CELLENION >>>

A BICO COMPANY

The Next Generation
CELLEN ONE X1
NEO

About cellenONE® X1 Neo

cellenONE® is an all-in-one platform combining high-accuracy single cell isolation and high-precision pico to nanoliter reagent dispensing.

- ■ Image-based single cell sorting and isolation

- ■ Cell line development with excellent clonal outgrowth

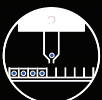- ■ Miniaturized end-to-end single cell sample preparation workflows

Key features

Single cell isolation

Precision liquid dispensing

On-deck temperature and humidity control

Brightfield and/or Fluorescence

Image recording of every isolated cell

End-to-end sample preparation workflows

Benefits

Accuracy

- Up to 100% single cell accuracy (no doublet, no debris, no empty well)

Image-based technology

- LIve imaging of cell sample content (e.g. diameter, elongation)
- User-defined sorting parameters (morphology and/or fluorescence based)
- Image-based QC for every isolated cell

Miniaturization

- High-precision pico to nanoliter reagent dispensing
- On-deck temperature, humidity and dew-point control

Versatility

- Any cell type (from 0.5 to ~80 µm)
- Any sample size (from ~ 3 µL)
- Any standard (i.e. 96, 384, 1536 well plates, glass slides, etc.) or custom labware

Viability

- Ultra gentle acoustic-based dispensing technology
- On-deck sample temperature control for improved cell viability NEW

Automation

- Improved drop generation system [NEW]
- Automated end-to-end run creation and error handling [NEW]
- Fast temperature ramping up and down (4 to 85°C) for efficient sample incubation [NEW]

Ideal for rare cells

- Compatible with sample containing very few cells (e.g. micro-biopsies, CSF fluid)
- Compatible with very low sample volume (from ~ 3 μL)
- Maximized cell recovery (non-isolated cells are collected for further reprocessing)

Time and cost savings

- 96 cells isolated in less than 3 minutes
- Workflow miniaturization, reducing reagent costs
- Workflow automation, reducing operator time
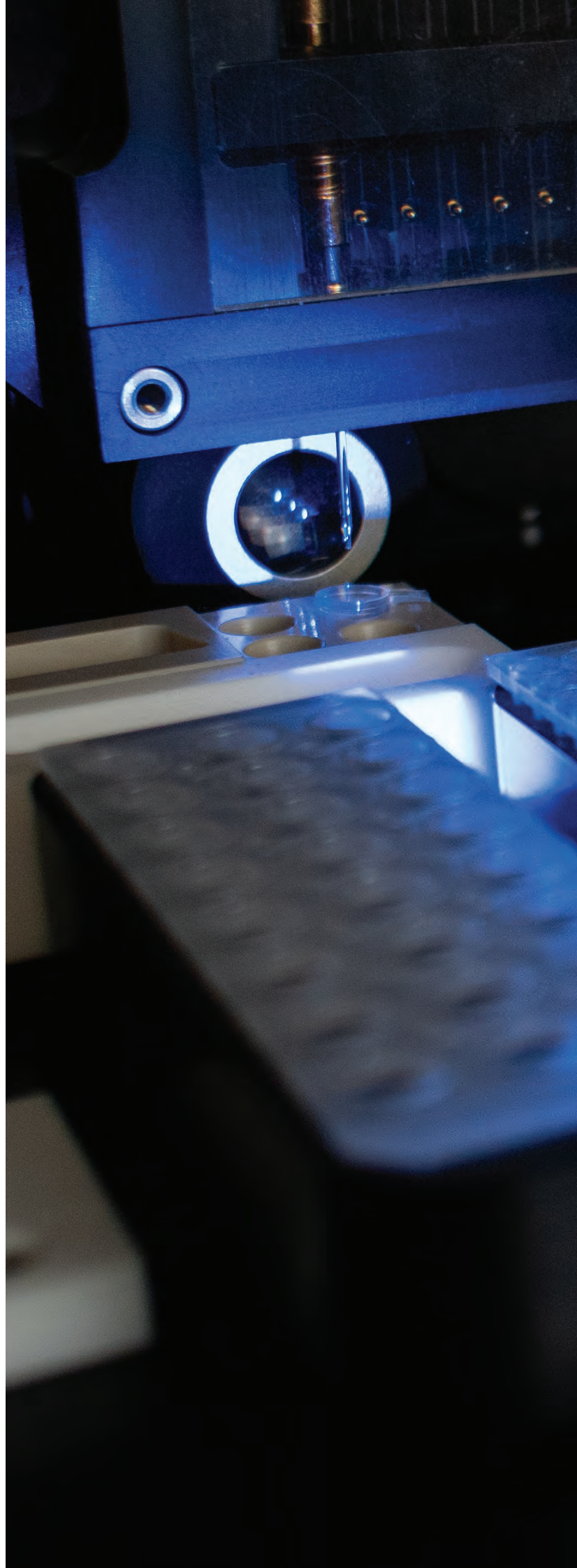
New Features

- New heating / cooling system
  - Better temperature control
  - Faster ramping up and down
  - Improved control of the incubation steps
- New optical system for increased fluorescence sensitivity
- Improved drop generation system for enhanced droplet stability
- Faster instrument start-up time
- New sample holder
  - Allowing sample cooling
  - New labware format (i.e. Thermo Scientific™ Piko PCR Plate 24-well , Piko PCR Plate 96-well, and 8-tube stripes)
- Application-dedicated software packages (e.g. proteomics, cloning, microbiology etc.)
- Improved user experience
- Automation of end-to-end sample preparation workflows

Technology

■ Acoustic-based ultra gentle dispensing technology

■ Image-based brightfield and/or 4 channels fluorescence detection and sorting

How it works

1. Cell suspension is aspirated into a glass capillary

2. Capillary tip is placed in front of an optical system

3. Capillary image is automatically segmented into two zones

Ejection Zone = volume corresponding to the next generated droplet

Sedimentation Zone = safety zone accounting for cell sedimentation

Pictures are stored
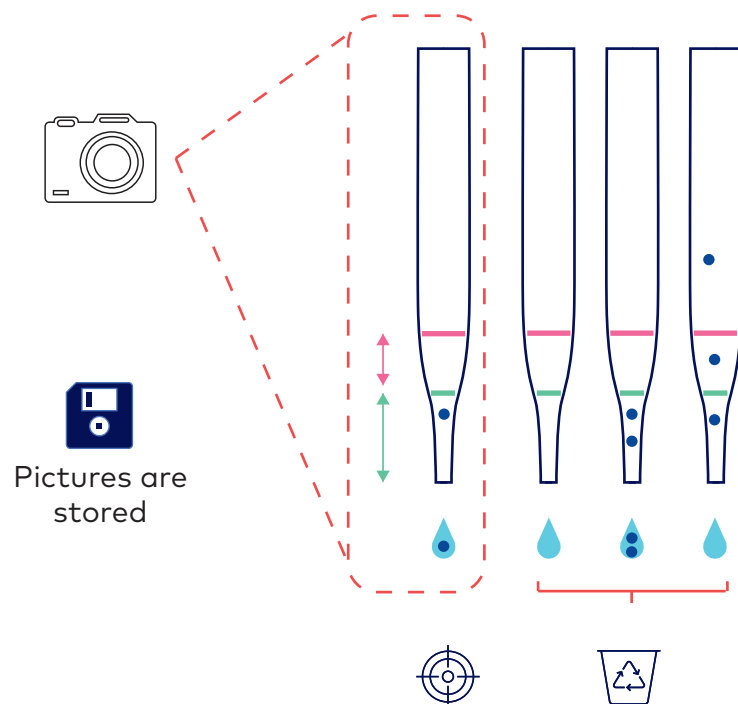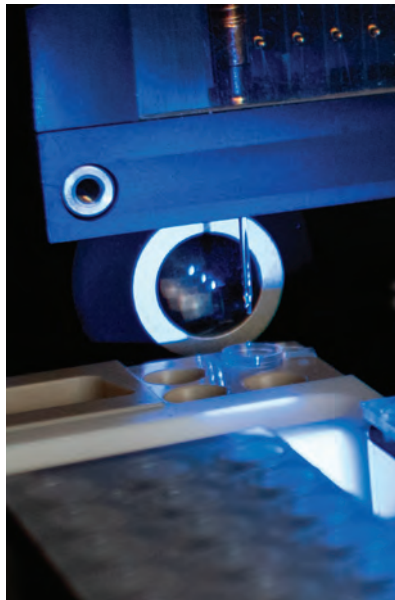
4. If the next droplet contains only one cell that fits user-defined parameters (size and/or fluorescence), it is dispensed into target labware. Otherwise, it is dispensed into a recovery vial, allowing reprocessing
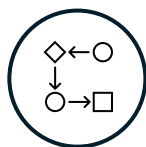
Applications

Single Cell Omics

Sample preparation
prior to analyses

Cell Line Development

Cloning

scWG-Seq

mAb

scRNA-Seq

CRISPR/CAS9

Spatial
Proteomics

Stem cells

scProteomics

Enrichment of
rare cells

μ Bio

If you'd like to learn more about other
applications undertaken using our system,
or discuss your specific application needs,
reach out to us!

Want to unleash fully-automated cell
line development workflows, check out
our cellenONE HT instrument

Product Specifications

Sorting Technology	Brightfield and/or Multi-fluorescence (Blue, Green, Orange and Red) images DAPI (ex. 375 nm; em. 432 nm) FITC (ex. 470 nm; em. 515 nm) Cy3 (ex. 565 nm; em. 580 nm) Cy5 (ex. 625 nm; em. 670 nm)
Dispensing technology	sciDROP PICO: 250-600 pL / single drop
Target capacity	2 MTPs or 8 standard glass slides
Axis system	X-Y Linear Magnetic Drive, Z Spindle Drive
Axis precision	< 3 µm
Dimensions with enclosure (L x Z x H)	650 x 700 x 1590 mm
Weight	Approx. 242 kg

Do you want to see cellenONE X1 Neo in action?

Contact our experts!
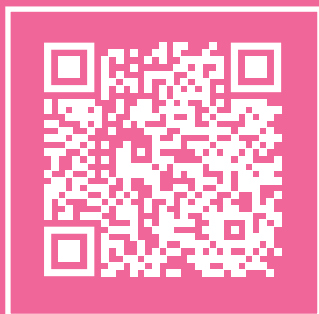
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