

Specifications for Binocular Microscope

Technical Specifications

A System complete with illumination system is required for view of individual cells, even living ones with high magnification microscope using 2 eye lenses to reduce the eyestrain.

Sr No.	Particular	Specifications
1.	Body	Single mold sturdy stable base stand with built in light & regulator, inclined Binocular body 30 °, 360° rotatable head with focus adjustment controls. A durable textured acid resistant finish. All optical parts including objectives, eye pieces and prisms should have anti- reflective coating which also gives anti- fungal property. All metallic parts should be corrosion-proof, acid proof and stain-proof.
2.	Optical System	Optical system should be infinity corrected. Built-in LED light source with whitelight with intensity control and LED life of more than 10, 000 Hrs.
3.	Kohler's illumination	The system should have a build-in variable light source (Illuminator). This light source should have a 20 W,6 V LED lamp. The system should be provided with a step down transformer and an on-offswitch and intensity control. The lamp should be provided with a lamp socket which has the facility foreasy replacement of the bulb.
4.	Eyepiece	Highest quality 10 X/20mm wide angle anti fungus field eyepiece. One with pointer. Diopter adjustment must be present on both eye pieces. (the image of the object as seen through the binocular eyepiece should be well defined centrally in at least 2/3 field of view) Achromatic, wide field, 10 x with inbuilt pointer. The eyepiece should be aplanatic and have a minimum field number of 18 Diopter adjustment must be present on one / both eye pieces or on the eye piecetube.
5.	Nosepiece	Backward tilted revolving nose piecesuitable to accommodate four objectives with click stop. It should be provided with rubber ribbed grip for easy rotation mounted on a precision ball bearing mechanismfor smooth and accurate alignment.
6.	Mechanical Stage	Stage uniformly horizontal, mechanical stage having dimensionsof length 140 mm (+/- 20mm) with fine Vernier graduations (minimum reading accuracy of 0.1 mm). It should be designed with convenient sub-stage vertical coaxial adjustment for slide

		manipulation. The stage should have ball-bearing arrangement to allow smooth travel in transverse directions i.e. 80 mm (+/- 5mm) and front to back direction, 50mm (+/- 5mm).
7.	Objectives	Parfocal, antifungal coated 4 X, 10 X, 40 X and 100 X (oil immersion) with semi planner achromatic correction. Objective should be well centered even if their position on turret is changed. 10 $\times$ and 40 $\times$ objectives should have numerical apertures of 0.25 and 0.65 respectively. 100 $\times$ should have numerical aperture of 1.25 and should be of oil immersion. All objectives should be wide field, achromatic and par focal.
8.	Focusing	Coaxial coarse and fine focusing knob, capable of smooth, fine focusing movement sensitivity; minimum: 300 micron; focusing stop for slide safety.
9.	Condenser	Abbe-type condenser with numerical aperture (N.A.) 1.25 focusable with rack and pinion arrangement incorporating a spherical lens and an iris-diaphragm
10.	Power Supply	Voltage 220 V AC, 50Hz. should have one on-off power switch.
11.	Battery backup	1 hour.
12.	Operating and storage conditions	Capable of operating continuously in ambient temperature of 10 to 50 ° C and relative humidity of 15 to 90% in ideal circumstances. Capable of being stored continuously in ambient temperature of 0 to 50 °C and relative humidity of 15 to 90%
13.	Accessories	Should be provided with accessories like working manual, immersion oil, lens tissue paper, lens cleaning solution, one antistatic cleaning brush etc.
General Requirements		
	a	Equipment shall operate on 230 V, single phase, 50 Hz electric supply. The necessary protective relaying / circuitry shall be there with the machines. The mains supply voltage variation may be max. $\pm 10\%$ and frequency variation maximum $\pm 3\%$.
	b	Microscope should be ISI marked as per IS:4381:2017 with valid BIS license / CE certified under IVD / Valid CDSCO manufacturing license. In case of CE (Other/General IVD, following documents are required. a. Declaration of conformity by manufacturer or EU representative of Manufacturer for the quoted model b. Documentary evidence regarding firm registered with EEA (European Economic Area) competent authority is required.

		OR European Representative registered with EEA (European Economic Area) competent authority appointed by firm is required. OR Other documents like certificates from notified body along with declaration of conformity. In case of imported equipment, CDSCO import license is required along with valid USFDA/CE certification documents as described above.
	c	Three-year comprehensive warranty to be followed by 7 years CMC. Technical support, required spares and consumables should be assured for two years after initial 3 + 7years period is over.
	d	The equipment should be provided with one hard copy in original of the detailed service manual and operation manual. Further, a soft copy is also required.
	e	The equipment must be tropicalized as below: Operating room temperature: upto 40° C Storage room temperature: upto 60° C Relative Humidity: upto 90% non-condensing
	f	Among the other things, the responsiveness of the bid will be based on successful demonstration of the offered model of the equipment
	g	The bidder has to submit users list with address & contact telephone number/s.
	h	Prospective tenderers should have a full-fledged and well-established service centre in Mumbai with engineers qualified in servicing of binocular microscope.

SD/-

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