



Declaration of Conformity

Déclaration de conformité

pipetman®

| | |
|---|---|
| Product Names Noms des modèles | PIPETMAN® Single and Multichannel PIPETMAN® monocanal et multicanaux |
| Type of Equipment Type d'équipement | Laboratory Equipment Équipement de laboratoire |
| Product Part Number Référence du produit | F144054M/F144055M/F144056M/F144057M/F144058M/F144059M/F144066/ F144067/ F144068/F144069/F144070/F144071/F144072/F144073/F144074/F144075 |
| Month and Year of Manufacture - Date of Application Mois et année de fabrication - Date d'application | January 2023 Janvier 2023 |
| Address of the Manufacturer Adresse du fabricant | Gilson S.A.S. 19 Avenue des Entrepreneurs, BP 145 F-95400 Villiers-le-bel, FRANCE |
| Union Harmonized Legislation Législations d'harmonisation de l'Union | The Use of Hazardous Substances Directives 2011/65/UE (RoHS2), (EU) 2015/863 (RoHS3) Directives 2011/65/UE (RoHS2) et (EU) 2015/863 (RoHS3) relatives à l'utilisation des substances dangereuses |
| Reference Standard Référence standard | - |

This declaration is issued under the sole responsibility of the manufacturer. We, the undersigned hereby declare that the equipment described above conforms to the above Directives and Standards.

Cette déclaration est établie sous la seule responsabilité du fabricant. Nous, soussignés, déclarons par la présente que le matériel décrit ci-dessus est conforme aux directives et normes ci-dessus.

Signed for and on behalf of:

Signé par et au nom de :
Gilson, Inc.

Hervé Le Dorze
Vice President, Global Quality

Date of Issue: January 2023
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Place: Villiers-le-bel, France
Lieu : Villiers-le-bel, France

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END-USERS

Cleaning and Decontamination Procedure for Gilson Pipettes

Incorporate in Standard Operating Procedures (SOPs) in Accordance with ISO 8655 Standard

EN





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Chapter 1

INTRODUCTION



This document contains decontamination procedures suitable for PIPETMAN® Classic, PIPETMAN® Neo, PIPETMAN® Fixed, PIPETMAN® L, PIPETMAN® G, PIPETMAN® M, PIPETMAN® M Connected, MICROMAN® E, and DISTRIMAN®.

NOTE

End-users should refer to their local Gilson authorized service center for complete servicing and further information.

NOTICE

For damaged parts, contact your local Gilson authorized service center, who will either supply you with genuine Gilson user-level replacements parts or who will service the pipette for you.

WARNING

Any pipettes must be decontaminated before sending them to their local Gilson authorized service center.

Precautions

Decontamination implies that for any person in contact with pipettes there is a risk of contamination.

Use disposable gloves and any other protective clothing that may be necessary throughout the cleaning and decontamination procedure. Disposable gloves must be worn at all times.

CLEANING AND DECONTAMINATION

PIPETMAN® is designed so that the parts normally in contact with liquid contaminants can easily be cleaned and decontaminated.

CAUTION

P2 and P10, F1, F2, F5, and F10 models contain miniaturized parts. It is best not to disassemble these pipettes yourself; please contact your local Gilson authorized service center. All pipettes **MUST** be reverified prior to use if disassembled. Do not disassemble prior to sending into your local Gilson authorized service center.

Cleaning

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

NOTICE

The upper part (body), the piston assembly, the O-ring, and seal of the pipette are not autoclavable. Only the following parts may be autoclaved: tip ejector, tip holder, and connecting nut. Refer to [ASSOCIATED DOCUMENT](#) on page 7, to look at the user's guide of your pipette.

Variable Volume Single and Fixed Models

CLEANING EXTERNAL PARTS

1. Remove the tip ejector.
2. Wipe the tip ejector with a soft-cloth or lint-free tissue lightly coated in alcohol solution.
3. Wipe all exposed surfaces of the body, button, operating rod, and tip holder with a soft-cloth or lint-free tissue lightly coated with the alcohol solution.
 - a. Remove all scuff and wear marks.
 - b. Remove buildup in concave surfaces.
 - c. If the pipette is very dirty, a brush with soft plastic bristles may be used.
4. Refit the tip ejector and allow the pipette to dry.
5. Wipe outer surfaces with a soft-cloth or lint-free tissue lightly coated with the alcohol solution to remove any remaining residue from cleaning.
6. Allow time for alcohol to evaporate.

CLEANING INTERNAL PARTS

Internal cleaning should only be carried out by personnel trained in decontamination procedures and re-assembly. Improper cleaning and re-assembly can lead to incorrect operation and results of the pipette, well as damage to the parts and system.

1. Disassemble the pipette.
2. Set aside the upper part in a clean, dry place.
3. Wipe the interior of the body, connecting nut, and tip holder with either a soft-cloth, lint-free tissue, or long-stemmed cotton swab lightly coated in alcohol solution.
4. Carefully wipe all surfaces of the O-ring, seal, and stainless-steel surface area of the piston assembly with either a soft-cloth, lint-free tissue, or long-stemmed cotton swab lightly coated in alcohol solution.
5. Discard and replace any damaged parts.
6. Allow time for alcohol to evaporate before re-assembly.





Immersion method is not recommended for general cleaning, but if required the following steps can be taken:

1. The following components only can be immersed in a cleaning solution: connecting nut, tip ejector, tip holder, piston assembly, seal, and O-ring.
2. 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

The piston assembly and seals must be degreased with isopropanol or ethanol 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.

3. Rinse the individual components with distilled water.
4. Leave the parts to dry by evaporation or wipe them with a clean soft-cloth or lint-free tissue.
5. Reassemble the pipette (refer to [Variable Volume Single and Fixed Models](#), on page 4)

For Multichannel Models

The following components only can be immersed in a cleaning solution:

- Tip ejector
- Ejector locks
- Ejector spacer

1. Remove the tip ejector and the ejector spacer.
2. Wipe them with a soft cloth or lint-free tissue lightly coated in an alcohol solution.
3. Wipe the entire body and lower housing with a soft cloth or lint-free tissue lightly coated in an alcohol solution.
4. Wipe the entire surface of the tip holders utilizing a flossing method between them with a soft cloth or lint-free tissue lightly coated in an alcohol solution.
5. Reassemble and allow the pipette to dry.
6. Wipe outer surfaces with a soft-cloth or lint-free tissue lightly coated with the alcohol solution to remove any remaining residue from cleaning.
7. Allow time for alcohol to evaporate.

Autoclaving for PIPETMAN L Variable Volume (Single and Multichannel) Models Only

PIPETMAN L variable volume models with a serial number starting from NK and newer versions featuring steam-sterilization logo are fully autoclavable without disassembly for maximum convenience as well as protection from contamination.



BEFORE AUTOCLAVING

It is possible to clean PIPETMAN® L pipettes and grease the piston prior to autoclaving; however, if you remove existing grease, lightly lubricate the piston seal using only the grease specified in PIPETMAN L User's Guide (LT801575), and if trained by Gilson authorized personnel.

1. Set the pipette volume to the nominal volume before placing it in the autoclave.
2. Sterilize by steam autoclaving at 121°C (252°F), 1 bar relative pressure, for 20 minutes without disassembly.
3. When autoclaving, the pipette will dry better and faster without using a bag.



AFTER AUTOCLAVING

Following the autoclaving cycle, leave the pipette to cool down to room temperature and dry completely before use. Checking should be carried out according to your procedure.

For Other Gilson PIPETMAN® Models

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
 - Connecting nut
1. Clean the parts to be autoclaved, especially the tip holder.
 2. Put the parts in an autoclaving bag.
 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, such as a 10% bleach solution, 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)
- PP (Polypropylene)
- PPA (Polyphthalamide)
- PPS (Polyphenylene Sulfide)

Follow the same processes outline above, exchanging alcohol solution for the chemical decontaminant required. Perform at test patch before using chemicals on the entirety of the pipette. Be mindful of a solvent that may leave a solute after drying – the residue can have a negative impact on function and performance of the pipette.

ASSOCIATED DOCUMENTS

| Document | Part Number |
|---|--------------------|
| PIPETMAN® Classic User's Guide | LT801120 |
| PIPETMAN® Neo User's Guide | LT801521 |
| PIPETMAN® Fixed User's Guide | LT801118 |
| PIPETMAN® L User's Guide | LT801575 |
| PIPETMAN® G User's Guide | LT801122 |
| PIPETMAN® M User's Guide | LT801563 |
| PIPETMAN® M Connected User's Guide | LT801594 |
| MICROMAN® E User's Guide | LT801547 |
| DISTRIMAN® User's Guide | LT801285 |
| Verification Procedure for Accuracy and Precision | LT802292 |



ISO 8655
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GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

| PIPETMAN® M CONNECTED SINGLE CHANNEL | | | | | | | | | | | | | | |
|--------------------------------------|------------------------|-------------------------------|-------------|-----------------------|---------------------------|--|--|-----------------------------------|----------------------------------|-----------------|--------------------------------------|--------------------------------------|---------------------------------------|------------------------------------|
| Model | PIPETMAN® DIAMOND Tips | | Part Number | Gilson Specifications | | | | | | ISO 8655-2 | | | | |
| | | | | Standard PIPET Mode | | | | | | REPETITIVE Mode | | | | |
| | | | | Volume Range | Volume (µL) | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Volume Range | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| P10M | D10 DL10 | DF10ST DFL10ST | F81040 | 0.5-10 µL | 0.5 1 5 10 | ± 0.040 ± 0.025 ± 0.060 ± 0.080 | ≤ 0.013 ≤ 0.012 ≤ 0.020 ≤ 0.025 | ± 8.0 ± 2.5 ± 1.2 ± 0.8 | ≤ 2.6 ≤ 1.2 ≤ 0.4 ≤ 0.3 | 0.5-10 µL | ± 0.12 ± 0.12 ± 0.12 ± 0.12 | ≤ 0.08 ≤ 0.08 ≤ 0.08 ≤ 0.08 | ± 24.00 ± 12.0 ± 2.4 ± 1.2 | ≤ 16.0 ≤ 8.0 ≤ 1.6 ≤ 0.8 |
| P20M | D200 | DF30ST | F81041 | 2-20 µL | 2 10 20 | ± 0.075 ± 0.100 ± 0.150 | ≤ 0.025 ≤ 0.035 ≤ 0.050 | ± 3.8 ± 1.0 ± 0.8 | ≤ 1.3 ≤ 0.4 ≤ 0.3 | 2-20 µL | ± 0.2 ± 0.2 ± 0.2 | ≤ 0.1 ≤ 0.1 ≤ 0.1 | ± 10.0 ± 2.0 ± 1.0 | ≤ 5.0 ≤ 1.0 ≤ 0.5 |
| P100M | D200 | DF100ST | F81042 | 5-100 µL | 5 10 50 100 | ± 0.35 ± 0.30 ± 0.38 ± 0.40 | ≤ 0.10 ≤ 0.10 ≤ 0.12 ≤ 0.15 | ± 7.0 ± 3.0 ± 0.8 ± 0.4 | ≤ 2.0 ≤ 1.0 ≤ 0.2 ≤ 0.2 | 5-100 µL | ± 0.8 ± 0.8 ± 0.8 ± 0.8 | ≤ 0.3 ≤ 0.3 ≤ 0.3 ≤ 0.3 | ± 16.0 ± 8.0 ± 1.6 ± 0.3 | ≤ 6.0 ≤ 3.0 0.6 0.3 |
| P200M | D200 D300 | DF200ST DF300ST | F81043 | 20-200 µL | 20 100 200 | ± 0.40 ± 0.80 ± 1.00 | ≤ 0.15 ≤ 0.22 ≤ 0.26 | ± 2.0 ± 0.8 ± 0.5 | ≤ 0.8 ≤ 0.2 ≤ 0.1 | 5-200 µL | ± 1.6 ± 1.6 ± 1.6 | ≤ 0.6 ≤ 0.6 ≤ 0.6 | ± 8.0 ± 1.6 ± 0.8 | ≤ 3.0 ≤ 0.6 ≤ 0.3 |
| P300M | D200 D300 | DF200ST DF300ST | F81044 | 20-300 µL | 20 30 150 300 | ± 0.80 ± 0.70 ± 0.90 ± 1.05 | ≤ 0.16 ≤ 0.20 ≤ 0.23 ≤ 0.30 | ± 4.0 ± 2.3 ± 0.6 ± 0.4 | ≤ 0.8 ≤ 0.7 ≤ 0.2 ≤ 0.1 | 10-300 µL | ± 4.0 ± 4.0 ± 4.0 ± 4.0 | ≤ 1.5 ≤ 1.5 ≤ 1.5 ≤ 1.5 | ± 20.0 ± 13.33 ± 2.67 ± 1.33 | ≤ 7.5 ≤ 5.0 ≤ 1.0 ≤ 0.5 |
| P1200M | D1000 D1200 | DF1000ST DF1200ST | F81045 | 100-1200 µL | 100 120 600 1200 | ± 2.5 ± 2.4 ± 3.6 ± 6.0 | ≤ 0.4 ≤ 0.4 ≤ 0.8 ≤ 1.2 | ± 2.5 ± 2.0 ± 0.6 ± 0.5 | ≤ 0.4 ≤ 0.3 ≤ 0.1 ≤ 0.1 | 20-1200 µL | ± 16 ± 16 ± 16 ± 16 | ≤ 6.0 ≤ 6.0 ≤ 6.0 ≤ 6.0 | ± 16.0 ± 13.33 ± 2.67 ± 1.33 | ≤ 0.6 ≤ 0.5 ≤ 0.1 ≤ 0.1 |
| P5000M | D5000 | | F81046 | 500-5000 µL | 500 2500 5000 | ± 10 ± 15 ± 25 | ≤ 2 ≤ 4 ≤ 7 | ± 2.0 ± 0.6 ± 0.5 | ≤ 0.4 ≤ 0.2 ≤ 0.1 | 100-5000 µL | ± 40 ± 40 ± 40 | ≤ 15.0 ≤ 15.0 ≤ 15.0 | ± 8.0 ± 1.6 ± 0.8 | ≤ 3.0 ≤ 0.6 ≤ 0.3 |
| P10mLM | D10mL | | F81047 | 1-10 mL | 1 mL 5 mL 10 mL | ± 25 ± 30 ± 50 | ≤ 4 ≤ 8 ≤ 12 | ± 2.5 ± 0.6 ± 0.5 | 0.4 0.2 0.1 | 200 µL-10 mL | ± 60 ± 60 ± 60 | ≤ 30.0 ≤ 30.0 ≤ 30.0 | ± 6.0 ± 1.2 ± 0.6 | ≤ 3.0 ≤ 0.6 ≤ 0.3 |
| PIPETMAN® M CONNECTED MULTICHANNEL | | | | | | | | | | | | | | |
| P8x10M | D10 DL10 | DF10ST DFL10ST | F81048 | 0.5-10 µL | 0.5 1 5 10 | ± 0.05 ± 0.04 ± 0.08 ± 0.10 | ≤ 0.02 ≤ 0.02 ≤ 0.04 ≤ 0.06 | ± 10.0 ± 4.0 ± 1.6 ± 1.0 | ≤ 4.0 ≤ 2.0 ≤ 0.8 ≤ 0.6 | 0.5-10 µL | ± 0.24 ± 0.24 ± 0.24 ± 0.24 | ≤ 0.16 ≤ 0.16 ≤ 0.16 ≤ 0.16 | ± 48.0 ± 24.0 ± 4.8 ± 2.4 | ≤ 32.0 ≤ 16.0 ≤ 3.2 ≤ 1.6 |
| P12x10M | | | F81049 | | | | | | | | | | | |
| P8x20M | DL10 D200 | DFL10ST DF30ST | F81050 | 1-20 µL | 1 2 10 20 | ± 0.08 ± 0.09 ± 0.15 ± 0.25 | ≤ 0.05 ≤ 0.06 ≤ 0.10 ≤ 0.12 | ± 8.0 ± 4.5 ± 1.5 ± 1.3 | ≤ 5.0 ≤ 3.0 ≤ 1.0 ≤ 0.6 | 1-20 µL | ± 0.4 ± 0.4 ± 0.4 ± 0.4 | ≤ 0.2 ≤ 0.2 ≤ 0.2 ≤ 0.2 | ± 40.0 ± 20.0 ± 4.0 ± 2.0 | ≤ 20.0 ≤ 10.0 ≤ 2.0 ≤ 1.0 |
| P12x20M | | | F81051 | | | | | | | | | | | |
| P8x100M | D200 | DF100ST | F81052 | 10-100 µL | 10 50 100 | ± 0.25 ± 0.50 ± 0.80 | ≤ 0.14 ≤ 0.20 ≤ 0.25 | ± 2.5 ± 1.0 ± 0.8 | ≤ 1.4 ≤ 0.4 ≤ 0.3 | 5-100 µL | ± 1.6 ± 1.6 ± 1.6 | ≤ 0.6 ≤ 0.6 ≤ 0.6 | ± 16.0 ± 3.2 ± 1.6 | ≤ 6.0 ≤ 1.2 ≤ 0.6 |
| P12x100M | | | F81053 | | | | | | | | | | | |
| P8x200M | D200 D300 | DF100ST DF200ST DF300ST | F81054 | 20-200 µL | 20 100 200 | ± 0.50 ± 1.00 ± 2.00 | ≤ 0.16 ≤ 0.30 ≤ 0.50 | ± 2.5 ± 1.0 ± 1.0 | ≤ 0.8 ≤ 0.3 ≤ 0.3 | 5-200 µL | ± 3.2 ± 3.2 ± 3.2 | ≤ 1.2 ≤ 1.2 ≤ 1.2 | ± 16.0 ± 3.2 ± 1.6 | ≤ 6.0 ≤ 1.2 ≤ 0.6 |
| P12x200M | | | F81055 | | | | | | | | | | | |
| P8x300M | D200 D300 | DF200ST DF300ST | F81056 | 10-300 µL | 10 30 150 300 | ± 1.00 ± 1.00 ± 1.50 ± 2.40 | ≤ 0.18 ≤ 0.18 ≤ 0.375 ≤ 0.45 | ± 10.0 ± 3.3 ± 1.0 ± 0.8 | ≤ 1.8 ≤ 0.6 ≤ 0.3 ≤ 0.2 | 10-300 µL | ± 8.0 ± 8.0 ± 8.0 ± 8.0 | ≤ 3.0 ≤ 3.0 ≤ 3.0 ≤ 3.0 | ± 80.0 ± 26.7 ± 5.3 ± 2.7 | ≤ 30.0 ≤ 10.0 ≤ 2.0 ≤ 1.0 |
| P12x300M | | | F81057 | | | | | | | | | | | |
| P8x1200M | D1200 | DF1200ST | F81058 | 50-1200 µL | 50 120 600 1200 | ± 4.0 ± 4.0 ± 6.0 ± 9.6 | ≤ 0.7 ≤ 0.7 ≤ 1.5 ≤ 1.8 | ± 8.0 ± 3.3 ± 1.0 ± 0.8 | ≤ 1.4 ≤ 0.6 ≤ 0.3 ≤ 0.2 | 50-1200 µL | ± 32 ± 32 ± 32 ± 32 | ≤ 12 ≤ 12 ≤ 12 ≤ 12 | ± 64.0 ± 26.7 ± 5.3 ± 2.7 | ≤ 24.0 ≤ 10.0 ≤ 2.0 ≤ 1.0 |
| P12x1200M | | | F81059 | | | | | | | | | | | |

*CV means Coefficient of Variation

Gilson maximum permissible errors are guaranteed only when PIPETMAN® pipettes are used with the recommended PIPETMAN® DIAMOND Tips.

Under these conditions, Gilson volumetric specifications in standard pipetting (PIPET Mode) are guaranteed with a performance exceeding ISO 8655-2 recommendations for this Mode. In the absence of ISO recommendations for repetitive pipetting Mode for air displacement pipettes, Gilson volumetric specifications for repetitive pipetting (REPETITIVE Mode) are guaranteed within ISO 8655-2 recommendations for standard pipetting (Cf. ISO 8655-2 table 1).



GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

MYPIPETMAN® SINGLE CHANNEL MODELS



| Model | PIPETMAN® DIAMOND Tips | | Vol. (µL) | Maximum Permissible Errors | | | | | | | |
|------------------|------------------------|----------------------|-----------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| | | | | Gilson | | | | ISO 8655 | | | |
| | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV*) | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV*) |
| MyPIPETMAN P2 | D10 DL10 | DF10ST DFL10ST | 0.2 | ± 0.024 | ≤ 0.012 | ± 12.0 | ≤ 6.0 | ± 0.08 | ≤ 0.04 | ± 40.0 | ≤ 20.0 |
| | | | 0.5 | ± 0.025 | ≤ 0.012 | ± 5.0 | ≤ 2.4 | ± 0.08 | ≤ 0.04 | ± 16.0 | ≤ 8.0 |
| | | | 1 | ± 0.027 | ≤ 0.013 | ± 2.7 | ≤ 1.3 | ± 0.08 | ≤ 0.04 | ± 8.0 | ≤ 4.0 |
| MyPIPETMAN P10 | D10 DL10 | DF10ST DFL10ST | 1 | ± 0.025 | ≤ 0.012 | ± 2.5 | ≤ 1.2 | ± 0.12 | ≤ 0.08 | ± 12.0 | ≤ 8.0 |
| | | | 5 | ± 0.075 | ≤ 0.030 | ± 1.5 | ≤ 0.6 | ± 0.12 | ≤ 0.08 | ± 2.4 | ≤ 1.6 |
| | | | 10 | ± 0.100 | ≤ 0.040 | ± 1.0 | ≤ 0.4 | ± 0.12 | ≤ 0.08 | ± 1.2 | ≤ 0.8 |
| MyPIPETMAN P20 | D200 | DF30ST | 2 | ± 0.10 | ≤ 0.030 | ± 5.0 | ≤ 1.5 | ± 0.2 | ≤ 0.1 | ± 10.0 | ≤ 5.0 |
| | | | 10 | ± 0.10 | ≤ 0.050 | ± 1.0 | ≤ 0.5 | ± 0.2 | ≤ 0.1 | ± 2.0 | ≤ 1.0 |
| | | | 20 | ± 0.20 | ≤ 0.060 | ± 1.0 | ≤ 0.3 | ± 0.2 | ≤ 0.1 | ± 1.0 | ≤ 0.5 |
| MyPIPETMAN P100 | D200 | DF100ST | 10 | ± 0.35 | ≤ 0.10 | ± 3.5 | ≤ 1.0 | ± 0.8 | ≤ 0.3 | ± 8.0 | ≤ 3.0 |
| | | | 50 | ± 0.40 | ≤ 0.12 | ± 0.8 | ≤ 0.24 | ± 0.8 | ≤ 0.3 | ± 1.6 | ≤ 0.6 |
| | | | 100 | ± 0.80 | ≤ 0.15 | ± 0.8 | ≤ 0.15 | ± 0.8 | ≤ 0.3 | ± 0.8 | ≤ 0.3 |
| MyPIPETMAN P200 | D200 D300 | DF200ST DF300ST | 20 | ± 0.50 | ≤ 0.20 | ± 2.5 | ≤ 1.0 | ± 1.6 | ≤ 0.6 | ± 8.0 | ≤ 3.0 |
| | | | 100 | ± 0.80 | ≤ 0.25 | ± 0.8 | ≤ 0.25 | ± 1.6 | ≤ 0.6 | ± 1.6 | ≤ 0.6 |
| | | | 200 | ± 1.60 | ≤ 0.30 | ± 0.8 | ≤ 0.15 | ± 1.6 | ≤ 0.6 | ± 0.8 | ≤ 0.3 |
| MyPIPETMAN P1000 | D1000 D1200 | DF1000ST DF1200ST | 100 | ± 3.0 | ≤ 0.6 | ± 3.0 | ≤ 0.6 | ± 8.0 | ≤ 3.0 | ± 8.0 | ≤ 3.0 |
| | | | 500 | ± 4.0 | ≤ 1.0 | ± 0.8 | ≤ 0.2 | ± 8.0 | ≤ 3.0 | ± 1.6 | ≤ 0.6 |
| | | | 1000 | ± 8.0 | ≤ 1.5 | ± 0.8 | ≤ 0.15 | ± 8.0 | ≤ 3.0 | ± 0.8 | ≤ 0.3 |
| MyPIPETMAN P5000 | D5000 | | 500 | ± 12 | ≤ 3 | ± 2.4 | ≤ 0.6 | ± 40 | ≤ 15.0 | ± 8.0 | ≤ 3.0 |
| | | | 2500 | ± 15 | ≤ 5 | ± 0.6 | ≤ 0.2 | ± 40 | ≤ 15.0 | ± 1.6 | ≤ 0.6 |
| | | | 5000 | ± 30 | ≤ 8 | ± 0.6 | ≤ 0.16 | ± 40 | ≤ 15.0 | ± 0.8 | ≤ 0.3 |
| MyPIPETMAN P10mL | D10mL | | 1000 | ± 30 | ≤ 6 | ± 3.0 | ≤ 0.6 | ± 60 | ≤ 30.0 | ± 6.0 | ≤ 3.0 |
| | | | 5000 | ± 40 | ≤ 10 | ± 0.8 | ≤ 0.2 | ± 60 | ≤ 30.0 | ± 1.2 | ≤ 0.6 |
| | | | 10000 | ± 60 | ≤ 16 | ± 0.6 | ≤ 0.16 | ± 60 | ≤ 30.0 | ± 0.6 | ≤ 0.3 |

MYPIPETMAN® MULTICHANNEL MODELS



| Model | PIPETMAN® DIAMOND Tips | | Vol. (µL) | Maximum Permissible Errors | | | | | | | |
|--------------------|------------------------|-------------------|-----------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| | | | | Gilson | | | | ISO 8655 | | | |
| | | | | Systematic error (µL) | Random error (µL) | Systematic error (%) | Random error (%CV*) | Systematic error (µL) | Random error (µL) | Systematic error (%) | Random error (%CV*) |
| MyPIPETMAN P8x10 | D10 DL10 | DF10ST DFL10ST | 0.5 | ± 0.08 | ≤ 0.04 | ± 16.0 | ≤ 8.0 | ± 0.24 | ≤ 0.16 | ± 48.0 | ≤ 32.0 |
| | | | 1 | ± 0.08 | ≤ 0.05 | ± 8.0 | ≤ 5.0 | ± 0.24 | ≤ 0.16 | ± 24.0 | ≤ 16.0 |
| MyPIPETMAN P12x10 | DL10 | DFL10ST | 5 | ± 0.20 | ≤ 0.10 | ± 4.0 | ≤ 2.0 | ± 0.24 | ≤ 0.16 | ± 4.8 | ≤ 3.2 |
| | | | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.24 | ≤ 0.16 | ± 2.4 | ≤ 1.6 |
| MyPIPETMAN P8x20 | DL10 D200 | DFL10ST DF30ST | 2 | ± 0.10 | ≤ 0.08 | ± 5.0 | ≤ 4.0 | ± 0.4 | ≤ 0.2 | ± 20.0 | ≤ 10.0 |
| | | | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.4 | ≤ 0.2 | ± 4.0 | ≤ 2.0 |
| MyPIPETMAN P12x20 | D200 | DF30ST | 20 | ± 0.40 | ≤ 0.15 | ± 2.0 | ≤ 0.75 | ± 0.4 | ≤ 0.2 | ± 2.0 | ≤ 1.0 |
| | | | | | | | | | | | |
| MyPIPETMAN P8x200 | D200 | DF200ST | 20 | ± 0.50 | ≤ 0.25 | ± 2.5 | ≤ 1.25 | ± 3.2 | ≤ 1.2 | ± 16.0 | ≤ 6.0 |
| | | | 100 | ± 1.00 | ≤ 0.40 | ± 1.0 | ≤ 0.4 | ± 3.2 | ≤ 1.2 | ± 3.2 | ≤ 1.2 |
| MyPIPETMAN P12x200 | D300 | DF300ST | 200 | ± 2.00 | ≤ 0.50 | ± 1.0 | ≤ 0.25 | ± 3.2 | ≤ 1.2 | ± 1.6 | ≤ 0.6 |
| | | | | | | | | | | | |
| MyPIPETMAN P8x300 | D200 | DF200ST | 20 | ± 1.00 | ≤ 0.35 | ± 5.0 | ≤ 1.75 | ± 8.0 | ≤ 3.0 | ± 40.0 | ≤ 15.0 |
| | | | 30 | ± 1.00 | ≤ 0.35 | ± 3.3 | ≤ 1.17 | ± 8.0 | ≤ 3.0 | ± 26.67 | ≤ 10.0 |
| MyPIPETMAN P12x300 | D300 | DF300ST | 150 | ± 1.50 | ≤ 0.60 | ± 1.0 | ≤ 0.4 | ± 8.0 | ≤ 3.0 | ± 5.33 | ≤ 2.0 |
| | | | 300 | ± 3.00 | ≤ 1.00 | ± 1.0 | ≤ 0.33 | ± 8.0 | ≤ 3.0 | ± 2.67 | ≤ 1.0 |

*CV means Coefficient of Variation | Gilson maximum permissible errors are guaranteed only when PIPETMAN® pipettes are used with the recommended PIPETMAN® DIAMOND Tips.

NOTE

The data given in this table conform to the ISO 8655-2 standard. With a precise pipetting technique, the P2 model can be used to aspirate volumes as low as 0.1 µL and the P10 model as low as 0.5 µL.



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SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

| PIPETMAN® L SINGLE CHANNEL—VARIABLE VOLUME MODELS | | | | | | | | | | | | | |
|---|------------------------|----------------------|------------------------------|----------------------|-------------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| Model | PIPETMAN® DIAMOND Tips | | Part Number | | Volume (µL) | Maximum Permissible Errors | | | | | | | |
| | | | With Stainless Steel Ejector | With Plastic Ejector | | Gilson | | | | ISO 8655 | | | |
| | | | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| P2L | D10 DL10 | DF10ST DFL10ST | FA10001M | FA10001P | 0.2 | ± 0.024 | ≤ 0.012 | ± 12.0 | ≤ 6.0 | ± 0.08 | ≤ 0.04 | ± 40.0 | ≤ 20.0 |
| | | | | | 0.5 | ± 0.025 | ≤ 0.012 | ± 5.0 | ≤ 2.4 | ± 0.08 | ≤ 0.04 | ± 16.0 | ≤ 8.0 |
| | | | | | 1 | ± 0.027 | ≤ 0.013 | ± 2.7 | ≤ 1.3 | ± 0.08 | ≤ 0.04 | ± 8.0 | ≤ 4.0 |
| | | | | | 2 | ± 0.030 | ≤ 0.014 | ± 1.5 | ≤ 0.7 | ± 0.08 | ≤ 0.04 | ± 4.0 | ≤ 2.0 |
| P10L | D10 DL10 | DF10ST DFL10ST | FA10002M | FA10002P | 0.5 | ± 0.040 | ≤ 0.016 | ± 8.0 | ≤ 3.2 | ± 0.12 | ≤ 0.08 | ± 24.0 | ≤ 16.0 |
| | | | | | 1 | ± 0.025 | ≤ 0.012 | ± 2.5 | ≤ 1.2 | ± 0.12 | ≤ 0.08 | ± 12.0 | ≤ 8.0 |
| | | | | | 5 | ± 0.075 | ≤ 0.030 | ± 1.5 | ≤ 0.6 | ± 0.12 | ≤ 0.08 | ± 2.4 | ≤ 1.6 |
| | | | | | 10 | ± 0.100 | ≤ 0.040 | ± 1.0 | ≤ 0.4 | ± 0.12 | ≤ 0.08 | ± 1.2 | ≤ 0.8 |
| P20L | D200 | DF30ST | FA10003M | FA10003P | 2 | ± 0.10 | ≤ 0.030 | ± 5.0 | ≤ 1.5 | ± 0.2 | ≤ 0.1 | ± 10.0 | ≤ 5.0 |
| | | | | | 10 | ± 0.10 | ≤ 0.050 | ± 1.0 | ≤ 0.5 | ± 0.2 | ≤ 0.1 | ± 2.0 | ≤ 1.0 |
| | | | | | 20 | ± 0.20 | ≤ 0.060 | ± 1.0 | ≤ 0.3 | ± 0.2 | ≤ 0.1 | ± 1.0 | ≤ 0.5 |
| P100L | D200 | DF100ST | FA10004M | FA10004P | 10 | ± 0.35 | ≤ 0.10 | ± 3.5 | ≤ 1.0 | ± 0.8 | ≤ 0.3 | ± 8.0 | ≤ 3.0 |
| | | | | | 50 | ± 0.40 | ≤ 0.12 | ± 0.8 | ≤ 0.24 | ± 0.8 | ≤ 0.3 | ± 1.6 | ≤ 0.6 |
| | | | | | 100 | ± 0.80 | ≤ 0.15 | ± 0.8 | ≤ 0.15 | ± 0.8 | ≤ 0.3 | ± 0.8 | ≤ 0.3 |
| P200L | D200 D300 | DF200ST DF300ST | FA10005M | FA10005P | 20 | ± 0.50 | ≤ 0.20 | ± 2.5 | ≤ 1.0 | ± 1.6 | ≤ 0.6 | ± 8.0 | ≤ 3.0 |
| | | | | | 100 | ± 0.80 | ≤ 0.25 | ± 0.8 | ≤ 0.25 | ± 1.6 | ≤ 0.6 | ± 1.6 | ≤ 0.6 |
| | | | | | 200 | ± 1.60 | ≤ 0.30 | ± 0.8 | ≤ 0.15 | ± 1.6 | ≤ 0.6 | ± 0.8 | ≤ 0.3 |
| P1000L | D1000 D1200 | DF1000ST DF1200ST | FA10006M | FA10006P | 100 | ± 3.0 | ≤ 0.6 | ± 3.0 | ≤ 0.6 | ± 8.0 | ≤ 3.0 | ± 8.0 | ≤ 3.0 |
| | | | | | 500 | ± 4.0 | ≤ 1.0 | ± 0.8 | ≤ 0.2 | ± 8.0 | ≤ 3.0 | ± 1.6 | ≤ 0.6 |
| | | | | | 1000 | ± 8.0 | ≤ 1.5 | ± 0.8 | ≤ 0.15 | ± 8.0 | ≤ 3.0 | ± 0.8 | ≤ 0.3 |
| P5000L | D5000 | | FA10007 | | 500 | ± 12 | ≤ 3 | ± 2.4 | ≤ 0.6 | ± 40 | ≤ 15.0 | ± 8.0 | ≤ 3.0 |
| | | | | | 2500 | ± 15 | ≤ 5 | ± 0.6 | ≤ 0.2 | ± 40 | ≤ 15.0 | ± 1.6 | ≤ 0.6 |
| | | | | | 5000 | ± 30 | ≤ 8 | ± 0.6 | ≤ 0.16 | ± 40 | ≤ 15.0 | ± 0.8 | ≤ 0.3 |
| P10mLL | D10mL | | FA10008 | | 1000 | ± 30 | ≤ 6 | ± 3.0 | ≤ 0.6 | ± 60 | ≤ 30.0 | ± 6.0 | ≤ 3.0 |
| | | | | | 5000 | ± 40 | ≤ 10 | ± 0.8 | ≤ 0.2 | ± 60 | ≤ 30.0 | ± 1.2 | ≤ 0.6 |
| | | | | | 10000 | ± 60 | ≤ 16 | ± 0.6 | ≤ 0.16 | ± 60 | ≤ 30.0 | ± 0.6 | ≤ 0.3 |
| PIPETMAN® L MULTICHANNEL MODELS | | | | | | | | | | | | | |
| P8x10L | D10 DL10 | DF10ST DFL10ST | FA10013 | | 0.5 | ± 0.08 | ≤ 0.04 | ± 16.0 | ≤ 8.0 | ± 0.24 | ≤ 0.16 | ± 48.0 | ≤ 32.0 |
| | | | | | 1 | ± 0.08 | ≤ 0.05 | ± 8.0 | ≤ 5.0 | ± 0.24 | ≤ 0.16 | ± 24.0 | ≤ 16.0 |
| | | | | | 5 | ± 0.20 | ≤ 0.10 | ± 4.0 | ≤ 2.0 | ± 0.24 | ≤ 0.16 | ± 4.8 | ≤ 3.2 |
| P12x10L | DL10 | DFL10ST | FA10014 | | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.24 | ≤ 0.16 | ± 2.4 | ≤ 1.6 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x20L | DL10 D200 | DFL10ST DF30ST | FA10009 | | 2 | ± 0.10 | ≤ 0.08 | ± 5.0 | ≤ 4.0 | ± 0.4 | ≤ 0.2 | ± 20.0 | ≤ 10.0 |
| | | | | | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.4 | ≤ 0.2 | ± 4.0 | ≤ 2.0 |
| | | | | | 20 | ± 0.40 | ≤ 0.15 | ± 2.0 | ≤ 0.75 | ± 0.4 | ≤ 0.2 | ± 2.0 | ≤ 1.0 |
| P12x20L | D200 | DF30ST | FA10010 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x200L | D200 D300 | DF200ST DF300ST | FA10011 | | 20 | ± 0.50 | ≤ 0.25 | ± 2.5 | ≤ 1.25 | ± 3.2 | ≤ 1.2 | ± 16.0 | ≤ 6.0 |
| | | | | | 100 | ± 1.00 | ≤ 0.40 | ± 1.0 | ≤ 0.4 | ± 3.2 | ≤ 1.2 | ± 3.2 | ≤ 1.2 |
| | | | | | 200 | ± 2.00 | ≤ 0.50 | ± 1.0 | ≤ 0.25 | ± 3.2 | ≤ 1.2 | ± 1.6 | ≤ 0.6 |
| P12x200L | D300 | DF300ST | FA10012 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x200LVR | D200 D300 | DF200ST DF300ST | FA10035 | | 20 | ± 0.50 | ≤ 0.25 | ± 2.5 | ≤ 1.25 | ± 3.2 | ≤ 1.2 | ± 16.0 | ≤ 6.0 |
| | | | | | 100 | ± 1.00 | ≤ 0.40 | ± 1.0 | ≤ 0.4 | ± 3.2 | ≤ 1.2 | ± 3.2 | ≤ 1.2 |
| | | | | | 200 | ± 2.00 | ≤ 0.50 | ± 1.0 | ≤ 0.25 | ± 3.2 | ≤ 1.2 | ± 1.6 | ≤ 0.6 |
| P12x200LVR | D300 | DF300ST | FA10036 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x300L | D200 D300 | DF200ST DF300ST | FA10015 | | 20 | ± 1.00 | ≤ 0.35 | ± 5.0 | ≤ 1.75 | ± 8.0 | ≤ 3.0 | ± 40.0 | ≤ 15.0 |
| | | | | | 30 | ± 1.00 | ≤ 0.35 | ± 3.3 | ≤ 1.17 | ± 8.0 | ≤ 3.0 | ± 26.67 | ≤ 10.0 |
| | | | | | 150 | ± 1.50 | ≤ 0.60 | ± 1.0 | ≤ 0.4 | ± 8.0 | ≤ 3.0 | ± 5.33 | ≤ 2.0 |
| P12x300L | D300 | DF300ST | FA10016 | | 300 | ± 3.00 | ≤ 1.00 | ± 1.0 | ≤ 0.33 | ± 8.0 | ≤ 3.0 | ± 2.67 | ≤ 1.0 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x300LVR | D200 D300 | DF200ST DF300ST | FA10037 | | 20 | ± 1.00 | ≤ 0.35 | ± 5.0 | ≤ 1.75 | ± 8.0 | ≤ 3.0 | ± 40.0 | ≤ 15.0 |
| | | | | | 30 | ± 1.00 | ≤ 0.35 | ± 3.3 | ≤ 1.17 | ± 8.0 | ≤ 3.0 | ± 26.67 | ≤ 10.0 |
| | | | | | 150 | ± 1.50 | ≤ 0.60 | ± 1.0 | ≤ 0.4 | ± 8.0 | ≤ 3.0 | ± 5.33 | ≤ 2.0 |
| P12x300LVR | D300 | DF300ST | FA10038 | | 300 | ± 3.00 | ≤ 1.00 | ± 1.0 | ≤ 0.33 | ± 8.0 | ≤ 3.0 | ± 2.67 | ≤ 1.0 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| P8x1200L | D1200 | DF1200ST | FA10039 | | 100 | ± 6.0 | ≤ 0.9 | ± 6.0 | ≤ 0.9 | ± 32 | ≤ 12.0 | ± 32.00 | ≤ 12.0 |
| | | | | | 120 | ± 6.0 | ≤ 0.9 | ± 5.0 | ≤ 0.75 | ± 32 | ≤ 12.0 | ± 26.67 | ≤ 10.0 |
| | | | | | 600 | ± 8.0 | ≤ 1.2 | ± 1.33 | ≤ 0.2 | ± 32 | ≤ 12.0 | ± 5.33 | ≤ 2.0 |
| P12x1200L | D1200 | DF1200ST | FA10040 | | 1200 | ± 10.0 | ≤ 1.5 | ± 0.83 | ≤ 0.13 | ± 32 | ≤ 12.0 | ± 2.67 | ≤ 1.0 |
| | | | | | | | | | | | | | |

*CV means Coefficient of Variation

Gilson maximum permissible errors are guaranteed only when PIPETMAN® pipettes are used with the recommended PIPETMAN® DIAMOND Tips.

For a pipette with a plastic tip ejector, the part number ends with the letter P.

For a pipette with a stainless steel tip ejector, the part number ends with the letter M.

P5000L and P10mLL are equipped with plastic tip ejectors.



GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

PIPETMAN® L FIXED VOLUME MODELS

| Model | PIPETMAN® DIAMOND Tips | | Part Number | Volume (µL) | Gilson | | | | ISO 8655 | | | |
|--------|------------------------|-------------------|----------------|-------------|-----------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| | | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| F1L | D10 DL10 | DF10ST DFL10ST | FA10017 | 1 | ± 0.02 | ≤ 0.015 | ± 2.0 | ≤ 1.50 | ± 0.05 | ≤ 0.05 | ± 5.0 | ≤ 5.0 |
| F2L | D10 DL10 | DF10ST DFL10ST | FA10018 | 2 | ± 0.05 | ≤ 0.02 | ± 2.5 | ≤ 1.0 | ± 0.08 | ≤ 0.04 | ± 4.0 | ≤ 2.0 |
| F5L | D10 DL10 | DF10ST DFL10ST | FA10019 | 5 | ± 0.050 | ≤ 0.025 | ± 1.0 | ≤ 0.5 | ± 0.125 | ≤ 0.075 | ± 2.5 | ≤ 1.5 |
| F10L | D10 DL10 | DF10ST DFL10ST | FA10020 | 10 | ± 0.06 | ≤ 0.03 | ± 0.6 | ≤ 0.3 | ± 0.12 | ≤ 0.08 | ± 1.2 | ≤ 0.8 |
| F20L | D200 | DF30ST | FA10021 | 20 | ± 0.10 | ≤ 0.05 | ± 0.5 | ≤ 0.25 | ± 0.20 | ≤ 0.10 | ± 1.0 | ≤ 0.5 |
| F25L | D200 | DF30ST | FA10022 | 25 | ± 0.20 | ≤ 0.07 | ± 0.8 | ≤ 0.28 | ± 0.50 | ≤ 0.20 | ± 2.0 | ≤ 0.8 |
| F50L | D200 | DF100ST | FA10023 | 50 | ± 0.35 | ≤ 0.12 | ± 0.7 | ≤ 0.24 | ± 0.50 | ≤ 0.20 | ± 1.0 | ≤ 0.4 |
| F100L | D200 | DF100ST | FA10024 | 100 | ± 0.55 | ≤ 0.15 | ± 0.55 | ≤ 0.15 | ± 0.80 | ≤ 0.30 | ± 0.8 | ≤ 0.3 |
| F200L | D200 | DF200ST | FA10025 | 200 | ± 1.2 | ≤ 0.30 | ± 0.6 | ≤ 0.15 | ± 1.60 | ≤ 0.60 | ± 0.8 | ≤ 0.3 |
| F250L | D300 | DF300ST | FA10026 | 250 | ± 1.50 | ≤ 0.75 | ± 0.6 | ≤ 0.3 | ± 4.00 | ≤ 1.50 | ± 1.6 | ≤ 0.6 |
| F300L | D1000 | DF1000ST | FA10027 | 300 | ± 2.4 | ≤ 0.50 | ± 0.8 | ≤ 0.17 | ± 4.00 | ≤ 1.50 | ± 1.33 | ≤ 0.5 |
| F400L | D1000 | DF1000ST | FA10028 | 400 | ± 2.4 | ≤ 0.80 | ± 0.6 | ≤ 0.2 | ± 4.00 | ≤ 1.50 | ± 1.0 | ≤ 0.4 |
| F500L | D1000 | DF1000ST | FA10029 | 500 | ± 3.0 | ≤ 0.80 | ± 0.6 | ≤ 0.16 | ± 4.00 | ≤ 1.50 | ± 0.8 | ≤ 0.3 |
| F1000L | D1000 | DF1000ST | FA10030 | 1000 | ± 5.0 | ≤ 1.3 | ± 0.5 | ≤ 0.13 | ± 8.00 | ≤ 3.00 | ± 0.8 | ≤ 0.3 |
| F5000L | D5000 | | FA10031 | 5000 | ± 20.0 | ≤ 7.0 | ± 0.4 | ≤ 0.14 | ± 40.00 | ≤ 15.00 | ± 0.8 | ≤ 0.3 |

*CV means Coefficient of Variation



GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

PIPETMAN® SINGLE CHANNEL

| Model | PIPETMAN® DIAMOND Tips | | Part Number | Volume (µL) | Maximum Permissible Errors | | | | | | | |
|------------------------|------------------------|----------------------|-------------|-------------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| | | | | | Gilson | | | | ISO 8655 | | | |
| | | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| P2 | D10 DL10 | DF10ST DFL10ST | F144054M | 0.2 | ± 0.024 | ≤ 0.012 | ± 12.0 | ≤ 6.0 | ± 0.08 | ≤ 0.04 | ± 40.0 | ≤ 20.0 |
| | | | | 0.5 | ± 0.025 | ≤ 0.012 | ± 5.0 | ≤ 2.4 | ± 0.08 | ≤ 0.04 | ± 16.0 | ≤ 8.0 |
| | | | | 1 | ± 0.025 | ≤ 0.012 | ± 2.5 | ≤ 1.2 | ± 0.08 | ≤ 0.04 | ± 8.0 | ≤ 4.0 |
| | | | | 2 | ± 0.030 | ≤ 0.014 | ± 1.5 | ≤ 0.7 | ± 0.08 | ≤ 0.04 | ± 4.0 | ≤ 2.0 |
| P10** | D10 DL10 | DF10ST DFL10ST | F144055M | 1 | ± 0.025 | ≤ 0.012 | ± 2.5 | ≤ 1.2 | ± 0.12 | ≤ 0.08 | ± 12.0 | ≤ 8.0 |
| | | | | 5 | ± 0.075 | ≤ 0.030 | ± 1.5 | ≤ 0.6 | ± 0.12 | ≤ 0.08 | ± 2.4 | ≤ 1.6 |
| | | | | 10 | ± 0.100 | ≤ 0.040 | ± 1.0 | ≤ 0.4 | ± 0.12 | ≤ 0.08 | ± 1.2 | ≤ 0.8 |
| P20 | D200 | DF30ST | F144056M | 2 | ± 0.10 | ≤ 0.030 | ± 5.0 | ≤ 1.5 | ± 0.2 | ≤ 0.1 | ± 10.0 | ≤ 5.0 |
| | | | | 10 | ± 0.10 | ≤ 0.050 | ± 1.0 | ≤ 0.5 | ± 0.2 | ≤ 0.1 | ± 2.0 | ≤ 1.0 |
| | | | | 20 | ± 0.20 | ≤ 0.060 | ± 1.0 | ≤ 0.3 | ± 0.2 | ≤ 0.1 | ± 1.0 | ≤ 0.5 |
| P100 | D200 | DF100ST | F144057M | 10 | ± 0.35 | ≤ 0.10 | ± 3.5 | ≤ 1.0 | ± 0.8 | ≤ 0.3 | ± 8.0 | ≤ 3.0 |
| | | | | 50 | ± 0.40 | ≤ 0.12 | ± 0.8 | ≤ 0.24 | ± 0.8 | ≤ 0.3 | ± 1.6 | ≤ 0.6 |
| | | | | 100 | ± 0.80 | ≤ 0.15 | ± 0.8 | ≤ 0.15 | ± 0.8 | ≤ 0.3 | ± 0.8 | ≤ 0.3 |
| P200 | D200 D300 | DF200ST DF300ST | F144058M | 20 | ± 0.50 | ≤ 0.20 | ± 2.5 | ≤ 1.0 | ± 1.6 | ≤ 0.6 | ± 8.0 | ≤ 3.0 |
| | | | | 100 | ± 0.80 | ≤ 0.25 | ± 0.8 | ≤ 0.25 | ± 1.6 | ≤ 0.6 | ± 1.6 | ≤ 0.6 |
| | | | | 200 | ± 1.60 | ≤ 0.30 | ± 0.8 | ≤ 0.15 | ± 1.6 | ≤ 0.6 | ± 0.8 | ≤ 0.3 |
| P1000 | D1000 D1200 | DF1000ST DF1200ST | F144059M | 100 | ± 3.0 | ≤ 0.6 | ± 3.0 | ≤ 0.6 | ± 8.0 | ≤ 3.0 | ± 8.0 | ≤ 3.0 |
| | | | | 500 | ± 4.0 | ≤ 1.0 | ± 0.8 | ≤ 0.2 | ± 8.0 | ≤ 3.0 | ± 1.6 | ≤ 0.6 |
| | | | | 1000 | ± 8.0 | ≤ 1.5 | ± 0.8 | ≤ 0.15 | ± 8.0 | ≤ 3.0 | ± 0.8 | ≤ 0.3 |
| P5000*** | D5000 | | F144066 | 500 | ± 12 | ≤ 3 | ± 2.4 | ≤ 0.6 | ± 40 | ≤ 15.0 | ± 8.0 | ≤ 3.0 |
| | | | | 2500 | ± 15 | ≤ 5 | ± 0.6 | ≤ 0.2 | ± 40 | ≤ 15.0 | ± 1.6 | ≤ 0.6 |
| | | | | 5000 | ± 30 | ≤ 8 | ± 0.6 | ≤ 0.16 | ± 40 | ≤ 15.0 | ± 0.8 | ≤ 0.3 |
| P10mL*** | D10mL | | F144067 | 1000 | ± 30 | ≤ 6 | ± 3.0 | ≤ 0.6 | ± 60 | ≤ 30.0 | ± 6.0 | ≤ 3.0 |
| | | | | 5000 | ± 40 | ≤ 10 | ± 0.8 | ≤ 0.2 | ± 60 | ≤ 30.0 | ± 1.2 | ≤ 0.6 |
| | | | | 10000 | ± 60 | ≤ 16 | ± 0.6 | ≤ 0.16 | ± 60 | ≤ 30.0 | ± 0.6 | ≤ 0.3 |
| PIPETMAN® MULTICHANNEL | | | | | | | | | | | | |
| P8x10 P12x10 | D10 DL10 | DF10ST DFL10ST | F144068 | 1 | ± 0.08 | ≤ 0.05 | ± 8.0 | ≤ 5.0 | ± 0.24 | ≤ 0.16 | ± 24.0 | ≤ 16.0 |
| | | | F144069 | 5 | ± 0.20 | ≤ 0.10 | ± 4.0 | ≤ 2.0 | ± 0.24 | ≤ 0.16 | ± 4.8 | ≤ 3.2 |
| | | | | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.24 | ≤ 0.16 | ± 2.4 | ≤ 1.6 |
| P8x20 P12x20 | DL10 D200 | DFL10ST DF30ST | F144070 | 2 | ± 0.10 | ≤ 0.08 | ± 5.0 | ≤ 4.0 | ± 0.4 | ≤ 0.20 | ± 20.0 | ≤ 10.0 |
| | | | F144071 | 10 | ± 0.20 | ≤ 0.10 | ± 2.0 | ≤ 1.0 | ± 0.4 | ≤ 0.20 | ± 4.0 | ≤ 2.0 |
| | | | | 20 | ± 0.40 | ≤ 0.20 | ± 2.0 | ≤ 1.0 | ± 0.4 | ≤ 0.20 | ± 2.0 | ≤ 1.0 |
| P8x200 P12x200 | D200 D300 | DF200ST DF300ST | F144072 | 20 | ± 0.50 | ≤ 0.25 | ± 2.5 | ≤ 1.25 | ± 3.2 | ≤ 1.2 | ± 16.0 | ≤ 6.0 |
| | | | F144073 | 100 | ± 1.00 | ≤ 0.40 | ± 1.0 | ≤ 0.4 | ± 3.2 | ≤ 1.2 | ± 3.2 | ≤ 1.2 |
| | | | | 200 | ± 2.00 | ≤ 0.50 | ± 1.0 | ≤ 0.25 | ± 3.2 | ≤ 1.2 | ± 1.6 | ≤ 0.6 |
| P8x300 P12x300 | D200 D300 | DF200ST DF300ST | F144074 | 30 | ± 1.00 | ≤ 0.35 | ± 3.33 | ≤ 1.17 | ± 8.0 | ≤ 3.0 | ± 26.67 | ≤ 10.0 |
| | | | F144075 | 150 | ± 1.50 | ≤ 0.60 | ± 1.0 | ≤ 0.4 | ± 8.0 | ≤ 3.0 | ± 5.33 | ≤ 2.0 |
| | | | | 300 | ± 3.00 | ≤ 1.00 | ± 1.0 | ≤ 0.33 | ± 8.0 | ≤ 3.0 | ± 2.67 | ≤ 1.0 |

*CV means Coefficient of Variation

Gilson maximum permissible errors are guaranteed only when PIPETMAN® pipettes are used with the recommended PIPETMAN® DIAMOND Tips.

**P10 model can be used up to 0.5 µL.

***P5000 and P10mL do not have tip ejectors.



GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY



| MICROMAN® E | | | | | | | | | | | |
|-------------|--------------------|-------------|-------------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| Model | Capillary Piston | Part Number | Volume (µL) | Maximum Permissible Errors | | | | | | | |
| | | | | Gilson | | | | ISO 8655 | | | |
| | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| M10E | CP10 CP10ST | FD10001 | 1 | ± 0.09 | ≤ 0.03 | ± 9.0 | ≤ 3.0 | ± 0.2 | ≤ 0.1 | ± 20.0 | ≤ 10.0 |
| | | | 5 | ± 0.10 | ≤ 0.03 | ± 2.0 | ≤ 0.6 | ± 0.2 | ≤ 0.1 | ± 4.0 | ≤ 2.0 |
| | | | 10 | ± 0.15 | ≤ 0.06 | ± 1.5 | ≤ 0.6 | ± 0.2 | ≤ 0.1 | ± 2.0 | ≤ 1.0 |
| M25E | CP25 CP25ST | FD10002 | 3 | ± 0.25 | ≤ 0.08 | ± 8.3 | ≤ 2.7 | ± 0.7 | ≤ 0.3 | ± 23.33 | ≤ 10.0 |
| | | | 10 | ± 0.27 | ≤ 0.08 | ± 2.7 | ≤ 0.8 | ± 0.7 | ≤ 0.3 | ± 7.0 | ≤ 3.0 |
| | | | 25 | ± 0.30 | ≤ 0.10 | ± 1.2 | ≤ 0.4 | ± 0.7 | ≤ 0.3 | ± 2.8 | ≤ 1.2 |
| M50E | CP50 CP50ST | FD10003 | 20 | ± 0.34 | ≤ 0.20 | ± 1.7 | ≤ 1.0 | ± 0.7 | ≤ 0.3 | ± 3.5 | ≤ 1.5 |
| | | | 50 | ± 0.70 | ≤ 0.30 | ± 1.4 | ≤ 0.6 | ± 0.7 | ≤ 0.3 | ± 1.4 | ≤ 0.6 |
| M100E | CP100 CP100ST | FD10004 | 10 | ± 0.50 | ≤ 0.20 | ± 5.0 | ≤ 2.0 | ± 1.5 | ≤ 0.6 | ± 15.0 | ≤ 6.0 |
| | | | 50 | ± 0.75 | ≤ 0.30 | ± 1.5 | ≤ 0.6 | ± 1.5 | ≤ 0.6 | ± 3.0 | ≤ 1.2 |
| | | | 100 | ± 1.00 | ≤ 0.40 | ± 1.0 | ≤ 0.4 | ± 1.5 | ≤ 0.6 | ± 1.5 | ≤ 0.6 |
| M250E | CP250 CP250ST | FD10005 | 50 | ± 1.50 | ≤ 0.30 | ± 3.0 | ≤ 0.6 | ± 6 | ≤ 2.0 | ± 12.0 | ≤ 4.0 |
| | | | 100 | ± 1.70 | ≤ 0.30 | ± 1.7 | ≤ 0.3 | ± 6 | ≤ 2.0 | ± 6.0 | ≤ 2.0 |
| | | | 250 | ± 2.50 | ≤ 0.50 | ± 1.0 | ≤ 0.2 | ± 6 | ≤ 2.0 | ± 2.4 | ≤ 0.8 |
| M1000E | CP1000 CP1000ST | FD10006 | 100 | ± 3.0 | ≤ 1.6 | ± 3.0 | ≤ 1.6 | ± 12 | ≤ 4.0 | ± 12.0 | ≤ 4.0 |
| | | | 500 | ± 5.0 | ≤ 2.5 | ± 1.0 | ≤ 0.5 | ± 12 | ≤ 4.0 | ± 2.4 | ≤ 0.8 |
| | | | 1000 | ± 8.0 | ≤ 4.0 | ± 0.8 | ≤ 0.4 | ± 12 | ≤ 4.0 | ± 1.2 | ≤ 0.4 |

*CV means Coefficient of Variation

| DISTRIMAN® | | | | | | | | | | | |
|-------------------------------|---------------|--------------------|-------------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| Description | | | Part Number | | | | | | | | |
| DISTRIMAN (1 µL to 1.25 mL) | | | F164001 | | | | | | | | |
| DISTRITIPS® | | | | | | | | | | | |
| DISTRITIPS (Pack of 50) | Aliquot Range | Part Number | Volume (µL) | Maximum Permissible Errors | | | | | | | |
| | | | | Gilson | | | | ISO 8655 | | | |
| | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| 125 µL Micro Micro ST** | 1-12.5 µL | F164100 F164130 | 2 | ± 0.100 | ≤ 0.080 | ± 5.0 | ≤ 4.0 | ± 0.2 | ≤ 0.1 | ± 10.0 | ≤ 5.0 |
| | | | 5 | ± 0.125 | ≤ 0.075 | ± 2.5 | ≤ 1.5 | ± 0.2 | ≤ 0.1 | ± 4.0 | ≤ 2.0 |
| | | | 10 | ± 0.200 | ≤ 0.100 | ± 2.0 | ≤ 1.0 | ± 0.2 | ≤ 0.1 | ± 2.0 | ≤ 1.0 |
| 1250 µL Mini Mini ST** | 10-125 µL | F164110 F164140 | 20 | ± 0.80 | ≤ 0.20 | ± 4.0 | ≤ 1.0 | ± 1.5 | ≤ 0.6 | ± 7.5 | ≤ 3.0 |
| | | | 50 | ± 1.00 | ≤ 0.40 | ± 2.0 | ≤ 0.8 | ± 1.5 | ≤ 0.6 | ± 3.0 | ≤ 1.2 |
| | | | 100 | ± 1.00 | ≤ 0.60 | ± 1.0 | ≤ 0.6 | ± 1.5 | ≤ 0.6 | ± 1.5 | ≤ 0.6 |
| 12.5 mL Maxi Maxi ST** | 0.1-1.25 mL | F164120 F164150 | 200 | ± 6.0 | ≤ 1.0 | ± 3.0 | ≤ 0.5 | ± 12.0 | ≤ 4.0 | ± 6.0 | ≤ 2.0 |
| | | | 500 | ± 7.5 | ≤ 1.5 | ± 1.5 | ≤ 0.3 | ± 12.0 | ≤ 4.0 | ± 2.4 | ≤ 0.8 |
| | | | 1000 | ± 10.0 | ≤ 2.5 | ± 1.0 | ≤ 0.25 | ± 12.0 | ≤ 4.0 | ± 1.2 | ≤ 0.4 |

*CV means Coefficient of Variation

**ST means pre-sterilized syringes (individually wrapped)



GILSON PIPETTE SPECIFICATIONS

SYSTEMATIC ERROR = ACCURACY
RANDOM ERROR = REPEATABILITY

| PLATEMASTER® | | | | | | | | | | | | | |
|--------------|------------------------|-------------------------------|----------------------------------|-------------|-------------|----------------------------|-------------------|----------------------|---------------------|-----------------------|-------------------|----------------------|---------------------|
| Model | PIPETMAN® DIAMOND Tips | | | Part Number | Volume (µL) | Maximum Permissible Errors | | | | | | | |
| | | | | | | Gilson | | | | ISO 8655 | | | |
| | | | | | | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (µL) | Random Error (µL) | Systematic Error (%) | Random Error (%CV)* |
| P20 | D200 DS200** | D200ST DS200ST** | DF100ST DF200ST DFS200ST** | F110761 | 0.5 | ± 0.12 | ≤ 0.10 | ± 24.0 | ≤ 20.00 | ± 0.40 | ≤ 0.20 | ± 80.00 | ≤ 40.0 |
| | | | | | 10 | ± 0.12 | ≤ 0.10 | ± 1.2 | ≤ 1.0 | ± 0.40 | ≤ 0.20 | ± 4.0 | ≤ 2.0 |
| | | | | | 20 | ± 0.20 | ≤ 0.18 | ± 1.0 | ≤ 0.9 | ± 0.40 | ≤ 0.20 | ± 2.0 | ≤ 1.0 |
| P220 | D200 DS200* D300 | D200ST DS200ST** D300ST | DF200ST DFS200ST** DF300ST | F110762 | 2 | ± 0.12 | ≤ 0.15 | ± 6.0 | ≤ 7.5 | ± 8.00 | ≤ 3.00 | ± 400.0 | ≤ 150.0 |
| | | | | | 5 | ± 0.25 | ≤ 0.18 | ± 5.0 | ≤ 3.5 | ± 8.00 | ≤ 3.00 | ± 160.0 | ≤ 60.0 |
| | | | | | 20 | ± 0.40 | ≤ 0.30 | ± 2.0 | ≤ 1.5 | ± 8.00 | ≤ 3.00 | ± 40.0 | ≤ 15.0 |
| | | | | | 100 | ± 1.00 | ≤ 0.80 | ± 1.0 | ≤ 0.8 | ± 8.00 | ≤ 3.00 | ± 8.0 | ≤ 3.0 |
| | | | | | 200 | ± 1.60 | ≤ 0.80 | ± 0.8 | ≤ 0.4 | ± 8.00 | ≤ 3.00 | ± 4.0 | ≤ 1.5 |
| | | | | | 220 | ± 1.80 | ≤ 0.80 | ± 0.8 | ≤ 0.36 | ± 8.00 | ≤ 3.00 | ± 3.64 | ≤ 1.4 |

*CV means Coefficient of Variation

*Validated for use with 384-well plates.

| DISPENSAN® | | | | | | | | | | | | | |
|------------------|-------------|--------------|--------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|--|--|
| Model | Part Number | Volume Range | Scaling (mL) | Maximum Permissible Errors | | | | | | | | | |
| | | | | Gilson | | | | ISO 8655 | | | | | |
| | | | | Systematic Error (mL) | Random Error (mL) | Systematic Error (%) | Random Error (%CV)* | Systematic Error (mL) | Random Error (mL) | Systematic Error (%) | Random Error (%CV)* | | |
| DISPENSAN 2.5 mL | F110101 | 0.25-2.5 mL | 0.05 | ± 0.012 ± 0.012 ± 0.012 | ≤ 0.002 ≤ 0.002 ≤ 0.002 | ± 4.800 ± 0.960 ± 4.800 | ≤ 0.800 ≤ 0.160 ≤ 0.080 | ± 0.030 ± 0.030 ± 0.030 | ≤ 0.010 ≤ 0.010 ≤ 0.010 | ± 12.000 ± 2.400 ± 1.200 | ≤ 4.000 ≤ 0.800 ≤ 0.400 | | |
| DISPENSAN 5.0 mL | F110102 | 0.5-5 mL | 0.10 | ± 0.030 ± 0.030 ± 0.030 | ≤ 0.005 ≤ 0.005 ≤ 0.005 | ± 6.000 ± 1.200 ± 6.000 | ≤ 1.000 ≤ 0.200 ≤ 0.100 | ± 0.030 ± 0.030 ± 0.030 | ≤ 0.010 ≤ 0.010 ≤ 0.010 | ± 6.000 ± 1.200 ± 0.600 | ≤ 2.000 ≤ 0.400 ≤ 0.200 | | |
| DISPENSAN 10 mL | F110103 | 1-10 mL | 0.20 | ± 0.060 ± 0.060 ± 0.060 | ≤ 0.010 ≤ 0.010 ≤ 0.010 | ± 6.000 ± 1.200 ± 6.000 | ≤ 1.000 ≤ 0.200 ≤ 0.100 | ± 0.060 ± 0.060 ± 0.060 | ≤ 0.020 ≤ 0.020 ≤ 0.020 | ± 6.000 ± 1.200 ± 0.600 | ≤ 2.000 ≤ 0.400 ≤ 0.200 | | |
| DISPENSAN 25 mL | F110104 | 2.5-25 mL | 0.50 | ± 0.150 ± 0.150 ± 0.150 | ≤ 0.025 ≤ 0.025 ≤ 0.025 | ± 6.000 ± 1.200 ± 6.000 | ≤ 1.000 ≤ 0.200 ≤ 0.100 | ± 0.150 ± 0.150 ± 0.150 | ≤ 0.050 ≤ 0.050 ≤ 0.050 | ± 0.588 ± 1.200 ± 0.600 | ≤ 2.000 ≤ 0.400 ≤ 0.200 | | |
| DISPENSAN 50 mL | F110105 | 5-50 mL | 1.00 | ± 0.300 ± 0.300 ± 0.300 | ≤ 0.050 ≤ 0.050 ≤ 0.050 | ± 6.000 ± 1.200 ± 6.000 | ≤ 1.000 ≤ 0.200 ≤ 0.100 | ± 0.300 ± 0.300 ± 0.300 | ≤ 0.100 ≤ 0.100 ≤ 0.100 | ± 6.000 ± 1.200 ± 0.600 | ≤ 2.000 ≤ 0.400 ≤ 0.200 | | |

*CV means Coefficient of Variation