



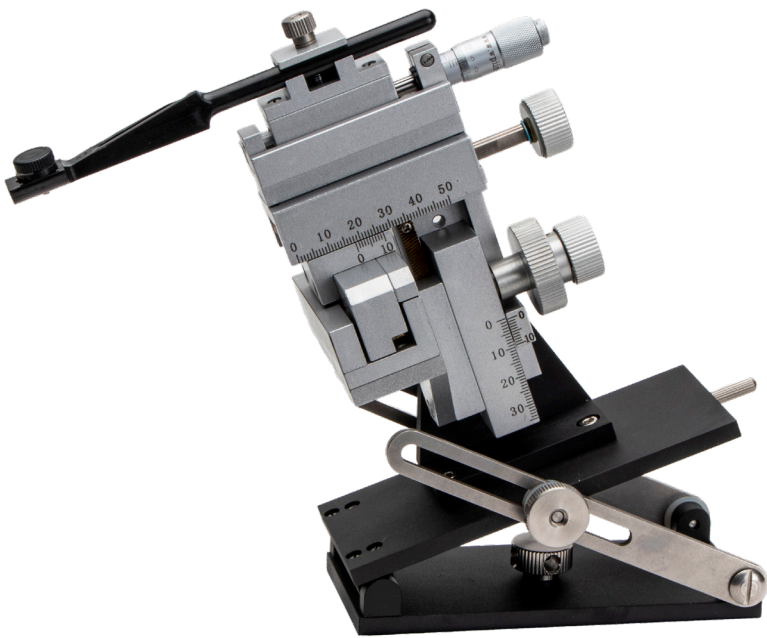
Manual vs. Motorized Micromanipulators

Choosing the Right Tool for Precision Work

Whether you're conducting patch-clamp recordings, microinjections, or other high-precision tasks under a microscope, the right micromanipulator can make all the difference. At WPI, we offer a full range of manual and motorized micromanipulators designed to support both routine lab work and complex experimental setups.

MANUAL

Simple, tactile control for straightforward tasks



MOTORIZED

Programmable precision for complex applications



Feature	Manual Micromanipulator	Motorized Micromanipulator
Control Type	Manual knobs/verniers	Stepper motors & software
Resolution	~10µm	< 1 µm
Power Requirement	None	Yes (electrical)
Ease of Use	Immediate, hands-on	Interface-based
Application Suitability	Basic procedures, teaching	Patch clamp, long-term cell work
Cost	Lower	Higher, premium functionality

APPLICATION SNAPSHOTS

From basic training to advanced research, different micromanipulator styles serve different needs. These examples show where each type excels.



Electrophysiology

Best Fit: Manual or Motorized Micromanipulators (Depends on Application)

Electrophysiology techniques vary in their precision demands. For intracellular recordings like patch-clamp, motorized micromanipulators provide submicron resolution and programmable stability ideal for maintaining delicate cellular contact. For extracellular recordings, where contact with individual cells is less exacting, manual micromanipulators offer sufficient precision with a simpler setup.



EXPERT TIP

Manual systems offer full tactile control. Motorized options elevate precision and repeatability in advanced workflows.



Microinjection

Best Fit: Manual or Motorized (Depends on Application)

Used to deliver substances like DNA, RNA, or proteins into individual cells. Manual micromanipulators work well for basic injection tasks, while motorized systems improve accuracy for high-throughput or embryo-level work.



Teaching Labs

Best Fit: Manual Micromanipulators

Ideal for introductory training and student labs where cost-efficiency and hands-on learning are priorities. Manual systems provide reliable control without the need for programming or power.

EXPLORE WPI'S FULL MICROMANIPULATOR LINEUP



Choose a micromanipulator based on your task complexity, precision needs, and workflow integration.

<https://www.wpiinc.com/products/instruments/micromanipulators>