



# MicroJect 1000A Microinjection System



## APPLICATIONS

- Nuclear Transfer Applications
- Transgenic Animal Development
- Injection of Mouse, Xenopus, Zebrafish and other oocytes
- Intra-cytoplasmic sperm injection
- Cell injection
- Extracellular brain injections
- Injection of DNA, mRNA, microbeads neurotransmitters, kinases and other proteins

The MicroJect 1000A is the newest addition to the family of BTX transfection products. The MicroJect 1000A micro-injector is an alternative method to deliver genes, proteins, macromolecules, and micro-beads by direct injection into cells, tissues, and oocytes simply and efficiently. This microinjection system provides a reliable, consistent, and precise delivery of volumes through stable pressure regulation maintaining this pressure for a set duration of time, controlled digitally. The compressed gas internally controlled pressure system allows the precise delivery of desired volumes ranging from femtoliter to microliter volumes. The MicroJect 1000A is capable of holding a cell, oocyte, or early stage embryo stationary while simultaneously using a separate pressure channel for injections. The MicroJect 1000A is versatile enough to provide the same consistent performance needed to inject large volumes into tissue such as capillaries, or pico volumes for nuclear injections. It is also ideal for the gentle transfer of delicate fetal or stem cells into oocytes.

## PRESSURE CONTROL FEATURES

- Fill/Clear/Hold

The MicroJect 1000A provides key pressure features designed to maximize your injection potential with two negative and three positive pneumatic capabilities. The negative pressure feature or vacuum function allows researchers the ability to fill the micropipettes from their tips. The “Fill” feature reduces waste of valuable injection material. The “Hold” feature provides the means to immobilize and manipulate a cell or oocyte using a micropipette. The positive pressure feature allows for the precise discharge of fluids by simply using the “Clear” function of the system.

## BALANCE PRESSURE

It’s all about the balance of pressure with our MicroJect 1000A system. The unique “Balance” feature provides a secondary balance pressure to maintain positive pressure on the injection pipette. This is important before and after injections to avoid the chance of dilution of sample due to capillary action. It also prevents clogging of your injection needle.

## ACCESSORIES

The MicroJect 1000A MAX system provides the “MAX”imum potential for your microinjection applications. The durability and precision of the MicroJect 1000A is coupled with two footswitches for easy operation of the Clear/Fill features. The system also includes two pipette holders and the appropriate adaptors.



**BTX**<sup>®</sup>

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## Specifications

<b>Input Gas Pressure</b>	70 to 105 psi (480 to 720 kPa)
<b>Injection Pressure</b>	0.2 to 60 psi (413 kPa), regulated, multi-turn control
<b>Balance Pressure</b>	0.1 to 9.9 psi (68.9 kPa), regulated, multi-turn control
<b>Fill Vacuum</b>	Internally produced, 0 to -12.0 psi (-82 kPa), vacuum
<b>Holding Vacuum</b>	Internally produced, 0 to 1.25 kPa (0 to -12.7 cm of water), vacuum
<b>Clearing Pressure</b>	Input gas pressure, unregulated
<b>Injection Timer</b>	0.01 to 0.99 s in 10 ms steps; 1 to 99 s in 1 s steps
<b>Injection Count Display</b>	Digital, 0 through 9999
<b>Duration Mode</b>	Internally timed or externally gated
<b>Time Trigger</b>	Front panel, foot switch, or external TTL pulse (BNC)
<b>Pressure Units</b>	psi/kPa; switch selectable
<b>Pressure Monitor</b>	BNC connector, 10 mV/psi
<b>Pressure Readout</b>	Inject, balance, clear, output port
<b>Line Voltage</b>	100/110/220/240 VAC
<b>Power Usage</b>	220 W
<b>Meter Accuracy</b>	0.1% full scale
<b>Foot Switches</b>	Inject, fill, hold, and gated; provided in Plus and MAX systems
<b>Weight</b>	12 lbs (5.44 kg)
<b>Dimensions, H x W x D</b>	3.5 in x 17 in x 9.8 in (89 mm x 432 mm x 250 mm)
<b>Accessories Supplied</b>	Input, output and holding hoses

## Ordering Info

Item No.	Description	Included Items
45-0752	MicroJect 1000A MAX System	MicroJect 1000A pico-injector with Injection, balance, clear/fill and hold pressure. Also included are two footswitches, input/output hoses, holding hose, two pipette holders and input adaptor for hoses, and power cord.
45-0751	MicroJect 1000A Plus System	MicroJect 1000A pico-injector with Injection, balance, clear/fill and hold pressure. Includes one foot-switch, input/output hoses, holding hose, one pipette holder and input adaptor for hoses, and power cord.
45-0750	MicroJect 1000A Basic System	MicroJect 1000A pico-injector with Injection, balance, clear/fill and hold pressure, and power cord.