

TECHNICAL BID PROFORMA
Item Name: “Contact Angle Goniometer”

Bidder Eligibility Criteria:

1.0	Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)	Class I / Class II	Local Content value	Reference, Page No.
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 th September 2020 and other subsequent orders issued therein.			
2.0	Bidder Eligibility Criteria-II	Compliance (Yes/No)	Reference Page No.	Remarks, If any
1	The bidder/OEM should have supplied at least 5 similar items to IITS, NITS IISERS, CSIR Labs or other Govt. R&D organizations in the last 10 years. Purchase order copies or installation certificates with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.			
2	Company should be registered in India for last 3 year. Proof of company registration should be enclosed.			
3	The bidder should have 10 lakhs turnover in any one of the last 3 Financial Year.			
4	The service center should be within Chennai, Tamilnadu. Proof of facility location & contact details to be provided along with technical bid.			

3.0 Technical Compliance:

S.NO	Specification		Complied/ Not Complied	Reference Page No
1	Frame Type/Configuration type	Standard Frame for Fixing the Sample Stage, Light source, Sample dispenser, optics with Camera with Future upgradation provision.		
2	Contact Angle Measurement Methods	Sessile Drop with Static and dynamic measurements		
3	Contact Angle Measurement Range	0 - 180°		

4	Contact Angle Accuracy	$\pm 0.05^\circ$ or Better		
5	Camera Type	High Speed C Mount CMOS		
6	Max Camera Speed and Recording capability	75 fps or Higher with static and continuous (dynamic) recording		
7	Image Resolution (In Pixel)	720×480 or Better		
8	Image Distortion	<0.1% or Better		
9	Substrate Stage Dimension	150 X 100 X 40 [(L X W X H) in mm] or better		
10	Liquid Sample Dispenser	Software controlled Automatic Liquid Dispensing with a Programmable Volume & PC- controlled Dispensing speed Range 0.038-16 microliter or better.		
11	Liquid Syringe Dispenser Volume	250 micro liter or higher.		
12	Surface Free Energy Measurement Methods	Surface Free Energy of Solid Substrates Measurement with more than 10 methods (Van Oss Acid Base, Acid-Base, Zisman, Extended Fowkes, Equation of state, Wu , Schultz 1 , Schultz 2 and others) More than 100 Liquid & Solid Database		
13	Surface Tension and Interfacial Tension Measurements	Surface Tension and Interfacial Tension of Liquid Calculation by Pendant Drop Method and should be supplied with Pendant Drop Kit.		
14	Surface & Interfacial Tension measurement range	0.01 – 1000 mN/m, Surface & Interfacial Tension measurement resolution: 0.01 mN/m		

15	PC-controlled Substrate Stage Tilting	PC-controlled Substrate Stage Tilting up to 90° with Resolution of 0.1° or better along with Contact Angle Hysteresis Calculation		
16	Computer Desktop	Core i5 processor/240 GB SSD/12 GB RAM/USB 3.0 with all necessary connectivity ports to connect the goniometer and accessories		

S.NO	Other Important Features:	Complied/Not Complied	Reference Page No
1.	User Friendly Windows [®] 10 compatible PC Software		
2..	Measurement & Display of Left, Right & Average Contact Angles		
3.	Measurement on Flat Surface [Even, Uneven, Rough, Semi-transparent & Reflecting		
4.	Auto-detection of Baseline with Fine Adjustment Provision.		
5.	Auto Detection of Baseline-Liquid Droplet Contact Points.		
6.	Both Auto & Manual Edge- Detection of with High Precision		
7.	Half Angle Fitting, Circle Fitting, Ellipse Fitting & Tangent Method for Contact Angle Analysis.		
8.	Image Saving & Loading option with Experimental Data.		
9.	Image Comparison Feature.		
10.	Original & Analyzed Image Export option.		
11.	Offline Processing & Analysis option.		
12.	Experimental Data Export Option		

The system should be upgradable in future with the following add-on modules/Components	Complied/Not Complied	Reference Page No
a. XYZ Manual Stage Movement Module along X axis 80 mm, Y axis 80 mm & Z axis 40 mm or better.		
b. Stage Heating Module upto 200°C or better		
c. Zoom Lens: 10X or more		
d. Provision of Video module		
e. Advancing & Receding Angle Measurement modules		
f. Captive Bubble Measurement module for the measurement of Contact Angle for Hydrophilic samples		
g. Measurement of Contact Angle for Curve Surface		

S.NO	Other Requirements	Complied/Not Complied	Reference Page No
1	Quotations with the complete solution for the above requirement will only be accepted.		
2	I.I.T. Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.		
3	The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. Quotations for a prototype machine will not be accepted.		
4	Test certificates for all the stages confirming the specifications from OEM are required with shipping/freight documents.		
5	Suppliers to provide training for programming, operation and maintenance at IIT Madras at free of cost.		
6	All necessary safety regulations such as CE compliance, low voltage directive, EMC regulations compliance details, Alarms and emergency switch off in case of any malfunctioning must be provided. The system must be equipped with all the necessary safety interlocks. Provisions for safety wear are essential.		
7	The complete system and its associated hardware should have a standard warranty of 1 year or more from the date of installation, commissioning and acceptance of the system at IIT madras. Supplier modification (s)/software upgrades shall be intimated and the same		

	will be made available free of cost during the warranty period.		
8	All technical literature/catalogues and drawings of various systems should accompany the quotation. All the documents should be in English.		
9	Installation and commissioning should be provided by the supplier or its Indian agent. The Indian agent should have well proven service capability on similar systems with factory trained service engineers available in India. Details of their engineers expertise should be enclosed along with the offer and will be a key factor in the decision making.		
10	The system should have compatibility with Indian environment conditions (for better power/energy stability)		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the above points with document proof as required. Failing which bidders will be technically disqualified)

**SIGNATURE OF BIDDER ALONG WITH
SEAL OF THE COMPANY WITH DATE**