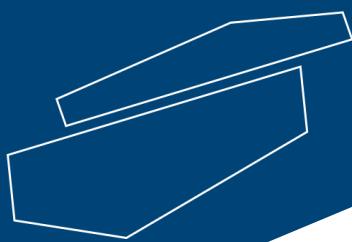




## METALLURGICAL MICROSCOPE, QUANTUM BM

*Please read the User Manual carefully before use, and follow all operating and safety instructions!*



### user manual

english

# User Manual



## METALLURGICAL MICROSCOPE, QUANTUM BM

### Preface

Thank you for purchasing our product. Users should read this manual carefully, follow the instructions and procedures, and be aware of all preventive measures when using this instrument.

### Service

If help is needed, you can always contact your dealer or Labbox via [www.labbox.com](http://www.labbox.com).

Please provide the customer service representative with the following information:

- Serial number
- Description of the problem
- Your contact information

### Warranty

This instrument is guaranteed to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser and shall not apply to any product or parts that have been damaged due to improper installation, improper connections, misuse, accidents, or abnormal conditions of operation.

For claims under the warranty, please contact your supplier.

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## Instruction Before Use

1. Microscopes are precision instruments. Operate with care and avoid physical vibration as much as possible.
2. Avoid placing the microscope in direct sunlight, high temperatures, high humidity, dusty conditions, or locations subject to strong vibration. Ensure the work surface is flat and level. Working environment requirements: Room temperature 5°C to 40°C, maximum relative humidity 80%.
3. When moving the microscope, grasp the handle of the microscope arm with both hands ① and support the bottom ② with care. (See Fig. 1)

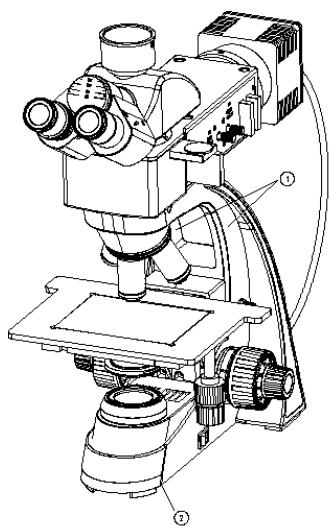


Fig. 1

★ Grasping the microscope stage, focus knob, or observation tube while moving it may damage the microscope.

4. The surface of the lamp becomes extremely hot during operation. Ensure there is ample space around the lamp to dissipate heat.
5. For safety reasons, before replacing the bulb or fuse, ensure that the power switch ③ is in the "O" (off) position and the power is disconnected. Wait until the bulb and lamp holder have completely cooled before replacing. (See Fig. 2)

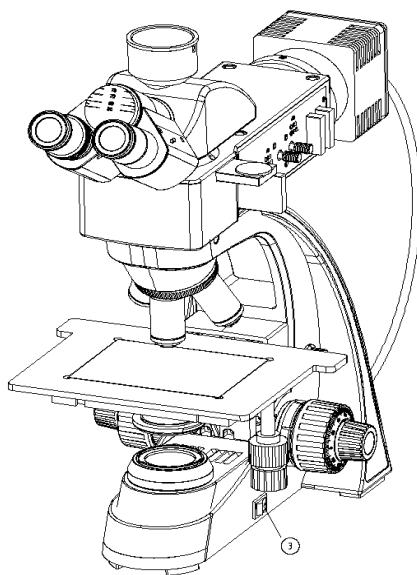


Fig.2

6. Standard bulbs: 1 single 3W LED lamp 1 single 5W LED lamp
7. All disconnect devices are not located in a difficult-to-reach location.
8. This product has no contraindications.

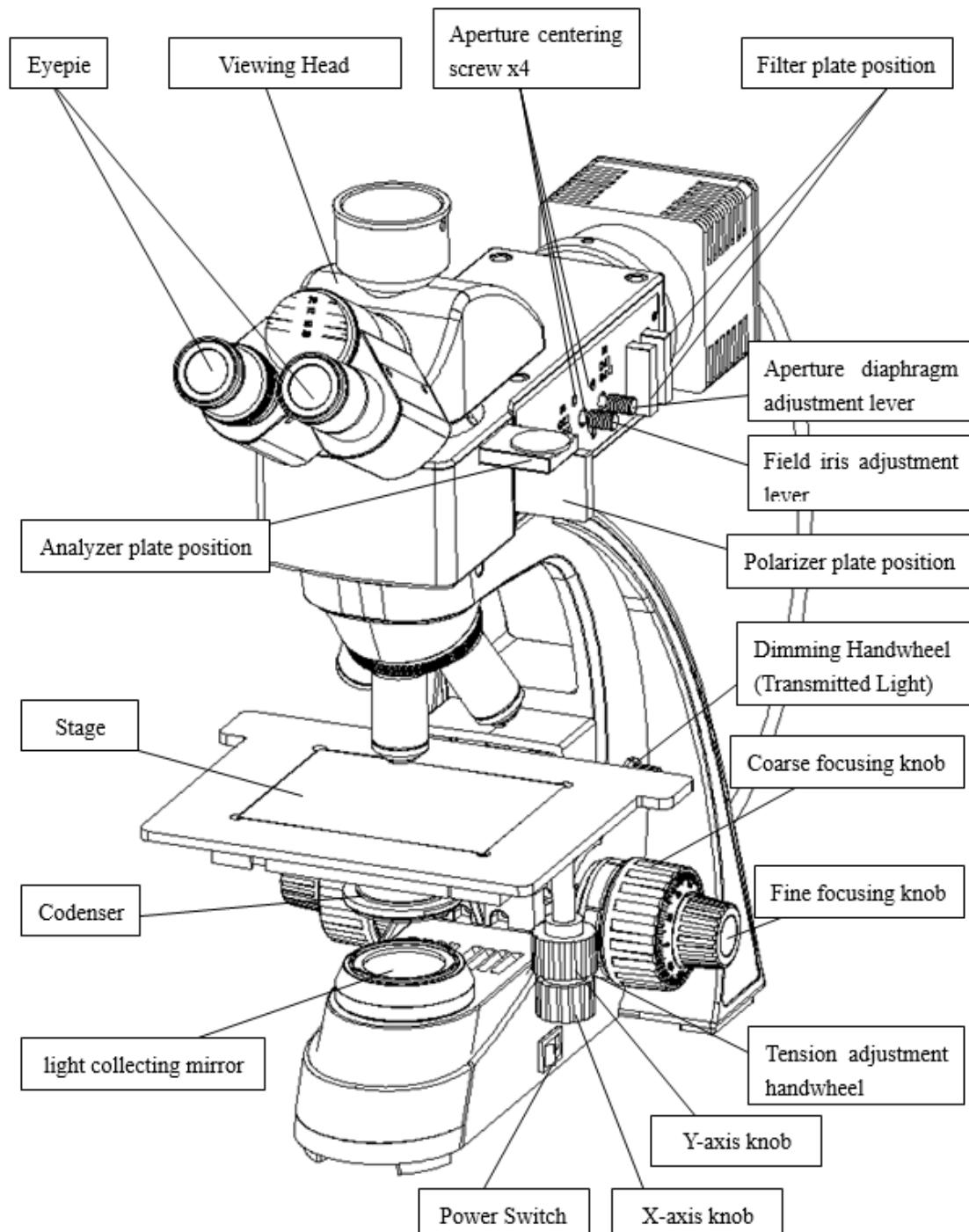
### **Maintenance and care**

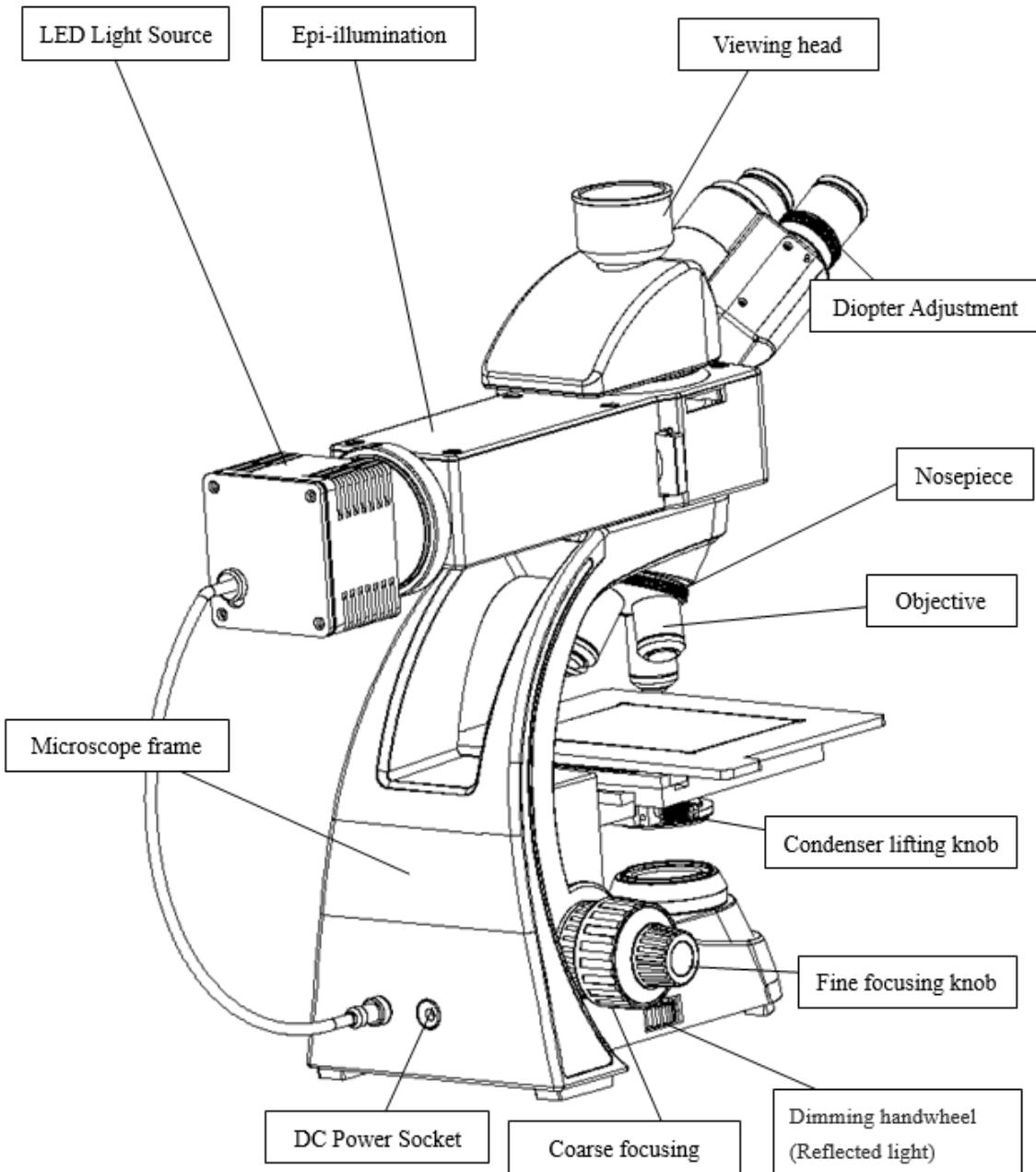
1. Gently wipe the lens with gauze. To remove fingerprints and oil stains, gently wipe with a gauze dampened with a very small amount of a mixture of 70% ether and 30% alcohol, or xylene.  
★ Ether and alcohol are highly flammable. Be careful not to use these chemicals near open flames or potential sources of sparks, such as when turning electronic equipment on and off. Always use these chemicals in a well-ventilated room.
2. Do not use organic solvents to clean the non-optical parts of the microscope. If necessary, use a neutral detergent.
3. If the microscope becomes wet while in use, immediately disconnect the power cord and dry it.
4. Do not disassemble the microscope's components. Doing so may affect its function or damage it.
5. Keep the microscope covered with a dust cover when not in use.

## Safety Signs

Signs	Meaning
	Read the instruction manual carefully before use. Improper operation may cause personal injury or instrument malfunction.
	Main Switch "ON"
	Main Switch "OFF"

## 1. Name of Each Part



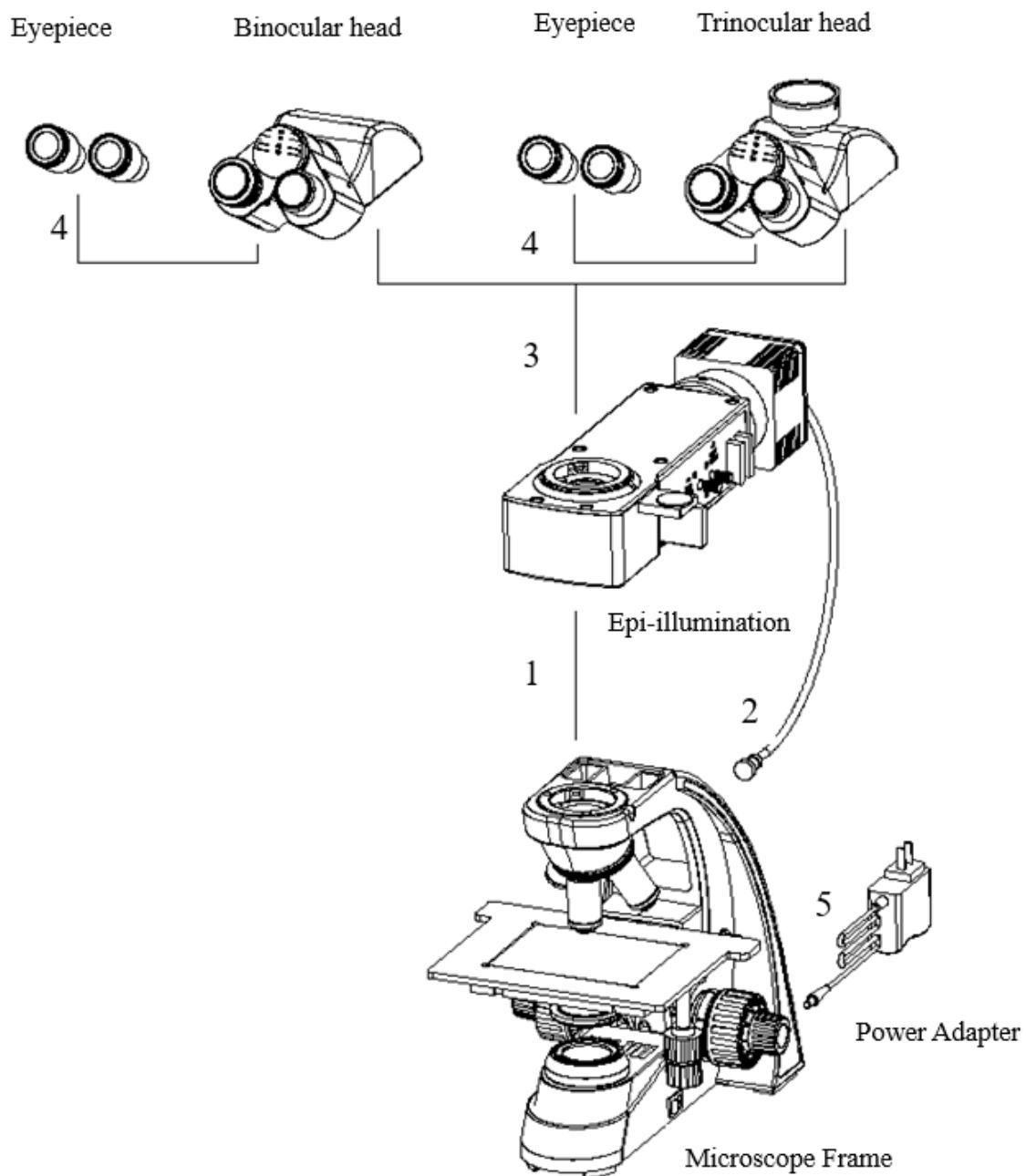


## 2. Assembling

### 2.1 Assembling diagram

The following diagrams illustrate how to install the various components. The numbers indicate the order of installation.

Before assembling, ensure that all components are free of dust, dirt, and other foreign matter that could affect assembly. Be careful not to scratch or rub any part of the glass or the surface.



## 2.2 Assembling Steps

### 2.2.1 Installing the Epi-Illuminator

1. Loosen the epi-illuminator screw ① on the microscope body connector. (See Fig. 3)
2. Then, align the dovetail connector on the bottom of the epi-illuminator slightly to the right of the centre of the circular hole in the microscope body. Slightly tilt it to the left, insert it along the hole, and tighten the locking screw ①.
3. Connect the epi-illuminator light source cable ② to the socket on the back of the microscope body.

★ During installation, support the point epi-illuminator with your hand and fine-tune the angle between the epi-illuminator and the microscope body.

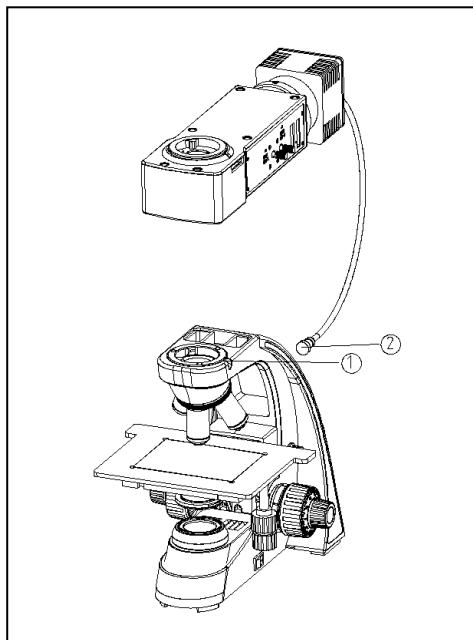


Fig. 3

### 2.2.2 Installing the Observation Head

1. Loosen the observation head locking screw ① on the epi-illuminator interface. (See Fig. 4)
2. Then, align the dovetail interface at the bottom of the observation head with the centre of the circular hole on the epi-illuminator, slightly tilting it to the left. Insert the head along the hole and tighten the locking screw ①.

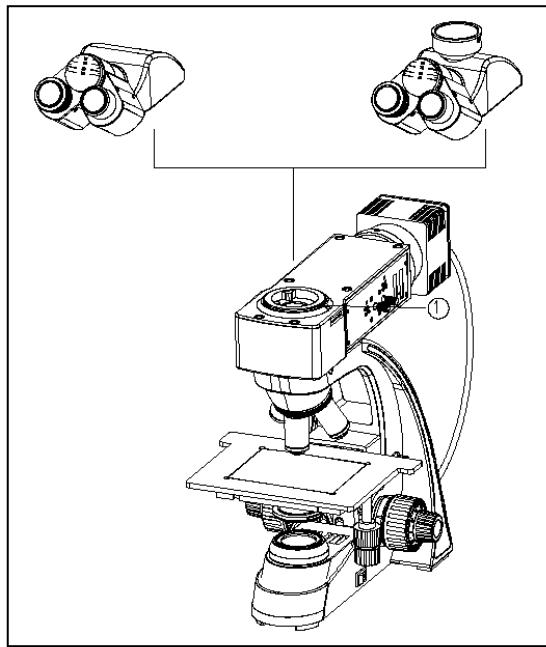


Fig. 4

### 2.2.3 Installing the Eyepiece

1. Remove the eyepiece tube cover ①.
2. Insert the eyepiece into the eyepiece tube until it stops ② (see Fig. 5)

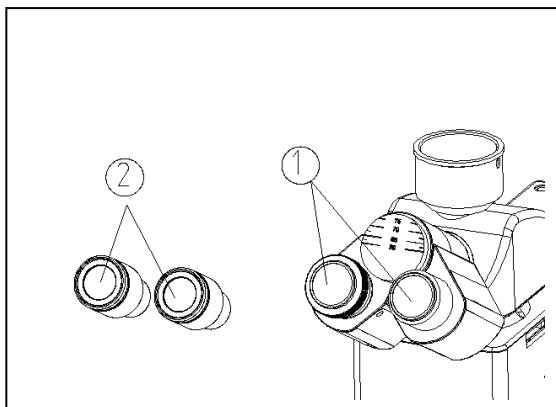


Fig. 5

### 2.2.4 Connecting the External Power Adapter (Power Cord/Charger)

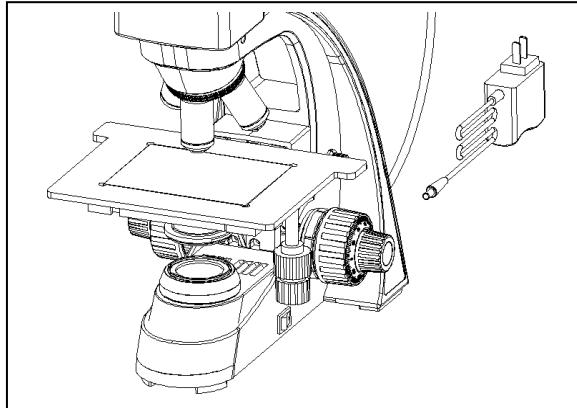
- ★ Avoid applying excessive force to the power cord, as bending or twisting it can damage it.
- ★ Always use the company-provided external power adapter (power cord/charger). If it is lost or damaged, replace it with one with the same specifications.

◎ Applicable to the external power adapter for the main unit

1. Before connecting the external power adapter, turn the power switch to "O" (off).

2. Securely plug one end of the external power adapter into the microscope's power socket, then securely plug the other end into the mains power socket, ensuring proper contact. (See Figure 6)

★ Use a DC12V/2A external power supply. Ensure that the external power adapter meets these requirements.



### **Nota importante para los aparatos electrónicos vendidos en España**

Instrucciones sobre la protección del medio ambiente y la eliminación de aparatos electrónicos:



Los aparatos eléctricos y electrónicos marcados con este símbolo no pueden ser eliminados en forma de residuos urbanos.

De conformidad con la Directiva 2012/19/UE, los usuarios de la Unión Europea de aparatos eléctricos y electrónicos, tienen la posibilidad de devolver sus RAEE para su eliminación al distribuidor o fabricante del equipo después de la compra de uno nuevo. La eliminación ilegal de aparatos eléctricos y electrónicos es castigada con multa administrativa.

### **Remarque importante pour les appareils électroniques vendus en France**

Informations sur la protection du milieu environnemental et élimination des déchets électroniques :



Les appareils électriques et électroniques portant ce symbole ne peuvent pas être jetés dans les décharges.

En réponse à la réglementation, Labbox remplit ses obligations relatives à la fin de vie des équipements électriques de laboratoire qu'il met sur le marché en finançant la filière de recyclage de ecosystem dédiée aux DEEE Pro qui les reprend gratuitement (plus d'informations sur [www.ecosystem.eco](http://www.ecosystem.eco)).

L'élimination illégale d'appareils électriques et électroniques est punie d'amende administrative.

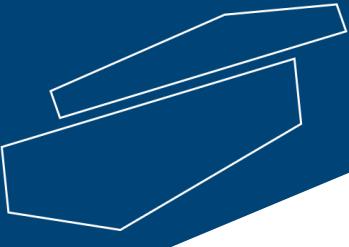
### **Nota importante per le apparecchiature elettroniche vendute in Italia**

Istruzioni sulla protezione ambientale e sullo smaltimento dei dispositivi elettronici:



Le apparecchiature elettriche ed elettroniche contrassegnate con questo simbolo non possono essere smaltite come rifiuti urbani.

In conformità con la Direttiva 2012/19 / UE, gli utenti dell'Unione Europea di apparecchiature elettriche ed elettroniche hanno la possibilità di restituire i propri RAEE per lo smaltimento al distributore o al produttore di apparecchiature dopo averne acquistato uno nuovo. La rimozione illegale di apparecchiature elettriche ed elettroniche è punibile con una sanzione amministrativa.



[www.labbox.com](http://www.labbox.com)