

CORRIGENDUM
CHAPTER - 4

TECHNICAL SPECIFICATIONS FOR SCANNING ELECTRON MICROSCOPE

S. no	Parameter	Description
1.	Electron Source	Tungsten filament
2.	Resolution	High Vacuum: 3nm or better at 30kV ; 15nm-20nm or better at 1kV
3.	Accelerating voltage	0.2-0.5 kV to 30kV or better
4.	Magnification	Up to 300,000x or better
5.	Probe current	upto 1 uA or better
6.	Detectors	SE (secondary electron detector), & BSE (backscatter electron detector) Back scatter Detector should give composition, topography and shadow image as well
7.	Low vacuum range	10Pa to 100 Pa -300 Pa or better High vacuum to low vacuum changeover: There should not be any manual aperture insertion / part insertion to convert high vacuum mode to low vacuum mode and vice versa
8.	Maximum sample diameter and height	120-150 mm diameter or better , 48mm height or better
9.	Number of ports	SEM chamber must have 06 or more ports
10.	Stage motorization	5 axes or better fully motor drive Eucentric stage/ Compucentric stage X = 80mm-100mm or better, Y = 40 mm-100mm or better, Z = 42 mm-50mm or better
11.	Specimen stage	5 axes or better fully motor drive Eucentric/compucentric stage

12.	Image format	BMP, JPG, TIFF
13.	Image pixels	3000 x 2300 pixels or better
14.	PC	PC has to be provided: Monitor 23 inch or better, LCD/LED or Touchscreen, Colored Printer with scanner.
15.	Auto functions	Automatic focus, Automatic stigmator, Automatic contrast and brightness. Provision of gun alignment through software.
16.	Pumping system	Fully Automatic Turbo Molecular Pump with Rotary Pump
17.	EDS	The EDS system should include the LN2 free Silicon Drift Detector (SDD) having SDD area of at least 30mm ² or more. EDS detector Energy Resolution: ≤ 129eV or better. Detector may detect most of the element of periodic table
18.	Sputter Coater	Sputter Gold,platinum and palladium coater to be provided for coating non-conductive samples Coater having digital display for adjusting all coating parameters like coating time, current etc. It should display all coating parameters.
19.	On site Installation and pre installation requirement	Vendor has to do installation onsite. Vendor has to visit the site for physical inspection after the order and has to do site survey for vibration, magnetic field etc. and guide for necessary requirements
20.	Warranty	3 years from the date of installation
21.	Latest model and new technology	Quoted SEM model should be a globally sold model and it should be available on all global websites of manufacturer, model quoted should not be a country specific.
22.	Training and Support	On-site training must be provided by factory trained engineer at the buyer's site free of cost. Additional training of provided after 3 months of installation should be provided. Service response time must be within 72 hours. Operator Required for 1 Year

23.	Required Documents along with technical specifications	Standard samples for calibrating spatial resolution and calibrating EDS. The supplier must have sold at least 10 SEM System Installed in academic and national organization in India in last 5 years.
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