

SPECIFICATIONS FOR BLOOD CELL SEPARATOR - APHERESIS MACHINE

1. Used for collecting/removing blood from a donor's/patient's body and separate it into various blood components.
2. Should be able to perform various procedure including Single donor plateletpheresis, plasmapheresis, Therapeutic Plasma Exchange, RBC Exchange, Stem Cells Collection (MNC), Bone Marrow Processing, Granulocyte Collection, Therapeutic platelet depletion, Secondary plasma processing, Platelet and Plasma Collection.
3. Should be able to perform all therapeutic procedures. Kits should have de-attachable needle option.
4. Fully automatic, Microprocessor controlled with access operator control panel such as touch screen.
5. Should have fully automated loading, priming and procedure operation.
6. Should have automatic tube loading of valves, sensors and pumps.
7. Should have continuous flow separation.
8. Should have Anticoagulant infusion rate management.
9. Should have wide blood flow range of approximately 10-120 ml per minute (to accommodate paediatric patients).
10. Should have graphical user interface with built in LCD touch screen for display of all vital parameters like fluid balance to easily assess patient condition.
11. Should have automated monitoring using CCD camera and on-screen real time image display for optimal collection.
12. System should have blood prime recommendation for the safety of paediatric and anaemia patients.
13. System should have provision to initiate bolus and record the volumes.
14. System should be able provide current fluid balance details for better monitoring of paediatric and cardiac patients procedures.
15. System should have provision to draw air from return line back into the system for patient safety.

16. Should have built in pumps, built in tube sealer and built-in safety features like inlet and return pressure sensors, air bubble detectors, centrifuge leak and haemolysis detector.
17. Should have audio visual alarms.
18. Should have built in MNC and TPE protocols which are easily upgradable for future use.
19. Should have low extracorporeal volume (approximately 180-250ml), as per procedure requirements.
20. Should be light weight (<100 kg), compact and easily transportable.
21. Should have built in storage facility for up to 100 procedures and data and connectivity to printer.
22. Data confidentiality and security shall be ensured. Data of the ESIC Beneficiaries should not be shared with any OEM/Supplier/Vendor through use of their equipment or otherwise.
23. Should be able to regulate pump speeds based on type of replacement solution.
24. Should be able to do platelet flush by monitoring buffy coat thickness in order to reduce platelet loss.
25. True closed system disposable.
26. Should have colour coded disposables for easy identification and training.
27. Equipments should ensure all donor safety parameters before starting the procedure and at all times during procedure.
28. Equipment should be capable of collecting various single donor blood components including peripheral blood stems cells (MNC).
29. Platelets collected should be leukoreduced.
30. Facility to use platelets additive solution and / or normal Saline for re-suspension and storage fluid in place of plasma.
31. Yield estimator to help decide yield, volume to be processed and suggested storage fluid and should have optical sensor for online monitoring of component collection against the desired yield.
32. Capable to connect bar code reader if desired.
33. Continuous monitoring of collection to avoid any contamination through Interface detector.

34. The separation of blood should be able to automatically maintain a constant haematocrit to improve collection efficiency and reduce contaminations.
35. The unit shall be capable of being stored continuously in ambient temperature of 0-50 degree Celsius and relative humidity of 15-90%.
36. Power input to be 220-240VAC, 50Hz fitted with Indian plug.
37. Suitable UPS with 5 years warranty and maintenance free batteries for minimum one-hour back-up should be supplied with the system.
38. Should be BIS/CE/US FDA approved product.
39. Comprehensive warranty for 5 years and 5 years CMC after warranty.
40. Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450.
41. Manufacturer should be ISO certified for quality standards.
42. Comprehensive training for lab staff and support services till familiarity with the system.
43. Certificate of calibration and inspection from factory.
44. List of consumables, spare parts and accessories (with their part number) along with the costing may be provided and rates will be frozen for 10 years.
45. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
46. User/Technical/Maintenance manuals to be supplied in English.
47. Bidder should provide a backup system of same/upper version to ensure uninterrupted work during breakdown, maintenance or any other scenario when the machine is non-functional.
48. The Company should have blood bank market presence for at least 5 years in India.
49. The company should have installations in blood centres with at least two installations in Government Blood Centres.