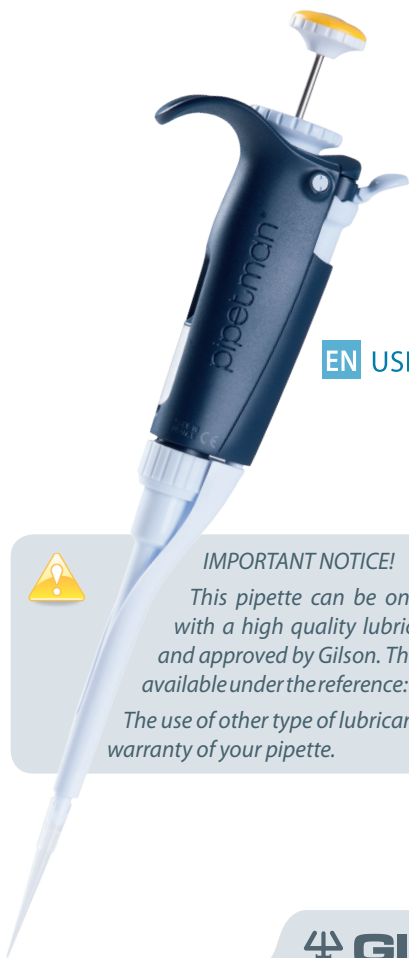




# pipetman®

Comfortable and Secure by Nature!



EN USER'S GUIDE



#### IMPORTANT NOTICE!

*This pipette can be only lubricated with a high quality lubricant selected and approved by Gilson. This lubricant is available under the reference: 5440011070.*

*The use of other type of lubricant cancels the warranty of your pipette.*

 **GILSON®**

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## 1 - INTRODUCTION

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PIPETMAN L is a fully adjustable air displacement pipette and is used with disposable tips. To answer the current needs of intensive use of pipettes, and still being conform to Gilson brand qualities, improvements have been implemented to our mechanical series:

- ▶ Light and comfortable body, both for right and left handed.
- ▶ All forces necessary to pipetting task dramatically decreased\*.
- ▶ Lockable volume.
- ▶ 2D code for traceability.
- ▶ Name tag.
- ▶ You have the choice for an ejector plastic or a stainless steel ejector.

 \* Implementation of new features to improve dramatically pipetting comfort has no impact on the legendary robustness, accuracy and precision of PIPETMAN.

Eight single channel models cover a volume range from 0.2 µL to 10 mL.



*Decreased pipetting forces are due to the new designed piston assembly including the use of a very high quality of lubricant. The use of other lubricant **cancels** the warranty of your pipette. This lubricant is available under the reference: 5440011070. Please contact your Gilson distributor.*

## 2 - PARTS CHECK LIST

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Just take a moment to verify that the following items are present:

- ▶ PIPETMAN L,
- ▶ User's Guide,
- ▶ Safety bag,
- ▶ Certificate of conformity (including bar-code sticker).

### 3 - DESCRIPTION



 Please refer to the following chapters for a full description of the different parts and functions of the pipette.

## Personal label

You can identify your pipette with a name tag:

- 1 Pry out the window by inserting a small screw-driver in the access slot.
- 2 Position the name tag in the slot.
- 3 Clip the window back into place.



## 4 - SETTING THE VOLUME

The volume of liquid to be aspirated is set using the volumeter. The dials are colored either black or red to indicate the position of the decimal point, depending on the model (see examples).

Model	Color of volumeter numbers		
	Black	Red	Increment
P2L	μL	0.01 μL	0.002 μL
P10L to P20L	μL	0.1 μL	0.02 μL
P100L-P200L	μL	-	0.2 μL
P1000L	0.01 mL	mL	0.002 mL
P5000L	0.01 mL	mL	0.002 mL
P10mL	mL	0.01 mL	0.02 mL

<b>P2L</b>  1.25 μL	<b>P10L</b>  7.5 μL	<b>P20L</b>  12.5 μL
<b>P100L</b>  75 μL	<b>P200L</b>  125 μL	<b>P1000L</b>  0.75 mL
<b>P5000L</b>  1.25 mL	<b>P10mL</b>  7.5 mL	

## Lock System

For additional safety, the volume selected is lockable.

**First step:** with the left or right thumb, unlock the thumbwheel by pushing it up.



**Second step:** The volume is set by turning the thumbwheel.

The thumbwheel may be turned using only one hand to slowly reach the required setting.

**Third step:** push down the thumbwheel; the new volume selected is locked.



**Protection of your pipette and your work:**

*If the third step is forgotten, the volume selected will be automatically locked during the next purge.*



To obtain maximum accuracy when setting the volume, proceed as follows:

- ▶ when **decreasing** the volume setting, slowly reach the required setting, making sure not to overshoot the mark.
- ▶ when **increasing** the volume setting, pass the required value by 1/3 of a turn and then slowly decrease to reach the volume, making sure not to overshoot the mark.

## 5 - PIPETTING

For optimum performance, use of PIPETMAN DIAMOND Tips with your PIPETMAN L is strongly recommended. These tips, made from pure polypropylene have the Gilson logo engraved on their collar, ensuring that you have a **genuine** Gilson product. Plastic tips are for a single application – they must not be cleaned for reuse.



*PIPETMAN L can also be used with the main tip brands.*

### Fitting the tips

To fit a new PIPETMAN DIAMOND Tip, push the tip-holder into the tip using a slight twisting motion to ensure a firm, airtight seal.

### ***For the P2L and P10L models equipped with stainless steel tip-ejector,***

A dual-position adapter (plastic) is required to fit DL10 tips (long tips) or D10 tips (short tips).

P2L and P10L models are delivered with the adapter in place, ready to use DL10 tips. If D10 tips are used, the adapter must be repositioned in the shorter slot as follows:

- 1 Pull the adapter down from the metallic rod.
- 2 Turn the adapter through 180°.
- 3 Refit the adapter so that the end of the metallic rod engages the shorter slot of the adapter.



### ***For the P2L and P10L models equipped with plastic tip-ejector,***

A tip-ejector extension is supplied to fit with D10 tips (short tips).

#### **To fit a tip-ejector extension:**

- 1 Slide the extension over the tip-holder.
- 2 Push the extension firmly onto the end of the tip-ejector until it clicks into place.

#### **To remove a tip-ejector extension:**

- 1 Gently twist the extension.
- 2 Pull it away from the pipette.

 Both dual-position adapter and tip-ejector extension are autoclavable.



### **Pre-rinse the tips**

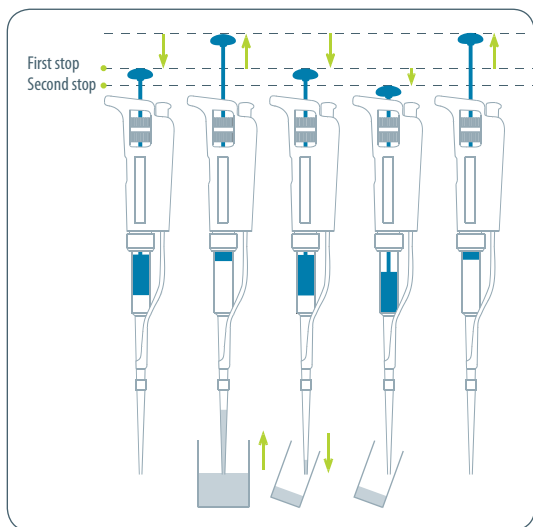
Some liquids (e.g. protein-containing solutions and organic solvents) can leave a film of liquid on the inside wall of the tip ; pre-rinse the tip to minimize any errors that may be related to this phenomenon.

Pre-rinsing consists of aspirating the first volume of liquid and then dispensing it to waste.

Subsequent volumes that you pipette will have levels of accuracy and precision within specifications.

## Aspirate

- 1 Press the push-button to the **first stop** (this corresponds to the set volume of liquid).
- 2 Hold the pipette vertically and immerse the tip in the liquid (see immersion depth table, page 10). Release the push-button slowly and smoothly (to top position) to aspirate the set volume of liquid. Wait one second (time depends on model, see table page 10); then withdraw the pipette-tip from the liquid. You may wipe any droplets away from the outside of the tip using a medical wipe, however if you do so take care to avoid touching the tip's orifice.



## Dispense

- 1 Place the end of the tip against the inside wall of the recipient vessel (at an angle of 10° to 40°).
- 2 Press the push-button slowly and smoothly to the **first stop**.



- ③ Wait for at least a second, then press the push-button to the **second stop** to expel any residual liquid from the tip. Keep the push-button pressed fully down and (while removing the pipette) draw the tip along the inside surface of the vessel.
- ④ Release the push-button, smoothly. Eject the tip by pressing firmly on the tip-ejector button.

### Ejecting the tip

Before you start to pipette, you can adjust the tip-ejector button according to your preferences.

- ① Position the tip-ejector button. Simply rotate the tip-ejector button to the most comfortable position: left, right or middle.
- ② Activate the tip-ejector. You can either push the tip-ejector button with the tip of the thumb as usual, or with the base of your thumb for more comfort. Please note the P5000L and P10mL are not equipped with a tip-ejector.



## 6-GENERAL GUIDELINES FOR GOOD PIPETTING

- 1 Make sure that you operate the push-button slowly and smoothly.
- 2 When aspirating, keep the tip at a constant depth below the surface of the liquid (refer to the table).
- 3 Change the tip before aspirating a different liquid, sample, or reagent.
- 4 Change the tip if a droplet remains at the end of the tip from the previous pipetting operation.
- 5 Each new tip should be pre-rinsed with the liquid to be pipetted.
- 6 Liquid should **never** enter the tip-holder; to prevent this:
  - press and release the push-button slowly and smoothly,
  - never turn the pipette upside down,
  - never lay the pipette on its side when there is liquid in the tip.
- 7 If you use the same tip with a higher volume, pre-rinse the tip.
- 8 For volatile solvents you should saturate the air-cushion of your pipette by aspirating and dispensing the solvent repeatedly before aspirating the sample.
- 9 When the temperature of the liquid is different from the ambient temperature, pre-rinse the tip several times before use.
- 10 You may remove the tip-ejector (see Chapter 11 - Maintenance) to aspirate from very narrow tubes.
- 11 After pipetting acids or other corrosive liquids that emit vapors, remove the tip-ejector, the tip-holder, rinse, dry and lubricate the piston (see Chapter 11 - Maintenance). For the model P1000L, by using a specific tip holder equipped with a filter, you can increase the lifetime of the piston (see Chapter 7 - Accessories).

**Table - Immersion Depth and Wait Time**

Model	Immersion Depth (mm)	Wait Time (seconds)
P2L	1	1
P10L	1	1
P20L	2-3	1
P100L	2-4	1
P200L	2-4	1
P1000L	2-4	2-3
P5000L	3-6	4-5
P10mL	5-7	4-5

- 12 Do not pipette liquids having temperatures above 70 °C or below 4 °C. The pipette can be used between + 4 °C and + 40 °C but the specifications may vary according to the temperature (refer to the ISO 8655-2 standard for conditions of use).

## 7 - ACCESSORIES

To make pipetting more comfortable and more secure, Gilson has developed several accessories:

- 1 To avoid the possibility of liquid running back into the pipette, store the pipette vertically.

CARROUSEL™ Pipette stand (7 pipettes)	F161401
TRIO™ stand (3 pipettes)	F161405
SINGLE™ pipette holder	F161406

- 2 To identify or personalize your pipette, COLORIS™ clips are available:

COLORIS™ clips (mixed colors set of 10)	F161301
COLORIS™ clips (red, set of 10)	F161302
COLORIS™ clips (yellow, set of 10)	F161303
COLORIS™ clips (green, set of 10)	F161304
COLORIS™ clips (blue, set of 10)	F161305
COLORIS™ clips (white, set of 10)	F161306

- 3 With THE JIMMY™, hands free microtube opener, you can open both snap-cap and screw-cap microtubes.

THE JIMMY™ (set of 3)	F144983
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- 4 To protect the piston when pipetting corrosive liquids, you can use a specific tip holder and filter for the model P1000L:

Corrosion protection kit (tip holder + a bag of 10 filters)	F144570
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## 8 - GLP FEATURES

The **Serial Number** is engraved on the body of the pipette. It provides unique identification of your pipette and the date of manufacture.

Example : **GB58672**

The **Bar Code** on the box and the certificate of conformity provide traceability of your pipette.

In addition a **2D code** is engraved next the Serial number: this code includes the ordering reference, the end date, the serial number and the nominal volume. Example:

**FA10006 201103 GB58672 1000**


If you are equipped of a reader, you can integrate this information in your own traceability system.

Ordering reference: 7 characters - Blank - End date (year and month): 6 characters - Blank - Serial number: 7 characters - Blank - Nominal volume in  $\mu\text{L}$ : up to 5 characters



## 9 - TROUBLESHOOTING

A quick inspection of the pipette may help you to detect a problem.

 You may download from the Gilson website ([www.gilson.com](http://www.gilson.com)) the "2 minute inspection", which shows how to perform a quick diagnosis of your pipette.



*Before returning any pipette to your local Gilson Service Center, ensure that it is completely free of chemical, biological, or radioactive contamination. Refer to Chapter 12 - Cleaning and Decontamination. Please use the included safety bag to return the pipette to your local Gilson Service Center.*

The following table may help you to identify and correct the problem you might encounter.

Symptom	Possible Cause	Action
Pipette is leaking sample	Damaged tip-holder Worn O-ring or seal	Replace the tip-holder Replace both parts and lubricate
Pipette won't aspirate	Worn O-ring Damaged tip-holder Connecting nut is loose Damaged or corroded piston Improper repair or assembly	Replace both parts and lubricate Replace the tip-holder Tighten connecting nut Return pipette to supplier See Chapter 11 - Maintenance
Pipette is inaccurate	Improper repair or assembly Unscrewed tip-holder Connecting nut is loose	See Chapter 11 - Maintenance Tighten connecting nut Tighten connecting nut
Pipette is not precise	Tip-holder is loose Connecting nut is loose Incorrect operator technique Damaged or corroded piston(s) Damaged tip-holder(s) Worn O-ring or seal	Tighten connecting nut Tighten connecting nut Operator training Return pipette to supplier Replace the tip-holder Replace both parts and lubricate
Tips fall off or do not fit correctly	Low quality tips Dirty tip-holder Damaged tip-holder(s) Damaged tip-ejector Ejector spacer is missing The ejector spacer is damaged The tip-ejector is loose The ejector lock is misaligned	Use PIPETMAN DIAMOND tips Clean the tip-holder with alcohol Replace the tip-holder Replace tip-ejector Mount the spacer on the tip-ejector Replace the ejector spacer Assemble the tip-ejector properly Align the ejector lock
Pipetting seize up	Piston need lubricant	Lubricate piston assembly

However, if you can't solve the problem, contact your Gilson distributor.

## 10 - LEAK TEST

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This test may be performed at any time to check that the pipette does not leak, especially after performing a maintenance or decontamination procedure. If a pipette fails this test, replace the O-ring and seal. After making sure that the pipette is correctly reassembled, repeat this test.

### For the P2L to P200L models:

- ① Fit a PIPETMAN DIAMOND Tip.
- ② Set the pipette to the maximum volume given in the specifications, and pre-rinse.
- ③ Aspirate the set volume from a beaker of distilled water.
- ④ Maintain the pipette in the vertical position and wait for 20 seconds.
- ⑤ If a water droplet appears at the end of the tip there is a leak.
- ⑥ If you see no droplet, re-immers the tip below the surface of water.
- ⑦ The water level inside the tip should remain constant; if the level goes down there is a leak.

### For the P1000L, P5000L and P10mL models:

- ① Fit a PIPETMAN DIAMOND tip.
- ② Set the pipette to the maximum volume given in the specifications.
- ③ Aspirate the set volume from a beaker of distilled water.
- ④ Maintain the pipette in the vertical position and wait for 20 seconds.
- ⑤ If a water droplet appears at the end of the tip, there is a leak.

## 11 - MAINTENANCE

Routine maintenance will help keep your pipette in good condition, ensuring a continued high level of performance.

Maintenance is limited to:

- ▶ Cleaning or decontamination (see Chapter 12 - Cleaning and Decontamination)
- ▶ Replacing spare parts
- ▶ Greasing the piston assembly.

**PIPETMAN P2L and P10L should not be disassembled**, so you may only replace the push-button, tip-ejector, dual position tip-ejector and its adapter. With these pipettes if the tip-holder is damaged, the piston may also be damaged.



*After replacing any parts you **should** verify the performance of your pipette following the verification procedure available on the Gilson website ([www.gilson.com](http://www.gilson.com)). If the pipette needs to be readjusted, please contact your local Gilson authorized Service Center.*

### Changing the Tip-ejector

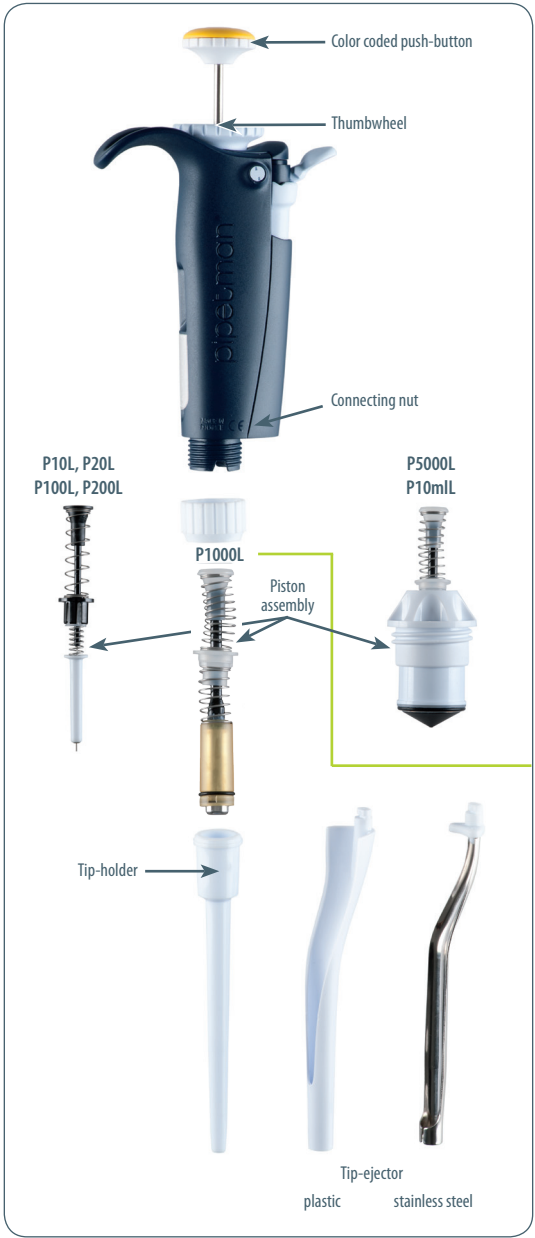
#### To remove

- ① Push the ejection button.
- ② Push laterally the tip-ejector.
- ③ Slide and remove the tip-ejector.

#### To refit

- ① Push the ejection button.
- ② Slide the tip-ejector along the tip-holder.
- ③ Clip the tip-ejector on the body of the pipette.







## Changing the Tip-holder – no tools required

- ① Remove the tip-ejector (see above).
- ② Unscrew the connecting nut by turning it counter-clockwise.
- ③ Carefully separate the lower and upper parts.
- ④ Remove the piston assembly and the seals.
- ⑤ Clean, autoclave, or replace the tip-holder.
- ⑥ If necessary, lubricate lightly the piston and its seals (see below).
- ⑦ Reassemble the pipette (refer to the figure, page 16).
- ⑧ Tighten the connecting nut (turn clockwise).
- ⑨ Refit the tip-ejector (see above).

## Servicing the Piston Assembly

You may remove the piston assembly for cleaning purposes only. If the piston assembly is changed, the pipette must be adjusted and calibrated in a Gilson authorized Service Center. As the models P2L and P10L contain miniaturized parts, it is best not to disassemble these pipettes yourself.



*The piston assembly must **not** be autoclaved.*

- ① Remove the tip-ejector (see above).
- ② Unscrew the connecting nut by turning it counter-clockwise.
- ③ Carefully separate the lower and upper parts.
- ④ Remove the piston assembly, O-ring and seal.
- ⑤ Leave exposed the piston, clean it with methyl alcohol and lubricate lightly.



**For P20L, P100L, P200L:** lubricate only the useful part of the piston ( $20 \pm 5$  mm length) and the O-ring.

**For P1000L:** lubricate the piston.

**For P5000L and P10mL:** disassemble the seals, lubricate their internal part and lubricate the piston. Do not lubricate the O-ring.



*The use of other lubricant cancels the warranty of this pipette.*

- ⑥ Reassemble the pipette (refer to the figure, page 16).
- ⑦ Tighten the connecting nut (turn clockwise).
- ⑧ Refit the tip-ejector (see above).

## Changing the seals

The O-ring and seal are on the piston; **they must not be autoclaved**, if worn or damaged in any way (chemical or mechanical), they must be replaced. As the models P2L and P10L contain miniaturized parts, it is best not to disassemble these pipettes yourself, please contact your local Gilson authorized Service Center.

The dimensions of the O-ring vary depending on the model of pipette.

- ① Remove the tip-ejector (see above).
- ② Unscrew the connecting nut by turning it counter-clockwise.
- ③ Carefully separate the lower and upper parts.
- ④ Remove the piston assembly, O-ring and seal.
- ⑤ If necessary clean the piston and replace the seal; lubricate them lightly. Please place them in the correct order.
- ⑥ Reassemble the pipette (refer to the figure, page 13).
- ⑦ Tighten the connecting nut (turn clockwise).
- ⑧ Refit the tip-ejector (see above).

## 12 - CLEANING AND DECONTAMINATION

PIPETMAN L is designed so that the parts normally in contact with liquid contaminants, can easily be cleaned and decontaminated. However, because the models P2L and P10L contain miniaturized parts, it is best not to disassemble these pipettes yourself; please contact your local Gilson authorized Service Center.



*You may refer to the decontamination procedure available on the Gilson website ([www.gilson.com](http://www.gilson.com)).  
**Liquid must never enter the upper part (handle) of any pipette.***

## Cleaning

The pipette must be cleaned, as described below, before it is decontaminated. Soap solution is recommended for cleaning PIPETMAN L.

### External

- ① Remove the tip-ejector.
- ② Wipe the tip-ejector with a soft-cloth or lint-free tissue impregnated with soap solution.
- ③ Wipe the entire pipette with a soft-cloth or lint-free tissue impregnated with soap solution, to remove all dirty marks. If the pipette is very dirty, a brush with soft plastic bristles may be used.
- ④ Wipe the entire pipette and the tip-ejector with a soft cloth or lint-free tissue soaked with distilled water.
- ⑤ Refit the tip-ejector and allow the pipette to dry.

### Internal

The following components **only** can be immersed in a cleaning solution: connecting nut, tip-ejector, tip-holder, piston assembly, seal and O-ring.

- ① Disassemble the pipette as described in the Chapter 11 - Maintenance.
- ② Set aside the upper part in a clean, dry place.
- ③ Clean the individual components of the lower part of the pipette using an ultrasonic bath (20 minutes at 50°C) or with a soft-cloth and brushes. Note that the piston assembly and seals must be degreased with methyl alcohol before being immersed in another ultrasonic bath. Small round brushes with soft plastic bristles may be used to clean the interior of the tip-holder.
- ④ Rinse the individual components with distilled water.
- ⑤ Leave the parts to dry by evaporation or wipe them with a clean soft-cloth or lint-free tissue.

- ⑥ Reassemble the pipette as described in the Chapter 11 - Maintenance.

### Autoclaving

The upper part (body) and the piston assembly of the pipette are **not** autoclavable. **Only** the following parts may be autoclaved: tip-ejector, tip-holder and connecting nut. The O-ring and seal are **not** autoclavable; they may be cleaned or replaced with the one specified in Chapter 14 - Spare Parts.

- ① Clean the parts to be autoclaved, especially the tip-holder.
- ② Put the parts in an autoclaving sack.
- ③ Autoclave for 20 minutes at 121°C, 0.1 MPa.
- ④ Check that the parts are dry before re-assembling the pipette.
- ⑤ Set the pipette aside to stabilize at room temperature.

### Chemical Decontamination

You may choose to decontaminate your pipette chemically, in accordance with your own procedures. Whatever decontaminant you use, check with the supplier of the decontaminant that it is compatible with stainless steel and the plastics used in the construction of the pipette: PA (Polyamide), PBT (Polybutylene Terephthalate), PC (Polycarbonate), PC/PBT (Polycarbonate/ Polybutylene Terephthalate), POM (Polyoxymethylene), PVDF (Polyvinylidene Fluoride), or PP (Polypropylene).

#### Upper Part (handle)

- ① Wipe the upper part (handle) of the pipette with a soft-cloth or lint-free tissue impregnated with the chosen decontaminant.
- ② Wipe the upper part of the pipette with a soft-cloth or lint-free tissue soaked with distilled water or sterile water.

#### Lower Part (Volumetric module)

The following components **only** can be immersed in a decontaminant solution: connecting nut, tip-ejector, tip-holder.

Piston assembly and seals must be degreased with methyl alcohol before being immersed in decontamination solution in separate vessel.

- 1 Remove the tip-ejector, the tip-holder and the connecting nut.
- 2 Immerse them in the cleaning solution.
- 3 Degrease the piston assembly, the seals and immerse them in another vessel.
- 4 Rinse each component with distilled water.
- 5 Leave the parts to dry by evaporation (or wipe with a soft cloth the tip-ejector, the tip-holder and connecting nut).
- 6 Lubricate the piston assembly and the seals.
- 7 Reassemble the piston assembly, the tip-holder and the tip-ejector.

## 13 - SPECIFICATIONS

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PIPETMAN L is a high quality pipette that offers excellent accuracy and precision. The figures given in the "Gilson Maximum Permissible Errors" table (page 22) were obtained using PIPETMAN DIAMOND Tips. These figures are guaranteed only when genuine PIPETMAN DIAMOND Tips are used.

Each pipette is inspected and validated by qualified technicians in accordance with the Gilson Quality System. Gilson declares that its manufactured pipettes comply with the requirements of the ISO 8655 standard, by type testing.

The adjustment is carried out under strictly defined and monitored conditions (ISO 8655-6).




*The data given in the tables conform to the ISO 8655-2 Standard.*

*With a precise pipetting technique (see Chapter 6 - General guidelines for good pipetting) the P2L model may be used to aspirate volumes as low as 0.1  $\mu$ L and the P10L model as low as 0.5  $\mu$ L.*

## Gilson Maximum Permissible Errors

Model (Reference)	Volume (μL)	Maximum Permissible Errors				
		Gilson		ISO 8655		
		Systematic error (μL)	Random error (μL)	Systematic error (μL)	Random error (μL)	
<b>P2L</b> (FA10001P) (FA10001M)	Min	0.2	± 0.024	≤ 0.012	± 0.08	≤ 0.04
		0.5	± 0.025	≤ 0.012	± 0.08	≤ 0.04
		1	± 0.027	≤ 0.013	± 0.08	≤ 0.04
	Max.	2	± 0.030	≤ 0.014	± 0.08	≤ 0.04
<b>P10L</b> (FA10002P) (FA10002M)	Min.	1	± 0.025	≤ 0.012	± 0.12	≤ 0.08
		5	± 0.075	≤ 0.030	± 0.12	≤ 0.08
	Max	10	± 0.100	≤ 0.040	± 0.12	≤ 0.08
<b>P20L</b> (FA10003P) (FA10003M)	Min.	2	± 0.10	≤ 0.03	± 0.20	≤ 0.10
		10	± 0.10	≤ 0.05	± 0.20	≤ 0.10
	Max.	20	± 0.20	≤ 0.06	± 0.20	≤ 0.10
<b>P100L</b> (FA10004P) (FA10004M)	Min.	10	± 0.35	≤ 0.10	± 0.80	≤ 0.30
		50	± 0.40	≤ 0.12	± 0.80	≤ 0.30
	Max.	100	± 0.80	≤ 0.15	± 0.80	≤ 0.30
<b>P200L</b> (FA10005P) (FA10005M)	Min.	20	± 0.50	≤ 0.20	± 1.60	≤ 0.60
		100	± 0.80	≤ 0.25	± 1.60	≤ 0.60
	Max.	200	± 1.60	≤ 0.30	± 1.60	≤ 0.60
<b>P1000L</b> (FA10006P) (FA10006M)	Min.	100	± 3	≤ 0.6	± 8	≤ 3.0
		500	± 4	≤ 1.0	± 8	≤ 3.0
	Max.	1000	± 8	≤ 1.5	± 8	≤ 3.0
<b>P5000L</b> (FA10007)	Min.	500	± 12	≤ 3	± 40	≤ 15
		2500	± 15	≤ 5	± 40	≤ 15
	Max.	5000	± 30	≤ 8	± 40	≤ 15
<b>P10mL</b> (FA10008)	Min.	1000	± 30	≤ 6	± 60	≤ 30
		5000	± 40	≤ 10	± 60	≤ 30
	Max.	10000	± 60	≤ 16	± 60	≤ 30

 Each pipette model (except P5000L and P10mL) has two different ordering references to identify the kind of tip-ejector required. For a pipette with a plastic tip-ejector, the ordering reference is ended by the letter P, for a pipette with a stainless steel tip-ejector, the ordering reference is ended by the letter M.

Ex: For a P10L model with the plastic tip-ejector the ordering reference is FA10002P. For the same pipette with a stainless steel tip-ejector, the ordering reference is FA10002M.

## 14 - SPARE PARTS

### Service Kit 1<sup>st</sup> level

includes:

- 3 piston seals or seal guides **C**
- 3 O-rings **D**
- 1 tip-holder **E**

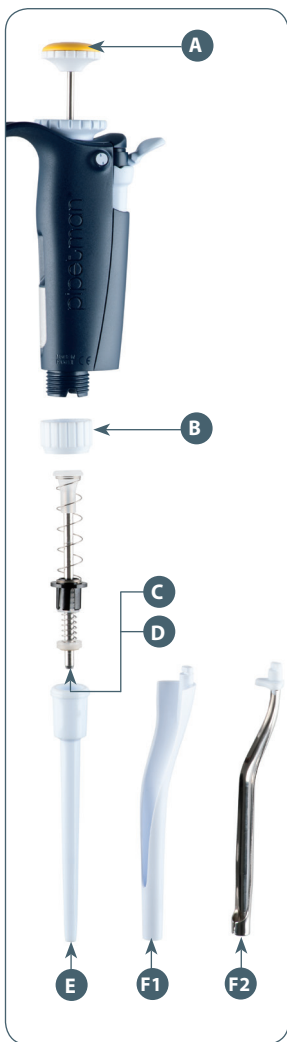
### Service Kit 2<sup>nd</sup> level

includes:

- 1 push-button **A**
- 1 connecting nut **B**
- 2 tip-ejectors **F1** **F2**

*for the P2L and P10L models only:*

- 1 adapter for stainless steel tip-ejector **F3**
- 1 extension for plastic tip-ejector **F4**



## P2L (FA10001 P or M) and P10L (FA10002 P or M)

	Description	P2L	P10L
C+D+E	Service Kit 1st level	F144501	FA07001
A+B+F1 to F4	Service Kit 2nd level	FA07006	FA07007
C+D	Seal + O-ring (5 sets)	F144861	FA07012
F3	Tip-ejector adapter	F144879	F144879
F4	Tip-ejector extension	F2070903	F2070903

## P20L (FA10003 P or M) and P100L (FA10004 P or M)


	Description	P20G	P100G
C+D+E	Service Kit 1st level	FA07002	FA07003
A+B+F	Service Kit 2nd level	FA07008	FA07009
C+D	Seal guide + O-ring (5 sets)	FA07013	FA07014

## P200L (FA10005 P or M) and P1000L (FA10006 P or M)

	Description	P200G	P1000G
C+D+E	Service Kit 1st level	FA07004	FA07005
A+B+F	Service Kit 2nd level	FA07010	FA07011
C+D	Seal guide + O-ring (5 sets)	FA07015	FA07016

## P5000L (FA10007) and P10mL (FA10008)

	Description	P5000L	P10mL
C+D+E	Service Kit 1st level	FA07021	FA07022
A	Push-button assembly	FA07019	FA07020
C+D	Seal + O-ring (5 sets)	FA07017	FA07018
E	Tip-holder	F123608	F161263

 Each pipette model (except P5000L and P10mL) has two different ordering references to identify the kind of tip-ejector required. For a pipette with a plastic tip-ejector, the ordering reference is ended by the letter P, for a pipette with a stainless steel tip-ejector, the ordering reference is ended by the letter M.  
Ex: For a P10L model with the plastic tip-ejector the ordering reference is FA10002P. For the same pipette with a stainless steel tip-ejector, the ordering reference is FA10002M.

## ALL MODELS

Description	Ordering reference
Lubricant	5440011070



## EC DECLARATION OF CONFORMITY

*The company,*

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*Hereby certifies on its sole responsibility that the products listed below:*

### **PIPETMAN® L**

P2L, P10L, P20L, P100L, P200L,  
P1000L, P5000L and P10mL

*comply with the requirements of the following European Directives:*

### **98/79/EC\***

on In Vitro Diagnostic Medical Devices

*\* Annex III, self-declared*

*Villiers-le-Bel, June 15<sup>th</sup>, 2011*



**A. El Sayed**  
General Manager



**H. Ledorze**  
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## NOTES

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