



Notice Inviting e-Tender

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**Supply and Commissioning of Different Medical Equipment for Calcutta National
Medical College and Hospital**
(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT- 071 /2025

Dated-21.01.2025

Amendment-I

Revised Technical Specification **Schedule VI** **Automated Rotary Microtome**

The instrument must have the following specifications:

1. Fully-Motorized Rotary Microtome with low-maintenance and backlash-free precision micrometer feed system with step motor.
2. Fully capable of dual mode : Motorized & Manual sectioning applications
3. Horizontal feed and vertical stroke mechanisms must be based on cross roller bearings.
4. Smooth-running hand-wheel allows two manual sectioning modes: rocking mode and conventional manual sectioning with full hand-wheel rotation and 3 motorized sectioning modes: single, continuous and step.
5. Motorized horizontal specimen head movement should be done in 2 ways: a. Using the coarse feed buttons on the control panel in two speeds per direction in continuous or in step feeding mode. b. Using the ergonomically positioned and unique coarse feed wheel which can be personalized by user selectable preferred turn direction.
6. The sectioning speed can be adjusted while motorized sectioning is in progress.
7. The ergonomic handle of the safety hand wheel can be cantered while working motorized.
8. The emergency stop button on the microtome front or E-function in optional foot stop will interrupt motorized sectioning immediately in case of emergency.
9. Two independent hand-wheel locking systems, plus one electronic brake after motorized usage, ensure that the hand-wheel is safely locked.

10. Unique operator-adjustable force balancing system is MANDATORY with Spring Force compensation offering two advantages:
1. Flexibility to adapt the spring force to different weights of specimen/clamps,
eliminating the risk of an object head dropping into the knife.
2. No need for a heavy counter balance in the hand-wheel.
11. Section thickness settings for trimming and sectioning can be selected and saved independently of each other.
12. Individually adjustable sectioning range on the specimen size (sectioning window).
13. Important operation information is indicated on the front of the instrument:
<ul style="list-style-type: none"> • o trimming or section thickness,
<ul style="list-style-type: none"> • o specimen retraction (Retract),
<ul style="list-style-type: none"> • o emergency stop (E-stop),
<ul style="list-style-type: none"> • o hand-wheel/specimen head locking function (Lock),
<ul style="list-style-type: none"> • o section counter and section totalizer with reset function
14. Programmable specimen retraction system for manual cutting mode with ON/OFF function
15. Self-adjusting specimen retraction in motorized sectioning mode speed dependent.
16. Unique rocking mode function on the control panel for rapid trimming.
17. Visual/acoustic signals indicate the remaining feed and the front and rear travel limits.
18. Efficient and rapid specimen exchange :
1. by using the user programmable Memo position ,,
2. The Fast Homing function of the object head within 13 +/- 2 seconds from front to rear position.
19. Large top surface area with TOP TRAY allows placement of objects that require a flat surface: removable top tray allows storage of sectioning tools and prevents items from falling.
20. Unique magnetized antistatic section waste tray that must hold a large volume of waste and offers ease of cleaning due to its antistatic surface resulting in improved workflow and efficiency at a significantly reduced cleaning time. Brand/Company must provide evidence to prove the reduction in cleaning time.
21. Precision specimen orientation with horizontal and vertical rotation of +/- 8°, and calibrated controls, helps to quickly orient both new and previously cut specimens (re-cuts). Two red indicators help to rapidly return back to the exact zero position.
22. Personalized bi-directional coarse feed wheel for improved comfort and easy usage: Lateral electronic coarse feed system - user selectable turn direction in both Clock-Wise & AntiClock wise directions as per user comfort
23. Quick clamping systems for fast removal (e.g. for cleaning) or exchange of specimens clamps. Rapid specimen exchange with fast homing and programmable Memo position---the Memory function remembers the position of specimen
24. Universal cassette clamp secures cassettes horizontally as well as vertically and is optimized for the use with cassettes

25. The two-in-one blade holder with colored safety guard and safe blade ejection that can be used with both, high or low profile blades.
26. The lateral displacement function of the blade holder with three predefined stop positions (left, center, right) correspond to the width of a standard histology cassette, facilitate the exact usage of the entire length of the blade.
27. Trimming section thickness setting range must be at least: 1.0 to 600 μm
Setting values:
From 1 to 10 μm in 1.0 μm increments
From 10 to 20 μm in 2.0 μm increments
From 20 to 50 μm in 5.0 μm increments
From 50 to 100 μm in 10.0 μm increments
From 100 to 600 μm in 50.0 μm increments
28. Section thickness setting range must be at least : 0.5 to 100 μm
Setting values:
From 0.5 to 5.0 μm in 0.5 μm increments
From 5 to 20.0 μm in 1.0 μm increments
From 20 to 60.0 μm in 5.0 μm increments
From 20 to 60.0 μm in 5.0 μm increments
From 60 to 100.0 μm in 10.0 μm increments
29. Horizontal feed range: 24 +/-1 mm/ 0.94 inches, feed motion via robust stepper motor
30. Vertical stroke length: 70 +/-1 mm
31. Sectioning speed: 0-420 mm/s +/- 10%
32. Electronic coarse feed speeds of 3 different choices as per user's comfort: slow forward and backward: 300 $\mu\text{m}/\text{s}$, fast forward: 800 $\mu\text{m}/\text{s}$ and super-fast backward (fast homing): 1800 $\mu\text{m}/\text{s}$
33. Specimen retraction in manual sectioning mode: 5-100 μm in 5 μm increments, can be switched ON/OFF at any time
34. Specimen retraction in motorized sectioning mode: self-adjusting, speed dependent-- a very important feature in a microtome
35. Must be an imported model
36. Should have dedicated manufacturer company's own service support or channel partner for East India (not distributor's) with a team of company's own service engineers to support us timely
37. Should have prior installations in East India of same model or predecessor model – at least 15-20 Nos. in which --at least 50% should be in Government Institutions. DETAILED USER LIST must be attached with Name, Location, Dept & details of Users.