भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

मानव संसाधन विकास मंत्रालय, भारत सरकार द्वारा स्थापित

सैक्टर 81,नॉलेजसिटी,प॰ ओ॰ मनोली, एस॰ ए॰ एस॰ नगर,मोहाली, पंजाब 140306

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

(Established by Ministry of Human Resource Development, Govt. of India)

Sector-81, Knowledge city, PO-Manauli, SAS Nagar Mohali-140306, Punjab

PAN No. - AAAAI1781K

• **Phone : +91-172-2240086 & 2240121** • **Fax : +91-172-2240124, 2240086** • **http://www.iisermohali.ac.in** • **Email:** stores@iisermohali.ac.in

CPPP/Institute Website

IISERM (1046)18/19Pur Dated- 21st August 2018

E-TENDER NOTICE

Online tenders are invited on behalf of Director, IISER Mohali in **TWO BID SYSTEM** {Technical and Commercial} for the supply and installation of Gas Absorption System as per technical specification given below and BOQ list the original manufacturer/supplier at CPPP i.e. **https://eprocure.gov.in/eprocure/app**. Tender documents may please be downloaded from the E-procurement portal website **https://eprocure.gov.in/eprocure/app**& Institute website **www.iisermohali.ac.in.**

-sd-
(Mukesh Kumar)
Assistant Registrar (S&P)

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E-TENDER NOTICE

Tender Ref.- IISERM(1046)18/19Pur	Dated :- 21st August 2018

Critical Date Sections

Sr.	Description	Date	Time
1.	Tender Publishing Date and time	21st August 2018	6:00pm
2.	Tender Document download start Date & Time	21st August 2018	6:00pm
3.	Bid Submission start Date &Time	21st August 2018	6:00pm
4.	Bid Submission End date and Time	10th September 2018	Up to 11:00am
5.	Tender opening Date and Time	11th September 2018	At 11.30 am

Online tenders are invited on behalf of Director, IISER Mohali in **TWO BID SYSTEM** {Technical and Commercial separately} for following item(s) from the original manufacturer/supplier at CPPP i.e. **https://eprocure.gov.in/eprocure/app**. Tender documents may please be downloaded from the E-procurement portal website **https://eprocure.gov.in/eprocure/app**& Institute website **www.iisermohali.ac.in.**Tender fee in shape of DD/Banker Cheque of Rs 590/- (Non-refundable) and EMD of Rs. 1,00,000/- should be submitted by DD /Banker Cheque/FDR/ Bank Guarantee in favour of the Registrar, IISER Mohali payable at Mohali. However, scanned copy of the both tender fee and EMD should be upload on website along with technical bid part. The hard copy of the same in original to be send to the address mentioned below duly superscribing the supply/work name and reference/ tender ID on the envelope and same must reach before opening the bid and if not received within due date the bid will be rejected summarily.

The Original EMD and Tender Fee should be sent to:

Assistant Registrar (S&P)
Indian Institute of Science Education and Research,
Mohali Sector 81, SAS Nagar, Mohali, Punjab,
India, Pin: 140306

Non-receipt of original EMD and Tender Fee will lead to rejection of tender.

Item Details/List of items:-

S. No.	Name of item
1	GAS ABSORPTION SYSTEM (As per technical specification enclosed)

NB:

1. The online updated Price BOQ is in INR format. If bidder want to quote other than INR please specify the quoted currency in the technical bid/part and fill the amount in same updated BOQ.
2. Please bifurcate the price on shipping terms i, e, Ex-works -> FCA/FOB -> CIP/CIF in price BOQ and specify the same in technical bid.

SUBMISSION OF TENDER

I. All bid/ tender documents are to be uploaded online at Central Public Procurement portal i.e. **https://eprocure.gov.in/eprocure/app** only and in the designated cover/ part on the website against tender ID. Tenders/ bids shall be accepted only through online mode and no manual submission of the same shall be entertained except tender fee and EMD. Late tenders will not be accepted.

II. The online bids shall be opened at the office of the Assistant Registrar (P&S), IISER Mohali, on above given date and time. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be attended on the next working day at same time and place. IISER Mohali will not be responsible for any error like missing of schedule data while downloading by the Bidder.

III. The bidder shall upload the tender documents duly filled in and stamped by the authorized signatory on each and every page. Tender not submitted/uploaded in the prescribed form and as per the tender terms and conditions shall be liable for rejection.

IV. The bidder shall upload scanned copy of the PAN Card, GST number duly signed and stamped.

V. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

INSTRUCTIONS

1. The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company for quoting the price otherwise such quotation will be rejected.

2. The quantity mentioned in this inquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute. Before the deadline for submission of the online bid, IISER Mohali reserves the right to modify the tender document terms and conditions. Such amendment/modification will be notified on website against said tender ID

3. The rates offered should be FOR Chandigarh/Mohali in case of firms situated outside Chandigarh/Mohali, and free delivery at the Institute premises in case of local firms. Supplier from outside India should mention the Ex-works/FOB/FCA/CIF/CIP price clearly. Conditional tenders will be summarily rejected.

4. In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated by percentage or lump sum amount. Institute has policy not to make any advance payments towards any purchase, Letter of credit can be opened if required.9 0 % payment will be made through FLC/after deliver and balance 10 % after satisfactory installation, commissioning

of the instrument and submission of 10 % PBG for warranty periods plus 60 days.

5. THE INSTITUTE IS EXEMPTED FROM EXCISE AND CUSTOM DUTY under notification no- 51/96 –CUSTOM DATED 23/7/1996 AND EXCISE NOTIFICATION NO. 10/97-CENTRAL EXCISE DT. 01.03.1997 DSIR REGISTRATION NO TU/V/RG/-CDE(1062)/2016 DT. 30/08/2016.

6. Tax: This Institute is not exempted from the payment of GST. The current rate (i.e. percentage of Sales Tax should be clearly indicated included or excluded) wherever chargeable. Please also provide/upload the copy of PAN card, GST number duly self-attested.

7. The delivery period should be specifically stated. Earlier delivery will be preferred.

8. The firms are requested to provide/upload detailed description and specifications together with the detailed drawings, printed leaflets and literature of the article quoted. The name of the manufactures and country of manufacture should also invariably be stated. In the absence of these particulars, the quotation is liable for rejection.

9. Validity of offer: 180 days minimum. The warranty period after satisfactory installation should be mentioned and firm should replace all manufacturing defect parts/ whole item under warranty without any extra cost including clearance, freight, taxes. Security deposit/ Bank Performance Guarantee @ 10 % of the value of supply order as per norms may be sought from the firms.

10. The right to reject all or any of the quotation and to split up the requirements or relax any or all the above conditions without assigning any reason is reserved by the IISER Mohali. For any corrigendum and addendum please be checked the website https://eprocure.gov.in/eprocure/app and http:/www.iisermohali.ac.in

11. Disputes, if any, shall be subject to jurisdiction in the court of Mohali only.

–sd/-
(Mukesh Kumar)
Assistant Registrar (S&P)

Specifications

System should be able to analyze all types of samples such as organic and inorganic porous and non porous materials such as zeolite, mesoporous silica, metal oxides, carbon, metal organic framework, covalent organic framework, clay etc.

a)	**Surface Area**	The unit should have the capability of carrying out physisorption of various gases and should have features to measure the adsorption / desorption isotherms, surface area (langmuir, BET, etc.), pore size, pore volume and micropore distribution. It should have at least Two sample analysis stations. The system should be capable of measuring surface area in the range of 0.01 m^2/g to no known upper limit (nitrogen) and 0.0005 m^2/g to no known upper limit (krypton)
b)	**Analysis Capability**	The system should have facility for, **Isotherms:** Up to 1000 data points (per station), adsorption and/or desorption. Hysteresis scanning. **Surface Area:** BET, Langmuir, STSA, DFT, BJH and BET micropore assistant analysis for COFs and MOFs. **Micropores:** NLDFT, QSDFT, t-plot, alpha-s method, MP method, DR & DA methods. **Mesopores:** NLDFT, BJH, DH also it should have Total pore volume and average pore size. Automatic BET point selector for microporous materials.
c)	**Analysis Station**	The system should have minimum Two analysis stations. One of the analysis stations should have micropore and another mesopore analysis facility with P/P0 ratio 10^{-7}. Analysis and Degassing station should be separate and it should work simultaneously and independently. Accuracy should be 0.2 % of the transducer reading or better.
d)	**Adsorbates**	The system should be designed to use gases like, Ar, CH_4, N_2, CO_2, H_2, acetylene etc. the quoted systems should have at least five gas inlet ports or more.
e)	**Coolant Level Control**	Highly accurate Automatic coolant control with or without level controller to minimize the cold free space, i.e. within 4-5 cm of base of lowest portion of sample cell for enhanced sensitivity or equivalent.
f)	**Dewar Flask**	The system should be supplied with a 70+ hour dewar, for ultra-long Measurements, especially for micropores analysis. The cryogen dewar should be refillable without affecting the accuracy of the analysis results.
g)	**Degassing facility**	The instrument should have In-situ degassing under High vacuum prior to analysis or at least two or more built-in vacuum degassing stations. Each consisting of sample port, heating mantle with over-temperature protection, PC programmable ramp/hold/test protocols. Degas ports should be served by the dry turbo vacuum system, and a dedicated cold trap. Temperature range ambient to minimum 350 °C. Temperature accuracy ± 1% of set point at thermocouple or better. One or two extra heating mantles should be provided.
h)	**Pressure Transducers**	Transducers: 1000 mmHg, 10mmHg, 1mmHg and 0.1 mmHg should be available on both the analysis stations'' as mentioned before following the requirements mentioned in a) and c). Transducer accuracy: (1) 0-1000 mmHg: 0.25 % of Reading or better; (2) 0-10 mm Hg: 0.15% of Reading or better; and (3) 0-0.1 mm Hg: 0.15% of Reading or better. The system should enable full

		range adsorption measurement, including micropore measurement. The pressure transducers should have high resolution and accuracy with high stability. The offer should provide the resolution and accuracy data of these transducers. It should have dedicated Po transducer.
i)	**P0 Station**	The system reference pressure Po station should be served by its own dedicated 1000 torr transducer to constantly monitor saturation pressure without interrupting pressure readings at the sample station. The pressure transducer should have an accuracy of 0.25% FS or better.
k)	**Pore Diameter**	The system should be capable of measuring pore diameter in the range of 3.5-5000 Å and micropore volume detectable within the range of 0.0001 cc/g or lesser.
l)	**Other facility**	The system should have features for automated real time free space measurement. Certified reference standards to be supplied for making adsorption studies. The system should have provisions for at least 5 gas inlets and provision to upgrade upto 8 Nos or more. The system should have provisions to onsite upgrade for additional (one or more) Micropore or Mesopore analysis stations. System should be compatible to further expansions for chemi-adsorption in future, if needed.
m).	**PC interface, Data analysis and software features**	The system should control through windows based software. Calibration routines to be controlled by the software. Features for creation of methods for measuring the adsorption/desorption isotherms. The software should have all the data handling features like user defined report generation, data/figures export to spreadsheets, offline data processing etc.
n)	**Standards**	Suitable performance evaluation standard for Surface Area should be included in the offer.
o)	**Gas Cylinders and Regulators**	Gas cylinders must be 99.999% Ultra High Purity with two stage gas regulators with moisture traps. Nitrogen and Helium (2 No.) gas cylinders, steels tube, nuts and ferrules to operate the whole instrument should be supplied.
p)	**Sample tubes**	15 tubes each for low volume and high volume samples along with filler rods and caps. O-rings should be provided (30 Nos.)
q)	**LIQUID NITROGEN**	55 Liters and 10 Liters of Liquid Nitrogen Containers should be supplied along with trolley.
r)	**COMPUTER and UPS**	Latest I5/I7 Computer with minimum Windows 8 or 10, with 1TB HDD or more and minimum 8 GB RAM should be supplied. UPS of 5KVA with 30 Min Back up should be supplied.
s)	**Install Base**	In last three years supplier must have supplied and installed 10 similar systems or more to any of the leading institutions in India such as IISC/IIT's /CSIR/DRDO/DAE *etc.* provide the list of users.
t)	**Others**	• Separate user manuals (if necessary) for the instrument handling, trouble shooting, calculations, etc., to be provided in soft & hard copies. • The software should have all the data handling features like user defined report generation, data/figure export to spreadsheets, offline data processing in atleast 6 computers, etc.
u)	**Warranty**	The Quoted system should be under warranty for 36 Months or more from the date of Installation • **Annual Maintenance Contract (AMC)** Apart from warranty, AMC

		(optional) amount should be quoted for 2 years after the warranty period • **Service Support** Vendor should provide service engineer's details. Company should provide the on-site service within 5 days' time after the intimation from the users.
v)	**Platform**	Suitable platform (with granite top) has to be provided for the instrument and operating pc.