ARRALYZE® CellShepherd
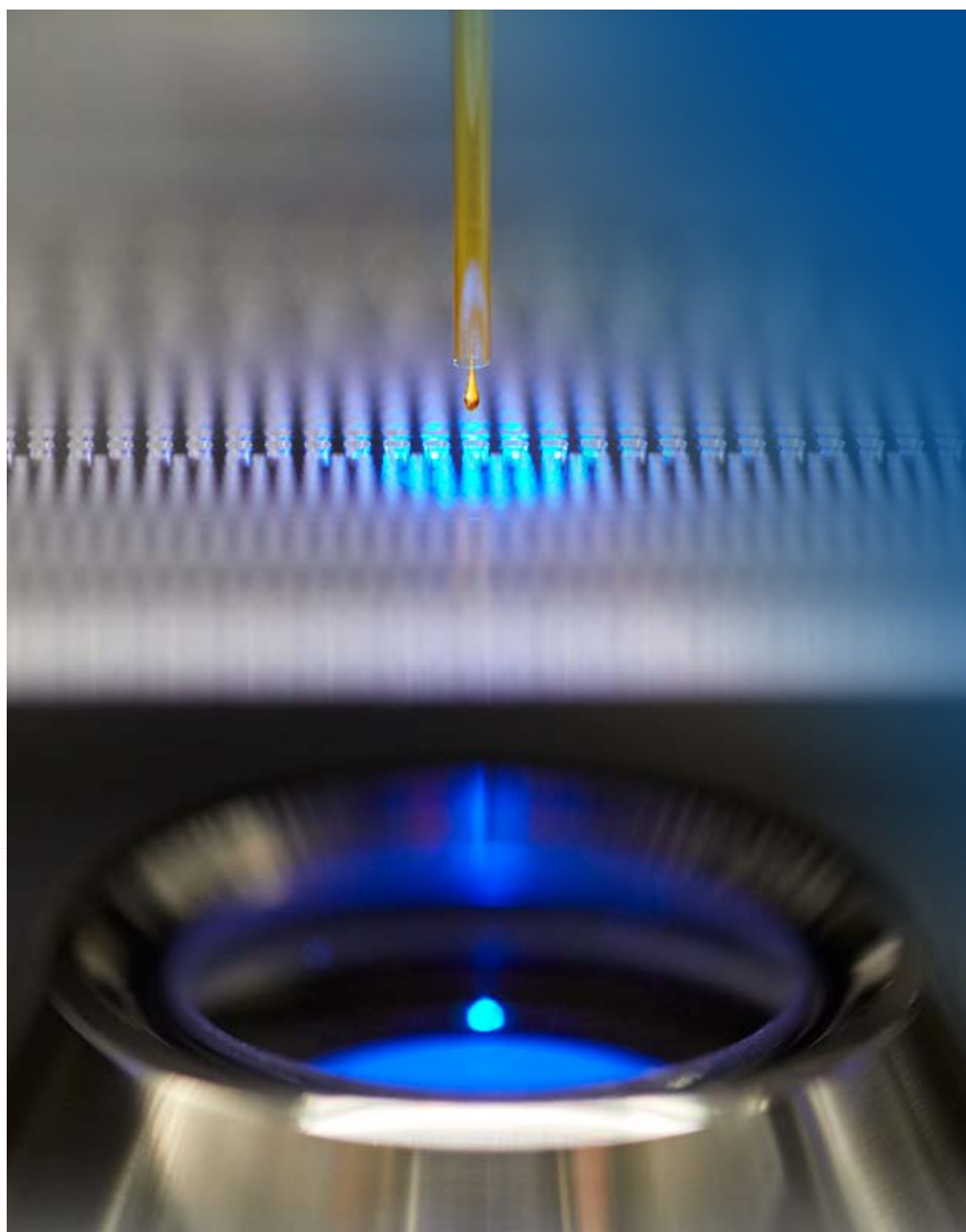
The Ultimate Workstation for Dispensing, Imaging, and Isolating Single Cells

Unlock the Path for Discovery – With the Cutting-Edge ARRALYZE® CellShepherd

The ARRALYZE® CellShepherd offers innovation, ease of use and flexibility to meet the needs of your research. Discover what was hidden before.

Key Features

1. Gentle Dispensing
Dispense precisely into glass nanowell arrays.
- Automated dispensing of single cells, cell populations and particles
- Gentle as hand pipetting for high cell viability
- Gain confidence by immediate well imaging and recording

2. Fast Imaging
Monitor your cells in a fully controlled environment.
- High quality images in real time
- Conduct time-resolved measurements with ease
- Brightfield and three fluorescence channels

3. Precise Isolation
Isolate the content of wells while maintaining viability.
- Gently extract single cells and supernatant
- Non-destructive process preserving cell integrity

4. Fully Climate-Controlled Environment
Achieve physiological-like conditions for your cells.
- Controlled settings for temperature, humidity and CO_2 levels
- Flexible in (co)-culturing for hours and days

5. Sterile Interior
Safety and protection in a compact footprint
- Integrated biosafety enclosure without compromising performance
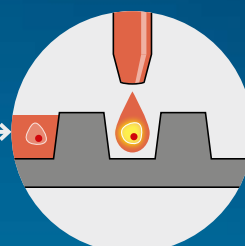
Product design may vary
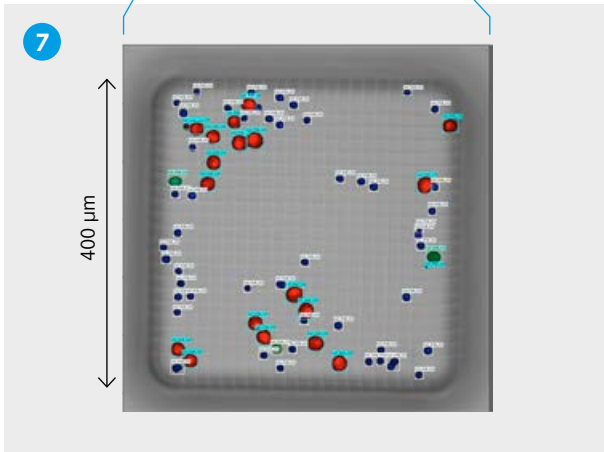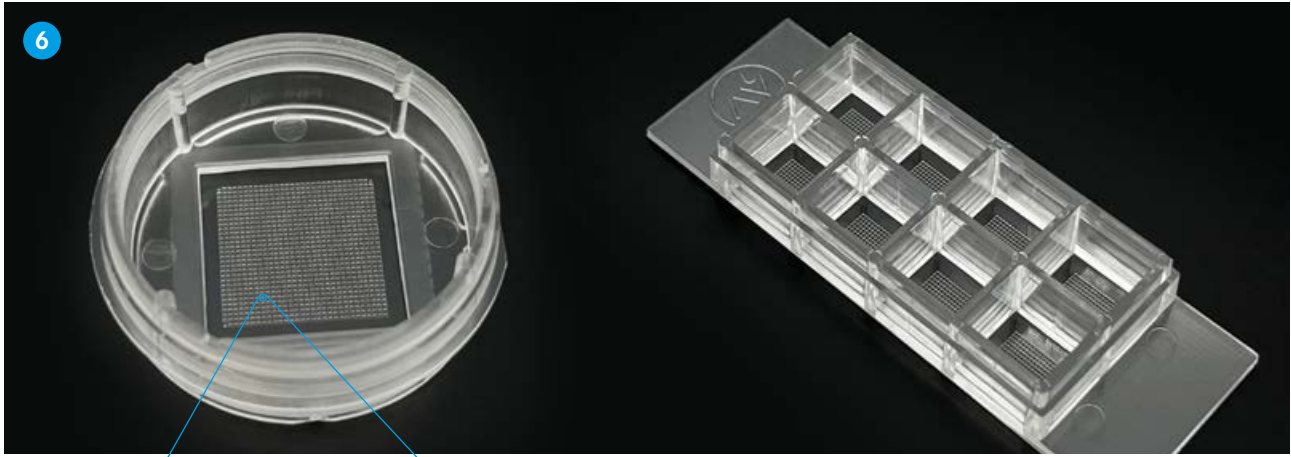
Open the Door for New Insights

With ARRALYZE® CellShepherd – the ultimate workstation for dispensing, imaging and isolating single cells.

Precise Dispensing

Gentle dispensing of cells with high viability into nanowells.

400 µm

6. Miniaturized Arrays Made From Glass

Conduct thousands of experiments simultaneously in glass nanowells.

• Start your research with minimal cells from precious samples
• Low consumption of reagents to reduce costs
• Inert substrate with highest optical quality

7. AI-Driven Analysis

Leverage AI to analyze thousands of images to gain valuable insights and enhance decision-making.

• Particle & cell tracking and counting
• Reveal hidden data not readily apparent
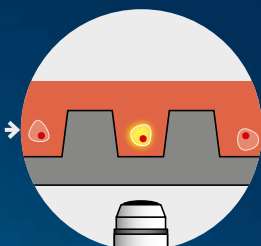
8. CellShepherd Software

Intuitive software for operation and analysis.

• Ease-of-use and user-friendly navigation
• Highly automated routines incl. calibrations and workflows

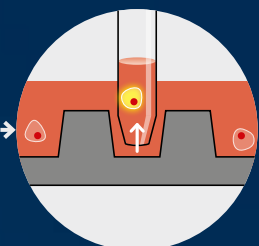Learn more at: **arralyze.com/cellshepherd**

Real-Time Monitoring

Automated imaging of cells in a fully controlled environment.

Targeted Isolation

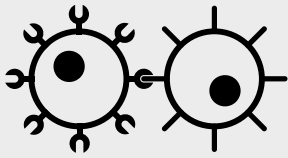Extract content of wells like cells alive for downstream analysis.

Unlock the Path for Discovery

Multifunctional Single Cell Platform

The ARRALYZE® CellShepherd is an all-in-one solution, seamlessly integrating dispensing, imaging, and isolation of single cells in a sterile and climate-controlled environment. Employing advanced microfluidics and intelligent imaging driven by AI, the platform empowers researchers to engage in cutting-edge scientific endeavors.

In synergy with the ARRALYZE® glass arrays, scientists can carry out thousands of experiments simultaneously at nanoliter scales, preserving reagents and minimizing waste. This method is specficially tailored to streamline experiments involving a limited number of cells derived from precious samples. The CellShepherd maintains, protects, and monitors individual cells of interest over the course of time to ensure experiment consistency and reproducibility.

Applications Examples

Cell and gene therapy

Antibody production

Cell line development

Synthetic biology

Specifications

Dimensions (W x H x D)	794 mm x 1960 mm x 898 mm (~31.3" x 77.2" x 35.4")
Weight	333 kg (734 lbs)
Included ancillary equipment	Computer, monitor & accessories
Software	ARRALYZE® software
Incubation Unit	Optional
Isolation Unit	Optional
Electrical requirements	110–240 V AC, 50/60 Hz, <500 W; ISO 61010, CE Mark

Imaging

Camera	High Sensitivity Monochrome CMOS Sensor
Resolution	4112 (H) x 3008 (V)
Pixel size	3.45 µm x 3.45 µm
Magnification	10x
Optic	Brightfield & fluorescence
Fluorescence Filters	Channel 1: Excitation 370-410 nm; Emission 429-462 nm Channel 2: Excitation 473-491 nm; Emission 502-574 nm Channel 3: Excitation 588-594 nm; Emission 612-680 nm

Patents pending

ARRALYZE

Learn more at: **arralyze.com/cellshepherd**