



# microman<sup>®</sup>

Ergonomic Pipetting for Problem Liquids!

POSITIVE DISPLACEMENT PIPETTE

HIGHEST PRECISION WITH PROBLEM LIQUIDS

USER-FRIENDLY

NO RISK OF CONTAMINATION



 **GILSON<sup>®</sup>**

# ADVANCED ERGONOMIC DESIGN TO INCREASE PIPETTE PERFORMANCE

The MICROMAN® E delivers the highest performance to scientists who need to pipette problem liquids thanks to:

## EASE OF USE:

- **Patented QuickSnap** feature automatically fixes the disposable Capillary Piston (CP), thus eliminating the need to fit the CP to the pipette before each use and minimizing possible errors due to additional pipetting moves
- **Volume control button** prevents accidental volume changes

## IMPROVED ERGONOMIC DESIGN:



# INTRODUCING THE MICROMAN® E, A NOVEL PIPETTE LINE FOR PROBLEM LIQUIDS

The MICROMAN® E is created specifically for scientists who work with viscous, volatile, corrosive, hot or cold problem liquids.

Delivering the highest ease-of-use and control through an **improved ergonomic design**, a **patented QuickSnap** feature and a **volume control button**, the MICROMAN® E helps you counter your common pipette problems that may affect accuracy and precision when working with problem liquids.

MICROMAN® E is available in **6 models** covering a volume range from **1 µL to 1000 µL** for many applications.

MAIN APPLICATIONS	MAIN PROTOCOLS	PROBLEM LIQUIDS	
		TYPES	EXAMPLES
Molecular biology	PCR/qPCR, cloning	Viscous, cold and contaminating	DNA fragments, buffers, enzyme solution, plasmids
Chemistry, petrochemistry	HPLC, LC-MS	Volatile, hazardous	Alcohol, solvents, glue, oil, organic solvents
Point of care diagnostic	Quantitative immunoassays	Viscous, cold and hazardous	Serum, whole blood, plasma
Forensic	Liquids search in post mortem blood, biological control	Volatile, viscous and contaminant liquids	DNA fragments, body fluids, solvents
Cosmetic and pharmaceutical formulation	Bacteriology control, cream transfers, takings and dilution of solvents and high viscosity finished product	Viscous, volatile	Creams, shampoo, drugs, gel
Environment, quality control	Microbiological control and other biological tests	Corrosive and volatile	Pesticides, waste waters
Food quality control	Microbiological control and other biological tests	High viscosity, hot	Syrup, milk, juices



# THE HIGHEST PRECISION WITH VISCOUS, VOLATILE, HOT OR COLD LIQUIDS

As a positive displacement pipette, the MICROMAN® E with its CPs solves common pipetting problems by isolating the aspirated sample from the inside part of the pipette, eliminating the air space between the piston and sample, to offer the highest precision for pipetting problem liquids.

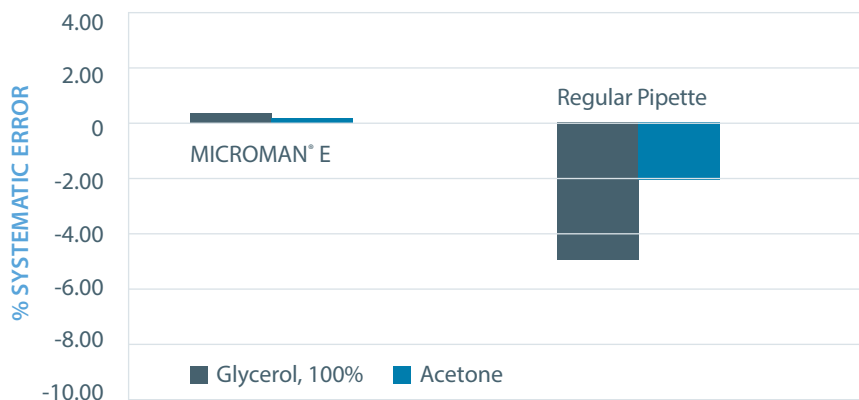
## 1. EXPERIENCE COMPLETE AND RAPID PIPETTING OF VISCOUS AND DENSE SAMPLES.

**Problem avoided:** With air displacement pipettes, viscous and dense liquids are difficult to aspirate and can also stick to the tip when dispensing.

## 2. NO LEAKS WHEN PIPETTING VOLATILE HIGH VAPOR PRESSURE LIQUIDS.

**Problem avoided:** When an organic solvent is used with an air-displacement pipette, leaks may occur due to the difference between the vapor pressure of the solvent and the pressure of the air cushion between the tip and the sample.

### PIPETTING 100 µL OF VISCOUS OR VOLATILE LIQUIDS

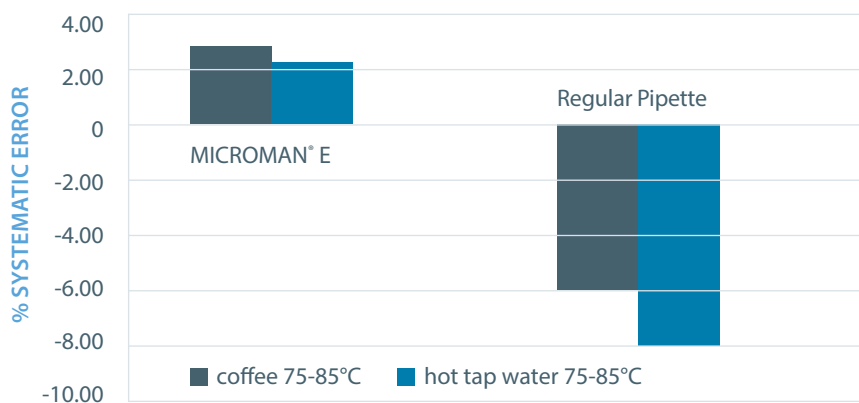


Average of 10 measurements, no pre-wetting

## 3. DELIVER THE RIGHT VOLUME USING ANY SAMPLE TEMPERATURE.

**Problem avoided:** Cold liquids tend to be delivered in excess quantity while a warm liquid tends to be under-delivered.

### PIPETTING 100 µL OF HOT LIQUIDS



Average of 10 measurements, no pre-wetting

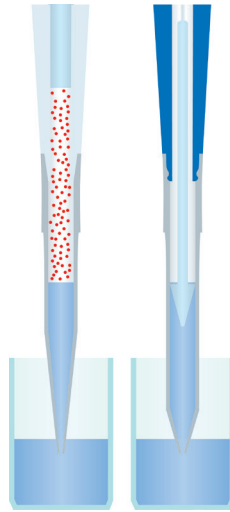
# NO RISK OF CONTAMINATION

MICROMAN® E and CPs are the strongest barrier against residual sample carryover, aerosol contamination, and cross-contamination when pipetting liquids such as DNA fragments, PCR templates, enzyme solutions and buffers.

## REGULAR AIR DISPLACEMENT PIPETTE

Unprotected air space:

- Vapor contamination
- Aerosol contamination



## MICROMAN® E

## POSITIVE DISPLACEMENT PIPETTE

No air space

With the MICROMAN® E, you protect your pipette, your sample and yourself in three ways:

1. **User protection:** With a built-in ejector, there is no contact between the sample and the contaminated disposable capillary with the user's hand. This is especially important when dealing with infectious solutions and radiolabeled components.
2. **Sample protection:** Within molecular biology and forensic sciences, any trace of a previous sample can interfere with PCR or microbiological techniques and lead to erroneous results. Disposable capillaries and pistons provide absolute protection against cross-contamination.
3. **Pipette protection:** The pipette's shaft is never in contact with corrosive vapors or liquids, such as acids, bases, solvents and radiolabeled components.



# TRUSTED RESULTS – GUARANTEED

MICROMAN® E's highest level of accuracy and precision is achieved by skillful engineering based on over 30 years of experience with positive displacement pipettes. Today MICROMAN® E has become the international gold standard in pipetting for viscous, volatile, hazardous, contaminating, hot or cold liquids.

## MAXIMUM PERMISSIBLE ERRORS

MODEL (Reference)	VOLUME ( $\mu$ L)		GILSON		ISO 8655	
			Systematic error ( $\mu$ L)	Random error ( $\mu$ L)	Systematic error ( $\mu$ L)	Random error ( $\mu$ L)
<b>M10E</b> (FD10001)	Min.	1	$\pm 0.09$	$\leq 0.03$	$\pm 0.2$	$\leq 0.1$
		5	$\pm 0.10$	$\leq 0.03$	$\pm 0.2$	$\leq 0.1$
	Max.	10	$\pm 0.15$	$\leq 0.06$	$\pm 0.2$	$\leq 0.1$
<b>M25E</b> (FD10002)	Min.	3	$\pm 0.25$	$\leq 0.08$	$\pm 0.7$	$\leq 0.3$
		10	$\pm 0.27$	$\leq 0.08$	$\pm 0.7$	$\leq 0.3$
	Max.	25	$\pm 0.30$	$\leq 0.10$	$\pm 0.7$	$\leq 0.3$
<b>M50E</b> (FD10003)	Min.	20	$\pm 0.34$	$\leq 0.20$	$\pm 0.7$	$\leq 0.3$
	Max.	50	$\pm 0.70$	$\leq 0.30$	$\pm 0.7$	$\leq 0.3$
<b>M100E</b> (FD10004)	Min.	10	$\pm 0.50$	$\leq 0.20$	$\pm 1.5$	$\leq 0.6$
		50	$\pm 0.75$	$\leq 0.30$	$\pm 1.5$	$\leq 0.6$
	Max.	100	$\pm 1.00$	$\leq 0.40$	$\pm 1.5$	$\leq 0.6$
<b>M250E</b> (FD10005)	Min.	50	$\pm 1.50$	$\leq 0.30$	$\pm 6$	$\leq 2.0$
		100	$\pm 1.70$	$\leq 0.30$	$\pm 6$	$\leq 2.0$
	Max.	250	$\pm 2.50$	$\leq 0.50$	$\pm 6$	$\leq 2.0$
<b>M1000E</b> (FD10006)	Min.	100	$\pm 3.0$	$\leq 1.6$	$\pm 12$	$\leq 4.0$
		500	$\pm 5.0$	$\leq 2.5$	$\pm 12$	$\leq 4.0$
	Max.	1000	$\pm 8.0$	$\leq 4.0$	$\pm 12$	$\leq 4.0$

## MICROMAN® CPs

- Large volume range from 1  $\mu$ L to 1000  $\mu$ L with six different models.
- No need for calibration when you change the CP.
- Disposable CP, capillaries made of pure polypropylene.
- Free of dyes, no risk or contamination from the CP's components.
- Slim CP fits in even the narrowest and deepest tubes.

MICROMAN MODEL	RELATED CP	VOLUME RANGE ( $\mu$ L)	ORDERING REFERENCE	QUANTITY PER BOX	AVAILABLE IN TIPACK
<b>M10E</b>	CP10	1 - 10	F148412	192	✓
	CP10		F148312	960	✓
	CP10ST*		F148413	192	✓
	CP10ST*		F148313	960	✓
<b>M25E</b>	CP25	3 - 25	F148012	960	✓
	CP25		F148112	200	-
	CP25ST*		F148712	576	✓
<b>M50E</b>	CP50	20 - 50	F148013	960	✓
	CP50		F148113	200	-
	CP50ST*		F148713	576	✓
<b>M100E</b>	CP100	10 - 100	F148414	192	✓
	CP100		F148314	960	✓
	CP100ST*		F148415	192	✓
	CP100ST*		F148315	960	✓
<b>M250E</b>	CP250	50 - 250	F148014	960	✓
	CP250		F148114	200	-
	CP250ST*		F148714	576	✓
<b>M1000E</b>	CP1000	100 - 1000	F148560	182	✓
	CP1000ST*		F148180	182	✓

\*ST=Sterilized

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