

**i. CRYOSTAT (SPECIMEN FREEZING MICROTOME)**

SPECIFICATION:

- i. Microtome
  - ii. Type: Maintenance free rotary microtome, encapsulated.
  - iii. Section thickness range: 1 to 100  $\mu\text{m}$
  - iv. Trimming range: 1 to 600  $\mu\text{m}$
  - v. Total specimen feed: 25 mm + 1 mm
  - vi. Vertical stroke: 59 mm  $\pm$  0.5 mm
  - vii. Specimen retraction: 20  $\mu\text{m}$
  - viii. Maximum specimen orientation must be provided
  - ix. Facility of specimen orientation must be provided
  - x. Premium (high & low profile both) disposable blade holder system must be provided with lateral displacement and integrated glass anti-roll guide glass anti roll guide with antistatic features to facilitate perfect stretching of sections.
  - xi. Cutting speed: 1. Slow : 0-50 strokes/min 2. Fast: 0-85 stroke/min
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- i. Cryostat: Dimension : WxDxH: 700x850x1025 to 830x850x1210 mm
  - ii. Electric coarse feed: a. Slow: 300  $\mu\text{m}/\text{sec}$  b. Fast: 900  $\mu\text{m}/\text{sec}$
  - iii. Lamp: 50 Hz or above
  - iv. Refrigerator system
    - a. Cryochamber:
      - i. Temperature range: 0<sup>o</sup> C to 35<sup>o</sup> C at ambient temperature of 20<sup>o</sup> C
      - ii. Cooling time: -20<sup>o</sup> C to -35<sup>o</sup> C approximately for 5 hrs to 8hrs respectively.
    - b. Defrosting of cryochamber:
      - i. Automatic programmable defrosting facility must be available with at least one automatic defrost cycle per 24 hrs. Duration of the defrost cycle should not exceeds 15 mins.
      - ii. Quick freeze shelf:
        - i. Minimum temperature: 42<sup>o</sup> C
        - ii. Defrost : Manual hot gas defrost
    - c. Specimen cooling: Temperature range: -10<sup>o</sup> C to -50<sup>o</sup> C
    - d. Defrosting of specimen of head:
      - i. Automatic defrost: No
      - ii. Defrost time: 15 min
  - v. Supplier should have a very good after sales service – support with proven track record
  - vi. Supplier must ensure that the spare parts and consumables will be made available for at least upto 10 years from the date of installation.

## **Item No.2:- Multiveiwng Microscope (Penta Head)**

a) Specification as under

- i. Penta Head (4+1)
- ii. Magnification - 40x to 1000x
- iii. Viewing head – Trinocular head inclined at 30° IPD (48-75 mm)
- iv. Eye piece – 10x / 22x
- v. Nose piece- Reversible, Quintuple nose piece
- vi. Objectives – Infinity plan 4x, 45x, 100x (oil)
- vii. Focus – CO- axial and fine
- viii. Stage – Mechanical stage
- ix. Illumination-LCD pointer
- x. Condenser – Swing condenser.

## **Item no.3:- Fluorescent microscope**

- i. Microscope system for bright field and fluorescence
- ii. Optionally equipped for dark field, phase contrast and polarization contrast.
- iii. Height adjustment focus knobs, symmetrical operation of focus and coaxial drive
- iv. Objectives: Par-focal distance of 60mm and objective thread size of 25 mm. Phase contrast objective 4x, 10x, 20x, 40x, 100x oil immersion lens
- v. Eyepiece tube: 10x with rubber eye guard.
- vi. Interpupillary distance: 50-70 mm
- vii. Filters: Epi-fluorescence attachment with field diaphragm, fluoresce filter block holder, 2 filter blocks mountable and 1 empty position, barrier filter, head absorbing filter, Fluorescence filters for DAPI, FITC and TRITC
- viii. Photographic attachments: Trinocular model, Digital camera.

**Item no.4:- Blood sedimentation rate reader (ESR) – Microprocessor based**

- a. Consumable – Recharge for 1000 tests
  - i. Closed tube system
  - ii. Loading capacity – Max 40 samples
  - iii. Throughput – 24 samples/hour
  - iv. Analysis time – 30 min/60 min
  - v. Pre-Indication of result – At 12<sup>th</sup> min
  - vi. Result – In westergren mm/hr (by Interpolation)
  - vii. Graphic of Kinetics – on printer
  - viii. Blood draw level – 1.2m (1-1.3) ml
  - ix. Working temperature range – (15-32)<sup>o</sup> C
  - x. Measurement principle- Infrared detection
  - xi. Optical precision of detection – Resolution of results: +/-      mm
  - xii. Measuring range – (1-140) mm/hr
  - xiii. Reproducibility – C.V. 5%
  - xiv. Display – Graphic LCD with backlight
  - xv. Operation condition – (15-32)<sup>o</sup> C
  - xvi. Humidity – (45-85) %
  - xvii. Dimension – Ht-20 cm, Width -33cm, Depth – 31cm, Wt – 5Kg approx
  - xviii. Power Supply – External power supply 100-240, 50-60 Hz