



THE POWER AND FLEXIBILITY TO ENHANCE MULTIPLE PIPETTING APPLICATIONS.

With all its inherent ergonomic and throughput advantages, electronic pipetting has become mainstream. But with close to a dozen different models available, how do you choose the ideal pipettor for your needs?

The answer is simple once you consider everything you should look for in an instrument. It should:

- Be comfortable to hold.
- Feature the easiest, most flexible software to program.
- Offer unparalleled accuracy and precision.
- Guarantee long life, both for the battery and the unit itself.
- Function with a wide range of pipetting speeds.
- Be perfectly suited to the broadest range of applications.
- Deliver good value for your limited lab budget.

Matrix Technologies has been on the cutting edge of electronic pipetting for 20 years. Our Impact²® line represents the latest advances in a long history of liquid handling innovation, combining superior ergonomics with simple yet amazingly flexible software.

Ergonomic Design—Matrix pipettors are well balanced, comfortable, and accommodate a natural, at-rest hand position. Their unique design brings you closer to the working area, helping avoid uncomfortable hand/arm positions while offering greater control of the pipettor.

In addition, because Matrix tips are designed around our tip fittings, they are incredibly easy to apply—no need to bang the unit on the tips. Light pressure on the instrument is enough to securely seat the tips. Easy tip application leads to easy ejection, and our unique use of leveraged tip ejection sharply reduces the force required to accomplish this. To learn more about the inherent features and benefits of Matrix tips, see page 21.

Intuitive, Step-Based Programming—Most electronic pipettors use what is known as “function-based” software for the user-programming interface. This means you will generally see commands such as “pipet”, “mix”, “dilute”, “serial dilute”, etc. This covers the main functions you would expect to see a pipettor perform, but you often must master complex commands in order to execute them. Additionally, it is rare to find pipettors using this type of programming that allow you to sequentially link programs together for more demanding protocols.

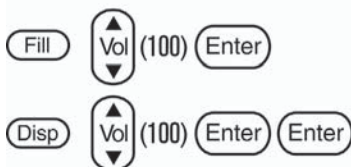


All Matrix Impact² pipettors use “step-based” programming—both for its intuitiveness and extreme flexibility. When pipetting is broken down to its elemental level, it becomes evident that all “functions” are really made up of two (or more) liquid/piston movements: up (Fill) and down (Disp). This simple realization became the foundation for our programming logic. Any pipetting routine can be broken down into various steps, which is exactly how you program all Impact² pipettors. The examples below show how easy and intuitive Impact² programming is, even for complex applications:



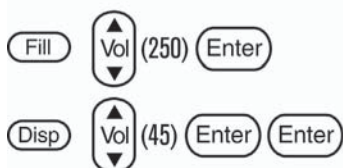
Sample Transfers:

Example: Fill and dispense 100µL.



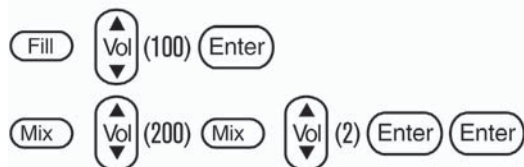
Incremental Pipetting:

Example: Fill 250µL and dispense 45µL in 5 increments.



Serial Dilutions:

Example: Transfer 100µL to the first column of a plate previously filled with reagent. Mix 200µL for 2 cycles. Transfer 100µL to the second column and repeat the mix step. Follow this procedure for the rest of the plate.



After pressing the final Enter key, you are now ready to pipet. Each time you squeeze the trigger, the next step of the program will initiate. You can also save up to six of these programs (up to 40 steps each) in memory, so they are quickly available the next time you need to use them.

Other functions can also be controlled using Impact² programming, fill and dispense speeds can be set for each step of the program, as well as a beep indicator for each step.

Enhanced Accuracy And Precision—Unlike some electronic pipettors, Matrix Impact² pipettors utilize stepper motors for more accurate piston movement and greater control of piston speed. Since the accuracy and precision of liquid dispensed is proportional to the movement of the piston, this helps deliver superior performance.

Impact² pipettors also use error correction software¹ for greater accuracy. For mechanical reasons, a pipettor can only deliver liquids accurately over a portion of its full range and, at the outer limits of its range, it becomes less accurate. The error correction software in Impact² pipettors automatically fine-tunes the piston movement at each volume setting to compensate for this inherent inaccuracy, which in turn greatly enhances accuracy across the full range of the pipettor.