

# pipetman®

G

## Quick Guide

EN



## Introduction

PIPETMAN® G is a fully adjustable air-displacement, pipette that is used with disposable tips.

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

Eight multichannel models cover a volume range from 1 µL to 300 µL.

### NOTICE

PIPETMAN G is identified by a visual blue ring.

PIPETMAN G pistons need to be lubricated.

## Parts Checklist

### Single models

- PIPETMAN G
- PIPETMAN G Quick Guide
- Safety bag
- Dual-position adapter (for P2G and P10G models only, refer to [Fitting the Tips](#) on page 6)
- Certificate of Conformity (including barcode sticker)

### Multichannel models

- PIPETMAN G
- PIPETMAN G Quick Guide
- Safety bag
- Ejector spacers for D10 tips (for Px10G models only, refer to [Ejector Spacers for PIPETMAN G Multichannel 10 uL](#) on page 6)
- Certificate of Conformity (including barcode sticker)

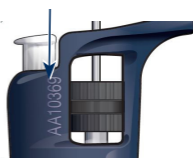
## GLP Compliant

The **serial number** is engraved on the body of the pipette. It provides unique identification of your pipette and the date of manufacture. For more details, refer to *PIPETMAN G User's Guide LT801122*.

Ex: AA10369

The **barcode** on the box and the Certificate of Conformity provide traceability of your pipette.

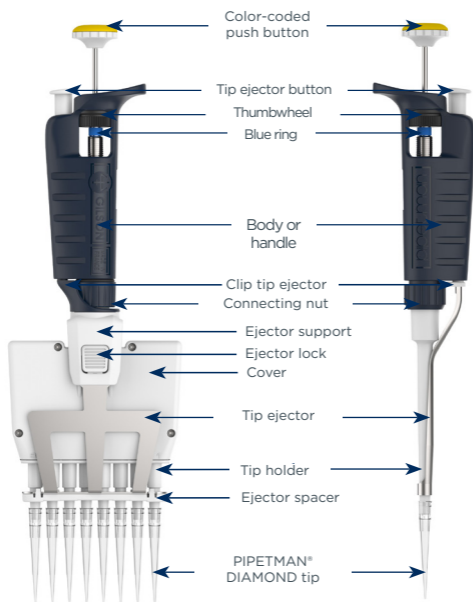
Serial number



**Figure 1**

Serial number location

## Description



**Figure 2**

PIPETMAN® G multichannel and single models

## Specifications

PIPETMAN G is a high quality pipette that offers excellent accuracy and precision. The data provided in the [Maximum Permissible Errors](#) table on page 5 were obtained using PIPETMAN® DIAMOND Tips. These values are guaranteed only when genuine PIPETMAN DIAMOND Tips are used.

### **NOTICE**

With a precise pipetting technique the P2G model may be used to aspirate volumes as low as 0.1  $\mu\text{L}$  and the P10G model as low as 0.5  $\mu\text{L}$ .

## Maximum Permissible Errors

The data provided in the following table conform to the ISO 8655-2 standard.

MAXIMUM PERMISSIBLE ERRORS				
VOLUME (μL)	GILSON		ISO 8655	
	SYSTEMATIC ERROR (μL)	RANDOM ERROR (μL)	SYSTEMATIC ERROR (μL)	RANDOM ERROR (μL)
<b>PIPETMAN G SINGLE CHANNEL</b>				
<b>P2G (P/N F144054M) WITH D10 OR DL10 TIPS</b>				
0.2	± 0.024	≤ 0.012	± 0.08	≤ 0.04
0.5	± 0.025	≤ 0.012	± 0.08	≤ 0.04
1	± 0.025	≤ 0.012	± 0.08	≤ 0.04
2	± 0.030	≤ 0.014	± 0.08	≤ 0.04
<b>P10G (P/N F144055M) WITH D10 OR DL10 TIPS</b>				
1	± 0.025	≤ 0.012	± 0.12	≤ 0.08
5	± 0.075	≤ 0.030	± 0.12	≤ 0.08
10	± 0.100	≤ 0.040	± 0.12	≤ 0.08
<b>P20G (P/N F144056M) WITH D200 TIPS</b>				
2	± 0.10	≤ 0.030	± 0.2	≤ 0.1
10	± 0.10	≤ 0.050	± 0.2	≤ 0.1
20	± 0.20	≤ 0.060	± 0.2	≤ 0.1
<b>P100G (P/N F144057M) WITH D200 TIPS</b>				
10	± 0.35	≤ 0.10	± 0.8	≤ 0.3
50	± 0.40	≤ 0.12	± 0.8	≤ 0.3
100	± 0.80	≤ 0.15	± 0.8	≤ 0.3
<b>P200G (P/N F144058M) WITH D200 TIPS</b>				
20	± 0.50	≤ 0.20	± 1.6	≤ 0.6
100	± 0.80	≤ 0.25	± 1.6	≤ 0.6
200	± 1.60	≤ 0.30	± 1.6	≤ 0.6
<b>P1000G (P/N F144059M) WITH D1000 TIPS</b>				
100	± 3.0	≤ 0.6	± 8.0	≤ 3.0
500	± 4.0	≤ 1.0	± 8.0	≤ 3.0
1000	± 8.0	≤ 1.5	± 8.0	≤ 3.0
<b>P5000G* (P/N F144066) WITH D5000 TIPS</b>				
500	± 12	≤ 3	± 40	≤ 15.0
2500	± 15	≤ 5	± 40	≤ 15.0
5000	± 30	≤ 8	± 40	≤ 15.0
<b>P10mLG* (P/N F144067) WITH D10ML TIPS</b>				
1000	± 30	≤ 6	± 60	≤ 30.0
5000	± 40	≤ 10	± 60	≤ 30.0
10000	± 60	≤ 16	± 60	≤ 30.0
<b>PIPETMAN G MULTICHANNEL</b>				
<b>P8X10G (P/N F144068) P12X10G (P/N F144069) WITH D10 AND DL10 TIPS</b>				
1	± 0.08	≤ 0.05	± 0.24	≤ 0.16
5	± 0.20	≤ 0.10	± 0.24	≤ 0.16
10	± 0.20	≤ 0.10	± 0.24	≤ 0.16
<b>P8X20G (P/N F144070) P12X20G (P/N F144071) WITH DL10 TIPS</b>				
2	± 0.10	≤ 0.08	± 0.4	≤ 0.20
10	± 0.20	≤ 0.10	± 0.4	≤ 0.20
20	± 0.40	≤ 0.20	± 0.4	≤ 0.20
<b>P8X200G (P/N F144072) P12X200G (P/N F144073) WITH D200 TIPS</b>				
20	± 0.50	≤ 0.25	± 3.2	≤ 1.2
100	± 1.00	≤ 0.40	± 3.2	≤ 1.2
200	± 2.00	≤ 0.50	± 3.2	≤ 1.2
<b>P8X300G (P/N F144074) P12X300G (P/N F144075) WITH D300 TIPS</b>				
30	± 1.00	≤ 0.35	± 8.0	≤ 3.0
150	± 1.50	≤ 0.60	± 8.0	≤ 3.0
300	± 3.00	≤ 1.00	± 8.0	≤ 3.0

\* P5000G and P10mLG do not have tip ejectors.

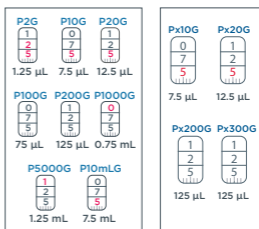
## Setting the Volume

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 (refer to Figure 3).

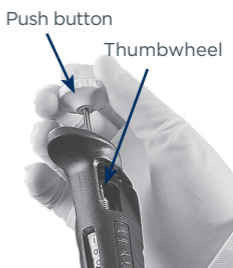
The volume is set by turning the thumbwheel or the push button (refer to Figure 4). The push button makes it easier and faster to set volumes, especially when wearing gloves. The thumbwheel may be turned using only one hand to slowly reach the required setting.

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

- When **decreasing** the volume setting, slowly reach the required setting, making sure to not 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 to not overshoot the mark.



**Figure 3**  
Dial colors by model



**Figure 4**  
Location of push button and thumbwheel

MODEL	COLOR OF VOLUMETER NUMBERS		
	BLACK	RED	INCREMENT
P2G	$\mu\text{L}$	0.01 $\mu\text{L}$	0.002 $\mu\text{L}$
P10G - P20G - Px10G - Px20G	$\mu\text{L}$	0.1 $\mu\text{L}$	0.02 $\mu\text{L}$
P100G - P200G - Px200G - Px300G	$\mu\text{L}$	-	0.2 $\mu\text{L}$
P1000G	0.01 mL	mL	0.002 mL
P5000G	0.01 mL	mL	0.002 mL
P10mLG	mL	0.1 mL	0.02 mL

## 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.

PIPETMAN DIAMOND Tip Compatibility for Multichannel Models	
P8x10G, P12x10G	D10*, DL10, DF10, DFL10
P8x20G, P12x20G	DL10, DFL10, DF30, D200
P8x200G, P12x200G	D200, D300, DF200, DF300
P8x300G, P12x300G	D200, D300, DF200, DF300

\* Using the broad ejector spacer D10, you can adapt a D10 tip (see above).

PIPETMAN G is equipped with a stainless steel tip ejector and can also be used with a plastic tip ejector, available as an accessory. Refer to *PIPETMAN G User's Guide LT801122*, [ACCESSORIES](#).

## Fitting the Tips on P2G and P10G Models

### NOTE

For the P2G and P10G models, a dual-position adapter (plastic) is required to fit DL10 tips (long tips) or D10 tips (short tips). The metallic rod of the tip ejector is shaped so the adapter may be clipped to it in either position.

P2G and P10G 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 180°.
3. Refit the adapter so the end of the metallic rod engages the shorter slot of the adapter.



Short tips Long tips

### NOTE

Plastic tip ejectors can be used and ordered separately (refer to *PIPETMAN G User's Guide LT801122*).

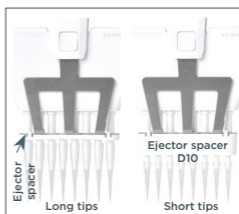
### Figure 5

Dual-position adapter for P2G and P10G with stainless steel tip ejector

## Ejector Spacer for PIPETMAN G 10 $\mu$ L Multichannel Models

According to the tip used, D10 or DL10, you may have to exchange the ejector spacer. The broadly spaced one is for D10, and the narrowly spaced one is for DL10.

1. Remove the tip ejector, keeping both ejector locks depressed. Pull the tip ejector down.
2. Gently press the tabs from the ejector spacer and remove it from the tip ejector.
3. Insert the alternative ejector spacer and click it to the tip ejector.
4. To refit the tip ejector, gently re-insert the tip ejector vertically into the rails of the ejector support.



**Figure 6**  
Ejector spacer location

PIPETMAN DIAMOND Tips are best fitted onto multichannel pipettes from the patented ROCKY RACK available only in our TIPACKS and TOWERPACKS.



**Figure 7**  
ROCKY RACK™ system

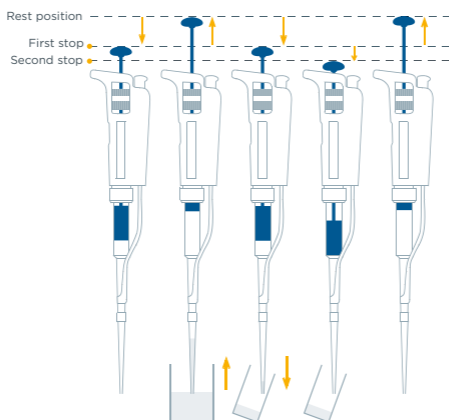
### Pre-Rinse the Tips

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 back into the same vessel (or to waste). Subsequent volumes 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 (refer to *PIPETMAN G User's Guide LT801122*).
3. Release the push button slowly and smoothly (to the **top** position) to aspirate the set volume of liquid.
4. Wait one second, and 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.



**Figure 1**

Pipetting motion - aspirate and dispense

## Dispense

1. Place the end of the tip against the inside wall of the recipient vessel (at an angle of  $10^\circ$  to  $40^\circ$ ).
2. Press the push button slowly and smoothly to the **first stop**.
3. Wait for at least one 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.

### NOTICE

It is recommended to regularly verify the volume displayed on the dial while pipetting.



## Maintenance

Routine maintenance will help keep your pipette in good condition, ensuring a continued high level of performance. Maintenance is limited to cleaning or autoclaving the parts specified in the *PIPETMAN G User's Guide* LT801122, or to replacing the push button, connecting nut, tip ejector, tip holder, seal, and O-ring.

### NOTICE

PIPETMAN P2G and P10G should not be disassembled. You may only replace the push button, tip ejector, and its dual-position 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 authorized Gilson Service Center.

## Warranty

Gilson warrants this pipette against defects in material under normal use and service for a period of **three years for both single channel and multichannel models** from the date of purchase.

This warranty shall not apply to pipettes which are subject to abnormal use and/or improper or inadequate maintenance (contrary to the recommendations given in the user's guide), including, but not limited to pipettes that have been subjected to physical damage, improper handling, or spillage or exposure to any corrosive environment. This warranty shall also be void in the event pipettes are altered or modified by any party other than Gilson or its designates. Gilson's sole liability under this warranty shall be limited to, at Gilson's sole option, repair or replacement of any defective components of pipettes or refund of the purchase price paid for such pipettes. **Routine cleaning, control and recalibration are not covered under the warranty. The replacement of wearing parts such as seals, O-rings, broken pistons assembly, and broken tip holders are not covered under the warranty.**

### NOTICE

Yearly routine maintenance is highly recommended to keep your pipette in good condition, ensuring a continued high level of performance.

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## Web Resources

Visit Gilson's website at [www.gilson.com](http://www.gilson.com) for:

- Service contact information
- *PIPETMAN G User's Guide LT801122 pdf*
- Information about accessories, spare parts, and related products
- Additional product information and special offers





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