Erba LisaScan® EM

Automated ELISA Microplate Reader

In-built thermal printer, option to connect external printer

Large LCD screen with user-friendly operating software

Minimal reading time: 8 seconds for 96 wells plate

Auto self-checkup on every start

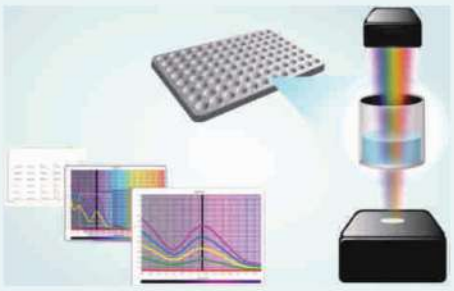
100 user-programmable ELISA test slots

Numerous options for Blanks, Measurement modes and Calculation modes

Two models available: 4 Filter and 6 Filter

Single, Dual and Multi-wavelength reading options with advanced 8-channel optical system

'ELI-LIMS' : Computer connection software for ELISA data management and Quality Control functions



Principle and Working of ELISA reader

A Snapshot from ELI-LIMS software

Erba LisaScan® EM

Main Features

System type: Open System

Plate types: 96 well plates

Wells Type: U.V and Flat bottom wells

Wavelength Selection: Monochromatic; Bi-Chromatic and Multi-Chromatic* (Maximum 4)

Test Programs: 100 user defined Test Programs

Blank Options:

- Blank; Control; Assay
- Validation equations
- Against Air; Well; Plate; Column; Column-mean; Row and Row Mean.

Number of programmable standards / calibrators:

- Up to 10 standards
- Storage/ display/ printing of multi standard curves and cut-off equations for all parameters.

Display: High resolution Graphics LCD 320x240 pixels

Keyboard: Sturdy membrane panel

PC Communication: Serial RS232 / USB

Operating Temperature: 20° to 40°C

Storage Temperature: 10° to 50°C

Humidity: Max. 80% RH, non-condensing.

Power Supply: 18V/5A using External Auto ranging SMPS adaptor 115/230VAC ±10%, 50/60Hz.

Dimension: 502 x 369 x 216 mm

Weight: 7 Kg

Measurement Time:

- **NORMAL:** 16 Seconds single wavelength
- **SPEED:** 8 Seconds single wavelength

Built-in Thermal Printer: High resolution, 384 dots per line, thermal type with full graphics facility, and option for connecting external parallel printer.

Photometer

Measuring system: 8-Channel optical System

Lamp Source: Tungsten Halogen with Lamp saver function

Wave length Range: 400 to 800 nm

Standard Filters: 405 nm; 450 nm; 492 nm and 630 nm (10 nm Band Pass). Optional two filters 578 nm and 700 nm

Dynamic Range: 0.0 ~4.0 OD

Photometric accuracy: < 1% at 2.5 OD at 450 nm

Repeatability: < 0.5% at 2.5 OD

Photometric resolution: 0.001OD

Linearity: <1% at 2.5 OD at 450 nm

Reports format

Alphanumeric patient ID based linear and matrix reports with OD, Conc, Cut off interpretation etc. Calibration graphs stored and printed. 5000 sample test results can be viewed / stored / printed

Standard Operating Procedure

The primary operation of the microplate reader is to measure the energy difference in light before and after passing through the test sample using a photoelectric colorimeter or spectrophotometer. The energy difference in light induced by the test substance's absorption is typically linearly related to the test substance's concentration.

1. Make sure the instrument is dust free and clean.
2. First, use the main power key to turn on the device.
3. Open the plate placement cassette on the device and insert the plate.
4. Select "Run Test" option from the main menu.
5. Select "Read Absorbance" option from the run test menu.
6. Select wavelength by pressing "F2" then select "Press keys" to obtain reading wavelength type.
7. Press "Define" to select the required wavelength from the given wavelength option (405 nm, 450nm' 492nm, and 630nm).
8. Press "Go".
9. Press "Run Test".
10. Press "Run Test" again to get the absorbance reading of the sample.
11. Print or save the observed absorbance reading for further analysis.
12. Press "Go Back" to get back to the main menu option.

Maintenance of the Microplate Reader

1. The microplate reader should be placed in an environment with no magnetic field and interference voltage, lower than 40 decibels, to ensure that the table is stable without strong vibration.

2. Avoid direct sunlight to prevent the microplate reader from aging.

3. The ambient temperature during operation should be between 15°C and 40°C, and the ambient humidity should be between 15% and 85%;

4. The operating voltage should be kept stable during operation.

5. The air in the operating environment is clean, avoiding water vapor and smoke.

6. Keep a dry, clean, and level work surface with enough operating space.

7. The surface and interior of the microplate reader must be kept clean. If samples or reagents are accidentally spilled on the surface or interior of the microplate reader, please clean it up in time.

8. Do not turn off the power during the detection process.

9. After use, please turn off the microplate reader in time and cover the dust cover.

10. In case of technical failure, please contact the microplate reader manufacturer in time, and do not disassemble the microplate reader without authorization.

Precautions for Using the Microplate Reader

1. If you use a dosing device to add liquid, the dosing heads cannot be mixed.

2. Wash the board to wash clean. If possible, wash the plate with a plate washer to avoid cross-contamination.

3. Operate in strict accordance with the instructions of the kit, and the reaction time is accurate.

4. During the self-inspection or testing process of the microplate reader, please do not touch the loading platform and the microplate, to prevent the operator from being squeezed when the microplate is transferred.

5. Do not spill samples or reagents on the surface or inside of the microplate reader, and wash your hands after the operation.

6. If the samples or reagents used are polluting, toxic, and biologically hazardous, please strictly follow the operating instructions of the kit to prevent damage to the operator.

7. If the microplate reader has been in contact with polluting or infectious items, please clean and disinfect it.

8. Do not turn off the power during the detection process.

9. For the deviation of the measurement results caused by the problem of the kit, the parameters should be modified in time according to the actual situation to achieve the best results.

10. In case of technical failure, please contact the microplate reader manufacturer in time, and do not disassemble the microplate reader without authorization.