Department of Chemical Engineering
Indian Institute of Technology, Delhi


Subject: Quotation for ISO ELECTRIC FOCUSSING SYSTEM
Following Specification are required for the ISO ELECTRIC FOCUSSING SYSTEM

SPECIFICATION FOR ISO ELECTRIC FOCUSSING SYSTEM
A1-IEF System- 1st Dimension

Sample Preparation:
System should be quoted with sample preparation kit which should enrich low abundant proteins.

System should include Individual Lane Control for running different samples, pH Gradients and focusing protocols in a single run.
System should have touch screen User Interface for easy easily creating and editing protocols and setting up the program rapidly.
System should include dedicated site for online data interpretation for Graphing data, Comparing lanes and generating reports.
System should include USB Port to export data for storage and analysis
System should include run mode flexibility- to run IPG strips gel Side Up, Gel Side Down and with cup loading configuration.
System should have voltage 0-10,000 V, 1 V increments(50-10000V)
Current range should be 0-100 μA per lane, 1 μA intervals
System should have peltier based cooling platform.
Temperature range should be 10–25°C ±1.0°C @ max ambient 23°C 18–25°C ±1.0°C @ max ambient 31°C.
Focusing trays should be made of polycarbonate for contaminant free process.
System should accomodate IPG strip length 7, 11, 13, 17, 18, and 24 cm.

System should have display QVGA resolution (320 x 240) touch screen or mouse control
System should have ramping Step, linear, gradual, and hold voltage ramping for each focusing step. Hold mode as a final step to prevent diffusion when IEF is complete.
System should have 2GB capacity for storing protocols
Data collection should be in .dat format

System should have following regulatory compliances:
Other approvals RoHS/WEEE Research Materials to determine level of EF

Second dimension electrophoresis:
Runs gels of 18.5 X 20cm size to perform SDS-PAGE and the second dimension 2-D using IPG.
Can accommodate 17, and 18cm IPG strips
The casting stand should have single-screw clamps exert even pressure along the entire length of the glass plates, providing leak-proof seal without grease or agarose plugs
Select from 2 gel lengths, 16 or 20 cm , by choosing glass plates, spacers, and sandwich clamps of the desired gel length.
Mini size Electrophoresis system( 8.3 X 7.3 cm )
- Versatility: Supports both Precast and handcast gel runs.
- Cell runs 1 to 4 gels within 45 min
- Easy setup with glass plates having permanently bonded spacers guarantee perfect alignment and leak free casting
- Casting frames with simple cam closure provide precision alignment on any flat surface. Upgradable to western blotting.

C- Power supply For Running 2nd Dimension-
Powerpac power supply should fits all your application requirements, from mini vertical and high-throughput electrophoresis to blotting.

Should have following specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output specifications</td>
<td>500 V, 2.5 A, 300W</td>
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<tr>
<td>Output range (programmable)</td>
<td>10-500 V, fully adjustable in 1 V increments</td>
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<tr>
<td>Current (programmable)</td>
<td>0.01-2.5 A, fully adjustable in 1 A increments</td>
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<tr>
<td>Power (programmable)</td>
<td>1-500W, fully adjustable in 1 W increments</td>
</tr>
<tr>
<td>Type of output</td>
<td>Constant voltage, current, or power with automatic crossover</td>
</tr>
<tr>
<td>Output terminals</td>
<td>4 pair recessed banana jacks in parallel</td>
</tr>
<tr>
<td>Timer</td>
<td>Up to 99 hr, 59 min</td>
</tr>
<tr>
<td>Pause/resume function</td>
<td>Yes</td>
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Fast Blotting System

Should have following specs
Fast blotting system with four gel simultaneously, 2 different protocols at the same time
2 different cassettes for separate transfer
Input power: 100–240 VAC, 276 VA, 50–60 Hz, 175 W max
USB port: Yes, input only, for firmware updates
System should have Cooling fan
Should have inbuilt PowerPac supply
User Interface
18 button keypad, 128 x 64 pixel monochrome display
Programmable methods: Up to 25 user-defined
Preprogrammed methods: Standard SD, 1.5 mm gels, High MW, Low MW, MixedMW
Audible alarm: Yes
User notifications should have following features:
• Power fail during run
• No-load detection
• No cassette detection
• End of run

Specification of the Densitometric Imager-
1) Densitometer capable of imaging wide variety, 1 D, 2-D gels, colorimetric dot & slot blot, western blots, film based chemiluminescent blots, autoradiogram, slides etc
2) Calibrated Densitometer- which should automatically self-calibrate the optical density to optimize the detection. System should not require manual Calibration.
3) Should have user adjustable resolution from 36.3 microns to 127.0 microns.
4) Should have both transmissive & reflective mode & uses red, green & blue CCD technology to scan both transparent and opaque samples.
5) Should able to scan larger gels for good separation of proteins, have scanning area of minimum 29 x 40 cm
6) Dynamic range- 3.0 O.D.
7) Fluorescent white light source.
8) Should have sealed platen to accommodate wet samples of variable thickness.
9) IQ/ OQ verification for transmittance & reflectance should be available.
10) Sampling rate of up to 700 dpi.
11) Transmission speed at least 1 Mbyte/second.

Software for Image acquisition and Analysis:

1. Software for imaging and analyzing 1-D electrophoretic gels, dot blots, slot blots, and colony counts.
2. Software should Quantitate and analyze a variety of data
3. Rapid molecular weight determinations with choice of multiple regression models
4. Band/lane matching analysis with comparative dendrogram creation
5. Background subtraction correction of gradient gels
6. VNTR and Phylogenetic tree formation.
7. Accurate concentration analysis using sophisticated volume tools, volume box, volume circle, volume contour, or freehand drawing
8. Local background subtraction for individual bands
9. Colony counting that discriminates colonies and plaques
10. Array tools to analyze and quantitate dot blots, slot blots, and medium-density arrays with Annotation tools to add text and lines.

11. 3D viewer for critical analysis of closely spaced bands


13. Automation Manager for recall of lane and sample layouts


Warranty for 36 months.

Terms and Conditions:

1. Quotations must be made in sealed envelopes. Technical and Commercial bids must be sent separately in two sealed envelopes and then put together in one envelope. The quotes must reach the following address by 26th March, 2012 by 17: 30 hours latest.

   Dr. A. S. Rathore  
   Department of Chemical Engineering.  
   Block II, Room No. 94,  
   Indian Institute of Technology, Delhi  
   Hauz Khas, New Delhi – 110016

2. Price must be quoted FOB New Delhi.
3. Indian agency certificate must be enclosed.
4. Proprietary certificate might be enclosed if applicable.
5. Payment after installation.
6. Validity of quotation should be at least 3 months.
7. Period of delivery should be mentioned.
8. Educational discount should also be mentioned.

Remarks:
The Institute reserves the right to accept or reject any all the quotations without assigning any reason thereof.

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