

# How to use a Pipetman

by Howard Judelson

## To use a Pipetman:

1. Adjust the digital volume indicator by turning the volume adjustment wheel. For example, to use the P200 to transfer 58 microliters ( $\mu\text{l}$ ), the digits should read 058. One should always dial **down** to the desired volume. Be gentle: You can (and will) damage the pipettors if you turn the volume adjustment wheel too far: don't force the pipetman to a setting that is higher than it is designed for.
2. Attach a disposable tip to the Pipetman. Do not touch the end of the tip with your fingers!
3. The plunger has two stops. To draw liquid into the tip, first depress the plunger to the first stop. Immerse the disposable tip into the sample solution and release the pressure on the plunger, allowing the plunger to return to the initial up position. Do not let the plunger pop or snap up. If you do, sample will be drawn into the Pipetman, contaminating the sample and Pipetman.
4. Withdraw the tip from the sample solution and dispense the sample from the Pipetman. To dispense into an empty vessel, touch the end of the disposable pipette tip on the side wall of the vessel and depress the plunger to the first stop. Wait 1-2 seconds (especially for viscous solutions like glycerol) and then continue to depress the plunger to the second stop. If you are transferring a sample into another solution, place the pipette tip into the solution and then dispense.
5. Without removing pressure from the plunger, withdraw the tip from the tube or solution, and then allow the plunger to return to the up position. If you release the pressure on the plunger while the tip is in the solution, you will pull solution into the tip again.

## Which Pipetman should I use?

Pipetman model	Adjustable Range (ul)	Recommended Range (ul)	Smallest Increment (ul)
P-2	0 - 2	0.1 - 2	0.002
P-10	0 - 10	0.5 - 10	0.02
P-20	0 - 20	2 - 20	0.02
P-100	0 - 100	10 - 100	0.2
P-200	0 - 200	50 - 200	0.2
P-1000	0 - 1000	100 - 1000	2.0

## How do I read the volume setting?

The volume indicator consists of three number dials and is read from top to bottom. The three digits indicate the volume selected, as described in the table above. For P-2, P-10, P-20, P-100, and P-200, the black digits indicate microliters ( $\mu\text{l}$ ). The red digits indicate tenths and hundredths of microliters. For P-1000 the red digits indicate milliliters (ml) and the black digits indicate microliters.

## Checking for accuracy

Periodically test your pipetman by measuring the weight of water that it delivers. For example, for a P1000 ensure that the 1 ml setting delivers 1 g of water, and the 50  $\mu\text{l}$  setting delivers 50 mg.

In case of problems, see the "pipetteman guide" from the manufacturer.

## Misc. "safety" issues

The P-5000 uses a safety filter in the end of the shaft to help prevent liquid entering the shaft and contacting the piston, should the plunger be allowed to snap up during aspiration. This is particularly important using large volumes. If the filter gets wet, replace it.

Never invert or lay Pipetman down if liquid is in the tip.