



| Running Contract Details | |
|--------------------------------|--|
| Equipment Name | Advanced Fluorescent Microscope System with Software and Accessories |
| Running Contract Valid Till | 21-01-2021 |
| Tender Ref No | KMSCL/EP/T292/1280/2018 |
| Tendered Quantity | 15 |
| Supplier Name | M/s Bions Medical Systems Pvt Ltd |
| GST No | 32AACCB4877B1Z1 |
| Installation & Delivery Period | 8 Week(s) |
| Up-time / PM vist | 95% & 4 Visits per year |
| Warranty period | 3 Years |

| Supplier`s Details | | |
|---|-----------------|----------------|
| Address | Contact Details | |
| 28/3085 D â€œRohiniâ€• Tagore Nagar Ponneth Temple Road Kadavanthra Kochi-682020. | Contact Person | Jitto John |
| | Phone | |
| | Mobile No | 9567860501 |
| | Email | bions@vsnl.net |

| Item-wise Price Details | | | | |
|-------------------------|--|---|------------------------------------|-------------|
| # | Item Details | Unit Rate (Incl.all taxes & charges) | Service Charges (Through KMSCL) | Grand Total |
| 1 | Advanced Fluorescent Microscope System with Software and Accessories <i>Model & Make : DMi8 / Leica Microsystems, GmbH</i> | 5142204 Incl.GST :18% | 359954.28 | 5502158.28 |
| 2 | Anti-vibration table | 20001 Incl.GST :18% | 1400.07 | 21401.07 |
| 3 | Computer | 120000.1 Incl.GST :18% | 8400.01 | 128400.11 |
| 4 | UPS | 68001.04 Incl.GST :18% | 4760.07 | 72761.11 |
| 5 | Live Cell Imaging | 1019520 Incl.GST :18% | 71366.4 | 1090886.4 |
| 6 | Microscope (Up right) with camera, software and all accessories as per specifications except the following <i>Model & Make : DM6B / Leica Microsystems, GmbH</i> | 3804084 Incl.GST :18% | 266285.88 | 4070369.88 |

| Item-wise Price Details | | | | |
|-------------------------|------------|--------------------------|------------------|--------------------|
| 7 | Work table | 12000.6 Incl.GST :18% | 840.04 | 12840.64 |
| | | 10185810.74 | 713006.75 | 10898817.49 |

| Annual / Comprehensive Maintenance Charges (Exl.Tax) | | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
| Rate | 4 th Year | 5 th Year | 6 th Year | 7 th Year | 8 th Year | 9 th Year | 10 th Year |
| Advanced Fluorescent Microscope System with Software and Accessories | | | | | | | |
| Labour | 1,51,832.00 | 1,59,424.00 | 1,67,395.00 | 1,75,765.00 | 1,84,553.00 | 1,93,780.00 | 2,03,469.00 |
| Comprehensive | 3,03,664.00 | 3,18,847.00 | 3,34,790.00 | 3,51,529.00 | 3,69,105.00 | 3,87,561.00 | 4,06,939.00 |

Other terms & conditions

1. The supplier shall execute an agreement with the purchaser as per tender conditions (agreement format is given in the tender document).
2. The supplier shall submit performance security amounting to 5% of the value of the supply order.
3. The labour & comprehensive charges of equipment after the completion of warranty period is finalized by KMSCL as mentioned above.
4. Since discount rate is not applicable for equipment under Running Contract of KMSCL, purchase/supply order can be issued directly to supplier at the given rate with tax & other charges (exclusive of KMSCL service charges).
5. If purchase/supply order is issued directly to the supplier, KMSCL service charge need not be paid. But the copy of the said order may be forwarded to KMSCL for information.

Technical Specification

Equipment :Advanced Fluorescent Microscope System with Software and Accessories

A. Inverted Microscope

SI No ITEM SPECIFICATION

1 Microscope (Inverted)

a. Automated Microscope with fast research grade high resolution CCD camera & image analysis system and accessories for Bright Field, Phase contrast and Fluorescent microscopy with live cell imaging functions.

b. Should be an automated Motorized Inverted Fluorescence Microscope with Live cell imaging and optical sectioning device if available shall be quoted

c. All accessories needed to make the equipment functional, must be supplied

2 Microscope stand - Automated/motorized inverted Microscope stand with all wavelength corrected fluorescence beam path, integrated LightIntensity Manager and Contrast Manager for bright field applications and dedicated TFT/LCD display for convenient operation and control of the microscope. The microscope should have one camera ports. Inbuilt Motorized Z-focus drive with a minimum step resolution of 10 nm or better.

3 Stage -Motorized XY scanning / high precision stage(127x83 or better) with Suitable specimen holder and multiwell plate holder

4 Eye Piece - Eye Piece Paired wide-field focusable 10X eye-pieces with FOV 22 to 25 or better and adjustable diopter setting of minimum +/-5.

5 Transmitted Illumination - White light LED source with fully motorized control of transmitted Illumination.

6 Light Attenuators - Motorized ND filters turret of 6 positions or better for intensity regulation

7 Motorized Condenser - Motorized, Universal LD condenser with a N.A of 0.55 or better (with integrated polarizer) for Ph, DIC, BF.

8 Objective Nose piece - Minimum 6 position motorized objective nose pieces or better, preferably with faster movement

9 Objectives - High N.A, high light transmission efficient Semi Plan-Apo or Plan Apochromat Objectives for BF, fluorescence and DIC application

10X-Plan-fluar objective N.A 0.3 Ph1, FN 22-25 or better

20X - Plan Apo Objective N.A. 0.8, FN 22- 25 or better,

40X- Plan-Apo Objective N.A 0.95, FN 22- 25 or better

63X or 100X-Plan Apo objective N.A. 1.4 Oil FN 22-25 or better

All the above mentioned objectives and related DIC components must be quoted in the standard quote.

10 Fluorescence Attachments - Motorized Fluorescence illumination and operation

11 Reflected light Illumination - Self-aligned/Pre centered LED Illumination with motorized Intensity regulator for Fluorescence Applications

12 Reflector Turret for Fluorescence Filters

Motorized 6 position reflector turrets. All the filters should be shift free and High Efficiency.

13 Filters

High quality narrow Band Pass (BP) Fluorescence filters for imaging of DAPI, GFP/YFP, CFP, RFP and CY3 or equivalent with list background noise.

14 CAMERA - A monochrome Camera for simultaneous Imaging with hardware triggering.

Camera should have following Spec: A high resolution, Monochrome, scientific grade, peltier cooled CCD camera for fluorescence Imaging:

CCD Basic Resolution: 2.5 Mega Pixel or better and pixel size of 4.54um x 4.54um / 6.45 x 6.45 um, Spectral range of 400 to 1000 nm or better,

Dynamic range > 1: 2500 (68dB) or better, FWC 15Ke or better, Read out noise: < 8 e or better, Read out speed 24.5 MHz or better, Frame Rate: 20 fps or better at full resolution

Digitization: minimum 14 bit or better Interface: Firewire interface/USB3 with option for triggering: for exposure time, for acquisition;

Quantum Effectiveness: 65% or better

15 SOFTWARE

a System Control Automatic and interactive Microscope control

b Image Acquisition Should be able to (but not limited to) image capture, movie acquisition,

Automatic Multi channel Image acquisition, ROI imaging, Z stack acquisition, time lapse, image tiling /stitching autofocus, cell counting, automated well and area scanning, Multipoint imaging module.

c Image Processing Basic adjustment of brightness, contrast and gamma; adjustment of colour in BF images; correction of bleaching effect in Z stack images; pixel shift correction; Image smoothening, Image Sharpening.

d Image Analysis & Documentation Interactive and basic measurement such as Length, Angle, diameter, Area, Perimeter

The image analysis software should have 4D experiment ability such as Advance research imaging software for acquisition and camera control through image acquisition and analysis (X,Y, Time, Multichannel), time lapse imaging, Multi-channel fluorescence, annotation, z stack imaging, time measurement, facility to plug in modules,

2D/3D view, filter, Morphology, Macro writing and reading, segmentation and auto measurement.

Gray value measurement along a line / Intensity measurement

Statistical analysis and evaluation of Data. Creation of User defined reports

e Image Viewing Orthogonal View of Z stack Images; simultaneous image observation for comparison of up to 8 images

16 Live Cell Imaging (Should quote separately) - Optimally designed for fully automated and programmable incubation system with temp., CO₂ and humidity control should be offered. System should consist of modular control components with storage of all incubation data linked to images and should be convenient to set up and control heterogeneous and complex experiments. The incubation system should use 100% CO₂ gas as input and provide premixed gas mixture of 5% CO₂, 95% humidity and 37 degree temp to the sample. Same imaging software should be used to do setting of CO₂, humidity and temperature.

17 Module for Optical Sectioning (Should quote separately, if available)

a. Structured Illumination through grids with Automatic Grid Change Technology for optical sectioning preferably with higher light transmission efficiency. A special grid illumination device to be incorporated in the FL illumination optics of the microscope with easy switchover facility between normal FL illumination and grid illumination (for optical sectioning).

b. Motorized and automatic grid focusing and super imposition of the same into the image plane for different fluorescence channels through accurate and calibrated scanning mechanism should be possible

c. Automatic multidimensional acquisition of optical sections. Seamlessly integrated hardware and software from the same manufacturer for better compatibility.

Objective specific selection of different Grid frequencies to match the numerical aperture of the objective and wavelength of fluorescence for multichannel imaging should be automatic.

18 Anti-vibration table - A suitable anti-vibration table (with lockable shelves and leg space) should be supplied along with the microscope system.

19 COMPUTER - Intel i5 or higher processor based computer system. Computer with 2TB hard disk and 32GB RAM with license copy of operating system, and high end graphic card. High resolution 27inch TFT monitor compatible with camera also need to supply.

20 UPS - A branded UPS(3KVA) online with minimum 30min back up for the entire system (Microscope and computer) should be supplied along with the equipment

21 Spare and consumable - Spare and consumable should be quoted along with system if any.

B.Upright Microscope

SI No. ITEM SPECIFICATION

1 Microscope (Up right)

a) Fully Motorized Upright microscope

b) All accessories needed to make the equipment functional, must be supplied

2 Microscope stand - Fully Motorized Upright Microscope stand with Apochromatically corrected Fluorescence beam path, Integrated Light Intensity manager for Bright field Applications and dedicated TFT/LCD display for convenient operation

3 Motorized focus drive - Inbuilt Motorized Z focus drive with a minimum step resolution of 5nm or better, preferably with better reproducibility.

4 Motorized Objective Nose piece - 6 Position Motorized Objective Nose piece or better / Preferably with Faster Movement

- 5 Motorized Condenser - Universal Achromatic -Aplanatic condenser with a N.A of 0.9 for Ph, DIC, BF, DF.
- 6 Mechanical Stage - Mechanical Stage with suitable specimen holder.
- 7 Eye Piece - Focusable 10X eyepieces with FOV 22 to 25 or better
- 8 Transmitted Illumination - 100W Halogen light source with fully Motorized Control of transmitted Illumination
- 9 Light Attenuators - Motorized ND filters turret of 6 position or Better for Intensity regulation
- 10 Shutter - Motorized Shutter for Multi-dimensional Imaging in Bright Field
- 11 Objectives
 - a High N.A, High light transmission efficient Semi PlanApochromat/ fluorite Objectives
 - b 4X / 5X-Semi Plan Apochromat / plan Fluorite objective N.A. 0.16 / 0.12 or better
 - c 10X- Semi Plan Apochromat / plan Fluorite Phase objective N.A. 0.3 or better
 - d 20X – Semi Plan Apochromat / plan Fluorite objective N.A. 0.50 or better
 - e 40X- Semi Plan Apochromat / plan Fluorite Objective N.A. 0.75 or better
 - f 100X- Semi PlanApochromat / plan Fluorite DIC objective N.A. 1.3 or better
- 12 Phase attachments - Automatic control of phase components for Multidimensional Imaging
- 13 DIC Attachments - DIC components for 40X and 100X
- 14 Fluorescence Attachments - Fully Motorized Fluorescence illumination and operation
- 15 Reflected light Illumination - 120 / 130 W Metal Halide / LED Illumination with motorized Intensity regulator for Fluorescence Applications
- 16 Reflector Turret for Fluorescence Filters - Motorized 5 - 8 or more position reflector turret or better. Band pass filter sets for DAPI, FITC, TRITC and CY 3 and CY5
- 17 Shutter - Motorized Shutter for Multi-dimensional Imaging
- 18 Camera - A monochrome Camera for simultaneous Imaging with hardware triggering.
Camera should have following Spec: A high resolution, Monochrome, scientific grade, peltier cooled CCD camera for fluorescence Imaging:
CCD Basic Resolution: 2.5 Mega Pixel or better and pixel size of 4.54um x4.54um / 6.45 x 6.45um, Spectral range of 400 to 1000 nm or better,
Dynamic range > 1: 2500 (68dB) or better, FWC 15Ke or better, Read out noise: < 8 e or better, Read out speed 24.5 MHz or better,
Frame Rate: 20 fps or better at full resolution
Digitization: minimum 14 bit or better Interface: Firewire interface/USB3 with option for triggering: for exposure time, for acquisition;
Quantum Effectiveness: 65% or better.
19. System Control - Automatic and interactive Microscope control
- 20 Image Acquisition
 - a. Should be able to (but not limited to) image capture, movie acquisition, fast acquisition
 - b. Automatic Multi channel Image acquisition, ROI imaging, Z stack acquisition.

21 Image Analysis & Documentation

- a. Interactive and basic measurement such as Length, Angle, diameter, Area, Perimeter
- b. Gray value measurement along a line / Intensity measurement
- c. Statistical analysis and evaluation of Data. Creation of User defined reports

22 Work table - A table (with lockable shelves and leg space) with minimum 120cm(l)X70cm(w)X90cm(h) should be supplied along with the microscope

23 Computer - A suitable High End Computer System should be provided along with the system

24 UPS - A branded UPS(3KVA) online with minimum 30min back up for the entire system (Microscope and computer) should be supplied along with the equipment

25 Spare and consumable - Spare and consumable should be quoted along with system if any.