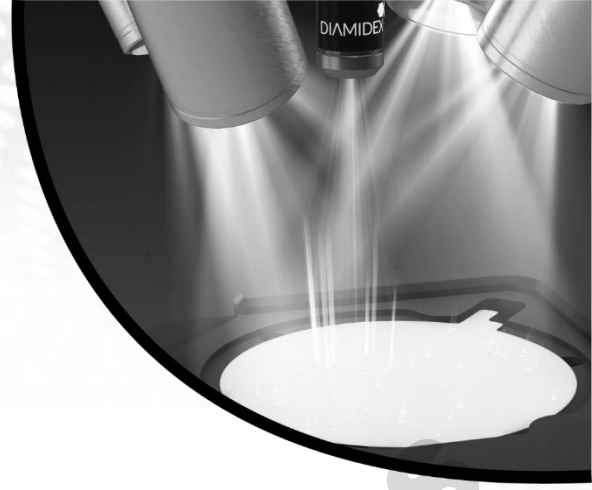


# MICA

## INSTRUCTION MANUAL

### MICA counter



#### NOTICE!

Before operating the equipment, read the operating and installation instructions and observe the safety notices!



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## 1- SCOPE OF DELIVERY

- 1 MICA counter with its power cord
- 2 Reading cassettes



**MICA Fluorescence Counter**



**MICA Fluorescence Reading cassettes**

The cassettes engraved with the letter A are to be used to carry out *Legionella* or *Alicyclobacillus* analyses.

The cassettes engraved with the letter B are to be used to carry out analyzes of *Pseudomonas*.





## 2- ABOUT THE DOCUMENT

### 2-1 Using the operation instructions

The operations instructions are part of the equipment.

- In the event of uncertainties regarding the content of the operating instructions, please contact your distributor or the manufacturer.



- Read the operating instructions before you commission the equipment.
- Keep the operating instructions within reach at all times.
- Give the operating instructions to the next owner/user.

### 2-2 Exclusion of liability

The manufacturer assumes no liability for damages and malfunctions resulting from changes of modification to the device and improper handling.

The manufacturer assumes no liability for damages and malfunctions resulting from impermissible spare parts and accessories.

### 2-3 Symbols and markings

#### Warning notice



A notice that warns you of danger is located here.

Possible consequences of a failure to observe the warning notice are specified here. The signal word, e.g., warning, indicates the danger level.

→ Measures for avoiding the danger and its consequences are specified here.

Signal word	Meaning	Consequences if not observed
DANGER	Warns of immediate danger.	Death or serious injury or serious damage will result.
WARNING	Warns of possible danger.	Death or serious injury or serious damage is possible.
CAUTION	Warns of a possibly dangerous situation.	Minor injuries or damage is possible.
NOTICE	Warns of possible damage.	Damage is possible.





## Explanations of pictograms

Pictogram	Meaning
	General warning symbol
	Warning of hot surface
	Warning of electrical voltage
	Warning of explosive materials
	Warning of poisonous substances
	Observe the operating instructions
	General mandatory sign
	Unplug mains plug
	Use foot protection
	Use hand protection
	Environmentally conscious disposal
	Recycling





## 3- USE

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### 3-1 Proper use

The counter is intended exclusively for detecting and/or counting objects (such as microcolonies) having a diameter  $>10\mu\text{m}$  on a circular filtration membrane which has a diameter  $\leq 48\text{mm}$ . The optical system of the counter takes numerous very high-resolution snapshots of each membrane, which are then analyzed by the MICA counters software to determine the presence/absence and/or the precise number of objects present on the membrane.

### Responsibility of the owner



Only install and operate the equipment in accordance with the operating parameters and conditions described in Chapter 5 *Technical data*, in Chapter 8 *Installation*, and in Chapter 9 *Operation*.

Only counters that are fully assembled and in the conditions as delivered may be operated.

### 3-2 Improper use



The counter is not intended to be operated with other membrane support than the reading cassettes provided, and other membranes than those specified.

The counter is not intended for the analysis of microorganisms other than those of the MICA range offered by Diamidex (*Legionella*, *Alicyclobacillus*, *Pseudomonas*, ...).

## 4- SAFETY

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The equipment is built in accordance with the generally recognized rules of engineering and the occupational health and safety and accident prevention regulation. Nevertheless, danger can arise during their installation and use that can lead to injuries to the user or third parties or damage the equipment or other property.

Only use the equipment in perfect technical conditions, for its intended purpose and in observation of the installation and operating instructions.

When connecting the equipment to the electrical mains, observe the corresponding safety rules.

Make sure that only specially trained and instructed personnel work on the counter. This applies to installation, operation, cleaning and servicing work.

Make sure the personnel have read and understood these instructions before installation and use.





Observe the regulations on accident prevention and safety during all work on the equipment and during operation.

Make sure that an EMC-compliant installation of the counter is ensured all the time and that no dangerous situation can thereby arise.

Make sure that the permissible ambient temperature (Chapter 5 *Technical data*) is not exceeded.



Store and dispose of the equipment as well as all consumables and replacement parts in accordance with environmental regulations. This applies in particular to parts that are contaminated with toxic substances.



Dispose of packaging material that is no longer needed in an environmentally responsible manner. The packaging materials are recyclable.

## Declaration of conformity

This equipment is in compliance with the following CE directives:

- European Directive 2006/42/EC relating to machines.
- European Directive 2014/30/UE about electromagnetic compatibility.
- European Directive 2014/35/UE relating to low voltage electrical goods

This equipment has been tested and found to comply with:

- FCC Subpart B—Unintentional Radiators
- Canada/ICES-003 Issue 6
- UL 61010 -1 - Part 1
- CSA C22.2 No. 61010-1 - Part 1

### Manufacturer: DIAMIDEX

Grand Luminy Technopole Zone Luminy  
Entreprise Biotech Case 922,  
163 Avenue de Luminy  
13288 Marseille Cedex 09 FRANCE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.





## 5- TECHNICAL DATA

### MICA Fluorescence Counter

#### General specifications

<b>Membrane format</b>	Circular membrane 47 or 48 mm diameter
<b>Detection type</b>	Fluorescence and bright field
<b>Obtained result</b>	Total number of micro-colonies per sample
<b>Diameter of detected objects</b>	> 10 $\mu$ m
<b>Quantitative method</b>	Yes
<b>Membrane transfer tool</b>	Acetal (POM) reusable cassette
<b>Number of transfer cassettes supplied</b>	2

#### Optical reading

<b>Detection area</b>	38 mm diameter on the membrane
<b>Type of scan</b>	Automated and multi-color smart scan
<b>Focus</b>	Factory preset focus
<b>Light source</b>	High intensity, low consumption LED

#### Data management

<b>Format of analysis reports</b>	.pdf
<b>Data export format</b>	.csv
<b>MICA Connectivity</b>	1 USB 3.0 port + 1 Ethernet port
<b>Internal storage</b>	480 Go
<b>Screen</b>	Tactile, 8"

#### Power supply

<b>Input</b>	100-240 VAC, 50-60 Hz
<b>Power</b>	200 W
<b>Operating temperature</b>	5-35°C (41°F - 95°F)

#### Dimensions and weights

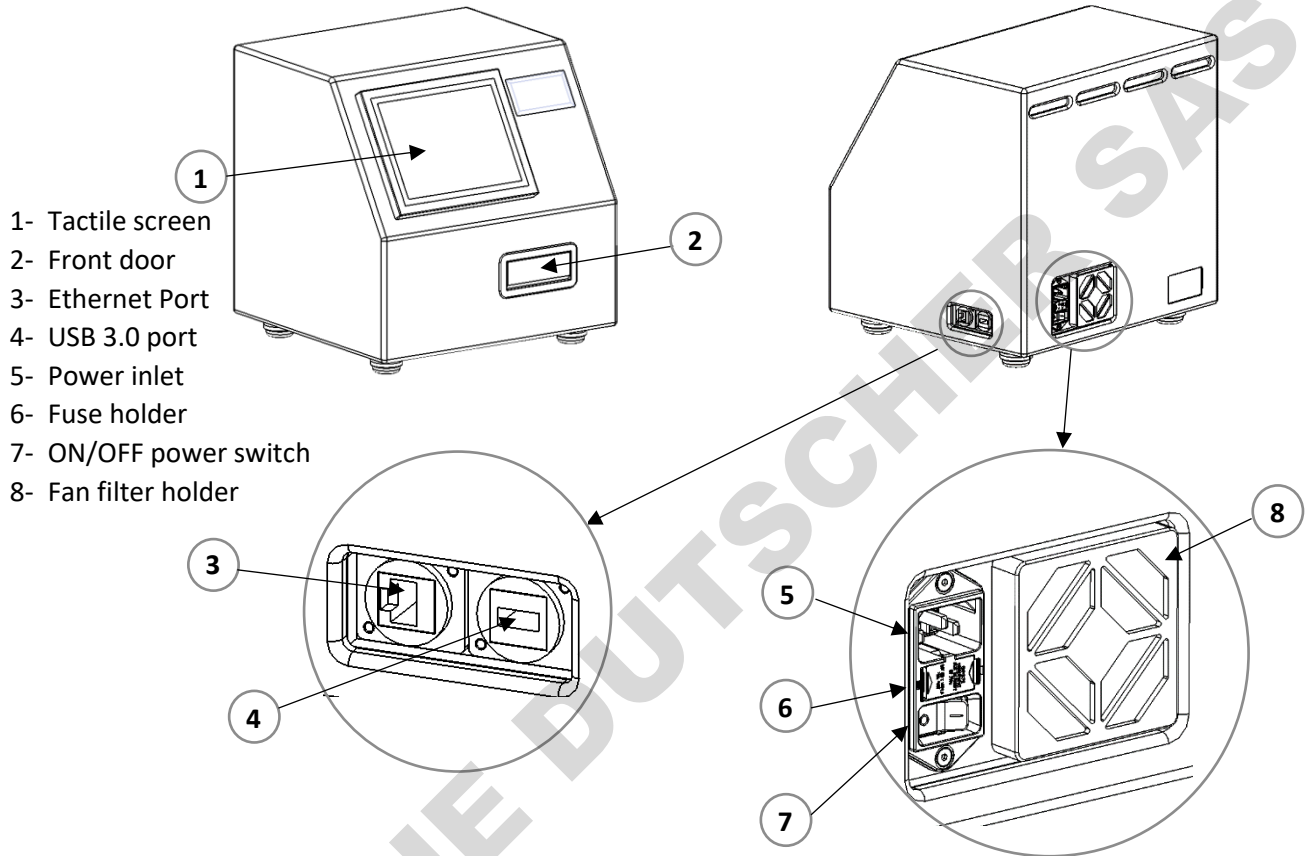
<b>Product dimensions (WxDxH)</b>	340 x 340 x 320 mm (13.4 x 13.4 x 12.6 in.)
<b>Net product weight</b>	19 Kg (42 lbs)
<b>Packed dimensions (WxDxH)</b>	490 x 520 x 520 mm (19.3 x 20.5 x 20.5 in.)
<b>Packed weight</b>	20 Kg (44 lbs)







## 6- DESIGN



- 1- Tactile screen
- 2- Front door
- 3- Ethernet Port
- 4- USB 3.0 port
- 5- Power inlet
- 6- Fuse holder
- 7- ON/OFF power switch
- 8- Fan filter holder

## 7- TRANSPORT - UNPACKING



In the event of incorrect or improper transport, the equipment can fall down, be damaged or injure persons.

Use suitable auxiliary means if necessary (carrying strap, lifting gear, etc.).



Where appropriate, wear suitable personal protective equipment (e.g., safety shoes, safety gloves).



There is a risk of injury from cutting on the sharp edges when grabbing corners or when opening the packaging.

Transport the equipment in the original packaging to the installation location.

Store the original packaging (e.g., for later storage or shipment).

Inspect the equipment for transport damage after receiving it. Document any transport damage in writing.





## 8- INSTALLATION

Only connect the equipment in accordance with the operating parameters and conditions described in Chapter 5 – *Technical Data*.

Before connecting, store the equipment at the installation location to allow it to reach the room temperature (no condensation may form).



NOTICE

Place the equipment on a stable, clean, perfectly horizontal and vibration-free work surface.

The equipment must be used at room temperature between 15-30°C (59°F - 86°F) and must not be exposed to direct sunlight.

Proceed with the installation in the following order:

### 8-1 MICA Counter



CAUTION

The counter weighs 19 Kg (42 lbs). We recommend unpacking it with the help of another person. Respect postures for lifting heavy loads.



NOTICE

Lift the equipment to move it on the work surface. Do not push it / slide it, to ensure perfect vibration absorbance by the feet.

Position the counter at the location where it will be used, without connecting its power cable.

Make sure the equipment is protected against splash, gushing, dust, impact and external damage.



WARNING

For good ventilation, do not stick against a wall, respect a free space of at least 20 cm between the back of the counter and the wall. This will allow also free access to rear power switch.

### 8-2 USB hub (supplied as an option, ref 01 108)

Connect the USB hub to the power supply and to the USB socket located on the right side of the counter.





### 8-3 Label printer (supplied as an option, ref 01 108)



Connect the power pack to the printer.  
Connect the mains cable to the power pack.  
Connect the power cable to the mains socket.  
Connect the USB cable to the printer and the other end to USB hub (passing the cable behind the counter).

### 8-4 Wireless keyboard and mouse (not supplied)



Connect the keyboard and mouse to the USB hub.

### 8-5 Scanner (supplied as an option, ref 01 108)



Connect the USB cable to the stand and the other end to the USB hub (passing the cable behind the counter).  
Stick the non-slip disk on underneath the stand.  
Place the scanner on the stand.  
The 2nd USB cable provided is not used.  
The scanner is configured before delivery. If you need to configure it, scan the code opposite.



French

**The accessories must be connected as in the photo below:**





## 8-6 Connection to mains



Before connection to mains, make sure that the ON/OFF switch located at the rear of the counter is in the "O" (OFF) position.

Connect the power cord to the back of the optical bench.

Connect the power cord to a properly installed, grounded power socket (100-240 VAC, 50-60 Hz).



If you are in an unstable electrical environment, it is highly recommended to connect the MICA counter via an UPS (Uninterruptible Power Supply).

## 9- OPERATION

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### 9-1 Label printer (supplied as an option, ref 01 108)



Do not use the roll of labels supplied with the printer.

Use only the roll of labels supplied with the MICA Diamidex detection kits.

To install the roll in the label printer, refer to the printer manual.

### 9-2 MICA counter - General

The MICA counter has an embedded PC under Windows and configured specifically. The screen of the computer is tactile. It can be used either by touch or with the mouse.



The counter fan is equipped with a filter to prevent the entry of dust. Never operate the counter without its filter, as there is a risk of degradation of optical performance due to dust.

### 9-3 MICA counter – Turning on

Set the switch, located at the rear of the counter, to position "I" to turn on the touch screen.

After turning ON the counter, a Windows environment is displayed on the touch screen.

Double-click on the MICA Diamidex icon on the screen to launch the MICA interface.



Any installation of additional software could affect the proper functioning of the MICA interface and will be outside the scope of the warranty.





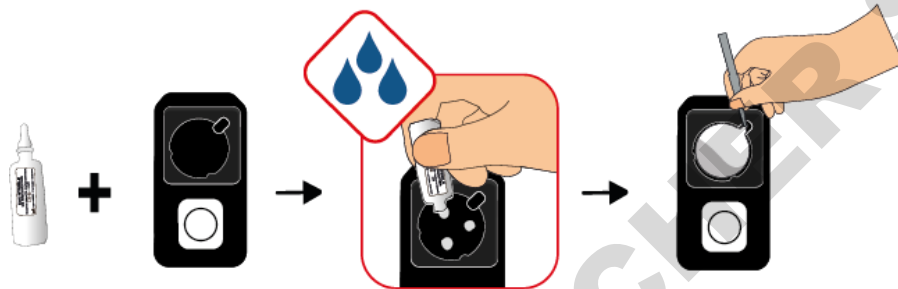
## 9-4 MICA counter – Use of reading cassettes



**NOTICE**

Use only the reading cassettes supplied with the counter. Do not insert anything else into the counter.

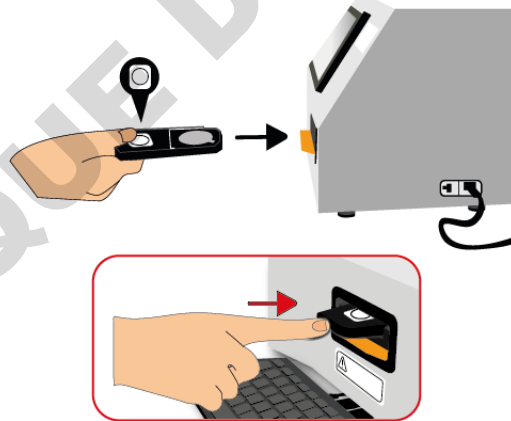
Cassettes must be clean and dry, except for the membrane part, before insertion. Hydrate the part of the cassette receiving the membrane before positioning it.



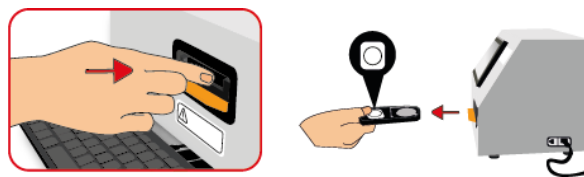
**NOTICE**

The opening of the door on the front of the counter is controlled by the interface. Never try to open it by hand, as it will interrupt the analysis process.

Once the door is open, insert the cassette into the counter by applying a light pressure on the front of the cassette.



When the cassette scan is complete, the door opens and the cassette is half extracted. A simple pressure on the front of the cassette extracts it entirely.





## 9-5 MICA counter – Turning off

**NOTICE** Failure to comply with the following instructions may damage files with irreversible loss of data.

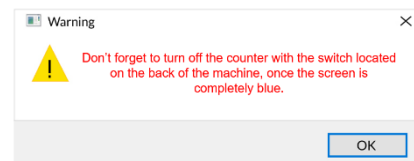
1/ Make sure there is no cassette in the front door of the counter.



2/ Clic on the shutdown button on the home or login page.



3/ A pop-up window opens telling you to turn off the switch. Clic on OK to confirm.



4/ Once the screen is completely blue, turn off the switch (position "0") located on the back of the counter.

**NOTICE** It is important to wait until the screen is blue before turning off the switch.





## 10- DATA BACKUP

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As with any PC, it is recommended to make a regular data backup of the counter. The frequency is to be determined according to the criticality of your data.

## 11- MAINTENANCE

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Before any maintenance work, turn OFF the power of the counter and unplug the power cord.

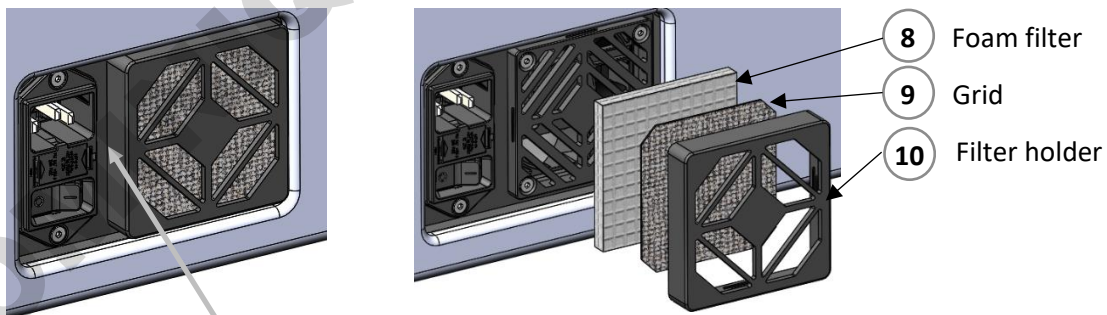
### 11-1 Cleaning

Use a clean, soft and dry cloth and gently wipe the screen and the case starting from the top. Never spray liquid or detergent directly on the screen.

For larger stains, use a soft cloth dampened with neutral detergent diluted with water (do not exceed 1%). Then wipe off with a dry cloth.

### 11-2 Fan filter

The internal of the equipment is cooled by air, thanks to a fan at the rear. The fan is equipped with a filter to prevent inside contamination by dust.



To clean the filter, remove the filter holder at the rear of the equipment. The filter holder is just snap-in on the chassis. Remove it using a small flat screwdriver as a lever, on the location above. Remove the dust on the external face of the foam filter and the grid using a vacuum cleaner. Place back the foam filter, the grid and the holder in their corresponding position, keeping the external face of the foam filter oriented in its former position.



**NOTICE**

**NEVER USE COUNTER WITHOUT FILTER!** If not protected, the internal optical system will be contaminated by dust and this may affect results. A return to factory will be mandatory for cleaning.



**NOTICE**

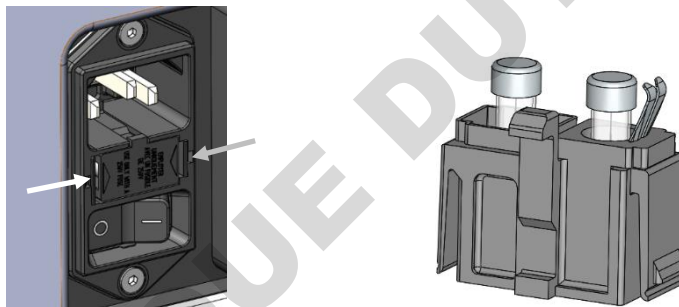
The periodicity of filter cleaning depends on the ambient air quality and the number of hours of operations. We recommend a clean every 6 months or 500 hours of operation.

### 11-3 Fuse replacement

The counter is protected by a fuse, placed into a fuse drawer located above the ON/OFF switch.

The fuse drawer has 2 fuse locations: one for the electrical protection (the location with an electrical contact) and one for a spare fuse. The equipment is delivered with 2 fuses in the drawer.

To replace the fuse, use a small flat screwdriver as a lever on each side of the fuse drawer, to remove it. Then remove replace the burnt fuse by a new one, and place back the fuse drawer.



**WARNING**

If the fuse is burnt, replace it only by a new one compliant with the following specifications: 5 x 20 mm, Time-Lag T, L, 250 VAC, IEC 60127-2/3, UL 248-14, CSA C22.2 no. 248.14

### 11-4 Power cord replacement



**WARNING**

If the power cord is damaged, do not use the counter until replacement of the power cord by a new one compliant with the following specifications: 2.5m Power Cable, IEC 60320, C13, 10 A, 250 V







## 12- AFTER SALES SERVICE - REPAIRS - WARRANTY

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The warranty duration and limitations for the MICA counter and reading cassettes are mentioned in the Terms of Sales.

The manufacturer's warranty applies to the other equipment supplied. Refer to their respective instructions.

The packaging must be kept for possible after-sales service.

Only have repairs to the counter performed by Customer Service agreed by DIAMIDEX.

The prerequisite for returning and repairing the counter is a fully completed decontamination declaration and warranty return authorization. This is available on request.




Beyond the warranty period, the supply of spare parts and/or repair will be made on estimate.

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## 13- DECLARATIONS OF CONFORMITY

EU Declaration of Conformity (DoC)		 <b>DIAMIDEX</b>
<b>We:</b>	<b>DIAMIDEX</b> Grand Luminy Technopole, Zone Luminy Entreprise Biotech Case 922 163 Avenue de Luminy 13288 Marseille Cedex 09 FRANCE	
<b>Declare:</b>	Under our sole responsibility that the following labelled product:  <b>MICA Optical Bench</b> <b>Models: OB1-XX</b>  to which this declaration is related, are, when used as specified, in conformity with the technical requirements of the standards and the provisions of the essential requirements of the Directives detailed below.	
<b>Directives:</b>	<b>European Directive 2006/42/EC</b> relating to machines <b>European Directive 2014/30/UE</b> about electromagnetic compatibility <b>European Directive 2014/35/UE</b> relating to low voltage electrical goods	
<b>Standards:</b>	<b>EN 12100</b> : Safety of machinery — General principles for design — Risk assessment and risk reduction  <b>EN 61326-1</b> : EMC requirements for electrical equipment for measurement, control and laboratory use - Part 1 : General requirements  <b>EN 61010-1</b> : Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements	
<b>Place of issue:</b>	Marseille -France	
<b>Date of issue:</b>	October 19th, 2020	
<b>Name:</b>	Eric AGOSTINI	
<b>Authority:</b>	Head of R&D Equipment	
<b>Visa:</b>		
DIAMIDEX <a href="http://www.diamidex.com">www.diamidex.com</a>		
		Page1 of 1



## UK Declaration of Conformity (DoC)

DIAMIDEX 

**We:** DIAMIDEX  
Grand Luminy Technopole,  
Zone Luminy Entreprise Biotech Case 922  
163 Avenue de Luminy  
13288 Marseille Cedex 09 FRANCE

**Declare:** Under our sole responsibility that the following labelled product:

**MICA Optical Bench**

**Models: OB1-XX**

to which this declaration is related, are, when used as specified, in conformity with the technical requirements of the standards and the provisions of the essential requirements of the Directives detailed below.

**Directives:** Supply of Machinery (Safety) Regulations 2008

Electromagnetic Compatibility Regulations 2016

Electrical Equipment (Safety) Regulations 2016

**Standards:** EN 12100 : Safety of machinery — General principles for design — Risk assessment and risk reduction

EN 61326-1 : EMC requirements for electrical equipment for measurement, control and laboratory use - Part 1 : General requirements

EN 61010-1 : Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements

**Place of issue:** Marseille -France

**Date of issue:** March 30th, 2021

**Name:** Eric AGOSTINI

**Authority:** Head of R&D Equipment

**Visa:** 

**UK  
CA**





The MICA Counter model OB1-XX has been tested and certified by Eurofins Electrical and Electronic Testing North America, Inc., compliant to:

- UL61010-1/CSA C22.2 No. 61010-1 3rd Edition Safety requirements for electrical equipment for measurement, control, and laboratory use, Rev Oct 2015
- Title 47 of CFR, Parts 15 Subpart B & ICES-003 for class A Digital Devices

DOMINIQUE DUTSCHER SAS



# MICA

## Technical support

Email : [support@diamidex.com](mailto:support@diamidex.com)

Tel : +33 7 61 90 45 95

Monday to Friday – 9.00 to 18.00  
Central European Time (UTC+1)