

UNIVERSITY OF PUNE



BOTANY DEPARTMENT

Ganeshkhind, Pune-411 007

Ref. : No. Quot./BOT/2014|234

Date 22/08/2014

To,
M/s.,


Quotation are invited for the supply of following goods/carrying out the work, so as to reach this

Office on or before 01/09/2014

Sr.No.	Description of the material/item/work/etc.to purchase	approx Quantity	Rate per Unit	Amount (Rs.)	Remarks
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1. Automated Protein Purification 01
system based on chromatography
As per the specifications
attached

- 1) Octroi Exemption certificate will be issued for the goods supplied from the places outsides Pune Municipal Corporation Limit.
- 2) Excise Duty Exemption Ceritificate/Sale tax form will be issued if applicabel.
- 3) Payment will be made by cheque after fulfillment of the Order/Installation of the equipment.


Professor & Head,
Botany Department,
University of Pune,
Pune-411 007



Signature of the Supplier

(Supplier (With Rubber Stamp))

P.T.O

TERMS AND CONDITIONS

1. Mention quotation No. On the envelop.
2. Quote rate per unit and date of validity, Date of validity should be minimum of 30 days from the last date of submitting the quotation.
3. Submit sample/Catalogue of the material with quotation if necessary.
4. Quotation must be sent along with the covering letter on your letterhead quoting your sales tax Registration number.
5. Conditional quotation will not be accepted.
6. Delivery within _____ days from the date of order at the Department of the University of Pune.
7. Work to be completed within _____ days from the date of order of the University of Pune.
8. Quotation will be rejected in case of even a single correction or overwriting.
Only Clear and uncorrected quotation will be accepted.
9. Payment as per actual measurements wherever applicable.
10. Payment will be made by cross cheque only.
11. Income tax will be deducted as per prevailing rule.
12. Water charges 2% will be recovered, if used.
13. In case of works and service contracts Security Deposit will have to be deposited by the contractor in following manner.
 - (A) 2.5% before commencing the work.
 - (B) 2.5% will be deducted from the R.A.Bill.
14. Electricity charges will be recovered as per rules if used.
15. The University of Pune will issue Octroi Exemption Certificate if applicable.
16. Excise duty exemption Certificate / Sales tax form will be issued, if applicable.
17. Rates quoted should be Inclusive of all taxes with Tax details e.g. Excise duty, Custom duty, sales tax, packing forwarding etc.
18. The above terms and conditions are acceptable.



(Signature of the Supplier / Contractor.
(With Stamp)

Specification for automated protein purification systems based on chromatography

One chromatographic system with all accessories of the following description is required.

The system should be inert biocompatible and is intended for use for fast purification of proteins from microgram to gram scales. The system should have a flow rate of minimum lower limit of 0.001 to 10 ml/min (minimum fast rate) without the need for changing pump-heads for the entire flow range and pressure limit of 0 to 20 MPa or higher. Additional specifications on sample collection, UV-Visible absorbance monitoring, etc. are provided below.

Manual sampler

Sampler should have sample capacity of Min: 100ul and Max: 5 ml with the increment of 0.001 ml/min. A piston based auto injection system for sample injection should be provided where a large (up to 100 ml) sample can be loaded at once. Subsequently this auto injection system should inject smaller volumes (1 ml or more) as selected. The software provided to operate the system should be programmable to handle multiple runs. Sample loops with fixed capacity of 100 μ l, 500 μ l, 1ml, 2ml and 5ml each should also be provided.

Fraction collector

The system should be provided with fraction collection at the end of the chromatographic run which can be based on time, volume, or automatic peak recognition. It should be compatible with an assortment of fraction volumes and tube sizes including 96 well microplates, 0.1 to 50ml and 3, 8, 15, or 50 ml type tubes. It should allow collection of >100 fractions in 12 mm diameter tubes, 10–18 mm tubes, 30 mm diameter tubes or fraction sizes from volume mode ranging from 0.1-99999 ml, and in time mode ranging 0.1-99999 minutes. Racks and accessories for this should be included. The fraction collector should have X-Y plane movement for fraction collection rather than a circular carousel to prevent loss of sample through mismatch between collection tubes and delivery outlet.

UV Monitor

UV monitor system should consist of a stable, long life light source e.g. a Deuterium and Tungsten/Xenon (190-700 nm) for measurement of absorbance. System and all optics should be compatible with measurements over the range of 190-700nm. A high sensitivity wavelength monitor should be provided that makes it possible to detect the absorbance at a minimum of 3 wavelengths during a chromatographic run. Detector should have linear response to within $\pm 5\%$ for 0 to 2 AU. Flow cells should have optical path lengths of 2 mm or more and cell volumes of 2 microliter or more.

Conductivity Measurement

The system should allow measurement of conductivity through the column. The conductivity should range from 0.01 mS/cm to 999.9 mS/cm with an accuracy of +/- 2% and an operating pressure of 0-5MPa.

Mixer Volume

Volume of the mixing cell for buffers to be combined before the solution goes on to the column should be Min: 0.6 ml and Max: 2ml. Option to change the cell size and the necessary alternate cells should be provided.

User kit

It should provide a spare kit with all spare connectors, tubings and ferrules **apart from the set used for the first installation.**

Chromatography Software

The system should be provided with software that works on a single software platform and should have the capability to be controlled through an independent desktop computer. The software should be flexible and have user programmable column library for application protocols, method templates and columns & techniques and capability to incorporate additional pre- and post- column detectors and integration to software. Especially, software should be compatible with columns packed in-house or purchased from a vendor different from the maker of the chromatography system being purchased. The software should support multiple wavelength monitoring. It should be compatible with fraction collection at the end of the chromatographic run based on time, volume, or automatic peak recognition.

Pressure sensors

A typical pressure sensor after the gradient pump should be provided. Additionally, system should have automatic detection of column pressure - drop over the column (deltaP) - and should have automatic compensation of the flow rate to prevent stalling of the chromatographic run. Extended warranty covering parts and labour should be provided for 3 years. Local service support should be provided.

Cold Cabinet

The system should be provided with a high quality cold cabinet that encloses the purification system with humidity and temperature controls and supports for large columns. It should have the requisite weight bearing capacity (typically 100 kg or more). The cabinet should be equipped with supports required to hold and connect long/wide columns. The warranty on the chromatographic system should include coverage of the cold cabinet.

The purification system should be supplied with a desktop computer with minimum of following configuration –

Hard disk (1 TB), processor (Intel core i5 2.2 to 2.6 GHz), LCD monitor (min 18.5”), Licensed version of operating system, RAM 4GB, DVD writer. Standard make On Line 5 KVA UPS with 60 minutes backup and a HP Officejet Pro 8610 should be included.

A manual that covers all aspects of operation should be provided. Documentation should be provided that assures that all these above specifications are met. Locations of all sensors and complete technical details of the system should be provided with the quotation.

The company will be required to install the systems at the site of Department of Botany, University of Pune, Pune laboratories and demonstration the function of the system and all accessories.

Suppliers must describe in detail the technical support they will be able to provide in Pune. Only those companies will be considered who have engineers trained on the instruments being quoted for, prior to the date of installation Suppliers must provide a list of users with contact information.

A set of general protein purification columns/resins should be included with the package. The precise resins and columns will be discussed in consultation with the suppliers at a later stage since suppliers have different equivalent resins and column formats. These consumables should include prepacked columns and empty column + resin.

A general description of the requirement with system is provided below:

1. Size exclusion column 3-50 kDa, resolution 2-3 kDa, bed volume 120-150 ml
2. Size exclusion column 10-200 kDa, resolution 3-5kDa, bed volume 120-150 ml
3. Weak anion exchange - resin + empty column, bed volume 1 ml and 5ml each
4. Weak cation exchange - resin + empty column, bed volume 1 ml and 5ml each
5. Strong anion exchange - resin + empty column, bed volume 1 ml and 5ml each
6. Strong cation exchange - resin + empty column, bed volume 1 ml and 5ml each
7. His-tag purification column - prepacked column, bed volume 1 ml and 5ml*2
8. A column for desalting of protein preparation, 100 gm dry beads and bed volume 100 ml
9. A column based on hydrophobic interactions (e.g. phenyl sepharose based or equivalent) resin