

Technical Specifications for Filter-based Multi-mode Reader

1. The reader should be capable of measuring absorbance and fluorescence intensities with top and bottom reading and time resolved fluorescence (TRF).
2. The reader should have dedicated detectors and optics for absorbance and fluorescence.
3. The reader should be equipped with fiber-free filter optics and dichroic mirrors for screening applications such as fluorescence polarization and time resolved fluorescence energy transfer-based assays.
4. The reader should be capable of reading 6- to 384-well plates, cuvettes, with optional nano volume plate of 16 well position. The reader also should be used for green fluorescence applications.
5. The reader should be compatible with KASP (kompetitive allele specific polymerase chain reaction) genotyping assay and upgradable with suitable filters.
6. The reader should have ambient temperature control of +5°C to 42°C.
7. The reader should have dual-mode linear and orbital shaking.
8. The reader should have the following parameters/specifications in **absorbance mode**:
 - a. Wavelength filter range: 230 nm - 1000nm
 - b. Wavelength measurement range: greater than 4 OD
 - c. Light Source: Xenon flash lamp
 - d. Detector: UV Silicon Photodiode
9. The reader should have the following parameters/specifications in **fluorescence mode**:
 - a. Wavelength filter range: 230 nm - 850 nm across excitation and 250 nm - 850 nm emission for top & bottom reading
 - b. Capable of reading TRF in primary mode
 - c. Detector: UV or RED shift photo-multiplier tubes (Fluorescence top & bottom)
 - d. Fluorescence top reading sensitivity: less than 85 attomol/well (100 µl, 384-well plate)
 - e. Fluorescence bottom reading sensitivity: less than 5.0 femtomol/well (200 µl; 96-well plate)
 - f. TRF sensitivity: less than 2.8 attomol/well (100 µl; 384-well plate)
10. Software support should be 21 CFR Part 11-certified for easy programming and combinations of read mode for well-established and sophisticated protocols.
11. The reader should have future upgradability to glow luminescence, flash luminescence (with 2 injectors) and fluorescence polarization assays. These should also be integrated with plate stacker.
12. Warranty period of 1 year to be included for all components.