WORLD
PRECISION
INSTRUMENTS

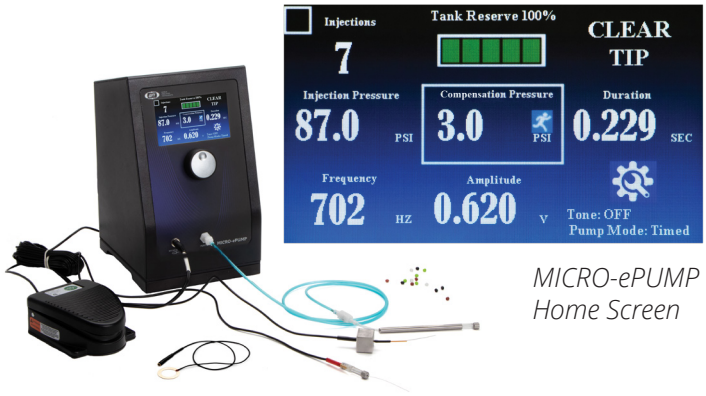
Microinjectors

For All Your Microinjection Applications

www.wpiinc.com

Three New WPI Microinjectors

Designed to simplify microinjection protocols like intracellular injection



MICRO-ePUMP Home Screen

MICRO-ePUMP

Microinjector with Integrated Cell Penetrator and Internal Pressure Source

µPUMP Home Screen

µPUMP

Microinjector with Internal Pressure Source

PV850 Home Screen

PV850

Microinjector for Use with External Pressure Source

WPI Microinjectors use 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 uptake 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 by using a foot switch or a computer-controlled TTL pulse.

The WPI Microinjectors are 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. Two different positive pressures may be applied: one for ejection at high pressure and a second, lower pressure to prevent back filling of the pipette by capillary action.

The WPI Microinjectors offers separate regulated compensation (back filling prevention) and ejection pressures with a precision timing circuit that switches from injection pressure to compensation pressure automatically.

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.

APPLICATIONS

Microinjection of diverse compounds and biomolecules – DNA, RNA, proteins

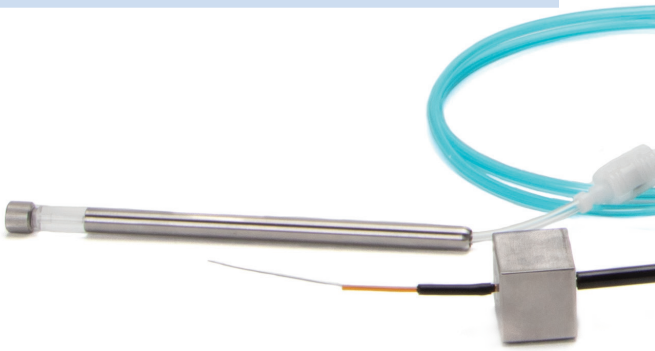
Pre- and post-implantation in embryos of various species – mice, rats, monkeys, bovine, pigs, zebrafish, etc.

BENEFITS

- Convenient internal pressure source (MICRO-ePUMP and µPUMP only)
- 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

FEATURES

	MICRO-ePUMP	µPUMP	PV850
Regulated compensation and injection pressure	✓	✓	✓
Pressure output: 0.3–87 PSI	✓	✓	✓
Low volume tubing assembly	✓	✓	✓
Inject using foot switch (included)	✓	✓	✓
Inject using a TTL pulse from external computer or pulse generator (Cable to connect to pulse generator included)		✓	✓
Inject manually using touch screen interface			✓
Integrated pressure source	✓	✓	
2-Stage foot switch to activate voltage for injection and **MICRO-ePORE™**	✓		
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	✓		



THREE NEW WPI MICROINJECTORS

SYSTEM COMPONENTS

WHAT IS INCLUDED WITH THE SYSTEM	Qty	MICRO-ePUMP	µPUMP	PV850
Injector	1	✓	✓	✓
2-Step Foot Switch	1	✓	✓	✓
AC/DC 24 V Power Adapter	1	✓	✓	✓
CAPILLARY KIT INCLUDES		**300744**	**300753**	**300753**
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 Tubing Assembly	1	✓	✓	✓
99865 Adapter Tube Assembly	1	✓	✓	✓
CBL102 6′ Cable, 3.5 mm Mini Phone Plug to BNC	1	✓	✓	✓
99164 MICRO-ePORE™ Injection Assembly	1	✓		
803130 Stereo Splitter Cable, 3.5 mm	1	✓	✓	✓
INPUT KIT FOR PICOPUMPS INCLUDES				**3116**
0.25″ NPT Fitting for Nitrogen Tank Regulator	1			✓
10′ Hard Tubing	1			✓
Vacuum Fitting	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.

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ISO 9001: 2015 Certified

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