



# macroman™

The Efficient Solution for Pipetting up to 100 mL at once!



USER'S GUIDE

 **GILSON®**

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This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the User's Guide, 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 interface at his own expense.

**EC- Declaration of Conformity**



MACROMAN is in accordance with EC directives:

- 2006/95/EC** Low voltage equipment
- 2004/108/EC** Electromagnetic compatibility
- 2011/65/EC** Restriction of hazardous substances
- 2002/96/EC** Waste electrical and electronic equipment
- 2009/129/EC** Eco design directive
- 2006/66/EC** Battery directive.

**Warranty**

Gilson warrants this product against defects in material under normal use and service for a period of 12 months from the date of purchase.

Gilson is not responsible for incidental damage resulting from physical shock, continuous exposure to corrosive reagents or technical handling not in accordance with the guidelines described in the User's Guide.

## 1 SAFETY SYMBOLS USED

This manual contains the following symbols, compliant with which is essential. The symbols signify the following:



**DANGER**

Indicates possible danger of personal injury or death. Comply with the instructions.



**CAUTION**

Indicates possible damage to the instrument. Comply with the instructions.

## 2 PROPER USE

MACROMAN™ is designed for the reproducible pipetting and dispensing of liquids. The instrument must not be used for any application other than those specified.

## 3 SAFETY PRECAUTIONS

**Possible dangers if the safety precautions are not observed**

MACROMAN is a state-of-the-art instrument with respect to current technology and is safe to use. Some danger may arise if untrained personnel use the instrument. All persons working with the MACROMAN must read the operating and safety instructions before operating the instrument.

**Safety at work**

Independent of any safety precautions listed here, all other relevant safety aspects – e.g. GLP, GMP, professional trade associations, Department of Health, trade supervisory authorities – must be observed.

**Safety aspects for the user company**

The supervisors of operating personnel must have read and understood all the safety precautions involved and must ensure that these are adhered to. They must also ensure that operating personnel also understand and observe all safety rules.



**DANGER**

The instrument must not be used or recharged in an atmosphere with danger of explosion. Highly flammable liquids must not be pipetted (flash point below 0 °C, e.g. Ether, Acetone).



**CAUTION**

Please dispose the NiMH-batteries according to the relevant provisions.

**Restriction of use**

The instrument must not be used with solvents whose vapors are incompatible with the materials ABS, POM, FPM, NBR, CR, Silicone.

**Changes in configuration / design by user**

No changes may be made to MACROMAN. Any parts that become defective must be replaced by original GILSON parts.

MACROMAN may not be altered in design or in any of their safety aspects without the express written permission of GILSON. In particular, no alterations may be made to any of the protective functions. Any alteration made releases GILSON from any liability for damage caused.



**DANGER**

MACROMAN and the transformer may not be opened! Repairs must be carried out by GILSON or a service company authorised by GILSON.

**4 SETTING UP THE MACROMAN CHARGING POSITION**

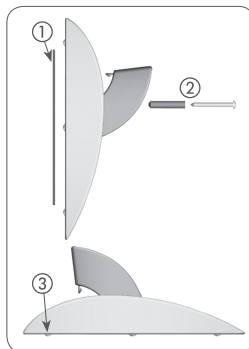
**Wall mounted**

The charging station may be fixed to a wall by the following means:

- double sided self-adhesive tape (1), or,
- magnetic tape attached to wall (1), or,
- screw through centre of the charging station (2).

**Workbench set-up**

Rubber feet on the bottom of the charging station prevent slipping (3).



**5 CHARGING THE MACROMAN**

- Plug the cable of the mains adapter into the MACROMAN or the charging station (status LED is green).
- The green light indicates that batteries are being charged and mains adapter is connected.
- Charge the battery for 10 hours before operating MACROMAN for the first time. It cannot be overcharged.
- If the red light is permanently on, the batteries have discharged to below 10% – recharging is required.
- The MACROMAN may be used while recharging.



**CAUTION**

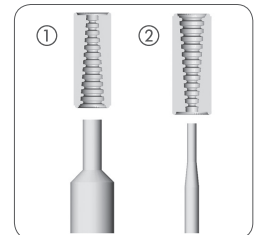
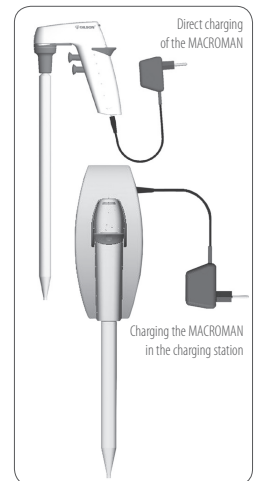
Ensure that you are using an original Gilson mains adapter (100 - 240 VAC, 50/60 Hz) - F1077527.

The mains adapter must not be used for any other electrical equipment but only the MACROMAN.

**6 USING THE MACROMAN**

**Plug in the pipette**

- Pipette  $\geq$  2 mL : place the pipette mount with the small hole on top (1).
- Pipette < 2 mL : place the pipette mount with the large hole on top (2)



**To fill the pipette:**

- Press the filling control button (3)

**To discharge the pipette:**

- Press the discharge control button (4).

**Regulation of the suction and discharge speed:**

- By using the pump speed control (5).
- Fine control over the fluid meniscus in the pipette can be achieved by alternately pressing the filling and discharge buttons for longer or shorter periods, as required.

**7 CLEANING/DISINFECTION OF THE MACROMAN**

**⚠ DANGER - Always disconnect the MACROMAN from the power supply before cleaning.**

**STOP CAUTION Never use acetone to clean the MACROMAN.**

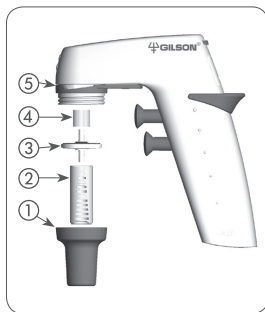
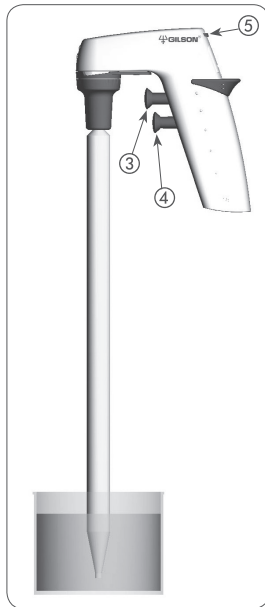
Use only commercially available cleaning agents, such as alcohol (isopropyl alcohol) to clean your MACROMAN.

**Disinfecting the MACROMAN**

Pipette nose piece (1), pipette mount (2) and filter rubber (4) are autoclavable at 121°C.

**Changing the filter**

The sterile filter (3) should be changed every three months, or if the suction rate of MACROMAN becomes too low.

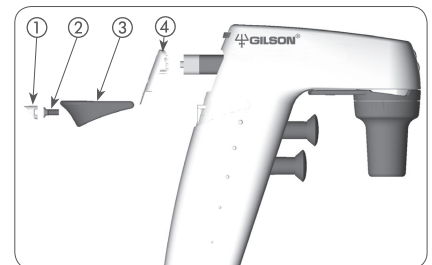


**8 REPLACING THE BATTERIES**

**STOP CAUTION Only use original GILSON rechargeable batteries (1.2 V AAA NiMH/1000 mAh).**

**Replacement procedure**

- Take out the silicone plug (1).
- Open the screw (2).
- Pull out the flexor (3).
- Open the battery cover (4).
- Change the batteries (1.2 V AAA NiMH/1000 mAh).
- **Check the correct polarity of batteries (+/-) before closing the cover.**



**9 EQUIPMENT DISPOSAL**

The MACROMAN is labelled with the "crossed-out wheeled bin" symbol to indicate that this equipment must not be disposed of with unsorted municipal waste. Instead, it is your responsibility to correctly dispose of your waste equipment by handing it over to an authorised facility for separate collection and recycling. It is also your responsibility to decontaminate the equipment in case of biological, chemical, and/or radiological contamination so as to protect from health hazards the persons involved in the disposal and recycling of equipment.



For more information about where you can drop off your waste equipment for recycling, please contact your local dealer from whom you originally purchased the product or your local council.

By doing so, you will help conserve natural resources and you will ensure that your waste equipment is recycled in a manner that protects human health and the environment.

Thank you!

## 10 TROUBLESHOOTING (FAQ)

Problem	Possible Cause	Remedy
Lamp lights up permanently red.	Batteries are discharged.	Charge the batteries.
Liquid is not aspirated.	Missing or defective batteries.	Check that batteries have been inserted. Charge the batteries. Replace the batteries.
	Pipette nose piece not tight.	Tighten the nose piece
	The filter in the pipette nose piece is wet and/or clogged.	Replace the filter.

## 11 TECHNICAL DATA

### Dimensions (LxWxH)

MACROMAN:	130 x 145 x 35 mm
Charging station:	175 x 75 x 80 mm
Mains adapter:	75 x 45 x 45 mm

### Weight

MACROMAN:	190 g
Charging station:	240 g
Mains adapter:	190-300 g

### Power supply

Mains adapter:	100 – 240 VAC 50/60Hz input 9 VDC, 500 mA output
Instrument:	9 VDC

### Battery

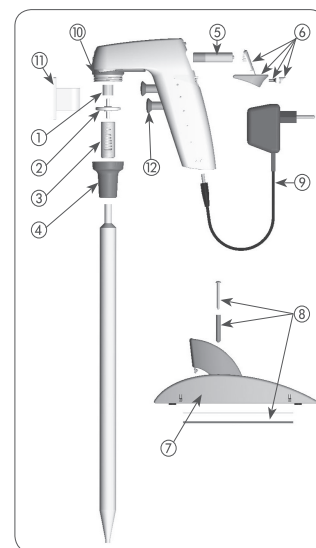
Rechargeable batteries:  
2 x 1.2 VAAA NiMH/1000 mAh

### Operating condition

Operation:	5 – 40°C, max. 80 % RH
Storage:	-10 to 50 °C, max. 80 % RH
UV-Resistance:	If the MACROMAN will be exposed to ultraviolet light, the plastic housing might discolour and become yellowish. This will not affect the functioning efficiency of the device.

## 12 SPARE PARTS AND ACCESSORIES

Ordering information	Part Number
① Filter rubber	F1077502
② Filter sterile (0.45µm)	F1077525
Filter not sterile (0.45µm)	F1077504
Filter sterile (0.20µm)	F1077526
Filter not sterile (0.20µm)	F1077503
③ Pipette mount, silicone	F1077505
④ Pipette nose piece	F1077506
⑤ Batteries (2 pieces 1.2 V AAA, NiMH/1000mAh)	F1077507
⑥ Battery cover set	F1077509
⑦ Charging station, Gilson MACROMAN	F1077528
⑧ Mounting kit for charging stand (magnetic and self-adhesive tape, screw)	F1077510
⑨ Mains adapter (100 – 240 VAC, 50/60 Hz) with 4 plugs	F1077527
⑩ Side stand	F1077523
⑪ Wall mount	F1077530
⑫ Trigger cap	F1077517
⑬ Adapter for D5000 and 10 mL PIPETMAN Diamond Tips (not shown)	F16128



## 13 MANUFACTURER AND CUSTOMER SERVICE

### Manufacturer:

Gilson SAS  
19 avenue des Entrepreneurs, BP 145  
95400 Villiers-le-Bel, France  
www.gilson.com

### Customer service:

Please contact your local Gilson distributor. You will find their name and address on our web site [www.gilson.com](http://www.gilson.com)



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English

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