



## **Manual: installation, use and maintenance**

### **BIOXIGEN® DEVICE: MAIA MODEL**

The unique air sanitizer with certified results

Product code:  
**BXMAIACB**



# CONFORMITY DECLARATION



The company

**Skill Group Srl**

With headquarters in

Via Lombardia, 2  
37044 Cologna Veneta (VR) ITALIA

Declares, on its full responsibility that BIOXIGEN® sanitization devices

models: **BXMAIACB**

Manufactured by Skill Group Srl

Comply with the following CE directives:

2006/95/CEE LOW VOLTAGE DIRECTIVE

2002/95/CEE RoHS DIRECTIVE

2002/96/CEE RAEE DIRECTIVE Register number IT08070000005370

Skill Group Srl

Andrea Mantovani

Legal representative

Cologna Veneta, 08/01/2020

# CONTENTS

<b>CONFORMITY DECLARATION</b>	<b>16</b>
<b>1 - GENERAL INFORMATION</b>	<b>18</b>
1.1. Introduction, unit identification, symbols	18
1.2. General warnings and instructions	19
1.3. The Bioxygen® system	19
1.4. Constructional characteristics	20
1.5. Technical specifications, dimensions and weight	20
1.6. Local approximate dimensions for using the unit:	20
<b>2 - TRANSPORT</b>	<b>21</b>
2.1. Packaging	21
2.2. Handling and transport	21
2.3. Inspection upon receipt	21
2.4. Lifting	21
2.5. Storage	21
<b>3 - INSTALLATION AND COMMISSIONING</b>	<b>21</b>
3.1. Definitions	21
3.2. Safety instructions	22
3.3. Preliminary operations	23
3.4. Choosing the place of installation	23
3.5. Devices Positioning	23
<b>4 - ELECTRICAL CONNECTIONS</b>	<b>24</b>
4.1. Power supply	24
<b>5 - DEVICE USE</b>	<b>24</b>
<b>6 - MAINTENANCE</b>	<b>24</b>
6.1. Warnings	24
6.2. Scheduled maintenance	24
6.3. Condenser cleaning and replacement	25
6.4. Check the Unit Operations and Possible Faults	26
6.5. Checks before calling for skilled staff (dealer, manufacturer)	26
<b>7 - DISPOSAL</b>	<b>26</b>
<b>DECLARATION OF UNIQUSS</b>	<b>27</b>

## 1. GENERAL INFORMATION

### 1.1 Introduction, unit identification, symbols

CONGRATULATIONS AND WELCOME TO BIOXIGEN®.  
Thank you for having chosen our product.

This manual describes the information and instructions required for transport, installation, use and maintenance of the Bioxigen® purification modules made by Bioxigen Srl (hereinafter also called manufacturer).

The user will find all the information normally needed for correct and safe installation of the Bioxigen® purification devices. Failure to observe the instructions provided in this manual and/or improper installation of the device may mean the manufacturer's warranty on its products no longer applies.

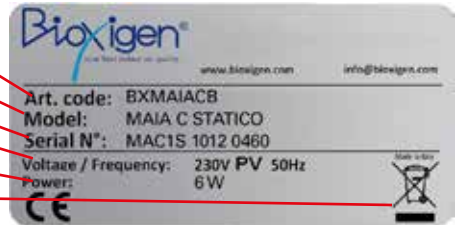
Moreover, the manufacturer is not liable for any direct and/or indirect damage due to incorrect installation or damage caused by units installed by inexperienced and/or unauthorised personnel.

Make sure when receiving your purchase that the device is intact and complete.

**Any complaints must be made in writing within 8 days of receipt of the goods.**

### UNIT IDENTIFICATION

A	Product code
B	Model
C	Serial number
D	Voltage in V – Mains frequency in Hz
E	Power rating in W
F	CE mark and logo indicating disposal in accordance with standards in force



### CE identification

The Bioxigen® purifier is CE marked in accordance with European Union requirements, Directives 2004/108/CEE, 2006/95/CEE, 2006/42/CEE and later amendments.

### Important note

Bioxigen® devices are designed and built to purify air for civil, industrial and food environments not compatible with toxic and flammable gases.

The devices must never be used in places where air is mixed and/or altered by gaseous compounds and/or solid particles. The manufacturer and its distributors accept no direct and/or indirect liability if the device is used for purposes other than the intended applications or not in accordance with the instructions provided in this manual.

### SYMBOLS



WARNING



IMPORTANT: AUTHORISED  
PERSONNEL ONLY



PROHIBITED







DANGER













DANGER: RISK OF  
ELECTRIC SHOCKS

## 1.2 General warnings and instructions

-  This instruction booklet is an integral part of the device and consequently must be kept with care and must ALWAYS accompany the device, including when this is sold to another owner or user or transferred to another system. If lost or damaged, another copy can be ordered from the manufacturer.
-  Repair and maintenance must be performed by the manufacturer's authorised personnel or by other qualified personnel as described in this booklet. Do not modify or tamper with device as this may create danger situations; the manufacturer is not liable for any damage caused as a consequence.
-  After having removed the packaging, make sure the contents are complete and intact. If anything is missing or damaged contact the company that sold the device.
-  If the device is installed by an approved business pursuant to Italian law no. 46 of 5 March 1990, when work is complete the owner must be issued with a declaration of conformity certifying installation in compliance with the standards in force and the instructions provided by the manufacturer in this booklet.

The manufacturer accepts no liability for damage to people, animals or things due to errors made during installation, adjustment and maintenance or improper use.

-  Remember that when operating equipment involving the use of electricity and water, a number of fundamental safety rules must be observed, namely:
-  The unit must not be used by children or by unfit persons without suitable supervision.
-  Do not touch the unit with bare feet or with wet or damp parts of the body.
-  Never perform any maintenance or cleaning operations before having disconnected the unit from the mains power supply, moving the main system switch to "OFF".
-  Do not modify safety or control devices without authorisation and instructions from the manufacturer.
-  Do not pull, detach or twist the electrical cables coming from the unit, even when disconnected from the mains power supply.
-  It is forbidden to step on the device or sit on it. It is also forbidden to place any type of object on it.
-  Do not spray or drop water directly onto the device. Do not spray or pour water or other liquids directly onto the device. The device is not waterproof, avoid direct contact with water or other liquids and be careful during cleaning operations. In the case of relative humidity greater than 80% in the area, perform routine maintenance and remove any liquids deposited near electrical parts.
-  Do not open doors or panels providing access to the inside of the device without first moving the main system switch "OFF".
-  Do not dispose of, abandon or leave packaging materials within reach of children, as these may represent a hazard.

## 1.3 The Bioxigen® system (summary DESCRIPTION of the technology's OPERATING PRINCIPLE)

The Bioxigen® technology generates a flow of ionised air with a high concentration of negative oxygen ions. The oxygen ions are produced using an oscillating electric field that makes molecules in the air vibrate, increasing their kinetic energy and as a result exchanging electrons when colliding, creating negative oxygen ions and positive ions (O<sup>2-</sup> and N<sup>2+</sup>). That charged particles also act upon the molecules to eject electrons. Negative ions collide with airborne, particles such as dust, pollen, bacteria, dander and smoke.

The negative ion transfers its charge to the polluting particle creating a new negatively charged particle, which continue to attract positive particles until the particles become heavy enough to fall out of the air. The ions are strongly attracted to the nearest "earthed" surface. As they drift, pollutants such as dust, pollen, cigarette smoke and even vapourized substances are attracted to and cluster around the ions. This has the effect of making the ion grow in size. There comes a point where it is too heavy to be carried in the air, so it falls to the ground.

This principle allows us to provide the benefits described without negative side effects. Some of our devices are registered as Medical Devices.

Bioxigen® technology is currently found in the devices available in our catalogue ([www.bioxigen.com](http://www.bioxigen.com)), inside components that make up the air treatment system: U.T.A, C.T.A., ducts and heat recuperators

This principle therefore allows us to provide the benefits described without negative side effects, some of our devices are registered as Class IIa medical devices.

The Bioxigen® technology is currently contained within equipment available in catalogues ([www.bioxigen.com](http://www.bioxigen.com)), inside the components that make up the air handling system:

AHUs, air ducts and heat recovery systems.

Bioxigen® devices are employed also in high-risk environments (operating theatres, intensive care, infectious diseases, production areas and packaging of food or products subject to zero micro-organism tolerance) where there must be both filtration and air sanitization.

These spaces are usually served by air handling systems designed for extreme air filtration but not effective in decontaminating the microbial population carried into the environment by people or by internal environmental conditions. Bioxigen® devices in this case play an important preventive role against the dangers of microbial contamination caused by sudden plant failure, by the conditions generated by malfunctions but above all by microbial contamination in the environment due to constant use of the system.

Of course finding specific devices suitable for use and scaling them is the task of our technical staff assisted, where necessary, by consultants: biologists, microbiologists etc.

For further technical, commercial or scientific information, contact us at the following email address: **info@bioxygen.com**.

#### 1.4 Constructional characteristics

Devices are made up of an external white PBT casing that contains a quartz condensers powered by an electrical circuit with voltage multipliers. MAIA devices are based on ionizing effect and purifies air and surfaces.

MAIA is a static device (without forced ventilation), ionization occurs when air get over external surfaces of the quartz condenser, where occurs an oscillating electric field.

The system releases negative and positive oxygen ions which diffuse in the room and purify the air.

The PBT top covers the condenser and can be easily removed for cleaning and maintenance operations of the condenser.

#### 1.5 Technical specifications, dimensions and weight

		BXMAIACB
Dimensioni (ØxH) - Dimensions (ØxH)	mm	335 x 110 x 85
Peso netto - Weight	Kg	1,3
Alimentazione - Power supply	V/Ph/Hz	230/1/50
Consumo - Consumption	W	6
Condensatore - Condenser	-	Tipo C

#### 1.6 Local approximate dimensions for using the unit

The unit volume rating is approximate and can vary a lot according to the quality of the air and the load in the volume to be treated.

Stanze da letto - Bedroom	70 - 100 m <sup>3</sup>
Stanza da bagno - Bathrooms	60 - 80 m <sup>3</sup>
Studio - Studios	60 - 90 m <sup>3</sup>
Uffici - Offices	60 - 90 m <sup>3</sup>
Aule scolastiche - Classrooms	60 - 90 m <sup>3</sup>
Banchi frigo - Refrigerated units	1 - 1,75 m <sup>3</sup>
Celle frigorifere - Cold rooms	15 - 30 m <sup>3</sup>

Sale d'attesa - Waiting room	55 - 80 m <sup>3</sup>
Studi dentistici - Dentist's surgeries	55 - 80 m <sup>3</sup>
Biblioteche - Libraries	60 - 90 m <sup>3</sup>
Saloni parrucchiere - Hairdressing sal.	55 - 80 m <sup>3</sup>
Bagni pubblici -Public toilets	40 - 70 m <sup>3</sup>
Sale polyvalenti - Multi-purpose rooms	60 - 90 m <sup>3</sup>
Sale lavorazione prod. - Prod. proces. rooms	40 - 60 m <sup>3</sup>

## 2. TRANSPORT

### 2.1 Packaging



The devices and their accessories are protected by special packaging.

Any materials that are not already installed for technical reasons are supplied packaged in suitable containers fastened to the inside or outside of the unit.

### 2.2 Handling and transport



When handling the devices, use suitable means according to the weights involved, as envisaged by EC directive 89/391 and later amendments

The weight of each individual device is shown in this manual.

Avoid too strong impacts.

### 2.3 Inspection upon receipt

When receiving the device, carefully check all the parts to ensure that no damage has occurred during transport.

Any damage found must be reported to the carrier, accepting the goods with reservation and specifying the type of damage on the delivery documents

**Any claims must be received in writing within eight days from the date of receipt of the goods.**

### 2.4 Lifting

Maximum care must be paid when handling the device during the unloading and positioning operations, to avoid damage to the casing or the components.

### 2.5 Storage

In the event of extended storage, keep the devices protected from dust and away from sources of vibrations and heat.

**The manufacturer declines all liability for damage due to incorrect unloading or inadequate protection of the devices against the weather**

## 3. INSTALLATION AND COMMISSIONING

### 3.1 Definitions

**USER:** The user is the person, organisation or company that has purchased or leased the device and that plans to use it for the intended purposes.

**OPERATOR:** The operator is the physical person authorised by the user to operate the device.

**SPECIALIST PERSONNEL:** These are people who have been specifically trained and are thus able to identify the dangers deriving from the use of this device and consequence



### **WARNING!!!**

**Before performing any work on the devices carefully read ALL the instructions provided in this manual**

### 3.2 Safety instructions



The manufacturer declines all liability for failure to observe the following safety instructions. It furthermore declines all liability for damage caused by improper use of the purifiers and/or modifications made without authorisation.

- The devices must be installed strictly observing the instructions provided in this manual.
- During installation, always wear suitable safety clothing, for example: glasses, gloves, etc., as described in EC 686/89 and later amendments.
- Always observe the laws in force in the country where the device is installed relating to the use and disposal of the packaging and the products used for cleaning and maintenance of the device, as well as the recommendations of the manufacturer of such products.
- **Before starting the device, check that the various components and the electrical system the device is connected to are in perfect order, ensuring a residual current circuit breaker is installed upstream of the power supply line, as specified in this manual.**
- Never insert any type of object into the device through the protection grills.
- Never start any maintenance or cleaning work until the power supply has been disconnected.
- Maintenance and replacement of damaged or worn parts must only be performed following the instructions provided in this manual.
- Spare parts must correspond to the requirements defined by the manufacturer.
- If decommissioning the Bioxygen® device, observe the legislation in force relating to the prevention of pollution in the country where the device is installed.
- When drilling ceilings or walls, make sure not to interfere with power cables, pipes or anything else that may be damaged.
- Do not pour water or liquids onto the device.
- Do not insert any type of objects into the slits on the Bioxygen® device, as contact with live points or electrical terminals may cause fire or electric shock.
- Position the device in such a way that the power cable is not stepped on.
- Do not connect the device to power lines that other electrical equipment or devices are connected to.
- The device has cracks and openings useful for ventilation, do not block or cover these openings.
- Do not place the device on soft surfaces (such as beds, sofas, carpets, etc.) and make sure you always leave space for adequate ventilation.
- Use the power supply indicated on the label. If you are not certain about the type of power supply available, contact your reseller or the local power company.
- Do not touch the inside parts of the Bioxygen® device unless specifically instructed to do so in this manual.
- Never force components during assembly: even though the device is made from sturdy materials, its parts may be damaged if not handled properly.
- Do not attempt to perform maintenance on the Bioxygen® device unless specifically instructed to do so in this manual.
- Opening or removing the exterior casing may expose users to dangerous voltage or involve other risks.
- Disconnect the device from the power supply and contact qualified service personnel (dealer, manufacturer) in either of the following cases:
  - Water or other liquid has been poured onto the device
  - Exposure of the device to weather
  - Malfunction, despite all the installation procedures having been completed correctly

**N.B. The installer and user of the Bioxygen® device must when using the appliance take into account and eliminate all other types of risk relating to the system.**

**These include, for example, risks due to foreign objects entering the device, or risks due to flow of dangerous flammable or toxic gases at high temperatures.**



### 3.3 Preliminary operations



- Check that all the components on the device are perfectly intact.
- Check that the packaging contains the documents and any accessories required for installation.
- Move the packaged section as near as possible to the place of installation.
- Never stack other equipment or weights on the device, nor place it on unstable surfaces.

### 3.4 Choice of Place of Installation



- Do not position the device in places containing flammable gases, acid, aggressive or corrosive substances that may irreparably damage the various components.
- Leave minimum clearance for installation and scheduled and unscheduled maintenance.
- If maintenance is to be performed at night, suitable lighting must be installed.
- Avoid the extreme proximity to painted walls or surfaces because the ionization effects can alter the coloration/shading. The recommended minimum distance is at least 50 cm.

### 3.5 Devices Positioning and Fixing

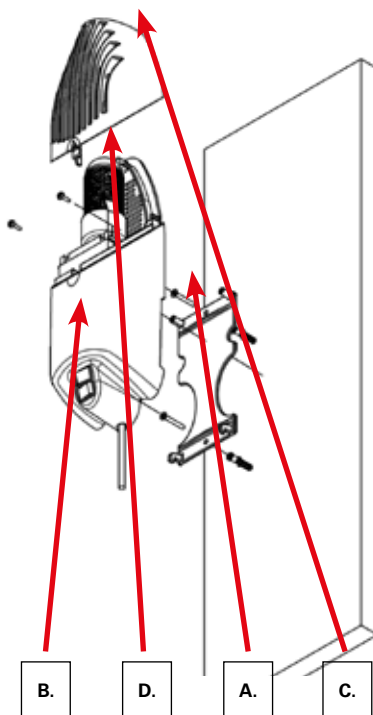


The installation point should be in a central position in the room, so that the ionized air can spread easily; in any case, leave a space of at least 50/60 cm all around the unit.

The devices MAIA are predisposed for placing on base or suspension, on wall or ceiling upside down with the bracket (A) that has to be requested as an accessory (cod. PMASTA).

### SUSPENSION INSTALLATION PHASES, ON WALL OR UPSIDE DOWN ON CEILING

1. Drill the wall the unit is to be placed on, using the BRACKET (A) as a mask to make the holes. In drilling ceilings and walls, ensure not to interfere with electrical cables, pipes and anything else that might be damaged in the process.
2. Use central holes on the BRACKET (A) for Fix it to the wall. Position the bracket vertically with screws fixing hole upward and hooks downward so when device is placed, the SWITCH and WARNING LIGHT (B) are downward and the grid (ventilation area) upward.
3. Place the device on a horizontal plane with the COVER (C) facing you. Remove the COVER (C) by pressing on the joint and pulling the cover horizontally in respect of the unit, holding the cover with one hand and the central body of the unit with the other.
4. Secure with two screws the flat bottom (D) of the unit and the bracket to the wall where the fixing holes have been drilled.
5. Reassemble the COVER (C) device.
6. Connect the unit to the mains using its plug only after installing it.



## 4. ELECTRICAL CONNECTIONS



**Before starting any operations, make sure that the main power line is disconnected**

- Check that the voltage and frequency shown on the device's rating plate match the mains power supply.
- The MAIA device must have their own power supply line; no other equipment must be powered by the same line. Never use adapters, multiple sockets and/or extensions.

### 4.1 Power supply

The BIOXIGEN® device leaves the factory completely wired and only needs to be connected to mains power using the socket provided.

## 5. DEVICE USE

After connecting the unit to the electricity using the cable supplied, the green warning light will light up, it indicates the device is powered.

To switch the unit on, turn the 0/I button to position I; a slight vibration/buzzing will be heard coming from the electrical condenser and the button will light up.



**For an effective action of sanitation, devices should MAIA remain always on 24 hours 24 inside environments where were located**



## 6. MAINTENANCE

### 6.1 Warnings



**BEFORE PERFORMING ANY MAINTENANCE OPERATIONS, MAKE SURE THAT THE DEVICE IS NOT AND CANNOT BE ACCIDENTALLY POWERED. POWER MUST BE DISCONNECTED FOR ALL MAINTENANCE**

- The operator is responsible for ensuring that all maintenance operations are performed.
- If a malfunction occurs, disconnect the device from the mains power supply and contact specialist personnel (dealer, manufacturer).

The frequency of required maintenance operations on the purification modules depends mainly on the quality of the air treated.

### 6.2 Scheduled maintenance

The BIOXIGEN® MAIA devices require only low maintenance, involving regular cleaning of the quartz tube condensers and the mesh electrodes, following the procedure described below.

### 6.3 Condenser cleaning and replacement

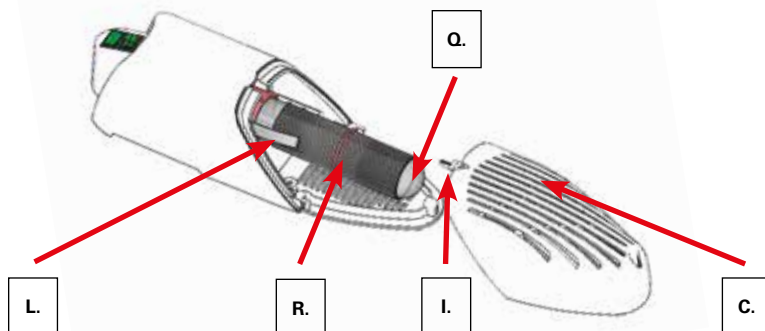
Periodically check the cleanliness of the quartz condenser according to the frequency listed in the table or when the efficiency of the device has decreased. Follow the instructions when cleaning the condenser.

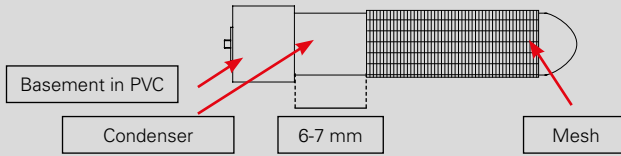
Cleaning	
Dusty environment	Once every month
Environment with little dust	Once every 3 month
Neutral environment	Once every 6 month

When you notice a white layer on the metal mesh inside the quartz glass or when the glass seems opaque even after cleaning, this means the condenser needs to be replaced. The average life of a condenser is 8,000-14,000 hours of continuous operation. This variability depends upon the quality of the air that is treated. It is recommended that you replace the condenser after a maximum of 18 months. To replace it, contact an authorised distributor or our offices at [info@bioxigen.com](mailto:info@bioxigen.com) or visit the website [www.bioxigen.com](http://www.bioxigen.com). The condenser replacement code is BXCONB, "type B condenser".

Check the condenser every six months or when you realize the unit is not as efficient as it used to be control the condenser.

1. Switch the unit off by unplugging it
2. Place the device on an horizontal plane with COVER (C) facing you.
3. Remove the COVER (C) by pressing on the joint (I) and pulling the cover horizontally in respect of the unit, holding the cover with one hand and the central body of the unit with the other.
4. Gently unscrew the quartz CONDENSER (Q).
5. Remove the OUTSIDE MESH (R) of the condenser: if it seems to be difficult, rotate the net slightly on the quartz condenser.
6. Clean the quartz condenser using a moist cloth. **WARNING: Do not use detergents, soaps or similar products.**
7. Wash the OUTSIDE MESH (R) under running warm water and dry carefully with a dry cloth.
8. Check whether the condenser shows any cracks or other damage; if so, replace it.
9. As soon as a whitish layer appears on the metal grill inside the condenser, it means the condenser should be replaced. **In general, the condenser must be replaced at least every 18 months.**
10. Reposition the metal mesh on the condenser, placing it over the inside grill internal. **WARNING: Leave a minimum distance of 6-7 mm from the bottom of the condenser.**
11. Check that SPRING TAB (L) touches the metal NET OUTSIDE (R) and pushes it against the glass of quartz condenser (Q).
12. Clean the outside of the appliance.
13. Carefully screw the quartz condenser in on its seat.
14. Refit the COVER (C).
15. Plug the unit in.
16. Check operations of the device: the slight crackling noise produced by the condensers must be audible.



**ATTENTION!!****Always keep a minimum 6-7 mm from the base of the condenser****6.4 Check the Unit Operations and Possible Faults**

Check the unit while working.

**6.5 Checks before calling for skilled staff (dealer, manufacturer)**

1. The green light is off:
  - Check the socket the unit is connected to is working.
  - Check the COVER is fitted properly.
2. No noise can be heard coming from the condenser:
  - Disconnect the unit and clean the condenser as described in 6.3.

In case of malfunctioning different from above described disconnect the unit from the mains and consult skilled personnel (dealer, manufacturer).

Disconnect the unit from the mains and contact skilled service personnel in one of the following cases:

- If the electric cable is damaged or worn.
- If the plug is damaged or worn.
- If water or liquid has been poured on the unit.
- If the unit is not working correctly in spite of the installation being performed correctly.

**7. DISPOSAL**

At the end of their working life, the Bioxigen® devices must be disposed of in accordance with the standards in force in the country in question. The following materials are used to make the device: Stainless steel, Aluminium, Glass, Nylon, Plastic, Paper and Cardboard.



## DECLARATION OF UNIQUENESS

The undersigned, considering the offers on market, declares:

To be the sole and only company able to supply directly or through its distributors, on national and international territory, the branded **BioXigen**<sup>®</sup> ionizing system in the following listed various standard models, as well as models studies and personalized to fulfil the clients requirements:

TRIS  
MAIA  
SFERA  
MISTRAL  
BXMSF2V  
BXMSF4V

The above mentioned are machines, devices or instruments intended for air and surface sanitization, with technical requirements and effectiveness levels.

The devices are entirely produced in Italy using an exclusive know-how, which allows to certify the effectiveness level, as stated in the certificate issued by "TUV PROFICERT":

The production is assured by industrial patent-right, supply is made exclusively with the **BioXigen**<sup>®</sup> brand.

Cologna Veneta  
28th January 2010

Skill Group Srl



**Skill Group S.r.l.**

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