

Biosafety Cabinet Type - 2A

Technical Specifications

1. Class II Bio-safety cabinet, type A2, open-front, ventilated cabinet in ergonomic design vertical type
2. ULPA/HEPA-filtered, re-circulated mass airflow within the work space
3. Exhaust air from the cabinet is also filtered by ULPA/HEPA filters
4. Size: approx. 4 ft
5. Air inflow velocity: Approx. 0.45 m/s
6. Air down flow velocity: Approx. 0.30 m/s
7. ULPA/HEPA Filter with minimum 99% efficiency against 0.3 μ m particles, minimum 99% filter efficiency at MPPS
8. Low noise (< 65 db), Low energy consumption and heat output
9. Microprocessor controlled functions with LCD display
10. Audible and visual alarms
11. Florescent Light intensity approx. 1200 lux
12. Standard UV light along with additional UV-interlock
13. Cabinet made of steels (work zone - stainless steel and side walls-electro galvanized steel) with antimicrobial coating
14. Electric supply requirement : 220-240V, AC, 50Hz
15. NSF/ANSI-49/ETL/CE/FDA certification
16. Compatible stabilizer
17. Should have support stand with caster wheels for 4 ft cabinet

Deep Freezer

- Internal minimum capacity about 300 L, double door with adjustable at least 4-5 shelves each with separate inner door for better sample protection through minimum sample warming.
- External casing should be MS sheet made and duly powder coated body, non-corrosive; and stainless steel inner chamber.
- Range of temperature should be up to -20 to -400C (adjustable), temperature deviation of maximum +/- 3 0C with proper display.
- Control unit should be Microprocessor controlled.
- Freezer condition monitor – Alarm indicators, maintenance indicator to take care of eventualities like power failure, high or low temperature, door open, probe failure etc.
- No condensation on storing material with automatic electric defrost
- Temperature date logger, Temp chart recorder.
- Rechargeable battery backup including charger maintenance free.
- Dual door system with inner glass door, suitable for ambience with temperature of 100C to 400C.
- Voltage 220VAC, 50Hz.
- Should have all the accessories required for the functioning of the equipment.
- CE / ISI mark or other equivalent quality certification.
- Training of laboratory staff for the purchased equipment.
- There should be provision for demonstration before final approval of equipment. Operational manual should be provided.

pH determination apparatus

1. Should provide simultaneous read-out of pH and temperature, preferably in an LCD display
2. pH range :0 to 14
3. pH resolution to 3 decimal places
4. 1,2 or 3 point calibration
5. Automatic or manual buffer selection
6. Automatic Temperature compensation and slope control or 80 to 120%
7. Desirable to have connection to printer or PC or infrared communication and storage of upto 30 results
8. To be supplied with glass combination electrode; electrode stand and holder; Automatic Temperature Correction (ATC) probe; buffer for pH 4,7& 10; appropriate power plug and wire; dust cover
9. To work on 220/230 volts single phase, 50hz, AC supply.

Real-time PCR machine calibrated for the fluorophore dyes with UPS (2 nos., 2KVA each, with 2 hours back-up)

1. 96 well Standalone real time PCR
2. Volume: 10–100 μ L.
3. Light source: Bright white LED.
4. Detection: CMOS Whole-plate imaging.
5. Excitation/detection range : 450–600 nm/500–640 nm

6. Multiplexing 4 targets in the same reaction.
7. Dynamic range: 10 logs
8. Peltier based Heating/cooling
9. At least 3 different temperature zones to set 3 different User defined annealing temperatures in the same run.
10. Max block ramp rate: 6.5°C/sec
11. Run time : 30 mins
12. Dye compatibility : FAM/SYBR Green, VIC/JOE/HEX/TET, ABY/NED/TAMRA/Cy®3, JUN, ROX/Texas Red™
13. Multi componenting algorithm for minimizing spectral cross talk & superior multiplexing
14. Interactive touch screen with real-time application viewing
15. Onboard memory on the instrument : 10 GB, to store approximately 3,000 run files
16. Should be a Cloud connected system for cloud based analysis & remote monitoring of data & runs.
17. Wifi connection port to connect & interact with PC wirelessly
18. Programmable and manual pause function during the run should be there.
19. System should be supplied along with software or as a free online resource for free download.
20. Additional Software to be supplied to analyze the thermal shift in protein melt fluorescent readings directly from instrument to uniquely characterize proteins.
21. System should provide with Desktop.
22. Consumables for demo purpose are to be supplied along with the instrument.

23. Manufacturer should have their own NABL accredited lab in india for backend support to run the samples during the instrument breakdown period.
24. Certificate training should be provided for at least 3 end users at the manufacturers Laboratory.
25. Operations stand alone or through computer
26. Shall include the latest software required for data acquisition and offline analysis
27. Computer should have inbuilt 1 TB HDD at least for image storage, 6 USB slots, 1 network port, intel i5 or better at least 8GB RAM, DVD RW drive, key board, optical fiber mouse, 23" or large LED monitor, window 10 applications
28. Reagents for 1000 reaction of SYBR green master mix, cDNA synthesis kit, RNA extraction kit, compatible 96 well plates (package of 100) and plate seal with sealer should be provided with the instrument.
29. Suitable on - line UPS (about 2 KVA) is required to support the instrument.
30. The complete instrument and accessories excluding consumables should be under comprehensive warranty for period of 3 year from the date of installation.
31. The service personnel should respond within 24 hrs. and be on campus in 72 hrs. for repairs.
32. Dust cover, all wires, cords, connectors and standard accessories needed for proper functioning of the RT-PCR system's operation shall be included.