

ANNEXURE 'A'

The specification for Refrigerated Blood Component Centrifuge machine is as below:-

A. Refrigerated Blood Component Centrifuge:-

1. For separation of blood components like packed cells, platelet rich plasma, platelet Concentrate, plasma.
2. Micro processor controlled system to make operation automatic.
3. Programmable memory: Memory with tamper proof facility.
4. Stainless steel chamber: Easy to clean, corrosion resistant with provision of both drain and condensed water collection container.
5. CFC free refrigerant
6. Swing bucket blood bank rotor: With metal buckets, 6 x 2000ml. wind-shielded with/without shield. Suitable adapters for 12 blood bags /16 blood bags of 350 ml. & 450 ml.
7. Removable plastic cups to hold single/double/triple/quadruple blood bags.
8. Insert with hook adapter to spin buffy coat or small volume of blood and balancing weights for inserts
9. Equipped with automatic lid lock
10. Centrifugal force: Minimum ceiling - 5000g.
11. Speed variation: Micro processor controlled rotor speed to within 10 rpm of set value. Acceleration and deceleration profiles shall be available.
12. Temperature range: -4°C to + 22°C
13. Micro processor controlled rotor temperature, within 1°C of set temperature regardless of the centrifuge speed.
14. Programmable time: 0-99 minutes with minimum resolution of 1 minute.
15. Digital display of temperature, speed and time. Minimum no. of 3 digit resolution.
16. Motor imbalance detection: Automatic shut down of centrifuge if rotor load is out of balance with appropriate indicator. Should incorporate alarms for imbalance detection lid interlock, over temperature, rotor over speed
17. Power requirement: 220/240 volts, 50 Hz. Single phase AC supply.
18. The equipment shall be suitable for operation from 0 to 40°C at 90% Relative humidity.
19. Electronic circuitry shall be tropicalised for this ambient condition.
20. Electrical safety conforms to standards for electrical safety IEC-60601/IS-I3450
21. The equipment shall have lockable castors.
22. Protection of data: In event of power interruption or complete failure data should remain stored
23. Should have a port to attach with Hospital Computer Information System
24. It shall have a security lock to prevent unintentional switch off and also unauthorized opening of the equipment.
25. Automatic Line voltage corrector/Voltage Stabilizer: A line voltage corrector of appropriate rating should form part of standard configuration. Copper wound single phase automatic line voltage corrector conforming to IS: 9815 (Pt.I) / 94 with latest amendments or equivalent international standards fitted with a voltmeter and switch to indicate output /input voltage as under:-
26. Capacity/rating: 10 KVA: As per the requirement of the equipment. Input voltage: 140 to 280 volts, 50 cycles, Output /input voltage: 220 volts = 10% volts. Input-out voltmeter and ampere meter. Protection: high-low voltage cut-off, overload and short circuit protection. The equipment should be supplied with 2 meter cord at input and fitted with plugs of appropriate rating (15 Amp.) make of the line voltage corrector shall be indicated.

27. Facility to remove the blood bags during power failure / emergency by opening centrifuge door through mechanical override.
28. Product Certification CE (Conformite Europeene) Class II A from European union notified body having 4 digit identification number

OR

The product certification must be enlisted under US FDA and quoted model must have US FDA Certification to market in US and export to other countries.

29. A certificate to be provided for protection of electrical safety that of IEC (Class I) from international authority.

1. Accessories: Double Pan Balance Specification is as below:-

- (i) Body stainless steel
- (ii) Two independent weight sensors & display weight differences range 0 to 2500 gms
- (iii) Weight measurement rang 0 to 2500 gms.
- (iv) Weight sensors
- (v) Accuracy: + 2 gms
- (vi) LED display
- (vii) Automatic "0" facility
- (viii) Accessories like power adaptor

2. To provide necessary accessories (Stabilizer etc.)

The machine cost should be cover 5 years maintenance with spare free of cost and calibration by NABL certified company every 6 months.