

## **SPECIFICATIONS FOR ENT OPERATING MICROSCOPE**

### **1. Standards**

- a. Conformity to Certification: BIS/US FDA/European CE/ICMED 13485 plus
- b. Conformity to Manufactures Certification: ISO 9001 & ISO 13485
- c. Conformity to electrical safety Standards: IEC 60601-1 or BIS equivalent

### **2. Performance Parameters**

- a. Purpose: Surgical Operating ENT Microscope with heavy sturdy floor stand with H base design with 4 easily ground cleared movable castors.
- b. Should include integrated filters for vascular contrast and tissue protection
- c. The equipment should have a provision to be used with LASER
- d. There should be a provision to broadcast the live surgery on an external medical grade monitor
- e. Zooming Ratio: 1:06
- f. Magnification (5 Step): up to 18X or more with manually adjustable magnification changer
- g. Type of Camera: CMOS Camera
- h. Resolution of camera in pixels: 1920 x 1080 px or more
- i. Wide field push in eye pieces: 10X to 12.5 X
- j. Diopter setting from -8D to +5D or better
- k. Provision of integrated eye cups: Yes
- l. Type of Binocular tube: 0 degree to 240 degree inclinable
- m. Beam splitter with co-observation tube: Yes
- n. Provision of built in IR Filter: Yes
- o. Provision of built in UR Filter: Yes
- p. Adjustable friction of all joints: Yes
- q. Provision of integrated handles for positioning of microscope: Yes
- r. Swivel angle of carrier arm in degrees: 300 or more
- s. Movements of Microscope: Moved to & fro, up & down, and side to side

- t. Provision of knob for manually adjusting interpupillary distance: Yes, 50mm to 75mm
- u. Microscope should be mounted on a mobile floor with locking facility: Yes
- v. Maximum height of Microscope in meters: 1.35 or less
- w. Focal length of Binocular tube in mm: 170 mm or more
- x. Provision of sterilizable rubber caps for control knobs: Yes
- y. Camera system: Integrated Camera with monitor
- z. Type of monitor (medical grade): LED
- aa. Monitor resolution: 1920 x 1080 px or higher
- bb. Size of monitor screen in inch: 21 or more
- cc. Availability of CCD digital camera attachment: No
- dd. Facility of video recording facility with video trolley with isolating transformer: Yes  
(capacity 1TB with 4.5 inch or more touch screen)
- ee. Availability of dust cover for microscope: Yes

### **3. Dimensional Parameters**

- a. Objective lens (without exchange objective lens manually) in mm: 200 mm to 400 mm or more
- b. Field of view in mm: 112 mm to 11 mm
- c. Fine Focusing range (manual) in mm: 13 or more
- d. Arm length in mm: Not less than 1000 mm on maximum stretching
- e. Illumination: LED

### **4. Power Requirements**

- a. Power Supply: 220-240 Volt / 50 HZ Single Phase
- b. Light source: LED
- c. Facility of stand for bulb change: Yes
- d. Power Back Up Provided: Yes Online UPS System 2 KVA
- e. Back up time: 15 minutes or more
- f. Facility of spike protection for 30 minutes: Yes

## 5. Additional Parameters

- a. On screen display to be provided: No
- b. ON Screen display showing total magnification, scale projection, working distance etc.:  
NA if no screen display is provided
- c. All the cables should be inside the stand for protection: Yes
- d. Microscope should have excellent design quality: Yes
- e. Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue): 5

## 6. Reports

- a. Number of installations in Central /State/PSU Govt. Hospitals (during last three financial years): >3
- b. OEM/Reseller (if supplied by reseller shall ensure uninterrupted availability of all spares for 10 years): Yes
- c. Availability of toll-free facility for technical support maintained by OEM or authorized agencies: Yes
- d. During the warranty period it shall be ensured that all the break down calls are attended within 24 hrs and the complete details of service agents / contact details should be furnished to buyer and consignee at time of supplies: Yes
- e. User/Technical/Maintenance manuals to be supplied in English in hard and soft copy: Yes
- f. Details of equipments and procedures required for local calibration and routine maintenance to be supplied and advanced maintenance task documentation also to be furnished: Yes
- g. List of important spares and accessories, with their part numbers to be supplied to the buyer at the time of supplying the equipment: Yes
- h. Demonstration of equipment and training to be provided after completing supplies before acceptance: Yes
- i. The Principal Manufacturer must have direct Presence/approved service centre in India: Yes

- j. Copies of reports and certifications to be furnished to buyer on demand at time of supplies:  
Yes

**7. Additional Points:**

- a. Hand grip: Easily removable hand grip.
- b. Fifty Sterile drapes to be provided free of cost.
- c. Rate for Sterile drapes should be freezed for next five years.
- d. CMC should be done for five years after warranty.

