

### **SPECIFICATION OF CAPILLARY ELECTROPHORESIS UNIT**

1. System should be fully automated electrophoresis system based on Capillary electrophoresis with complete walk away technology including migration and quantification.
2. The system should be multi-parametric instrument to perform Serum protein Electrophoresis, Serum protein immunotyping, Urine Protein Electrophoresis, Urine Immunotyping, Haemoglobin Electrophoresis for Thalassemia & other hemoglobinopathy screening, HbA1c and CDT.
3. The system should be able to screen and quantitate haemoglobins Hb A2, Hb A and HbF and detect the most commonly occurring abnormal haemoglobins like Hb S, Hb D, HbE, Hb C and other rare abnormal haemoglobins.
4. The system should use silica capillaries and electrophoresis in liquid flow.
5. The system should use deuterium lamp with optical fibres for emission and reception.
6. The system should accept all the types of samples (Sample cups or primary tubes) with barcode reader.
7. The system should have automatic loading and unloading of reagent cups.
8. The system should have the capacity to load up to 50 -100 samples at a time.
9. The system should perform direct analysis on EDTA blood for Hb/ HbA1c electrophoresis.
10. Software should do automatic sample dilution for Immunotyping (Standard mode, Hypo gamma mode and Hyper gamma mode).
11. Software should be provided for automatic curve analysis with long term storage capacity for results.
12. The system should have multilevel quality control setup and levy Jennings graph.
13. The system software should allow the operator to view pathological samples.
14. System should be able to detect & produce result of HbA2 & HbE separately along with graph.
15. The minimum through put of the system should be:
  - a. Haemoglobin – 30-50 tests /hour
  - b. Hb A1c – 30-50 tests /hour
  - c. Serum Protein – 50-100 tests/hour
  - d. Urine Protein Electrophoresis-50-100 tests/hour
  - e. Immunotyping – 8-10 tests/hour
  - f. CDT (Carbohydrate Deficient Transferrin) – 30-50 tests/hour.
16. System should have automatic sample mixing and Cap Piercing facility.
17. System should have automatic Startup, Shutdown and Maintenance procedures.
18. System should have the software which can help in fast validation of the results by distinguishing between normal and atypical profiles by colour coding of the graphs.

19. System should have flexible positions for reagents with automatic switch between the vials.
20. System should have online library for the haemoglobin variants.
21. The company should provide normal and abnormal controls for Protein Electrophoresis, HbA1c, Hb Electrophoresis and CDT.
22. System should have cooling compartment for the storage of antisera and additional Reagents.
23. Reagents should be RFID tags and instrument should be capable of providing full traceability of the reagents.
24. The system should have LIS facility and enables to take the patient reports in PDF format.
25. Comprehensive warranty of 5 years followed by five years of CMC.
26. Certificate of Calibration and inspection from the factory.
27. Should be BIS/ISO certified.