

CellKeeper-X Plus

Fully Automated Medium Exchange System

Modularize the functionality of highly reliable "CellKeeper" which has well received from customers. Freely select each Incubator, Medium Exchange, Medium Supply, Imaging and transport modules for make your system can be configured with a dedicated scheduler.



◆ Cell Culture Module

Multiple heating control:

Achievement of fan-less!

(Suppress vibration to cells)

Independent control:

Temperature characteristics without variation

(uniform temperature distribution)

Individual humidification water control:

Suppresses evaporation volume of micro plate!

(Suppressing edge effect)

Block-shutter mechanism:

No influence on other micro plates at the time of load / unload the plate!

Magnetic coupling:

Dry heat sterilization (standard)

* hydrogen peroxide decontamination (option)!

Completely expell drive system :

Plate / rack, carousel can be easily detached without tools!

Flat Surface:

Flatten the inner wall of the incubator, R corner!

In case Eliminate cleaning, decontamination and sterilization issues!

◆ Medium Exchange Module

All 3D drive mechanism is located on the underside of the culture plate/dish, there is no drive part on it. With fail-safe, LID opening / closing · Plate inclination · Media aspiration and Supply The medium aspiration operation performing Automatic TIP detach,

Plate Tilting, Half volume exchange.

Contamination by non-contact dispensing is suppressed by the fixed nozzle for the medium dispensing

It achieves cell-friendly medium dispensing with High throughput (16 or more / hour).

◆ Media Supply Module

Storage of medium bottles in dedicated refrigeration unit: It corresponds to long-term culture.

A medium remaining amount detection function was installed.

The medium is added at warming ($35^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and dispensing (1% CV at 10 ml).

By making the medium bottle ~ syringe ~ temperature control module ~ discharge nozzle integrally detachable structure for keep sterile and simple setup as well as exchange.

◆ Imaging Module

With the "BioStudio" made by Nikon Corporation, high-precision XY stage mechanism allows imaging of arbitrary coordinates.

In the imaging environment, temperature control, CO₂ gas control can be performed to eliminate dew condensation prevention on the plate, and reducing the damage to the cell as much as possible.

Coordinate information is linked to the captured image to generate a tiling image, and it corresponds to analysis of holes and temporal change analysis by a fixed point.

◆ Transport module

Paddle conveying system equipped with stock sensor / dual conveying detection sensor ensures safe and high-speed conveyance the plate between all modules.

It is compatible with front loading (option) which allows connection to an external device (eg connection of a safety cabinet) enabling the plate to be loaded and unloaded without opening the front door.



CellKeeperII

Expanded the system and coped with medium exchange of SBS standard multi-well plates. In addition, it expands the medium supply module and supports four types of medium exchange. Of course, the incubator module and the robot module are the same as the conventional CellKeeper.