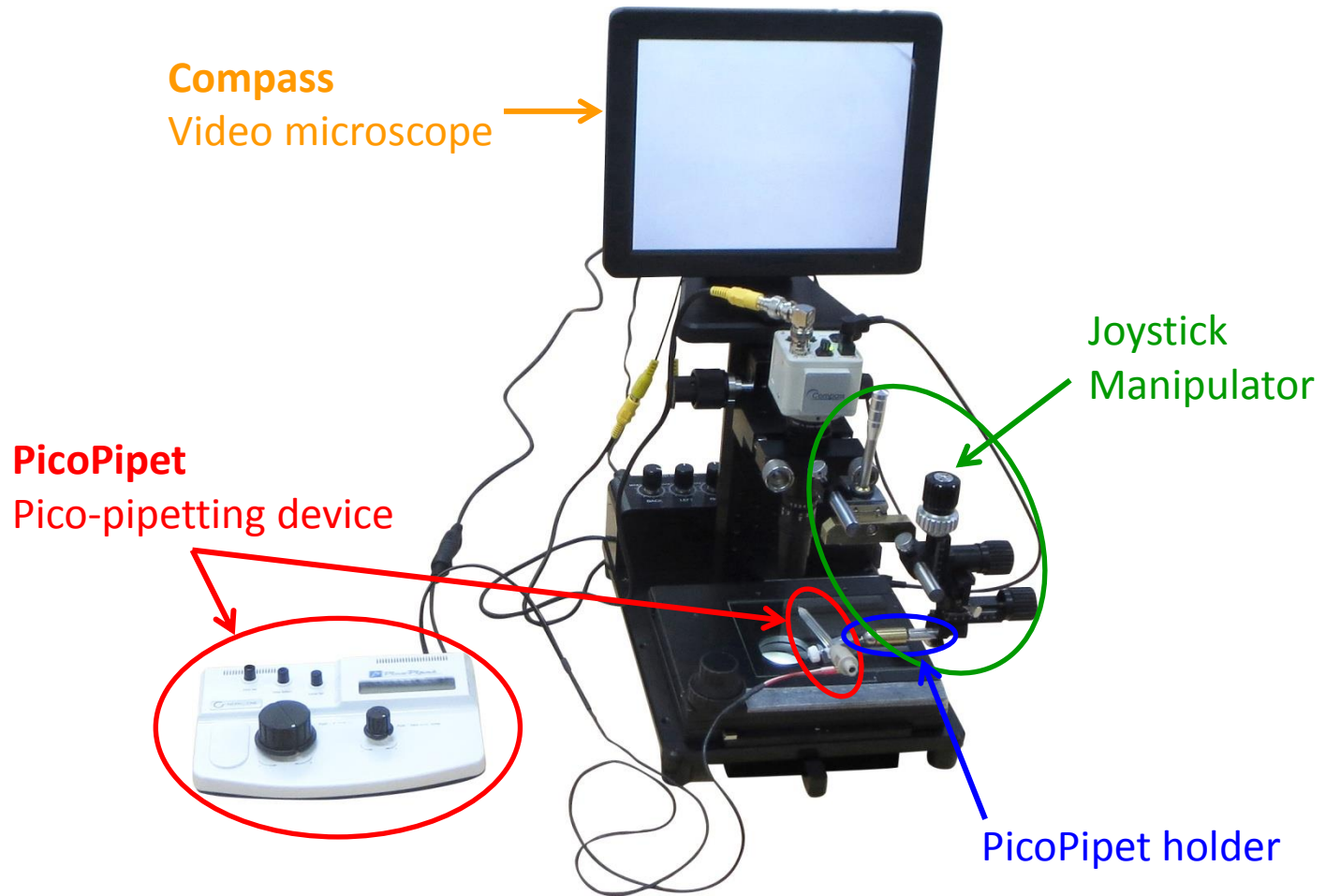


Micro Pick & Place System

Single-Cell/Micro-Particle Transfer



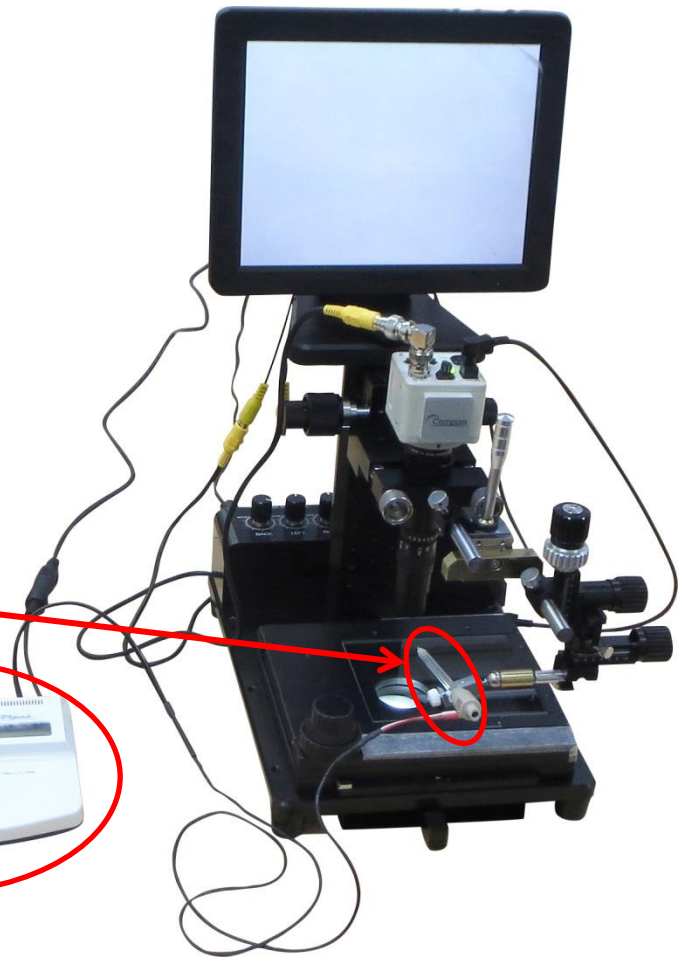
Micro Pick and Place System



Pico-pipetting device

PICOPIPET

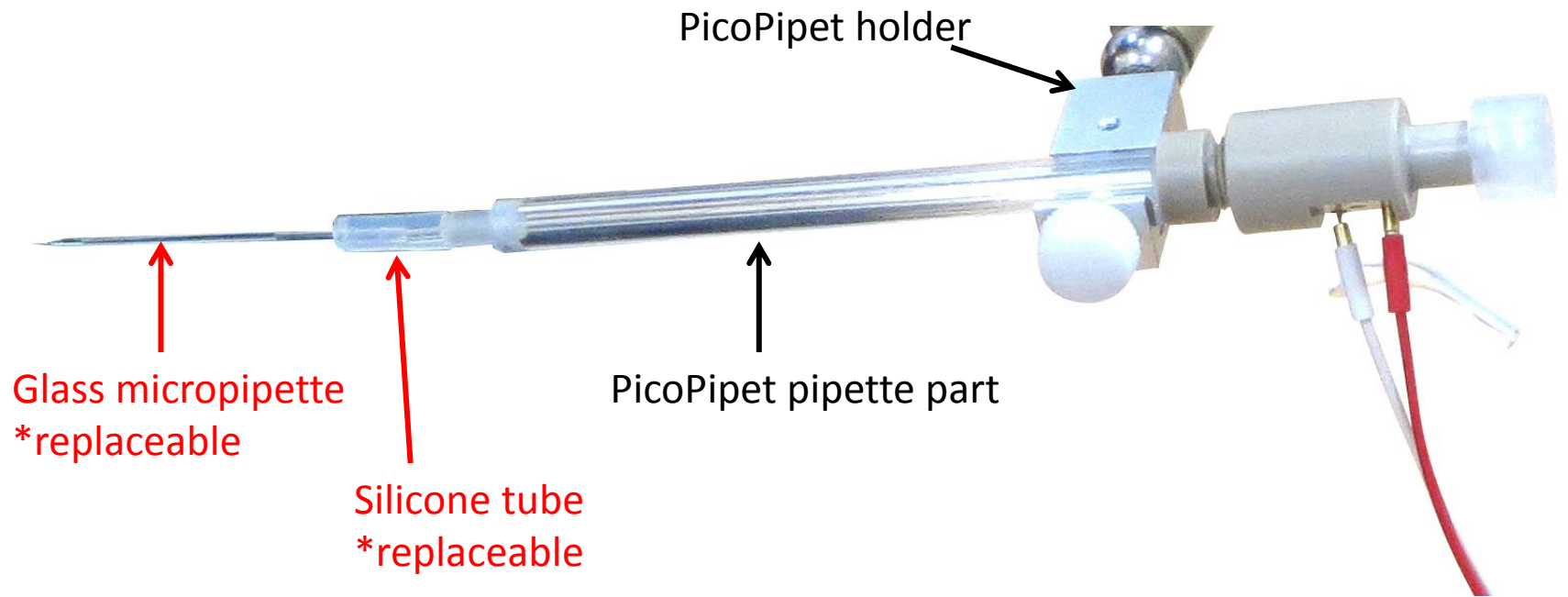
PicoPipet
Pico-pipetting device



PicoPipet pico-pipetting device



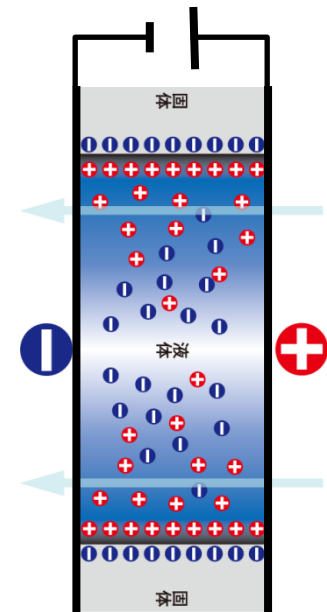
Glass Micropipette



Electroosmotic-Flow Pump



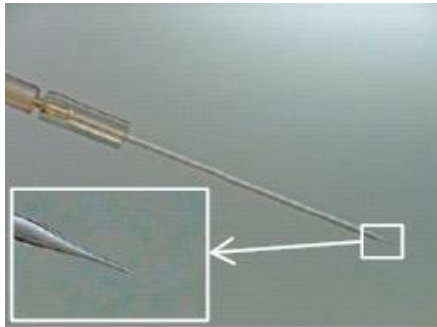
- Flow rate: 1 nl/min - 10 μ l/min
- Smooth flow without pulsation
- Easy control



Glass Miropipettes: Straight/S/L



Straight shape

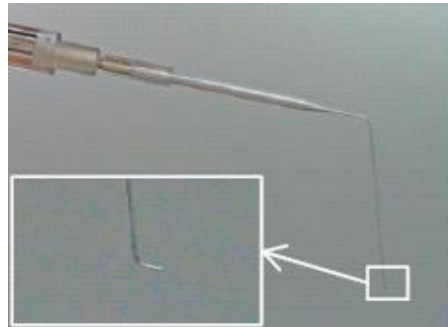


Inner diameter:
15/30/50/75 μm

For

- Dishes
- Microscope slides

S shape

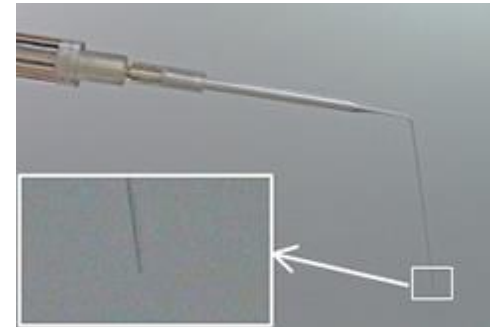


Inner diameter:
30/50/75 μm

For

- Multiple-Well Plates
- PCR Tubes

L shape



Inner diameter:
15/30/50/75 μm

For

- Microdevices
- Micro Liquid
Applying/Spotting

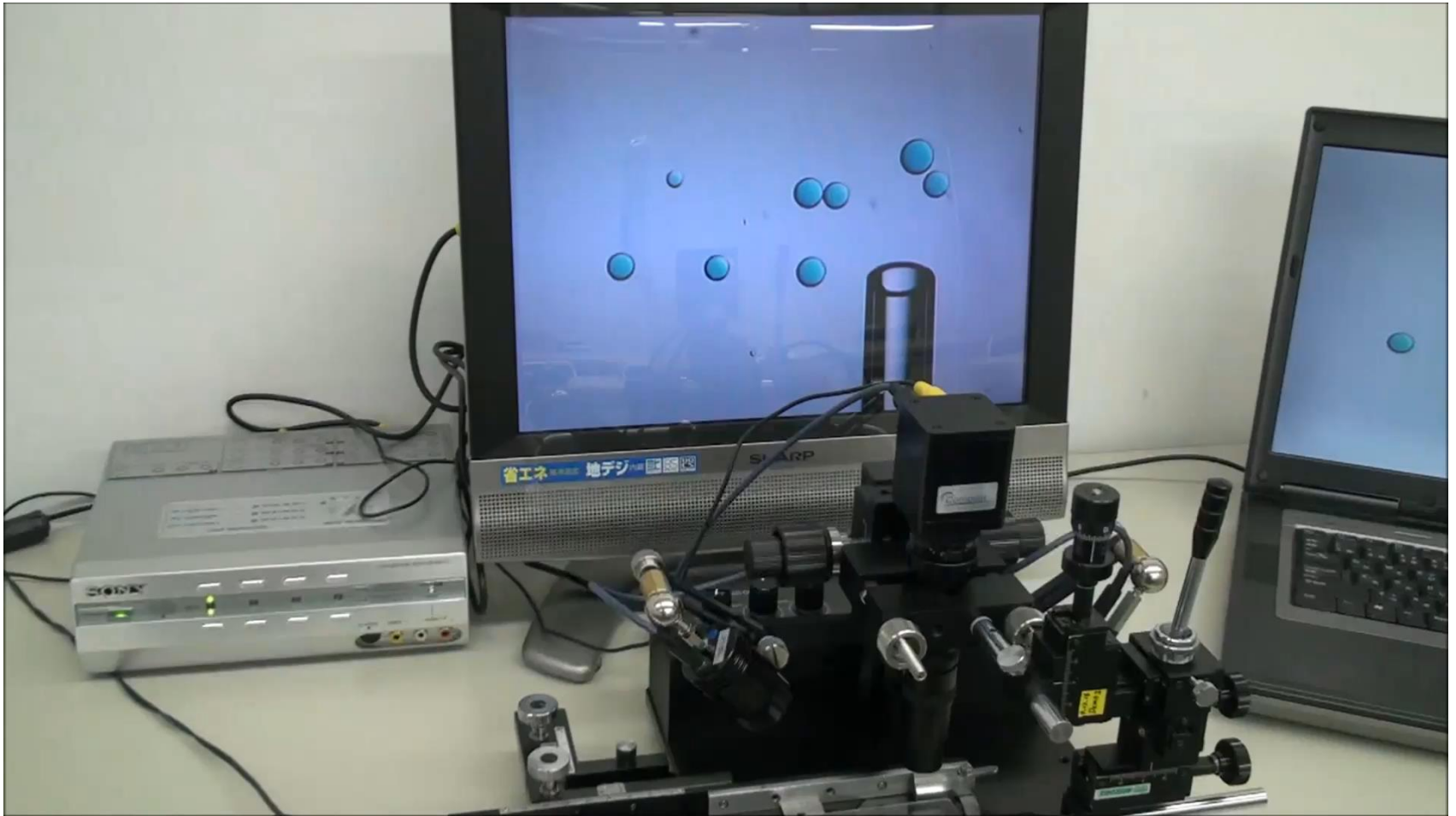
Applications

- Picking and placing micro targets ($> 5 \mu\text{m}$) for transferring them one by one.
 - Single cells/cell colonies
 - Microorganisms
 - Microdrops
 - Protein crystals
 - Metal particles
- Micro liquid applying/spotting at the picoliter level.

Single Cells/Microorganisms

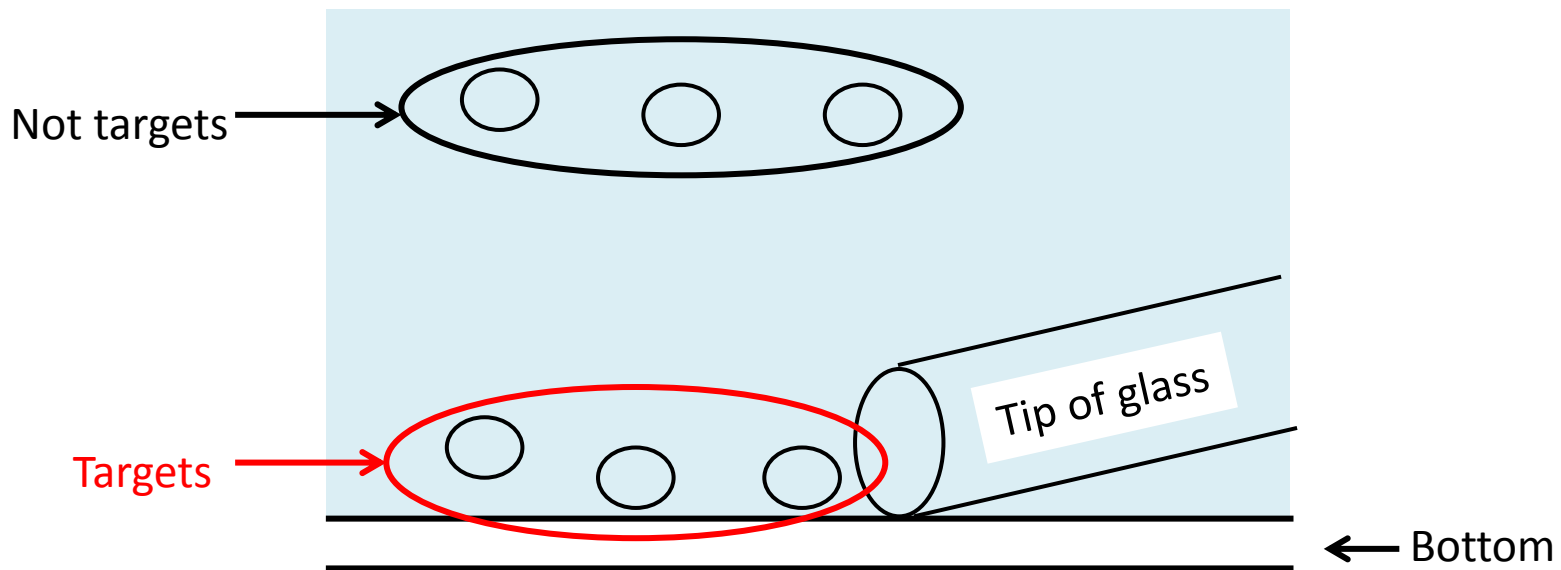
- Single Cells/Cell Colonies
 - Single cells into PCR tubes
 - Circulating tumor cells (CTCs) on microdevices
 - and more
- Microorganisms
 - Algae
 - Fungi
 - Yeasts
 - Parasites
 - and more

Video: Blue Bead Samples (30-70 μm)



Cautions for Picking Up Targets

- The targets must be in non-adherent status.
- The targets must sink to the bottom, not swim.

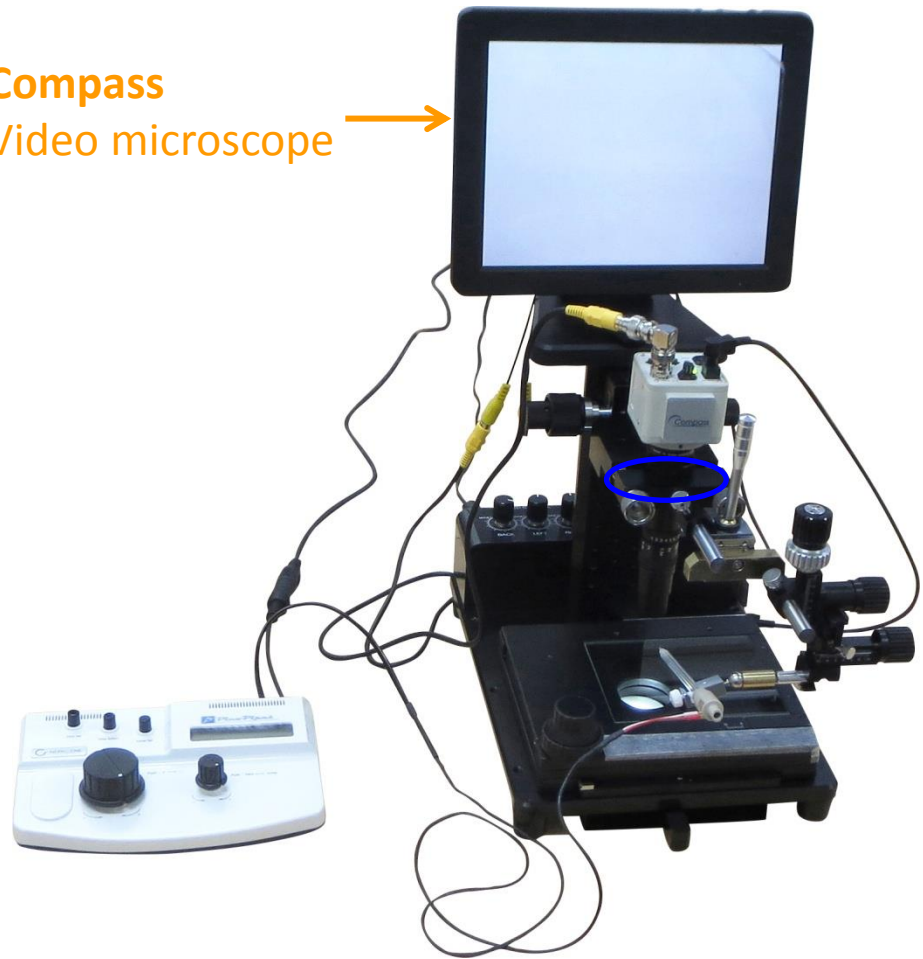


Video microscope

COMPASS

Compass

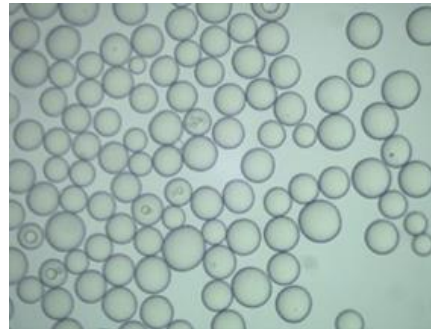
Video microscope



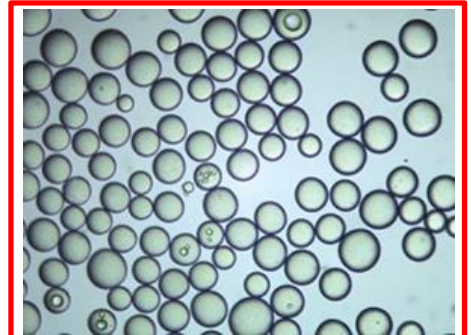
Compass Video Microscope



- High-contrast and 3D views
- Simple optical system
- 53x to 427x
(similar to objective 20x)
- WD: 40mm



Conventional
bright-field image



Compass image
by pattern-projection
method

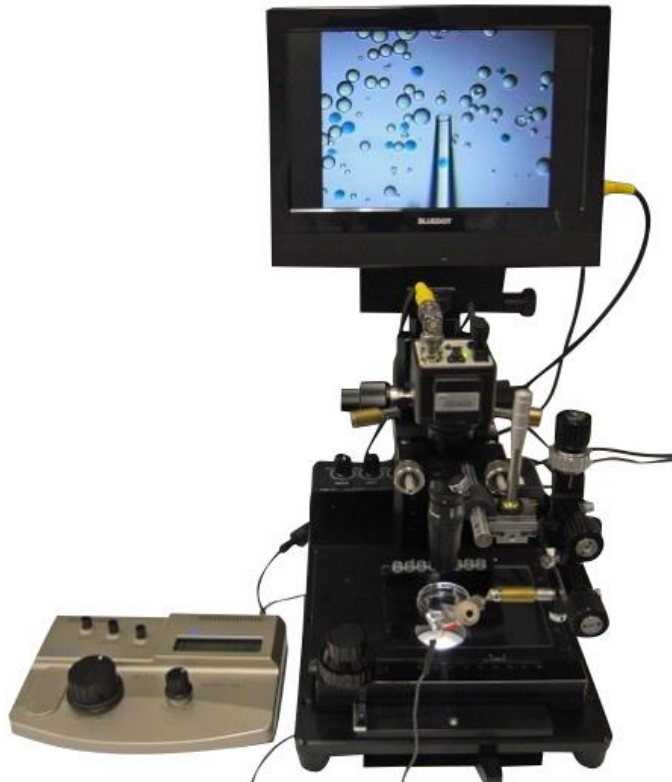
6 Kinds of Systems

MPP SYSTEMS



MPP-300 Standard System

- PicoPipet pico-pipetting device
- PicoPipet holder 40 mm
- Compass video microscope
- Joystick manipulator



MPP-300Z Compass Z System

- PicoPipet pico-pipetting device
- PicoPipet holder 40 mm
- Compass Z Zrobo-mounted video microscope
- **Z-axis automatic control**
- Joystick manipulator



MPP-200Z Zrobo System

With user's
microscope

- PicoPipet pico-pipetting device
- PicoPipet holder 150 mm with clamp
- Zrobo, z axis automatic control device
- Joystick manipulator

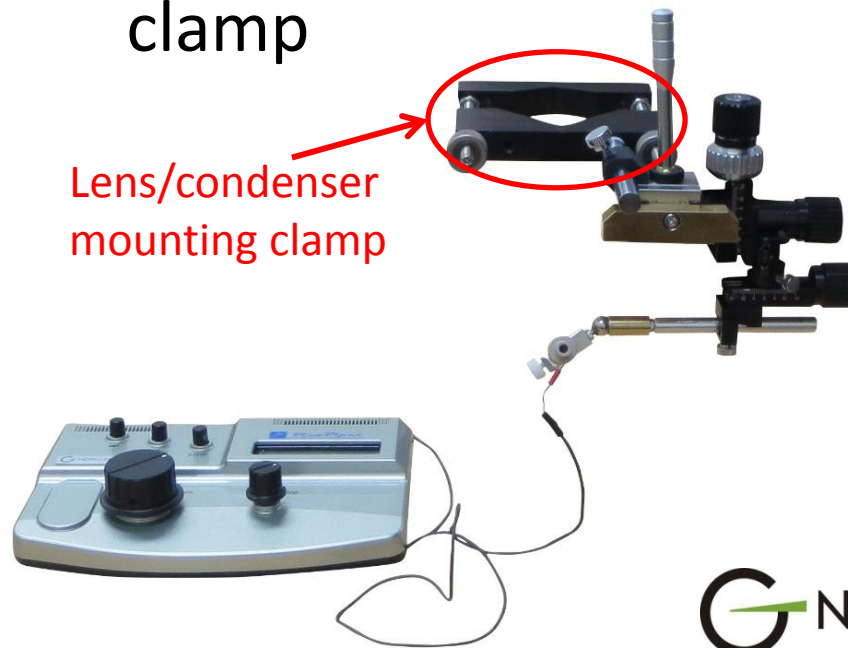


MPP-200A System

With user's microscope



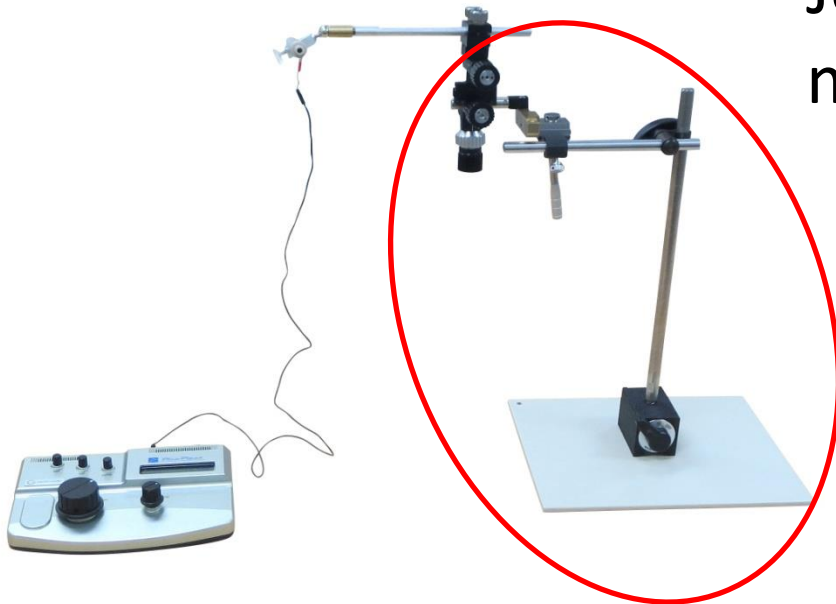
- PicoPipet pico-pipetting device
- PicoPipet holder 80 mm
- Joystick manipulator with lens/condenser mounting clamp



MPP-200B System

With user's microscope

- PicoPipet pico-pipetting device
- PicoPipet holder 150 mm with clamp
- Joystick manipulator with magnetic stand kit



Magnetic stand kit

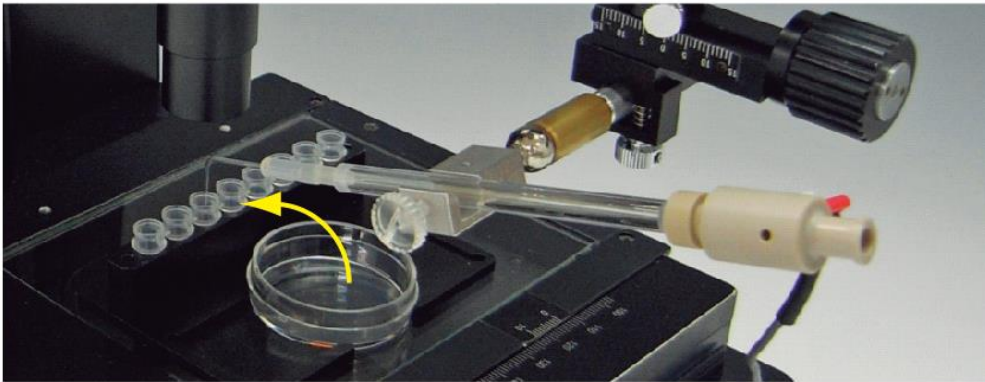
MPP-100 Simple System

- PicoPipet pico-pipetting device
- PicoPipet holder 80 mm

With user's microscope
and user's micromanipulator or hand



Accessories for PCR



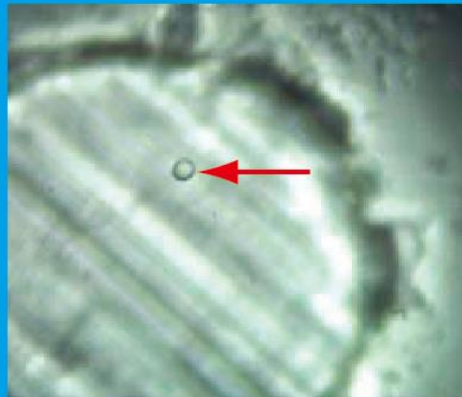
PCR 8-tube strip holder
for the Compass video microscope



Single cell in a PCR tube



Before discharge



After discharge

PCR 8-cap strip holder
for user's microscope

