

Technical Specifications for PCR Machine & Centrifuge

- The system should support minimum sample volumes ranging from 10 μ l / tube.
- Sample Capacity: The system to be capable to use 96 well PCR plates / 8 x 12 PCR Strips /96 x 0.2ml tubes.
- The 96x0.2 mL veriflex blocks should have six or more different temperature zones with a differential of 5°C zone to zone. These zones should be comprised of individual peltier elements. The system should maintain thermal characteristics between optimization and isothermal condition to eliminate further optimizations.
- Programmable Heat Lid: Heated lid should be programmable between 50 to 100°C.
- Block ramp rate minimum 3.5 degree C/sec & Sample ramp Rate minimum 3 degree C/sec.
- The thermal cycler should have programmable ramp rate. The system to support Block Temperature Range starting from 0°C – 100°C.
- The system to have a Temperature Accuracy \pm 0.25 °C at 35°C – 99.9°C, Temperature Uniformity < 0.5°C
- On board Tm calculator facility to approximate the optimal annealing temperature.
- Memory: The system to have provision to save up to 700 Protocols in the instrument. System to be open to expansion of memory via USB memory stick.
- Warranty: The system should have a warranty period of 1 year.

Refrigerated high speed Bench top centrifuge

- Temperature range of -11°C- + 40°C.
- Should come with short-spin key, fast pre-cooling and stand-by/ continuous cooling option.
- With high centrifugation speed 30,000 x g (17,000rpm) or more, adjustable from 100rpm upwards.
- Must have a standby cooling. And a programming function to shutoff/deactivate the compressor after inactivity of 8 hrs. which will save energy and extend compressor life.
- Timer for run can be set up to 99minutes/ continuous.
- Must have “At set rpm” function which enables timer countdown to be started only when selected speed is achieved.
- Digital display of time, speed and temperature. Programmable time and speed using Key pad.
- Must be able to store atleast 50 routine procedures with minimum 5 programmable buttons for frequently used programs in the first level.
- Able to switch display between ref and rpm speed setting, Separate short spin key.
- Acceleration time to max rpm \leq 14 sec, Braking time to max rpm \leq 14 s.
- Low noise levels less than 56db at max speed.
- The centrifuge must be CE & IEC 1010-2-020 certified.
- Stainless steel chamber, Brushless maintenance free drive, Automatic motorised locking when lid almost closed.
- Versatility with 12 different rotors option: 10 fixed angle rotors and 2 swing out rotors.

- Fixed angle rotor: - 30x1.5/2ml, high speed rotor 24x1.5/2ml with 30000xg, 48x1.5/2ml with 18000xg, 16x5.0ml with 21000xg, 6x15/50ml falcon with 7500xg, 18x1-2ml cryo tubes, 24 spin column tubes, 8x8- PCR strips.
- Swing-bucket rotors for 24x1.5/2.0 ml tubes with 16,000xg and for 2 x DWP or MTP not higher than 29 mm with 2,200xg or more.
- Rotors and lids should be made of anodised aluminium to ensure chemical resistance, Automatic imbalance and rotor recognition
- Rotor must be autoclavable at 121°C for 20min to eliminate any contaminating material
- It should come with 12 months comprehensive warranty
- Centrifuge to be supplied along with fixed angle rotor for 30x1.5/2.0ml tubes with 4000rpm & 21000xg.