

Micro Pick & Place System

Single-Cell/Micro-Particle Transfer

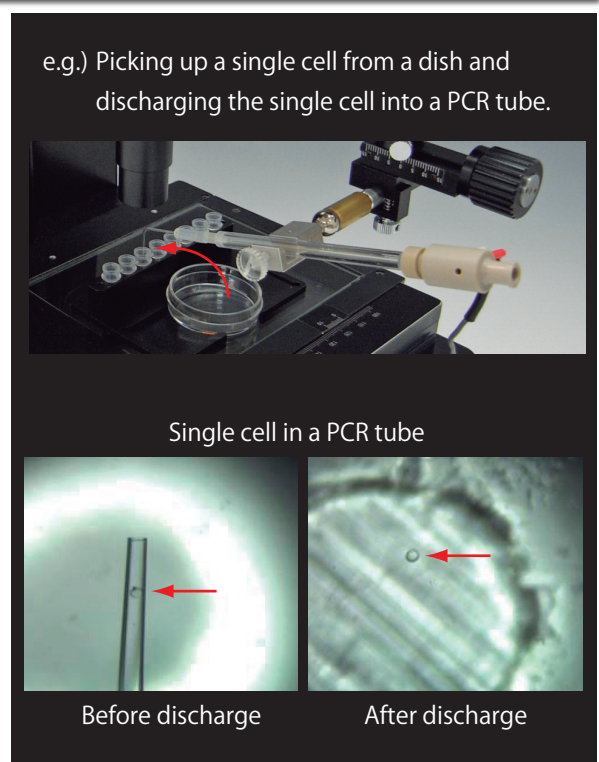
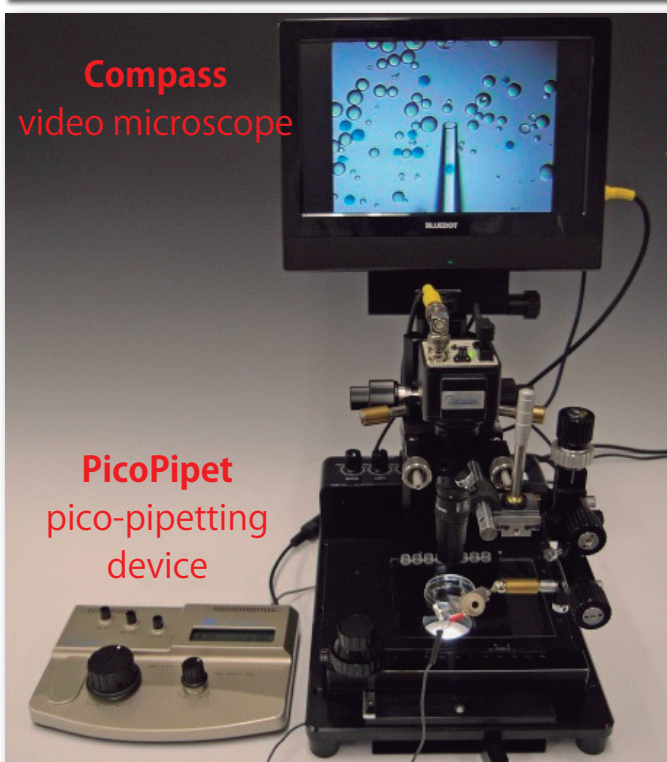
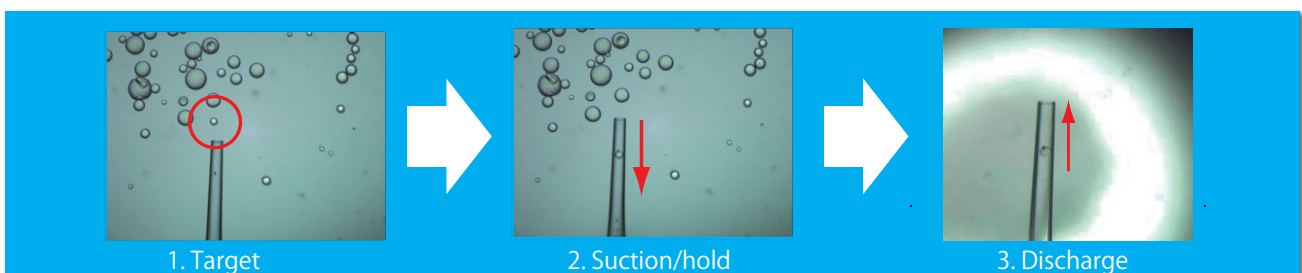
Controlling ultrasmall volumes (picoliter range) easily

Picking and placing micro targets (> 5 um) for transferring them.

- Single cells/cell colonies: e.g.) single cells into PCR tubes, circulating tumor cells (CTCs) on microdevices
- Microorganisms such as Algae, Fungi, Yeasts, Parasites, etc.
- Microdrops • Protein crystals • Metal particles • And MORE

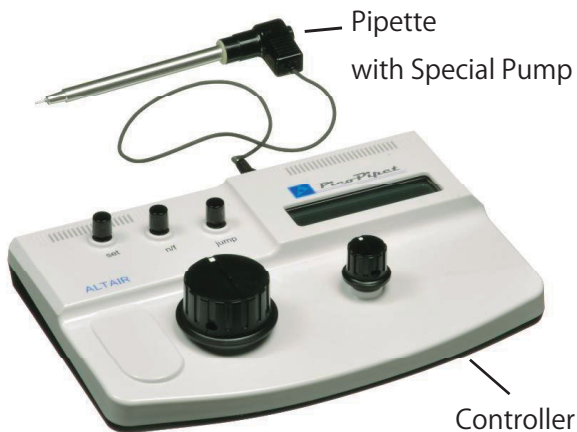
Micro liquid applying/spotting at the picoliter level.

The Micro Pick and Place System makes it possible to transfer micro targets such as single cells one by one from one place to another place observing the targets with a microscope. The system is based on the PicoPipet that has a small electroosmotic pump in its pipette part. It allows users to operate the system intuitively and anyone can easily control suction/hold/discharge of ultra small volumes (picoliter range).



PicoPipet

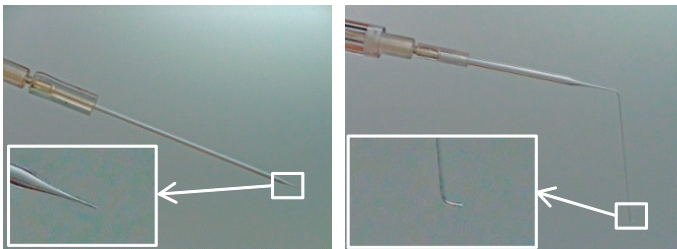
Pico-pipetting device



The PicoPipet is an electronic ultra-small-pipetting device that has an electroosmotic pump in its pipette part. The special pump can easily and smoothly control microfluidic flows without pulsation. The weight of the pipette part is just 10 g, and that enables precise manipulations.

- Smooth suction, hold and discharge are possible by simple rotating operations.
- The flow rate is 1 nl/min - 10 μ l/min.
- A replaceable glass micropipette is connected to the tip of the pipette part. (several kinds are available.)
- The pipette part can be operated with a manipulator. (If the target is large, the pipette part can be operated with one hand.)

Glass micropipettes



Straight shape

Inner Dia. 15/30/50/75 μ m

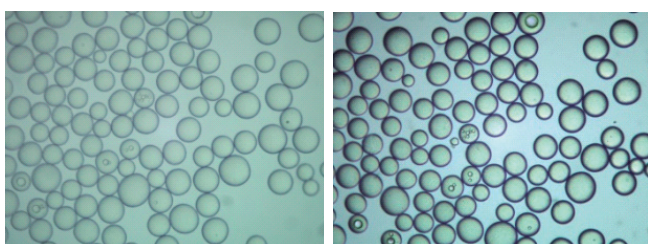
S shape

Inner Dia. 30/50/75 μ m

Compass

Video microscope

The Compass is a video microscope that works by a unique pattern-projection method. The images of transmissive objects like cells can be high-contrast and 3D-shape views under the simple optical system. With the PicoPipet, you can conveniently transfer a cell from one container to another while monitoring the process on the screen. The total magnification is 52x-425x.



Conventional bright-field image

Compass image

