

## Specifications for Fluorescent Activated Cell Sorter

1. Lasers or Excitation source: Solid-state lasers, 375 nm laser with 7 mW; 488 nm solid state laser with 20-25 mW; 561 nm with 50 mW and 633 nm solid state laser with 20-25 mW should be offered. Should have provision for additional laser lines for future upgradation. System should be capable of simultaneous excitation of at least four lasers with spatially separated beam spots or better. Fixed alignment of all lasers, excitation and collection optics should be factory fitted by manufacturer. Flow cage should be closed and should not come in contact with open air while deflecting the droplets.
2. Emission: Should be capable of measuring at least 12-14 colours or better simultaneously. Upgradable to 17-20 or higher number of colours or better.
3. Sample Loading: Manual loading one at a time.
4. Sorter: The system should have built-in sorter capable of two to four-way sorting. Sheath pressure should be in the range of 5-75 psi. Should have auto sampling option and capable of direct sampling in microtubes (1.5 ml), tubes (15 and 50 ml), well plates (6, 24, 48, 96, 384 well) and on slides.
5. Nozzle Sizes: 65  $\mu\text{m}$  ( $\pm 5$ ), 85  $\mu\text{m}$  ( $\pm 5$ ), 100  $\mu\text{m}$  and 130  $\mu\text{m}$  ( $\pm 10$ ) sizes.
6. Speed: Should be able to acquire 80,000 ( $\pm 10,000$ ) events per second or higher. Sorting rate should be  $\sim 70,000$  events /second or higher.
7. Optics: (Reflection array of optics) Light paths optical fibre controlled for better sensitivity. Collection optics and flow cell should be regulated by optical array technology for better and faster collection efficiency.
8. Computer: The Computer Workstation should have; Processor: 64 bit Intel Xeon core processor 2.4 Ghz or higher; Memory: 4GB DDR3 RAM or higher; Graphic card: Nvidia Quadro 4000 2GB; hard drive: 4 TB SATA (7200 rpm), DVD SuperMulti +R/RW; Gigabit ethernet, OS: Windows 7 64 bit OS (upgradable to Windows 8), 8 USB 3.0, Mouse and keyboard; Fire wire port and standard ports and accessories; Monitor: 32" standard LCD monitor. A branded Multifunction colour printer with automated duplexing option should be offered along with the system. Colour printer should have colour scanning, photocopying and printing option.
9. Starter kits and reagents: Kits and reagents for running the instrument should be provided free of cost at least in the beginning for three years. Following Accessories should be offered. Cell deposition unit: should be automatic allowing multiwell plate and slide sorting. Aerosol management system, Quote additional third party analysis softwares

10. We will provide a room and wall plugs, all the other installation requirements like table for computer and keeping other accessories of sorter should be taken care by bidder.
11. Bidder should provide after sales service including the after-warranty maintenance support cost. They also specify application support including after-sale service, laboratory training to researchers on regular basis.
12. Bidder should include the supply of appropriate branded online UPS system capable of supporting the entire system including lasers for at least 30 minutes with power surge protection and reverse phase.
13. Bidder should provide all the pre-installation requirements to have the system installed in ideal room conditions.
14. Bidder should have at least 10 high end flow cytometry cell sorter installations in Academic institution within India with proven track record of maintenance and application support in last three years.
15. Bidder should organize training of manpower and technical staff after installation in India and wherever required abroad.
16. Three years of unconditional warranty should be offered for consumables and lasers. Annual price for five years of annual maintenance contract (AMC) must be quoted with terms and conditions clearly.
17. We reserve the right to increase or decrease final warranty period, kits and reagents as well as configuration of the instrument. Therefore mention the part numbers for sorter and consumable prices, respectively in optional and standard format.
18. The bidder must guarantee that the spare parts for this machine will be available for next 10 years after installation.
19. The system should be equipped with all accessories for proper & effective functioning (such as power supply cords, dust cover, etc.) Any up gradation of the system accessories and software within a year from the time of installation should be provided free of cost.
20. Price of individual components should clearly be specified in the standard and optional format in the quote. The bidder should justify each specification point by point in their order of requirement and should provide the evidence for the same in the technical brochures of the instrument with page number. Photocopied catalogues will not be considered for technical specification evaluation. Quotation not done in the proper form may invite technical rejection.