# PPERMAN

The Pipetting Standard



Accuracy, precision, and robustness...

... the standard choice for all laboratory pipetting needs.

MOGL

# **The Pipetting Standard!**

For 30 years, the legendary **PIPETMAN®** has been designed and manufactured to provide you with a range of robust, accurate, precise, fully adjustable air-displacement pipettes for use in your daily work.



## **PIPETMAN P**

### The Standard for Accuracy and Precision

All of the parts used to manufacture **PIPETMAN®** are carefully checked by Gilson's Quality Department. A stainless-steel micrometer and piston form the central mechanism of this precision instrument. Using a microscope, each piston is inspected, with zero-defect tolerance.

Individually calibrated, a performance check report is included with each **PIPETMAN®**.

A unique engraved Identification Number allows perfect traceability.

In combination with Gilson certified Diamond<sup>®</sup> Tips, **PIPETMAN<sup>®</sup>** provides a safe,

reliable pipetting system.

### **Performance Check Report**

Identification				
Model:	P200			
Volume range:	50 µl to 200 µl			
Serial Nº:	Z10010Z			
Tips:	D200			
Operating Conditi	ons			
Balance N <sup>o</sup> :	12			
Sensitivity:	10- <sup>5</sup> g			
Correction factor Z (µl/mg): 1.0032				
Correction for evaporation: NONE				
Basis of adjustments	Ex			
Control				
Date:	02 DEC 1999			
Inspected by:	NG			

Gravimetric Data		Volumetric Data			
Weighings:	49.83 mg	Mean:	50.06 µl		
	49.94 mg	Accuracy:	0.06 µl		
	49.81 mg	Е%:	0.12		
	50.00 mg	Repeatability:	0.09 µl		
		SD%:	0.18		
Mean:	49.90 mg	Gravimetric data has been converted from mg to µl for distilled water.			
Results					
Low volume setting:		50 μl - PASS			
High volume setting:		200 µl - PASS			
The DASS means in diane	<b>h h</b> :	in conformito with the	iCi		
The PASS status indicate that this pipette is in conformity with the specification.					

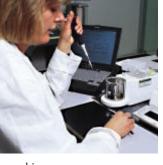
### **The Standard for Robustness**

All Gilson pipettes are built to last, constructed of stainless-steel and PVDF for years of dependable use.

After 5 or even 10 years of normal use, **PIPETMAN®** will give the level of performance of a new pipette. This durability

equates to a very low cost of ownership.

Routine cleaning is all that is required to keep **PIPETMAN®** in top condition. No lubrication is required. Parts that may come in contact with liquids are easy to clean or replace. The tip-holder and tip-ejector are fully autoclavable. A plastic connector makes removal and replacement of the tip-ejector very easy.

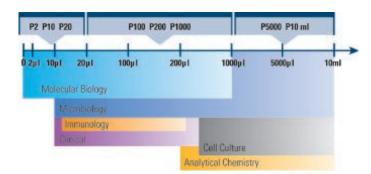






### The Standard of Choice for Each Application

Eight models cover the full range of volumes from  $0.2 \ \mu$ l to  $10 \ m$ l, for most demanding tasks - clinical, research or control laboratories.



#### PIPETMAN P2, P10

- Ideal for molecular biology techniques (PCR\*, DNA sequencing, gel loading, etc...).
- Accurate and precise down to 0.1 μl (\*\*).
- Dual position tip ejector.
- A plastic adapter allows the use of Diamond D10 (short). or DL10 (long) tips: a plus for protection and precision with microtubes.

(\*) PCR process is covered by US Patents owned by Hoffmann-La Roche, Inc. (\*\*) for a P2, with a good pipetting technique.

#### PIPETMAN P5000 & P10ml

- Ideal for large volume dispensing.
- Safer and more accurate than glass pipettes, with polyethylene filter that prolongs piston life and prevents contamination.
- P10 ml features a "damped" piston mechanism that prevents bubbles, vortexing and splashing within the tip.



# PIPETMAN F

#### Same Family but Dedicated to Reliable Results, at Low Cost

**PIPETMAN® F** is a fixed volume air-displacement pipette. Thirteen robust models cover a large volume range, from 2  $\mu$ l to 1000  $\mu$ l, with Gilson's legendary accuracy, precision and robustness. You can dedicate one pipette to a particular test or application.

- An economical choice for clinical diagnostics, quality control and any routine testing.
- GLP compliance : no risk of volume selection errors. Using a dedicated fixed volume Gilson pipette for a specific test assures reliable and consistent results.
- Can be adjusted by users in the laboratory, to compensate for dense or viscous fluids.

Model (Diamond Tips)		Volume (µl)	Accuracy (systematic error) Absolute Relative		Precision (random error) Absolute Relative		Model	Reference Number
			μl	%	S.D. μl	S.D. %		
F2	(D10, DL10)	2	± 0.10	± 5.00	≤ 0.03	≤ 1.5	F2	F123770
F5	(D10, DL10)	5	± 0.10	± 2.00	$\leq 0.04$	$\leq 0.8$	F5	F123771
F10	(D10, DL10)	10	± 0.10	± 1.00	≤ 0.05	≤ 0.5	F10	F123772
F20	(D200)	20	± 0.20	± 1.00	≤ 0.06	≤ 0.3	F20	F123604
F25	(D200)	25	± 0.25	± 1.00	$\leq 0.07$	≤ 0.3	F25	F123775
F50	(D200)	50	± 0.40	± 0.80	≤ 0.15	≤ 0.3	F50	F123778
F100	(D200)	100	± 0.80	± 0.80	≤ 0.25	≤ 0.25	F100	F123784
F200	(D200)	200	± 1.60	± 0.80	≤ 0.30	≤ 0.15	F200	F123605
F250	(D1000)	250	± 3.00	± 1.20	≤ 0.75	$\leq 0.30$	F250	F123787
F300	(D1000)	300	± 3.50	± 1.70	≤ 0.75	≤ 0.25	F300	F123788
F400	(D1000)	400	± 3.60	± 0.90	$\leq 0.80$	$\leq 0.20$	F400	F123789
F500	(D1000)	500	± 4.00	± 0.80	$\leq 1.00$	≤ 0.20	F500	F123790
F1000	(D1000)	1000	± 8.0	± 0.80	≤ 1.30	≤ 0.13	F1000	F123606

#### **PIPETMAN F Range of Models**

#### **PIPETMAN P Range of Models**

Model		Accuracy		Precision			Reference
(Diamond Tips)	Volume (µl)	(systemat	(systematic error)		(random error)		Number
		Absolute	Relative	Absolute	Relative		
		μl	%	S.D. µl	S.D. %		
P2	Min. 0.2	± 0.024	± 12	≤ 0.012	≤ 6	P2	F144801
(D10, DL10)	0.5	± 0.021	± 12 ± 5	$\leq 0.012$ $\leq 0.012$	≤ 2.50	12	1111001
(D10, DL10)	Max. 2	± 0.02) ± 0.030	± 1.5	$\leq 0.012$ $\leq 0.014$	$\leq 0.70$		
P10	Min. 1	± 0.025	± 2.5	$\leq 0.011$	≤ 1.25	P10	F144802
(D10, DL10)	5	± 0.075	± 1.5	≤ 0.030	$\leq 0.60$	110	1111002
(210, 2210)	Max. 10	± 0.1	± 1	$\leq 0.040$	$\leq 0.40$		
P20	Min. 2	± 0.1	± 5.0	≤ 0.03	≤ 1.50	P20	F123600
(D200)	5	± 0.1	± 2.0	≤ 0.04	$\leq 0.80$		
(=====)	10	± 0.1	± 1.0	≤ 0.05	≤ 0.50		
	Max. 20	± 0.2	± 1.0	≤ 0.06	≤ 0.30		
P100	Min. 20	± 0.35	± 1.8	≤ 0.10	≤ 0.50	P100	F123615
(D200)	50	± 0.4	± 0.8	≤ 0.12	≤ 0.24		
. ,	Max. 100	± 0.8	± 0.8	≤ 0.15	≤ 0.15		
P200	Min. 50	± 0.5	± 1	≤ 0.20	$\leq 0.4$	P200	F123601
(D200)	100	± 0.8	± 0.8	≤ 0.25	≤ 0.25		
	Max. 200	± 1.6	± 0.8	≤ 0.30	$\le 0.15$		
P1000	Min. 200	± 3.0	± 1.5	$\leq 0.6$	$\leq 0.30$	P1000	F123602
(D1000)	500	± 4.0	± 0.8	$\leq 1.0$	$\leq 0.20$		
	Max. 1000	± 8.0	± 0.8	≤ 1.5	$\leq 0.15$		
P5000	Min. 1000	± 12	± 1.2	≤ 3.0	$\leq 0.30$	P5000	F123603
(D5000)	2000	± 12	± 0.6	≤ 5.0	$\leq 0.25$		
	Max. 5000	± 30	± 0.6	$\leq 8.0$	$\leq 0.16$		
P10ml	Min. 1 ml	± 30	± 3	≤ 6	$\leq 0.6$	P10ml	F161201
(D10ml)	2 ml	± 30	± 1.5	$\leq 6$	≤ 0.3		
	5 ml	± 40	± 0.8	$\leq 10$	$\leq 0.2$		
	Max. 10 ml	± 60	± 0.6	≤ 6	≤ 0.16		

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