

About



The ThermoFisher Laboratory Automation System (LAS) serves as the cornerstone technology for the Living Biofoundry, enabling execution of automated customized synthetic biology and workflows at >500 samples-per-week. The LAS is equipped with over of over 10 functional instrumental components, including: a state-of-the-art Spinnaker™ microplate robot, automated incubators, reagent dispensers, thermal cyclers, plate sealer, and carousels/racks that are seamlessly integrated through the MOMENTUM application programming interface that is fully-compatible with laboratory information management systems (LIMS).

Equipment Available

Thermo Scientific Multidrop Combi



About

The Multidrop Combi is an automatic, programmable, eight-channel microplate bulk reagent dispenser for microvolume dispensing. It can dispense 1 to 8 different reagents from external liquid reservoirs into different rows and can be used in several applications, for example, in drug discovery/highthroughput screening, genomic, proteomic and cell-based assays, and ELISA. It has a volume range of 0.5 to 2500 μl for 96-well plates of heights 5-50 mm.

User Notes

Before Use: Place the dispensing cassette tubes in proper position. Ensure that the waste containers are not full.

After Use: Flush out the tubing with deionized distilled water. Empty out waste containers, disposing of the contents as appropriate. Place the dispensing cassette tubes in rest position. For more information please read:

multidrop_combi.pdf

BioTek ELx405 Microplate Washer



About

The BioTek ELx405 is the first deep well plate washer that aspirates and dispenses into 96- and 384-well deep well and standard height microplates. It is a versatile, high-performance laboratory instrument designed for automated washing of microplates, supporting a wide range of applications such as ELISA, cell-based assays, immunoassays, etc.

Key Features:

Plate Compatibility: Washes 384-well and 96- well microplates in addition to 24-well and 96-well deep well plates (up to 50 mm in height)

Washing Technology:

Utilizes a patented Dual-Action™ manifold, enabling independent control of dispense and aspiration for precise washing, overflow washing, and overflow protection.

Low-flow rates and 20° angled dispensing are available, making it especially suitable for gentle washing of adherent cell-based assays.

Fluid Handling:

Internal positive displacement pump for accurate fluid delivery, supporting volumes from 50 to 3000 µL/well.

Optional buffer switching allows for up to four different wash buffers to be used automatically in a single protocol.

User Notes

Before Use: Ensure that the waste containers are not full.

After Use: Flush out washer with deionized water. Empty out waste containers, disposing of the contents as appropriate. For more information please read:

[elx405cleaning.pdf](#)

Automated Thermal Cycler

About

The Automated Thermal cycler (ATC) is capable of performing PCRs (polymerase chain reactions) at a high-throughput scale. Other features include:

1. Automated lid critical for hands-free operation
2. Automated plate ejectors to ensure consistent plate positioning
3. Heated cover to protect the plate nest, minimizing evaporation and enabling thermal contact

Reference documentation

momentum_6.1_training_module_4_v3_spinnaker_advanced.pdf

spinnaker_user_guide.pdf

30124664_ifu_spark_ref_english_v2_0.pdf

operating_instructions_cytomat_44.pdf

elx405_user_manual_sd-xb000358.pdf

440140_-_azenta_xpeel_user_manual.pdf

multidropcombimanual.pdf

From:

<https://bpm-wiki.cnsi.ucsb.edu/> - **NSF BioPACIFIC MIP Wiki**

Permanent link:

<https://bpm-wiki.cnsi.ucsb.edu/doku.php?id=lbf-las&rev=1751069638>

Last update: **2025/06/28 00:13**

