

SINGLE CELL ISOLATION TECHNOLOGY

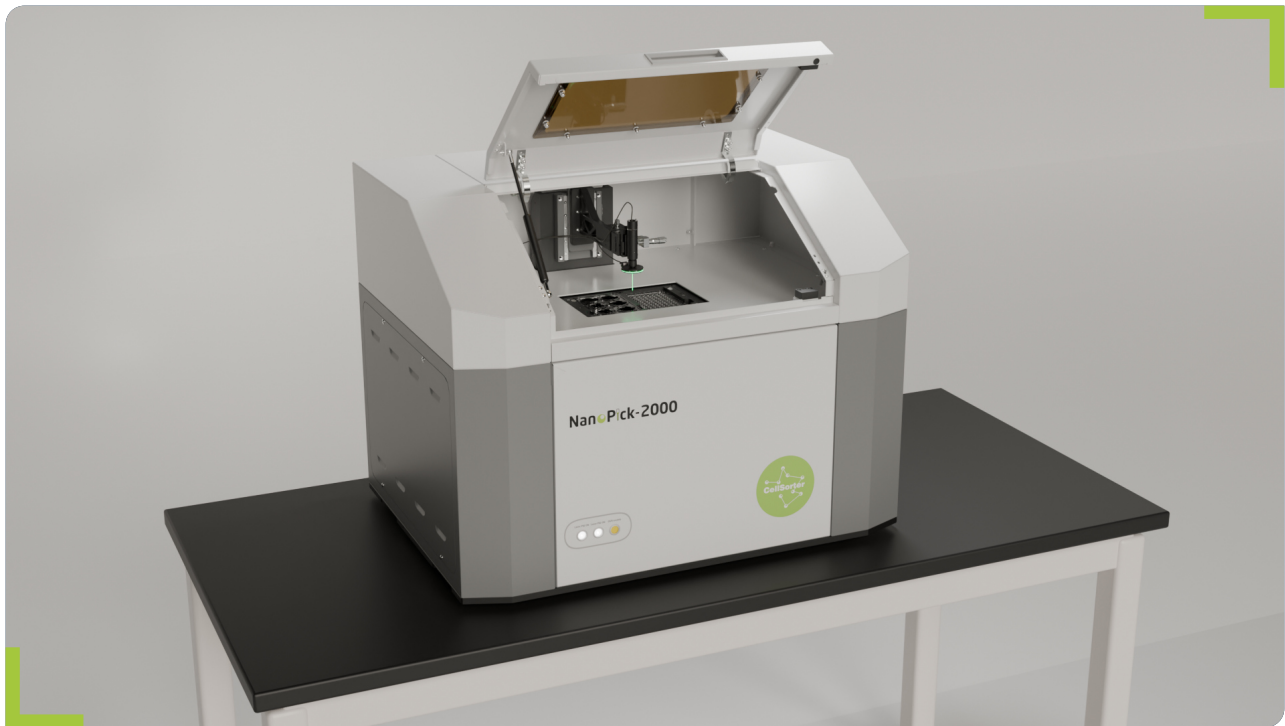
based on computer vision



# NanoPick-2000

FULLY AUTOMATED INSTRUMENT FOR SINGLE CELL MANIPULATIONS

FOR GENOMICS, PROTEOMICS, CLONING, RARE CELL ISOLATION, AND MORE



## MAIN FEATURES

- Fully automated multichannel fluorescent imaging with laser autofocus and 6-position objective revolver
- High-throughput imaging of millions of cells
- Dual-plate setup for picking and deposition
- AI modules for image analysis
- Autocalibration function

## MODULAR OPTIONS

- Incubation: 37°C, 5% CO<sub>2</sub>, 100% humidity
- Sterile laminar flow
- Automated micropipette exchange

PHENOTYPE BY IMAGING

GENOTYPE BY NEXT-GENERATION SEQUENCING



For single-cell DNA/RNA sequencing, CTC detection, protein engineering, cellular adhesion analysis, or nanoliter dispensing with real-time imaging



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# COMPONENTS

## PRECISION & HIGH THROUGHPUT

- NanoPick sorting head
- Built-in LED illumination for high-quality phase contrast imaging: Ph1, Ph2
- 6-position motorized filter turret for fluorescent imaging
- 6-position motorized objective revolver
- High-precision borosilicate glass micropipettes
- High-speed motorized components
- High-sensitivity back-illuminated CMOS camera
- Sample holder for two standard multiwell plates
- Laser autofocus

## PRECISION & EFFICIENCY

- High-resolution imaging combined with <1 nanoliter liquid handling accuracy
- Capability to isolate both suspended and surface-attached cells
- New standard in single-cell isolation, >90% efficiency

## FULLY AUTOMATED INSTRUMENT

- Minimal manual adjustments
- 100% software-controlled process
- Protocols containing settings can be saved for subsequent use

## NANOPICK SORTING HEAD

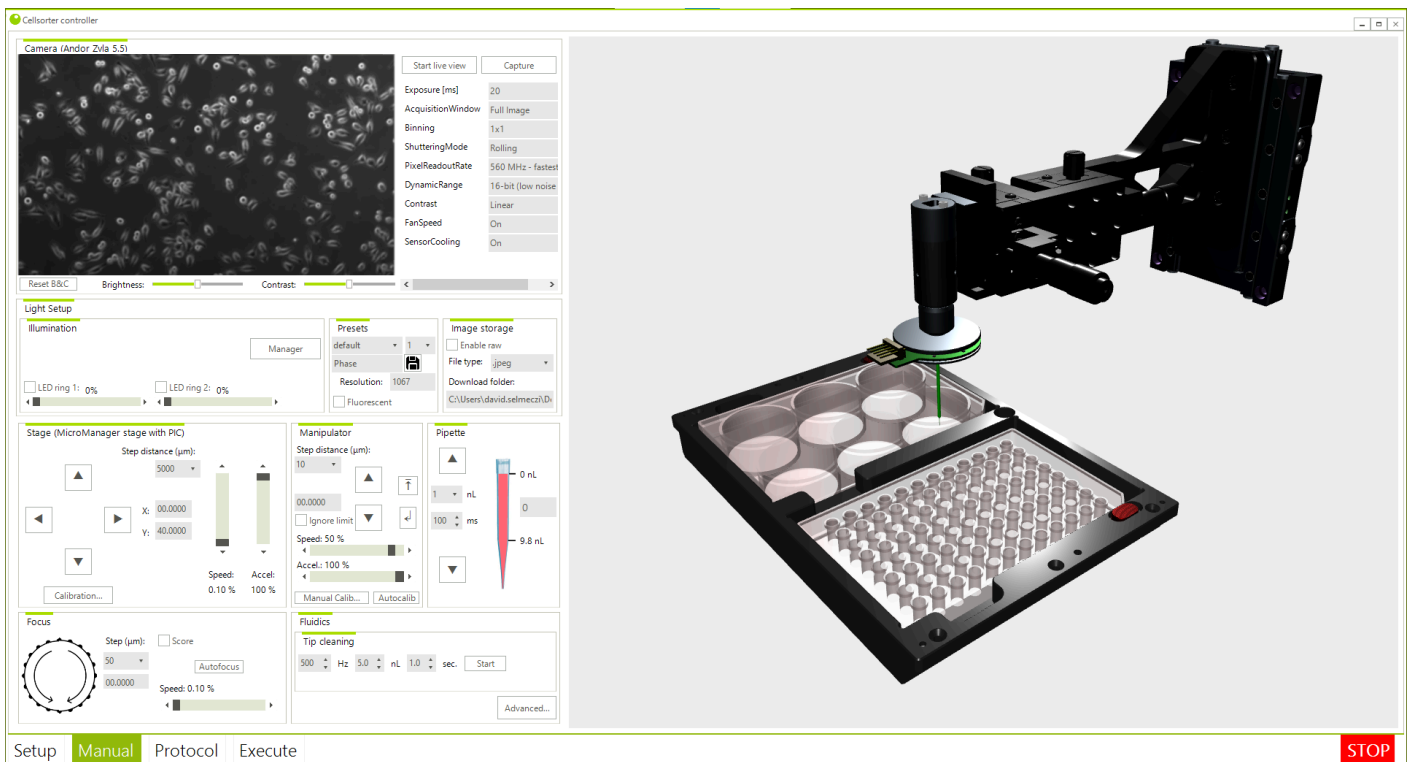
- Better than 1 nanoliter liquid handling precision
- Flexibility - applicable to a wide range of single-cell experiments

## GLASS MICROPIPETTES

- Calibrated borosilicate capillaries developed for single cell sorting; aperture range: 5-110  $\mu\text{m}$
- Optimal micropipette size can be chosen depending on your specific application

## USER-FRIENDLY SOFTWARE CONTROL

- Intuitive GUI with brief tutorials
- Multi-layer interactive map
- Layers are the phase contrast and fluorescent channels
- Plug-ins for cell recognition and classification
- 3 tabs for 3 steps: Scanning, Analysis, Sorting
- Real-time 3D simulation of the hardware
- Capability of saving all data for further analysis



## UNIQUE PATENTED TECHNOLOGY WITH SCIENTIFIC REFERENCES

B.Szabó, Piezoelectric micropipette, Patent number: 231103, W02020165617

B.Francz et al.: Subnanoliter precision piezo pipette for single cell isolation and droplet printing, *Microfluidics and Nanofluidics* 24: 12 (2020)



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