

Multimode Microplate Reader

1. The instrument should be a multimode microplate reader with the following detection modes: UV-Vis absorbance, Fluorescence Intensity, Luminescence, Time Resolved Fluorescence and FRET measurements.
2. The instrument should optionally have capacity for or be upgradeable at site to Fluorescence Polarization, Laser Alphascreen, AlphaLISA.
3. The System should have capability for Endpoint and Kinetic measurements, spectral scanning, well area scanning read methods, top and bottom reading, ratiometric measurements and sequential multi-excitation and emission.
4. System should support 6 to 384 well plates, with desirable option for supporting 1536 well plate, petri and cell culture dishes and cuvettes.
5. The system should be a compact unit with total weight of < 40 kgs and robotic compatible (with external plate loader, barcode scanner)
6. System should have Onboard Incubator and shaker with linear and orbital modes with provisions for adjustable timing and speed. Incubation temperature should be up to at least 45°C with an accuracy of +/- 0.2°C or less at 37° C.
7. System should have temperature safety control feature for protection against over temperature and condensation.
8. System should have safety control on the shaking speed and plate format to avoid spilling of the liquid from wells.
9. System should have high energy xenon Flash lamp as a light source.
10. System should have a wavelength range of at least 220 to 1000 nm (1 nm increments) for absorbance, 250-750 nm for Luminescence and 250-750 nm for Fluorescence with a bandwidth of 20 nm or less (including TRF). Preferred option is dual optics (for monochromator and filter).
11. System should have separate high sensitivity Detectors for Fluorescence and Absorbance
12. System should have fluorescence detection limit of less than 1fmole/well in top read and less than 5fmole/well for bottom read for 96well plates.
13. System should have luminescence detection limit less than 20amol/well for glow luminescence and 10amol/well for flash luminescence.
14. System should have a OD range of 0 to 4 OD with < 1% accuracy and < 0.5% precision and resolution of 0.0001OD
15. The injector system should meet the following specifications:
2 built-in reagent injectors, Injection at measurement position (6 to 384-well), Individual dispensation volumes for each well (5 or less, to 500 μ L, preferably in 1 ul increments), variable injection speed up to 420 μ L/s, Up to four injection events per well, Reagent back flushing, System should have Dispense volume accuracy of $\pm 1\mu$ L.
The dispenser should be compatible for 50ml,15ml Falcon tubes, 3ml/1.5ml Eppendorf tubes for reagents.
16. System should have on-board path length correction for direct quantification.
17. System should have plate read time of ≤ 15 seconds for 96 well plates and ≤ 50 s seconds for 384 well plates.
18. System should automatically calibrate results with different gain settings to obtain single consistent measurement range.
19. System should have Self diagnostic option and auto-calibration during the starting of the instrument as well as during longer kinetic assays.
20. System should be supplied with Analysis software with unlimited user license.
21. System should support Single software program, should allow any number of measurement steps and different detection modes within the program.
22. System should have different file formats during data export which includes .xlsx, .pdf, .xml, and .txt
23. System should have memory back up for measured data in case of power failure.
24. System should be supplied all the accessories (including fluorescence filters, dispensing tubings etc) as a part of main offer
25. The system should be supplied with the latest configuration Desktop / laptop which supports the full functionality of instrument.
26. All specifications of the system should be tested and guaranteed.
27. The system should be supplied with necessary accessories required for calibration.
28. The product should be as per CE/IEC guideline and certificates from authorized body should be submitted.
29. The system should operate at 230 volt, 50Hz.