

SYSTEM COMPONENTS

WHAT IS INCLUDED with the MICRO-ePUMP	QTY
MICRO-ePUMP	1
2-Step Foot Switch	1
300744 EPUMP CAPILLARY KIT INCLUDES	
75122-110 1.0 mm pipette gaskets (green)	4
75122-210 1.2 mm pipette gaskets (black)	4
75122-310 1.5 mm pipette gaskets (red)	4
75122-410 1.65 mm pipette gaskets (white)	4
802828 O-ring Bunna N-002	2
75123 Pipette Handle Assembly	1
75125 Pipette Holder	1
99862 MICRO-ePUMP Tubing Assembly	1
99865 MICRO-ePUMP Adapter Tube Assembly	1
99164 MICRO-ePORE™ Injection Assembly	1
AC/DC 24 V Power Adapter	1
Instruction Manual (download from www.wpiinc.com/manuals)	

ABOUT WPI

Dedicated to the advancement of science and supporting the scientific community with innovative and unique solutions to further their research, World Precision Instruments (WPI) is a global leader in the design, manufacture and supply of animal physiology research equipment. Our products have 1000s of citations in notable peer-reviewed publications. We offer a broad range of instruments and supplies to provide solutions for researchers in regenerative medicine, developmental biology, genetics, oncology, toxicology, cardiovascular studies and neuroscience.

ISO9001:2015 CERTIFIED

Our US inspection process is hinged on our ISO9001:2015 certification to ensure you receive quality products.



ISO 9001: 2015
Certified

WORLD PRECISION INSTRUMENTS

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NEW

MICRO-ePUMP Microinjector



www.wpiinc.com

MICRO-ePUMP Microinjector with Cell Penetrator

Designed to simplify intracellular injection and a variety of other microinjection tasks, the **MICRO-ePUMP** uses carefully regulated air pressure for injecting cells with fluid. Injected volumes range from picoliters to nanoliters. The port supplies positive pressure for high-pressure ejection. The pressure port maintains a low positive “compensation” pressure to the injecting pipette between injection pulses to prevent fluid up-take through capillary action.

Timing, injection pressure and compensation pressure are adjusted independently using the touch screen interface. Time intervals can range from 2 seconds down to 10 ms or less, depending on the injection pressure setting. The injection pressure interval is triggered using the foot switch.

The **MICRO-ePUMP** is designed to inject very small quantities of fluids, such as drugs, into cells or small organelles. Pressure injection is an especially useful alternative to electroionophoresis, since it does not mandate the use of charged ions. The compensation pressure is a constant low pressure that eliminates any capillary action front-filling of the pipette and then the precise burst of regulated higher pressure is activated with the foot switch that is included.

WPI's **MICRO-ePORE™** Pinpoint Cell Penetrator technology is embedded inside the **MICRO-ePUMP**. When the researcher enables the **MICRO-ePORE™**, it delivers a highly localized voltage signal to a targeted injection site to facilitate penetration with minimal trauma. The researcher determines the amplitude and frequency of the signal that best suits the application. The signal originates in the control box, and it is transmitted through the electrode interface cable to the microelectrode holder. A silver wire is used to transmit the signal into the electrically conductive substance being injected. A reference electrode is used to place the media at 0.0 V potential with reference to the generated voltage.

The **MICRO-ePUMP** offers separate regulated compensation (back filling prevention) and injection pressures with a precision timing circuit that switches from injection pressure to compensation pressure automatically.

FEATURES

- Regulated compensation and injection pressure
- Pressure output: 0.3–87 PSI
- Onboard **MICRO-ePORE™**
 - Pinpoint Cell Penetrator for targeted microinjection and increased viability of injected embryos
 - Audio continuity tone indicating active probe
 - Injection counter to indicate total number of injections
 - User-adjustable frequency and voltage through touch screen
- Foot switch to activate voltage for **MICRO-ePORE™** and injection
- Low volume tubing assembly

APPLICATIONS

- Microinjection of diverse compounds and biomolecules – DNA, RNA, proteins
- Pre- and post-implantation in embryos of various species – mice, rats, monkeys, bovine, pigs, zebrafish, etc.

BENEFITS



Convenient internal pressure source



Intuitive user-interface



Small footprint takes up very little bench space



Easy to navigate with touch screen and control knob



High precision for reproducible injections – microliters to picoliter

