space and neutralized back to oxygen before the door can be opened.

The improved hygiene level can be experienced as removal of odour and a light, pleasant scent of ozone.

What can be processed?

Practically anything.

What can not be processed?

Items or parts made of natural rubber (latex) can't be disinfected with ozone as ozone makes natural rubber to brittle and loose it's elasticity.

Electronic devices should not be processed in the POWER program as the higher ozone concentration can increase risk for metallic corrosion in repetitive use. Electronic devices can be disinfected safely using SENSITIVE programs.

Never put these in the device:

- Never process people or animal!
Ozone is defined as a harmful substance for humans and animals.
- Products made of latex (natural rubber). Ozone weakens latex and makes it brittle.
- Wet and damp items. Hygio-device is not intended for the processing of wet items. Humidity increases the need for service and reduces the effectiveness of the process.

Installation

Place the device in an upright position.

The device has adjustable legs so that stable installation is easy even on an inclined or uneven surface.

Connect the device to a grounded outlet with the supplied cable. If you install several Hygio-devices side by side you can connect them by electrical cord chaining. This way, only one outlet is required. Chain cords can be purchased as Hygio accessories.

Recycling

The device is made of recyclable materials. Discarded device upper housing must be delivered to a electrical and electronic equipment collection point or a recycling centre. Frame accessories can be delivered to a metal recycling process.

Using the device

Press the power switch on and place the items in the device so that air can circulate freely.

Close the door and select the program according to the disinfection need. Press the START-button. The door can be opened when the READY-light turns on.

Note:

- The air-tight chamber is locked electrically and opens when the selected program has elapsed.
- If you want to stop the device during the process, press CANCEL. The lock opens as soon as the ozone is neutralized back to oxygen. This takes ca. 15 minutes.
- Ozone easily penetrates porous materials. More dense materials, such as fur or leather require longer processing time for deep disinfection.
- A light ozone scent can be detected in the products for some time after the process. This is normal.

Program	Dose	Usage
1 h sensitive	1 x	For significant improvement of hygiene and for disinfection. Removes odours and disinfects textiles and hard surface materials efficiently. Suitable for disinfecting electronic devices.
6 h sensitive	6 x	High dose program for processing large amount / heavy / thick textiles efficiently. Can be used to obtain a disinfection result with a margin, for example in health care applications. Same O ₃ concentration as in 1h program. Suitable for disinfecting electronic devices.
2 h power	6 x	High dose program for processing large amount / heavy / thick textiles efficiently in short time. Can be used to obtain a disinfection result with a margin, for example in health care applications. Higher O ₃ concentration (ca. 3x) than in 1h and 6h programs. <u>Not suitable for disinfecting electronic devices:</u> <u>Risk of corrosion exists if an electronic device is processed very frequently.</u>

Cleaning and Care

Keep the device clean by vacuuming or wiping the dust off the interior.

Wipe the interior with a damp cloth once a week or more often depending on the use.

Maintenance, Service and Warranty

Repair and Warranty

The device can be repaired and serviced only by an authorized Hygio service specialist.

The device can not be used without regular service.

An economical maintenance agreement is available from Hygio or nominated service company and includes all regular service and change of consumables.

The device has a service indicator which lights on for two seconds when the power is turned on. If the indicator light remains flashing, the device requires service. We kindly ask you to contact Hygio or the nearest service partner within 14 days. Until then, the device can be used normally.

Warranty

In normal use the device has a two year warranty period. The warranty does not apply to any damage caused by the user or to industrial use.

The warranty becomes void if service is done by any other than Hygio or its authorized service partner or if the device is modified in any way.

The warranty does not apply to consumables such as filters or ozone generator parts.

What if...

The device does not start?

Make sure the power is turned on.

The service indicator is blinking ?

Contact Hygio and agree on a service date.

At the end of the program, a strong smell of ozone is detected?

Contact Hygio or a nominated service company and order a service visit.

Ozone leaks out during the process?

Ventilate the room immediately. Leave the room, contact a Hygio authorised service and follow the instructions.

The process doesn't seem to remove the odour?

If the chamber is full and some of the items have a very strong odour, a second or even longer program may be needed. If the problem persists, contact Hygio authorized service.

Note: Ozone processing does not remove dirt.

A person or animal is in the device while the device is running.

Immediately remove the power cord from the back of the device and open the door. The electric door lock opens automatically when the electric supply is interrupted. Take the injured into fresh air and call emergency. Ventilate the room.

Accessories

The Hygio a40 Medi standard delivery includes the following accessories:

- 4 wire baskets and 16 brackets
- 1 rack
- 3 hangers
- 6 hooks (200 mm)
- 4 hanger bars (500 mm)
- 1 AC power cord
- Door keys

The positions of wire baskets, hooks and hanger bars are adjustable.

Accessories can be ordered separately. Please contact Hygio or representative.

You can order accessories from Hygio Oy. You will find all contacts at www.hygio.fi

Technical information

Important technical information can be found on the device plate (F).

Height with adjustable legs: 1900 mm, adjustment range 30 mm.
Height with wheels: 1905 mm
Interior free height: 1470 mm

Width: 550 mm
Interior free width: 430 mm

Depth: 650 mm
Interior free depth: 595 mm

Weight: 105 kg

Power input 240 V / 80 W
Process power: 10 W - 80 W
Effective substance: O³ (ozone)
Cable length: 2500 mm
Powder coated steel plate construction.

Environment:

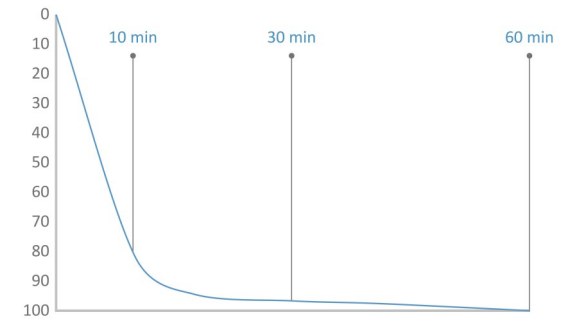
Dry, warm, air-conditioned room.

Operating temperature: 20-35 °C

Humidity: Dew point below 16 °C

(For example: in 22 °C the relative humidity should be below 60% R.H.)

Designed and manufactured in Finland.
CE-approved.



The efficiency and safety of the Hygio a40-device has been tested in a variety of tests. For example, *Bacillus atrophaeus*, *Staphylococcus epidermidis*, *Escherichia coli* (graph), *Candida albicans* ja *Cladosporium sphaerospermum* -microbes were efficiently neutralized in the tests.

Nearly all the microbes tested are 90% killed in 1 hour program. The typical disinfection performance is 99,9 %.

With *Staphylococcus epidermidis* -bacteria the disinfection result is 99,999 %. These tests were done on textiles. With hard materials the results are better.

The device was tested with four laboratory coats at the same time (4 x 466 g) and test strips.

For more information about the tests, please contact the manufacturer.

Usage tips

Healthcare equipment

Practically all work wear, equipment and instruments used in health care can be disinfected with Hygio a40 Medi.

In addition to cleaning work clothes and basic instruments, significant hygiene benefits can be achieved by disinfecting items that can't be or are difficult to disinfect by conventional methods, such as:

- toys, books, electronic instruments and instrument cases, mobile phones and PCs, keys, footwear, x-ray protective shields, orthopaedic and rehabilitation supports, physiotherapy exercise equipment etc.

Using Hygio is easy. Frequent disinfection helps maintaining high hygiene level.

If you want to ensure a standardized disinfection result, you can instruct your staff to use a standardized way of filling the cabinet. In practice this means filling the cabinet every time with the same amount of specific material. When necessary, you can verify the disinfection results with microbe tests. More information is available from Hygio Oy.



Electronics, instruments and books

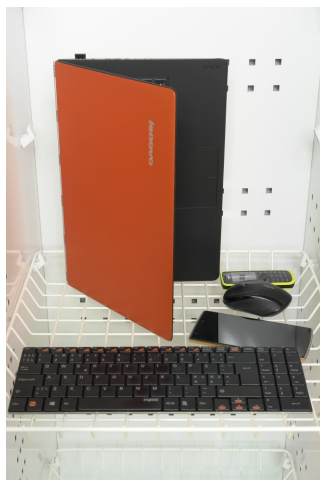
When processing electronic devices, place them in the cabinet following the same principles as when processing textiles.

Before ozonizing the items, remove any visible dirt from the items with a damp cloth. You can also use cleaning or disinfection fluids or wipes recommended for these products.

Allow the items to dry completely before placing them in the chamber. Place the items loosely so that air flows freely.

Make sure that the devices doesn't contain parts made of natural rubber (latex). Natural rubber brittles when exposed to ozone.

When processing books or magazines, open the pages so that air flows freely between them.



Filling the cabinet

Place the items inside the cabinet loosely so that ozonized air gets easily between the items and reaches all parts of them.

When filled as in the examples at right, a disinfection treatment will be reached using the one hour program.

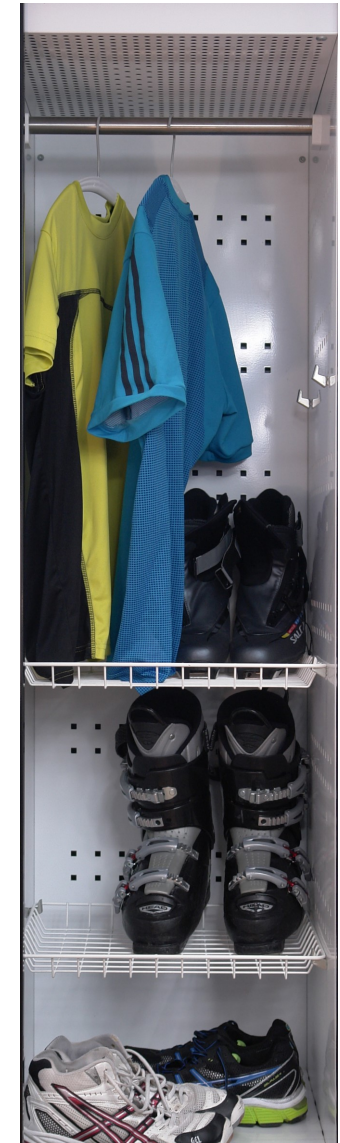
To get the same level treatment result for heavy textiles or furs, place significantly fewer items in the cabinet.

Solid items such as plastic toys or other hard surface equipment are disinfected more easily than textiles and they can be processed in large quantities.

Ozone is not able to penetrate through stains of dirt easily. Even dirty items can be refreshed and unpleasant odours reduced but no disinfection result is achieved.

Process only items that are completely dry.

Any humidity will interfere the disinfection process and may damage the device.



Processing difficult items

When enhanced cleaning efficiency is needed, an item can be processed multiple times and the positioning of the item can be changed between programs. For example a jacket can first be processed normally and then reversed for better cleaning result of the inner parts.



Bottom parts of tubular items are the most difficult ones for the circulating air to reach. The air flows through all wall holes. However, the air flow is most powerful from the left wall.

Hint: Difficult tubular items can be placed so that they are open to the left to allow maximum air flow to inner parts.



Large textiles

Removable horizontal hanger bars can be used for processing large textiles. The bars are available as accessories.

As an example, you can place four 2,7 m long curtains or one 5 m long textile in the cabinet.



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