



DEPARTMENT OF CIVIL ENGINEERING  
**Indian Institute of Technology Madras**  
I.I.T.P.O., MADRAS-600 036

Form for Inviting Quotations

Ref. No. CIE/ RADH/2019-20/ POTENTIOSTAT/GALVANOSTAT

Date: 03.06.2019

To

DUE DATE: 17.06.2019 – 4.00 P.M.

Dear Sir,

1. Quotations are invited in duplicate for the various items shown below / overleaf / **Enclosed list**.
2. **The Quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned and contain in 2 bid system i.e. Technical bid and Commercial bid in two separate envelopes should be enclosed in a single envelope only so as to reach on or before the due date stipulated above.**
3. The Quotations should be valid for ninety days from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expenses.
6. Local Firms : Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
7. Firms Outside Madras : Quotations should be for F.O.R. Madras. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.
8. The rates of GST and other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for GST/General Taxes will be admitted at any stage and on any ground whatsoever. IIT Madras is eligible for concessional GST. Relevant certificate will be issued. In case of import supply the price should be quoted without custom duty. I.I.T. Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on **EX-WORXS** and **CIP** basis indicating the mode of shipment.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. Payment : Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.

Yours faithfully,

  
For Dr. Radhakrishana G Pillai

- Note: (i) Quotation should be sent by SPEED POST only or to be delivered directly to the concerned.  
(ii) Firms are requested to submit the specifications of their product along with supporting technical Documentation / brochure instead of reproducing the specifications sent by us.

**TECHNICAL SPECIFICATIONS-CUM-COMPLIANCE TABLE FOR  
POTENTIOSTAT/GALVANOSTAT**

**NOTE:** For each specification, please enter “YES” or “NO” in the second column of this table. **If a cell in the second column is left blank, then it will be assumed that the quotation does not comply with the respective specification/requirement.** Provide catalogues, data sheets and/or other documentation to support the compliance of your equipment to the given specifications.

<b>1.0 General</b>	<b>Yes / No</b>	<b>Remarks</b>
Device with Potentiostat, Galvanostat, Impedance Analyser for DC measurements. The system should have the following characteristics or better and should satisfy and demonstrate the performance criteria given in Section 2.		
<b>2.1 Hardware</b>		
2.1.1 Cell connections: 2-, 3-, and 4-terminal, all floating		
2.1.2 DC sweep/scan rate (analog): 300 Volts/seconds or more		
2.1.3 No of Channels: 1		
2.1.4 USB based connector interface between instrument and PC is required.		
2.1.5 Operating power range: 220Volts AC, 50-60 Hz		
2.1.6 Data Acquisition with at least 1,00,000 simultaneous/synchronized readings per second ((current/voltage/auxiliary terminal)		
<b>2.2 Applied Voltage</b>		
2.2.1 Applied Voltage Range: $\pm 10$ mV to $\pm 10$ V		
2.2.2 Applied Voltage Resolution: 1 $\mu$ V		
2.2.3 Applied voltage accuracy : $< \pm 1$ mV		
<b>2.3 Applied Current</b>		
2.3.1 Applied current range: $\pm 1\mu$ A to $\pm 1$ A		
2.3.2 Applied current resolution: At least $\pm 1/32,000$ of the range		
2.3.3 Applied current accuracy : At least $\pm 0.1\%$ of the range		
2.3.4 Maximum current: $\pm 500$ m A		
<b>2.4 Voltage measurement</b>		
2.4.1 Measured voltage range: $\pm 20$ mV to $\pm 10$ V		
2.4.2 Measured voltage resolution: At least $\pm 1/32,000$ of the range		
2.4.3 Measured voltage accuracy: At least $\pm 0.03\%$ of the magnitude of the reading		
2.4.4 Measured voltage accuracy: At least $\pm 1$ mV		
<b>2.5 Current Measurement</b>		
2.5.1 Measured current range: 8 ranges spanning between 10 nA and 1A		

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2.5.2	Measured DC current accuracy : $\pm 0.03\%$ of reading		
2.5.3	Bandwidth : 8 MHz		
<b>2.6 Impedance testing</b>			
2.6.1	Frequency: 10 $\mu$ Hz to 6 MHz		
2.6.2	Minimum AC Voltage Amplitude: Between 0.5 mV and 2.5 mV		
<b>2.7 IR Compensation</b>			
2.7.1	Dynamic IR Compensation with positive feedback		
<b>2.8 Software</b>			
2.8.1	Software interface to read, log, plot, and analyze data.		
<b>3 Manufacturer Experience, Installation &amp; Training</b>			
3.1	The manufacturer must have at least 15 years of experience in the field of electrochemical testing.		
3.2	Provide a list of IITs or government agencies, where similar equipment were supplied and their contact details.		
3.3	The equipment should be installed and commissioned by the supplier at IIT Madras, Chennai at free of cost.		
3.4	Hands on training on the testing, data acquisition and basic maintenance of the equipment offered to be provided for a period of at least two full working days at IIT Madras, Chennai.		
3.5	The manufacturer must have well-qualified technical support team.		
<b>4 Pre-order demonstration</b>			
4.1	Before the final purchase order is released, demonstrations on linear polarization resistance and electrochemical impedance spectroscopy tests and data analysis on steel-cementitious specimens prepared in our lab are required		

*B. Pillai*  
12/6/19