BOSE INSTITUTE
KOLKATA

Tender ID : 2018_BIK_305616_1

Tender Reference Number : **BI-K/E-TEND/57/2017-18**

Tender Title : **Procurement of INVERTED FLUORESCENCE MICROSCOPE & ULTRALOW TEMPERATURE FREEZER**

Amendment

Technical Specification for Inverted Fluorescence Microscope:

1) **Optics:** Has to be 'Infinity corrected' optics.
2) **Lens:'Fly eye'** lens is important for even brightness throughout the field.
3) Transmitted illumination with **bright white LED.**
4) **LED lifetime**: 50,000 hrs or more.
5) **Nosepiece**: Quadruple or more.
6) **Stage:**Mechanical stage with minimum 9500sq mm area and sample holders.
7) **Focus**: Coarse focus 0.2mm/rotation or less.
8) **Eyepiece**: 10X/20-23mm FOV, interpupillary distance 55 -75mm, eyepiece angle 45^{o}. *Diopter control for both the eyepieces is required.*
9) **Condenser**: NA 0.30/ working distance 75-80mm.
10) **Objective lenses**: 4x, 10X, 40X, plane corrected and chromatic aberration corrected. *Both phase and fluorescence capabilities should be available on 10X and 40X objective lenses. For 4X lens, fluorescence capability is not mandatory.*
11) **LED Fluorescence turret or sliding type**: 3 positions for fluorescence + 1 position for bright field.
12) **LED based fluorescence lamp:** lifetime 10,000 hrs or more.
13) **LED light sources** for DAPI (370-388nm), GFP (470-490nm) and mCherry (520-550nm) excitation and corresponding filters.
14) **Camera**:CCD or CMOS Color camera with 5MP or higher resolution,high speed (15 fps for 2560X 1920 pixels or more),Binning 1X1 and 2X2, Exposure time: 1milli sec- 30 sec,Quantum efficiency > 60%, high speed data transfer with USB 3.0 connectivity.
15) **Computer with imaging software**: Time lapse, Z-stack, live data mode, tiling, stitching and smoothening, shading correction, multi-channel acquisition, overlay of multi channels, autofocus, line measurement and count objects, 2D/3D view and analysis should be available. Multiple licenses for offline use are needed. An appropriate computer (with latest operating system and hardware, which is going to be supported by the principal for at least 5yrs) connected with the camera for supporting the imaging software and storing image data must be provided.*The quoted computer must have at least 8GB of RAM and at least 1 TB of storage HDD.*
16) **Installation record**: Minimum 4 installation records in Kolkata.

17) **Installation and demonstration**: Installation and demonstration of the instrument has to be done free of cost at the installation site.
18) **Service engineer availability**: Service engineer should be available locally for immediate repair purpose, problems should be attended within 24hrs of reporting.
19) **Warranty**: 3 years complete warranty of service and material if required.

Amendment:

Spec Sl. No. 8 should read: "10X/20-23mm FOV, interpupillary distance 55 -75mm, eyepiece angle 45^{o}. *Diopter control for both the eyepieces is required."*

Spec Sl. No. 10should read: "4x, 10X, 40X, plane corrected and chromatic aberration corrected. *Both phase and fluorescence should be available on 10X and 40X objective lenses. For 4X lens, fluorescence is not mandatory."*

Spec Sl. No. 15should read: "Time lapse, Z-stack, live data mode, tiling, stitching and smoothening, shading correction, multi-channel acquisition, overlay of multi channels, autofocus, line measurement and count objects, 2D/3D view and analysis should be available. Multiple licenses for offline use are needed. An appropriate computer (with latest operating system and hardware, which is going to be supported by the principal for at least 5yrs) connected with the camera for supporting the imaging software and storing image data must be provided. *The quoted computer must have at least 8GB of RAM and at least 1 TB of storage HDD".*

Spec Sl. No.	Original Specs	Amended specs (should now read)
8	**Eyepiece**: 10X/20-23mm FOV, interpupillary distance 55 -75mm, eyepiece angle 45^{o}.	**Eyepiece**: 10X/20-23mm FOV, interpupillary distance 55 -75mm, eyepiece angle 45^{o}. *Diopter control for both the eyepieces is required.*
10	**Objective lenses**: 4x, 10X, 40X, plane corrected and chromatic aberration corrected.	**Objective lenses**: 4x, 10X, 40X, plane corrected and chromatic aberration corrected. *Both phase and fluorescence capabilitiesshould be available on 10X and 40X objective lenses. For 4X lens, fluorescencecapability is not mandatory.*
15	**Computer with imaging software**: Time lapse, Z-stack, live data mode, tiling, stitching and smoothening, shading correction, multi-channel acquisition, overlay of multi channels, autofocus, line measurement and count objects, 2D/3D view and analysis should be available. Multiple licenses for offline use are needed. An appropriate computer (with latest	**Computer with imaging software**: Time lapse, Z-stack, live data mode, tiling, stitching and smoothening, shading correction, multi-channel acquisition, overlay of multi channels, autofocus, line measurement and count objects, 2D/3D view and analysis should be available. Multiple licenses for offline use are needed. An appropriate computer (with latest operating system and hardware, which

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Sr. Prof. & Incharge, Registrar's Office