

SPICES BOARD

(Ministry of Commerce and Industry Govt. of India)
Sugandha Bhavan, N.H.By-pass, P.B.No.2277
Palarivattom P.O, COCHIN – 682025
KERALA, INDIA.
Phone: 0484-2333610, Fax: 0484-2331213

No.Qlty/3(4)/CL/RL/2008/Qtn.

Dated 21st Sep. 2008

QUOTATION NOTICE.

Sub:- Purchase of equipments – inviting quotation.

Sealed quotations are invited with superscription “**Quotation for Equipments**”, for supply of following equipments and accessories, as per the details/specifications given in Annexure.

1. Microwave Digestion/Extraction system	:	1 No
2. Automated concentration work station	:	1 No.
3. Digital Adjustable volume Pipettes	:	3 Nos
4. Repeating pipette dispenser	:	1 No.
5. Bottle-top dispensers	:	1 No
6. Table top laboratory centrifuge	:	1 No.
7. Water bath	:	1 No.
8. Muffle furnace	:	2 Nos
9. Heating mantles	:	4 Nos (2FB &1 RB)
10. Vacuum pump	:	1 No.
11. Recirculating water chillers	:	1 No
12. Automated micro pipettes	:	4 Nos
13. Autoclave	:	1 No

The offer may be addressed to the **Secretary, Spices Board, Sugandha Bhavan, Palarivattom, Cochin – 25**, as per the details/specifications, should reach this office before **3 p.m. on 20th Oct. 2008**. **Please include EMD of 2% of the value for items valued above one lakh.**

Quotations will be opened in the presence of representatives of the bidders, if any present, at **3.00 pm on 21st Oct. 2008**.

The Spices Board reserves the right to accept or reject the quotation without assigning any reason, at any stage. For any further information / clarification, please contact Senior Scientist (QC), Quality Evaluation Laboratory, Spices Board, Cochin 25.

SENIOR SCIENTIST(QC)

ANNEX.1**Specifications for laboratory Autoclave**

1.	Features	Vertical type. Inner chamber and lid made of stainless steel. Radial locking system. Pressure gauge thermometer safety valve, release valve , Water level indicator, stainless steel basket, water outlet, mains indicating lamp, paddle lifting device. Automatic low water cut-off device.
2.	(a) Capacity (b) Pressure	50 liters 1 to 1.5 kg/sq. cm
3.	Temperature control and display	Up to 140°C – adjustable in steps of 1° C, digital type thermometer with timer
4.	Power Supply	230+/- 10 Volts. 50 HZ. Single phase
5.	Installation & commissioning will be the responsibility of the supplier	
6.	Surface	Complete Made of stainless steel, 304 quality.
7.	STANDARD:	Instrument must be accompanied with calibration certificate by NABL accredited agency
8		All users list with contact number in Kerala should be provided
9		Warranty details and after sales service at Cochin should also be indicated

ANNEX.2- Specifications for Adjustable Volume Micropipettes

No	Requirement	Features
1.	Durable adjustable volume micropipettes for routine works in the liquid handling sector for Microbiology Lab 100-1000 µL x 2 500-5000 µL x 2	<ol style="list-style-type: none">a. A smooth stroke, a compact and robust design.b. Autoclavable.c. Superior operating comfort.d. Chemically resistant.e. Single handed operation.f. Volume should be locked automatically.g. Two button operation for aspiration, dispensing and tip ejection.h. Single channel manual.i. Reduced operation force.j. 4 digit display.k. 2 year warranty.l. Should have accredited calibration certificate.m. Error limits in accordance with international ISO standards or equivalent.
2.	Accessories	<ol style="list-style-type: none">a. Pipette Calibration Software (Desirable)b. Pipette stand holds upto 4 pipettes.c. Suitable Tips (2000 each) and Tip trays (2 each).
3.	Warranty Information	<ol style="list-style-type: none">a. Should have warranty not less than 2 years.b. Complete warranty information and details of after sale service support at Cochin should be included.
4.	Users List	The complete users list in South India (including Microbiology Labs) with Telephone No and Email address.
5.	Compliance Statement	A Statement of Compliance of the submitted quotation with the requirements in this specification should accompany the quotation.

?? Rate inclusive of tax and others should be quoted separately.

Specifications for Laboratory Accessories Pipettes and Dispensors

Quotations are invited for laboratory accessories meeting the specifications given below. All the required information is to be provided along with the quotation.

No.	Requirement	Features
1.	Digital, adjustable volume pipettes	<p>a. Three adjustable-volume pipettes, one each in the following ranges:</p> <ul style="list-style-type: none"> i. 10µl to 100µl ii. 100µl to 1000µl iii. 1000µl to 10,000µl <p>b. Easy to use, ergonomic styling, with central pipetting button and separate tip-ejector button.</p> <p>c. 500 numbers of pipette tips for each of the three pipetting ranges to be quoted.</p> <p>d. Easy volume adjustment, facilitating one-handed operation.</p> <p>e. Easy calibration and adjustment facilities, without requiring additional tools. Indication for changes from factory settings after calibration.</p> <p>f. Readable, digital four-position volume display</p> <p>g. Slim pipette shaft facilitating pipetting from narrow-mouth vessels.</p> <p>h. Optimised standard design enabling the use of pipette tips of standard sizes from other manufacturers</p> <p>i. Completely autoclavable to reduce chances of contamination.</p> <p>j. Pipette stand for the three quoted models</p> <p>k. Each pipette is to be supplied with calibration and performance certificates</p> <p>l. Complete warranty information, details of service providers nearest to Cochin, and all necessary instrument manuals should be provided.</p> <p>m. A compliance statement for the quoted model with the each of the above specifications should be submitted along with the quotation, without which the quotation would be deemed incomplete.</p>
2.	Repeating pipette dispenser	<p>a. A repeating pipette dispenser capable of dispensing fixed volumes multiple times from a single aspiration.</p> <p>b. Ergonomic and durable design</p> <p>c. Dispensing lever optimised for smooth dispensing of even small volumes</p> <p>d. Easy-to-use volume selector and tip-ejector separate from the dispensing lever, facilitating one hand operation.</p> <p>e. Graduated tip for visual confirmation of dispensed volume</p>

		<p>f. Dispensing volumes: 500µl to 2500µl (from 25ml aspiration) and 1000µl to 5000µl (from 50ml aspiration). 500 Nos. of tips each, for both aspiration volumes, should be quoted.</p> <p>g. Performance and calibration certificates should be supplied along with the pipette.</p> <p>h. Complete warranty information, details of service providers nearest to Cochin, and all necessary instrument manuals should be provided.</p> <p>i. A compliance statement for the quoted model with the each of the above specifications should be submitted along with the quotation, without which the quotation would be deemed incomplete.</p>
3.	Bottle-top dispensers	<p>a. Bottle top dispensers capable of accurately dispensing required amount of solvents (adjustable) directly from reagent bottles</p> <p>b. The valve block fitting to the bottle-top should be able to fill all standard-size bottles. If necessary, required adapters should be provided. The filling tube should adjust easily to different sizes of bottles without requiring any measuring / cutting.</p> <p>c. Mechanical volume setting with easy to read digital display.</p> <p>d. Easy to dismantle for cleaning.</p> <p>e. Safety features should include recirculation valves to prevent splashing during priming, and the discharge system should have all safety measures to deliver corrosive / harmful solvents.</p> <p>f. Easy calibration facility without the need for special tools</p> <p>g. The following dispensers in the corresponding volume ranges, should be quoted.</p> <p>a. For organic solvents (Acetonitrile, Methanol, Petroleum Spirit etc) ? 3 Nos. Volume range: 10 – 100ml with subdivisions of at least 0.5 ml (0.1ml desirable).</p> <p>b. For corrosive acids (H₂SO₄, HNO₃ etc) ? 2 Nos. Volume range: 5 – 50ml with subdivisions of at least 0.5 ml (0.1ml desirable).</p> <p>h. The items should be supplied with individual calibration and performance certificates.</p> <p>a. Complete warranty information, details of service providers nearest to Cochin, and all necessary instrument manuals should be provided.</p> <p>i. A compliance statement for the quoted model with the each of the above specifications should be submitted along with the quotation, without which the quotation would be deemed incomplete.</p>

ANNEX.4

Specifications for Laboratory Accessories Centrifuge

Quotations are invited for laboratory accessories meeting the specifications given below. All the required information is to be provided along with the quotation.

No.	Requirement	Features
4.	Table-top laboratory centrifuge	<ul style="list-style-type: none"> a. Compact and easy to use b. Maximum speed at least 15,000 rpm c. Capable of handling varying sample volumes up to 200ml (minimum 4 positions). Centrifuge tubes and all necessary accessories / adapters for handling volumes from <u>250ml to 5ml</u> should be provided. d. Microprocessor control system for speed, RCF, acceleration and deceleration. At least 5 program memories. e. Speed settings: 300 to 15,000 rpm, 10rpm increments f. Timer settings: 1min to 99min, in 1min increments, with hold and electrical buzzer g. Digital display for speed, RCF and timer settings h. At least two (slow and fast) selectable acceleration and braking rates i. Self-diagnostic features, with alarm displays for lid open, imbalance, over-speed and temperature, motor and rotor-set status, electrical abnormalities etc. j. System should comply with ISO safety requirements for laboratory equipment k. All necessary spares and accessories to maintain the system for a period of two years after warranty should be quoted l. Complete warranty information, details of service providers nearest to Cochin, all necessary instrument manuals and user's list for the quoted model in India with contact information should be provided. m. A compliance statement for the quoted model with each of the above specifications should be submitted along with the quotation, without which the quotation would be deemed incomplete.

ANNEX.5- Specifications for Automated Concentration Workstation for Residue Analysis

Quotations are invited for an Automated Concentration Workstation meeting the specifications given below. All the required information is to be provided along with the quotation.

No.	Requirement	Features
5.	Automated Concentration Workstation evaporation of solvents from residue extracts using Nitrogen.	<ul style="list-style-type: none"> n. Efficient evaporation of solvents like MDC, IPA, Hexane, Ethyl Acetate, Methanol and their mixtures, with capability of evaporation of 2 mL sample to dryness under 10 minutes. Maximum sample volume of at least 10ml. o. All required accessories for working with higher sample volumes should be quoted separately as 'optionals'. p. At least five individually controlled manifolds q. Adjustable Nitrogen regulator and gauge r. Temperature controlled water bath s. Facilities for setting and displaying time and temperature. t. Racks with collection tubes for different volume ranges. u. Audible alarm when evaporation is completed v. Compact and portable
2.	Accessories	All required accessories for optimum operation of the instrument should be included in the quote. All accessories for connection to Nitrogen cylinder should be quoted.
3.	Spares and Consumables	All required spares and accessories for trouble-free operation of the instrument for a period of two years are to be quoted.
4.	Warranty Information	Complete warranty information, and details of the servicing centre nearest to Cochin should be included.
5.	Users List	The complete users list of the quoted system in India with contact information should be included.
6.	Compliance Statement	A statement of compliance of the quotation with each point in this specification should accompany the quotation, without which the quotation would be deemed incomplete.

ANNEX.6- Specifications for Automated Microwave Digestion System

Quotations are invited for an automated Microwave Digestion / Extraction System meeting the specifications given below. All the required information is to be provided along with the quotation.

No.	Requirement	Features
6.	A Microwave Digestion / Extraction system with the following features:	<p>w. Capable of carrying out complete, reproducible and fast digestion / extraction work for Analysis of heavy metals in spices and other food products using AAS technique .</p> <p>x. Top-loader configuration, with electronically secured lid with all interlocking systems to ensure safety during the digestion process. The system should permit easy loading and removal of digestion vessels.</p> <p>y. Sturdy and chemical-resistant body capable of withstanding harsh laboratory environments.</p> <p>z. Capacity for loading at least 12 reactor vessels at a time, capable of handling up to 40 ml sample. Required number of reaction vessels, chemical resistant and suitable for acid digestion work and specific to application mentioned in (a) above, should be quoted with all required accessories. Optional handling of varying sample amounts should be provided.</p> <p>aa. At least 1400W microwave power output, with variable power settings for small or highly reactive samples</p> <p>bb. Continuous microwave power delivery, without power surges, to achieve even digestion</p> <p>cc. Integrated filtration devices enabling direct connection to the extraction vessels to obtain the extract.</p> <p>dd. Should be designed for unattended operation after loading samples.</p> <p>ee. Temperature range at least 100-300°C and pressure range at least 0 – 150 bar, with real-time electronic display, feedback and settings. Continuous turntable function with at least 5 rpm. Sample temperature and pressure sensors should operate <u>without contact with the sample</u>.</p> <p>ff. Reaction vessels and pressure / temperature sensors should facilitate easy cleaning / replacement.</p>

		<p>gg. Complete operational control and monitoring through control panel on the instrument. The control panel should provide display of all operational parameters of the instrument, as well as pre-set programs and manual settings.</p> <p>hh. Capable of complete control, monitoring, data generation and event logging through external software control from PC. All required software and accessories for this feature should be supplied.</p> <p>ii. Detailed information on pressure (accuracy ? 5 bar) and temperature (accuracy ? 1°C) for all the reaction vessels during the reaction process should be available as control panel and software readout.</p> <p>jj. Built-in methods library, with adequate documentation, for extraction of heavy metal residues from various sample types as per pre-set standard procedures like EPA. The instrument should be able to handle extractions of heavy metals at ppb-ppm levels.</p> <p>All accessories required for easily calibrating the pressure and temperature sensors, with the required software support, should be provided.</p> <p>ll. <u>Built-in safety systems</u> to protect against rapid temperature and pressure changes during digestion. The following features should be necessarily be available in the system:</p> <ul style="list-style-type: none"> ☞ Pressure resistant steel housing ☞ Controlled release of residual pressure when the digestion vessels are opened ☞ Lid with electronic interlocking systems that prevents opening during digestion. Integrated gas collection system to prevent emissions. ☞ Continuous evacuation of the oven chamber during the digestion process to remove any gas / acidic vapour emission ☞ Temperature and pressure monitoring of all reaction vessels in real time ☞ Auto-shutdown and alarm in the case of critical operating conditions ☞ Reliable rupture-disc system in the event of excess pressure
7.	Accessories	All required accessories for installation and operation of the system in the laboratory should be quoted
8.	Spares and Consumables	All required spares and accessories for trouble-free operation of the instrument for a period of two years after warranty are to be quoted.

9.	Software, Computer and printer	Software required for controlling, monitoring and generating reports from the instrument should be quoted. A suitably advanced computer and printer for installation of the software should be quoted.
10.	Warranty Information	Complete warranty information, and details of the servicing centre nearest to Cochin should be included.
11.	Users List	The complete users list of the quoted system in India with contact information should be included.
12.	Analytical Methods and Instrument Manuals	<p>A comprehensive compendium of analytical methods and application notes, for extraction of heavy metal residues from spices and other food samples for analysis in AAS at ppb - ppm levels using the quoted instrument, should be provided.</p> <p>References to standard methods like AOAC which uses the quoted model for trace metal analysis, and copies of published technical literature in reputed journals using the quoted system will be desirable.</p> <p>All manuals and troubleshooting guides should be included.</p>
13.	Compliance Statement	<p>A statement of compliance in the following format, <u>against each of the technical requirements</u> in this specification should necessarily accompany the quotation, <u>without which the quotation would be deemed incomplete</u>:</p> <ul style="list-style-type: none"> ☞ Compliance against each requirement should be indicated as 'yes/no'. ☞ Technical details against each requirement should be given in a separate column. ☞ While claiming higher features / capability than the technical requirements, adequate supporting data should be provided.

ANNEXURE-7

REQUIREMENT OF EQUIPMENTS IN CHEMISTRY LAB

ITEM	QUANTITY REQUIRED	SPECIFICATIONS
1. WATER BATH	1 NO	Rectangular, with 12 holes and variable size lids Double walled, Stainless steel body Temperature control regulator (30°C to 110°C) Dimension 50 x35x15 cms
2.MUFFLE FURNACE	2 NOS	Temperature up to 1200°C Temp.controller with digital display With an accuracy of $\pm 10^\circ\text{C}$ or less Chamber size (inner) 30 x 15x 15 cms
3.HEATING MANTLES a.500ml capacity, flat bottom b.500ml capacity, round bottom	2 NOS 2 NOS	}Glass fibre mantles, 6 Set each }with individual temp.control }regulator, and with condensers stand fixed
4. VACCUM PUMP for filtration purpose	1 NO.	Compact size, Chemical resistant With filtration speed adjustable valve and vaccum indicator,
5.RECIRCULATING WATER CHILLER	1 NO	With temp setting range 5°C to 30°C, and capable of circulating cool water through minimum 10 numbers of condensers at set temp. continuously for not less than 8hrs. Compact size