## Specifications

Power supply		Single-phase AC 100 – 230 V (- 10 〜 + 8%), 50 / 60 Hz Average wattage : ≈ 690 W / Max wattage : ≈ 990 W Equipment power capacity : 1.2 kVA
Display		23 in wide LCD display
Memory storage capacity		Hard disk drive 500 GB (30 GB for initial shipment models)
External input/output		USB 3.0 x 2-port
Operation interface		Optical mouse with scroll wheel, Mini keyboard
Imaging unit	Camera	CMOS 2048 x 1544 pixels
	Optical lens	Bright-field 4x
	Light source	White LED
Recommended use environment	Ambient temp.	Accuracy assured at 23°C±2°C Function assured at 10 - 35°C (Average temp. should be below 30°C for operations lasting over 24hours)
	Relative humidity	45 - 60%RH (no condensation)
	Installation	Ensure there is no dirt, dust or corrosive gas. Avoid placing under strong lighting or direct sunlight. Install on horizontal solid floors.
Sterilizing lamp		UV 15 W, Qty : 2
Air purifier		HEPA filter Qty : 2

Optional accessories

Microscope	Optical lens	Bright-field 10x
	Fluorescence imaging	Fluorescence filter 3 blocks (exchangeable) Light source : UV Xenon lamp Lens : 4x, 10x
Glass heater		Between room temp. and 50°C
Touch panel display		23 in wide LCD monitor

Dimension

1500

1580

1030

960

Unit : mm
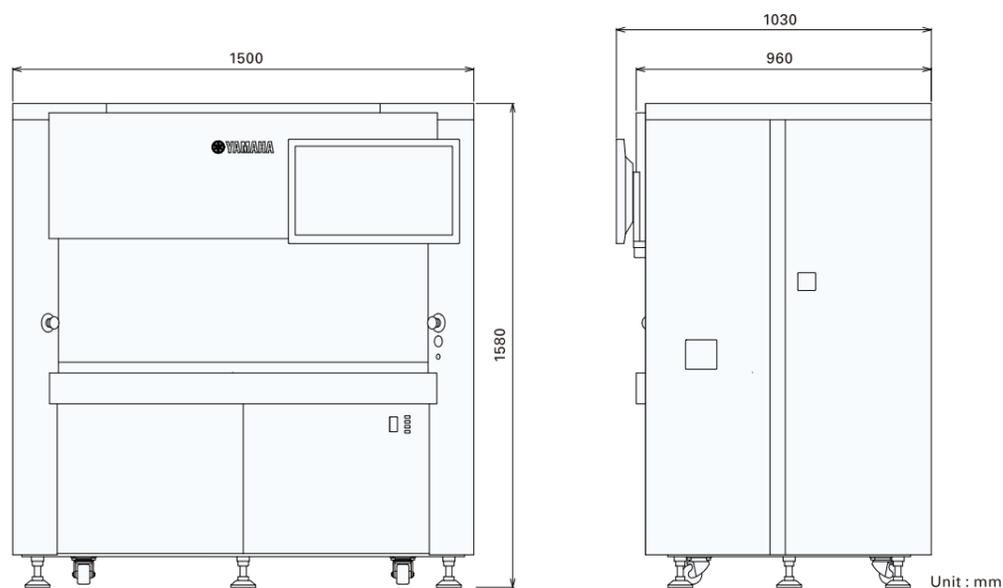
Weight : approximately 580 kg

Cell picking & imaging system

CELL HANDLER™

Cell picking & imaging system

2. Handling

1. Detecting

3. Imaging

For Cell Selection
For Drug screening

CELL HANDLER™ offers new and revolutionary solutions for applications in the biomedical field by utilizing our state of the art ultra high speed pick and place robotic technology.

This technology enables the selection and transfer of a targeted cell to a microplate well, a process that is difficult using conventional manual methods. In addition, the system performs high throughput image analysis.

* The cell mentioned in this brochure is a single cell and/or aggregated cells including spheroids and organoids.

1. Detecting

Detection
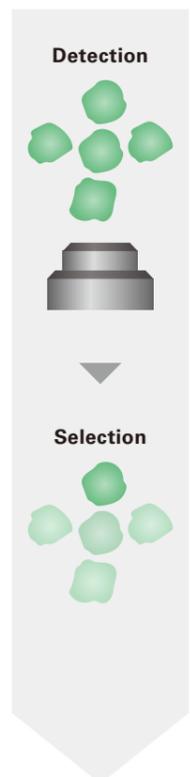
Selection

CELL HANDLER™ can report multiple features of an individual cell.

These features are summarized statistically and can be used for cell selection.

1) Histogram Selection

All the features of cells * are visualized as a histogram. You can easily determine the selection threshold using it. Utilizing multiple features enables a highly accurate selection. Threshold values can be saved and recalled for repetitive experiments.

* > 10 features (Size, Shape, Grayscale, AI, etc.)

2) AI Function

You can also select cells with checking one by one. With machine learning, cells can be manually selected to teach CELL HANDLER™ your cell preference. An AI score provides a cell selection confidence level. The AI score can be registered as a feature to maintain selection consistency.

- Cell Detection

- Histogram Selection

Size
Shape
Grayscale
AI
etc.

Frequency

Area

2. Handling
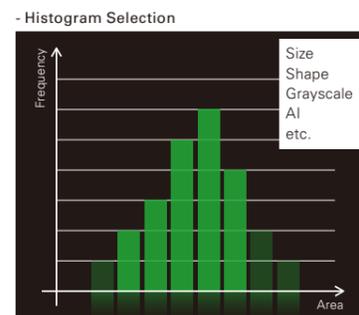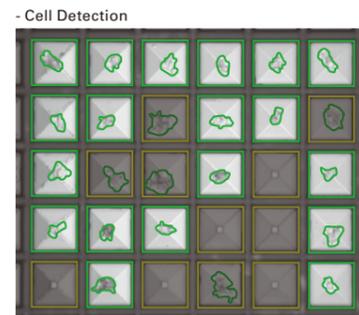
Picking

Dispensing
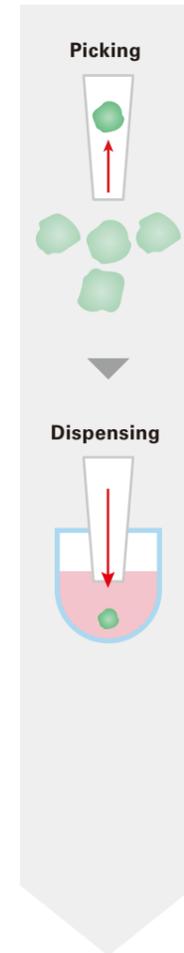
Selected cells are picked by 8 tips and transferred gently and precisely to wells in a high throughput manner.
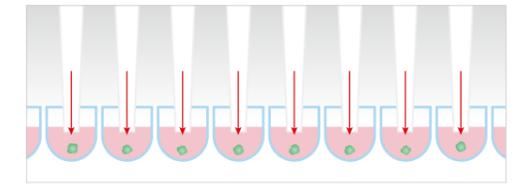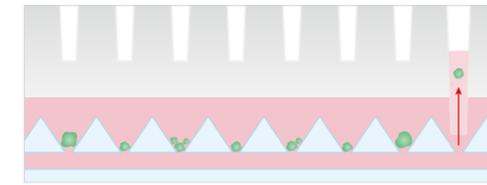
1) Types of Biological Material

· Single cell
· Spheroid / Organoid
· Tissue fragment

100µm — Single cell
100µm — 3D culture cell
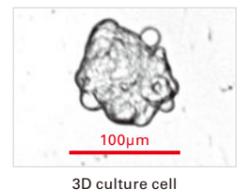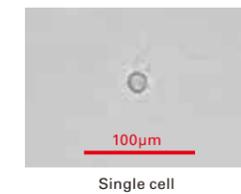
2) Source and destination plates

- Picking from various plates

- Dispensing to microplate

Precision Chamber™	3D Culture Plate	Culture Dish	Microplate

60 mm dia.

SBS standard

Elplasia™ *

Cell in gel

A variety of conditions can be created in one plate.
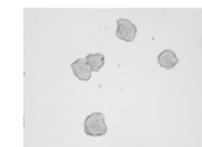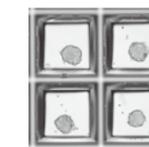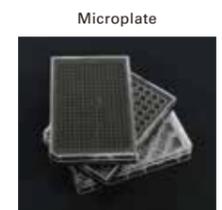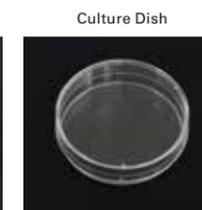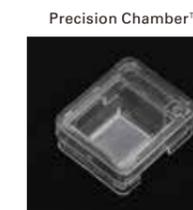
* "Elplasia" is a trademark of Kuraray Corporation.

3. Imaging
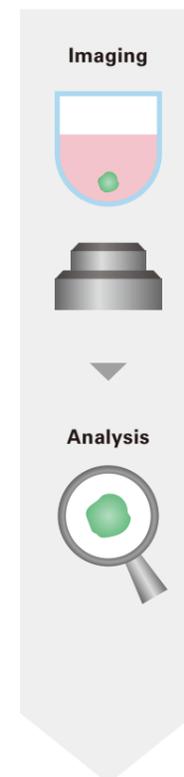
Imaging

Analysis

High resolution cell Images are captured at high speed.

1) Imaging

CELL HANDLER™ can capture not only bright field but also fluorescent images. A whole well can be observed as stitched image.

Image in 384-well microplate

Image in 384-well microplate
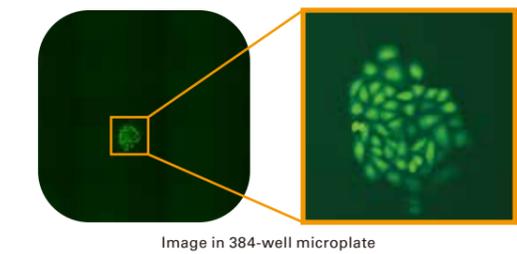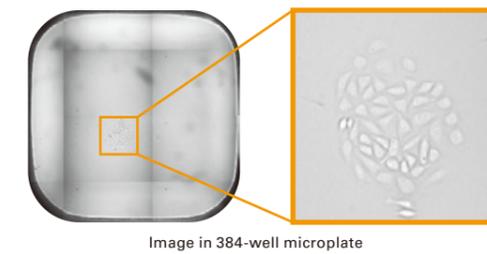
2) Image analysis

Cell are identified using object recognition software and features reported and saved for analysis.
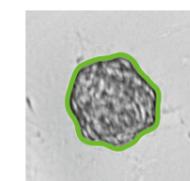
A spheroid in microplate