

**SPECIFICATION FOR REAL TIME PCR MACHINE**

- The system should be an automated & integrated system for both real-time PCR and post-PCR (end- point) analysis.
- The system should be 96-well block system with Peltier based heating & cooling.
- The excitation source should be LED/Laser and the detection system should be simultaneous and scan- free for all wells with CMOS detection.
- The system should have temperature range of 4°C – 99.9°C to facilitate all qPCR applications.
- The system should have 6 excitation and 6 emission filters and come along with fixed (scanning free) optics, ensuring robust data.
- The system should have peak block ramp rate for exceeding 6.5°C/second or more in both 0.2- and 0.1-ml block.
- The system should have better than gradient function in veriflex blocks and six veriflex temperature zone for running 6 different samples with different annealing temperature simultaneously for different time interval.
- System should support reaction volume minimum of 10 – 100 µL in 0.2ml tube and have more than 5 or 6 color multiplexing without passive reference dye in a single reaction tube.
- The system should be standalone with 10GB onboard memory to save the runs and have interactive Touch Screen LCD feature.
- Fast-PCR in less than 35 minutes should be an integral feature of the system includes collection of up to
- 21 unique combinations of wavelengths during a single run for multiplexing on the 96-well block instrument.
- System should generate MIQE compliant RDML formatted data along with integrated tools to assist with 21 CFR Part 11 compliance.
- The instrument should have software that can analyze multiple perspectives in the Multiple Plots view, with side-by-side views of all data aspects including the amplification plots, standard curve, multicomponent data plots, and raw data. The system should give heat map of the amplification & analyzed data. Software should have PCR efficiency factor correction for gene quantification.
- The system software should support applications including absolute quantitation, Relative quantitation, multiplex-PCR, allelic discrimination (SNP), melt curve analysis as well as pathogen detection, plus/minus assay using internal positive control & Melting curve analysis for gene & mutation screening.
- The system should be open system with flexibility to use micro well plates, individual tubes, and 8-tube strips.
- The system should be completely open system to support all the Real Time PCR chemistry like TaqMan, SYBR Green, Simple & Hydrolysis Probes, and Molecular Beacons etc.
- The system should detect even 1 copy in a single reaction tube without passive reference dye.
- System should detect differences in target quantity as small as 1.5-fold in singleplex reactions and should have 10 logs of linear dynamic range.
- The system should be supported with remote services, cloud connectivity online monitoring, and external barcode using USB, etc.
- Should be provided with a branded desktop for data analysis with window-based software package.
- The quoted system must have full license for PCR process and attach a list of minimum 30 installations.
- Firm MUST provide a compliance statement vis-a-vis specifications in a “tabular form” clearly stating the compliance and giving justification, if any supported by technical literature with clear reference to page number, paragraph, or lines. This statement must be endorsed by the company on letter head and seal.
- System should be provided with minimum one year warranty.