



# UNIVERSITY OF KERALA

DEPARTMENT OF PHYSICS

KARYAVATTOM, THIRUVANANTHAPURAM, INDIA – 695581.

e-mail: kuphysics76@gmail.com, Phone 0471 – 2308920

PHY/DKG/SPG /3/24-25

20/06/2025

## TENDER NOTICE

Sealed competitive tenders are invited from competent vendors/suppliers for the supply and fabrication of gas sensing system with the following specifications

### Technical specifications for the Gas sensing system – 1 no.


Sl No.	Part name	Specifications
1.	Vacuum Chamber	<ul style="list-style-type: none"><li>Sealed cylindrical stainless-steel top-loading vacuum chamber with an inner diameter of 300 mm and height of 350 mm</li><li>A viewing port having a diameter of 75 mm</li><li>Provision for electrical connection to the chamber through the base plate.</li><li>Provision for air inlet to vent the chamber.</li></ul>
2.	Vacuum Pump	<ul style="list-style-type: none"><li>Dual stage rotary Vacuum pump with free air displacement capacity of 100 lit/min</li><li>Exhaust connection from rotary pump.</li><li>Provision for connection with KF25 hinge clamp from the mouth of the pump.</li></ul>
3.	Vacuum lines and gauges	<ul style="list-style-type: none"><li>Stainless steel vacuum pipelines.</li><li>1-meter stainless steel bellow with two side KF25 hinge clamps</li><li>Digital Pirani gauge with gauge head to monitor the pressure in the range of 1000 mbar to <math>10^{-3}</math> mbar.</li></ul>
4.	Gas mixing chamber and gas lines	<ul style="list-style-type: none"><li>Gas mixing chamber attached to the vacuum chamber with a size of 100 mm x 30 mm (lxb)</li><li>Gas mixing chamber should have provision for connecting 3 Mass flow controllers (MFC).</li><li>Gas inlet port from the gas mixing chamber to the vacuum chamber.</li><li>Stainless tubing with <math>\frac{1}{4}</math> inch diameter for the corrosive gas flow between the gas regulator to MFC and MFC to gas mixing chamber.</li><li>Polyurethane (PU) tubing with 10 mm diameter for non-corrosive gas flow between the gas regulator to MFC and MFC to gas mixing chamber.</li></ul>
5.	Sample heater and electrical test probes	<ul style="list-style-type: none"><li>Heater which goes up to 250°C with PID controller.</li><li>Accuracy of the temperature controller <math>\pm 1^\circ\text{C}</math></li><li>Heating Area 50x50 mm<sup>2</sup> Spring.</li><li>Spring loaded Gold Plated Four probe set up</li></ul>

		<ul style="list-style-type: none"> <li>• Spacing of the prods: 3 mm</li> <li>• Diameter of the probe tip: 500µm</li> </ul>
6.	Warranty	Minimum 1 year

For more details, please log on to [www.keralauniversity.ac.in](http://www.keralauniversity.ac.in). Last date for the receipt of tenders is **04.00 P.M. on 04.07.2025**. Tender forms can be downloaded from the University web site [www.keralauniversity.ac.in](http://www.keralauniversity.ac.in).

The cost of the tender form ₹443/- (Rupees four hundred and forty three only) and the Earnest Money Deposit of Rs. 2500/- (Rupees two thousand, five hundred only) should be remitted by way of Demand Draft issued from a nationalized/scheduled bank, drawn in favour of The Finance Officer, University of Kerala, payable at State Bank of India, Kerala University Office Campus Branch (SBIN0070292). The tender documents, along with separate DD towards the cost of the tender form and the EMD should be submitted/sent to the **Dr. Deepa K.G, Department of Physics, University of Kerala, Kariavattom, Thiruvananthapuram 695581.**

The rate quoted should be inclusive of all charges such as packing, forwarding, freight, loading/unloading/handling and Government duties leviable, if any. The University reserves the right to accept or reject any or all the tenders without assigning reasons whatsoever.

  
**Dr. Deepa K.G.**  
 Assistant Professor  
 Department of Physics  
 University of Kerala  
 Thiruvananthapuram-695 581



PHY/DKG/SPG/3/ 24-25

20/06/2025

**TENDER**

**Containing General Conditions and  
Schedule for the Supply and Fabrication of  
Gas sensing unit**


Name of Tenderer: Dr. Deepa K.G., Department of Physics

Address:

Department of Physics

University of Kerala,  
Kariavattom Campus

Signature of Tenderer:



Dr. Deepa K.G.  
Assistant Professor  
Department of Physics  
University of Kerala  
Thiruvananthapuram-695 581



## FORM OF TENDER

From

.....  
.....  
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To

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.....  
.....

Sir,

I/We hereby tender to supply, under the annexed general conditions of contract, the whole of the articles referred to and described in the attached specification and schedule, or any portion thereof, as may be decided by the University of Kerala, Thiruvananthapuram at the rates quoted against each item. The articles will be delivered within the time and at the places specified in the schedule.

\*I/We am/are remitting/have separately remitted the required amount of Rs ..... as earnest money.

Yours faithfully (Signature)

.....

(Address) .....

Date: .....

\* To be scored in cases where no earnest money deposit is furnished.

Important: This tender form may be printed on A4 size paper. Editing of the pre- printed text in the tender form in any way other than as indicated (like ticking, filling in with ink/typing, scoring off inapplicable material etc.) will render the tender form invalid and liable for rejection.

## GENERAL CONDITIONS

Sealed tenders are invited for the supply of the materials as specified in schedule attached below.

1. The tenders should be addressed to the Dr. Deepa K.G., Department of Physics, University of Kerala, Kariavattom campus, Thiruvananthapuram in a sealed cover with the tender number and name – **“Tender for the supply and fabrication of gas sensing unit”** duly superscribed on the cover on or before **04/07/2025, 04.00 PM**
2. Tenders which are not in the prescribed form are liable to be rejected and the cost of tenderforms once paid will not be refunded.
3. Intending tenderers should send their tenders so as to reach the officer mentioned in the tender notification, on or before the due date and time noted therein. No tender received after the specified date and time will be accepted on any account. The rates will be considered firm for acceptance till the date mentioned therein. Tenders not stipulating period of firmness and tenders with price variation clause and/or ‘subject to prior sale’ condition are liable to be rejected.
4. a. Every tenderer who has not registered his name with the State Government (Stores Purchase Department), should send along with his tender, an earnest money of Rs.2500/- The amount may be paid in the form of Demand Draft drawn in favour of the Finance Officer, University of Kerala, Thiruvananthapuram. **Cheques will not be accepted.** The earnest money of unsuccessful tenderers will be returned as soon as possible after the tenders are settled.  
b. Tenderers whose names are registered with Government (Stores Purchase Department) are generally exempted from furnishing earnest money for such articles for which they have registered their names. If they tender for stores other than those for which they have registered their names, they will have to furnish earnest money as in the case of unregistered firms. Registered firms will have to quote invariably in every tender they submit, the registration number assigned to them by the Stores Purchase Department. Attested copy of registration certificate may be enclosed with the tender for reference.  
c. Small Scale Industries and Cottage Industries within the Kerala state, which are certified as such by the Director of Industries and Commerce or by the Regional Joint Director of Industries and Commerce will be exempted from furnishing earnest money against tenders for supply of stores manufactured by them.
5. If any tenderer withdraws from his tender before the expiry of the period fixed for keeping the rates firm for acceptance, the earnest money, if any deposited by him will be forfeited to University of Kerala or such action taken against him as the University think fit.

6. The final acceptance of the tender rests entirely with the University who do not bind themselves to accept the lowest or any tender. But the tenderers on their part should be prepared to carry out such portion of the supplies included in their tender as may be allotted to them.
7. In cases where a successful tenderer, after having made partial supplies, fails to fulfil the contracts in full, all or any of the materials not supplied may at the discretion of the Registrar, be purchased by means of another tender/quotation or by negotiation or from the next higher tenderer who had offered to supply already and the loss, if any, caused to the University shall thereby, together with such sums as may be fixed by the University towards damages, be recovered from the defaulting tenderer.
8. Payment will be made only after the supplies are actually verified and taken to stock.
9. The contractor shall not assign or make over the contract or the benefits or burdens thereof to any other person or body corporate. The contractor shall not underlet or sublet to any person or persons or body corporate the execution of the contract or any part thereof without the consent in writing of the Registrar who shall have absolute power to refuse such consent or to rescind such content (if given) at any time if he is not satisfied with the manner in which the contract is being executed and no allowance or compensation shall be made to the contractor or the sub-contractor upon such recession. Provided always that if such consent be given at any time, the contractor shall not be relieved from any obligation, duty or responsibility under this contract.
10. The tenderer shall undertake to supply materials according to the standard sample and/or specifications
11. No representations for enhancement of rates once accepted will be considered.
12. Any attempt on the part of the tenderers or their agents to influence the University in their favor by personal canvassing with the officers concerned will disqualify the tenderers.
13. Samples would be forwarded if called for and unapproved samples got back by the tenderers at their own cost. Samples sent by V.P. Post for 'freight to pay' will not be accepted. The approved samples may or may not be returned at the discretion of the undersigned. Tenderers whose samples are received late will not be considered. Tenders for the supply of materials are liable to be rejected unless samples if called for, of the materials tendered for are forwarded.



Dr. Deepa K.G.  
Assistant Professor  
Department of Physics  
University of Kerala  
Thiruvananthapuram-695 581



### Technical Specifications

Sl.No	Item Name & Technical Specifications			Qty	Unit Price (₹) (Incl. GST)	Total Amount (₹) (Incl. GST)
1	Sl No.	Part name	Specifications	1		
	1.	Vacuum Chamber	<ul style="list-style-type: none"> <li>Sealed cylindrical stainless-steel top-loading vacuum chamber with an inner diameter of 300 mm and height of 350 mm</li> <li>A viewing port having a diameter of 75 mm</li> <li>Provision for electrical connection to the chamber through the base plate.</li> <li>Provision for air inlet to vent the chamber.</li> </ul>			
	2.	Vacuum Pump	<ul style="list-style-type: none"> <li>Dual stage rotary Vacuum pump with free air displacement capacity of 100 lit/min</li> <li>Exhaust connection from rotary pump.</li> <li>Provision for connection with KF25 hinge clamp from the mouth of the pump.</li> </ul>			
	3.	Vacuum lines and gauges	<ul style="list-style-type: none"> <li>Stainless steel vacuum pipelines.</li> <li>1-meter stainless steel bellow with two side K25 hinge clamps</li> <li>Digital Pirani gauge with gauge head to monitor the pressure in the range of 1000 mbar to <math>10^{-3}</math> mbar.</li> </ul>			
	4.	Gas mixing chamber	<ul style="list-style-type: none"> <li>Gas mixing chamber attached to the vacuum chamber with a size of 100 mm x 30 mm (lxb)</li> </ul>			

	and gas lines	<ul style="list-style-type: none"> <li>• Gas mixing chamber should have provision for connecting 3 Mass flow controllers (MFC).</li> <li>• Gas inlet port from the gas mixing chamber to the vacuum chamber.</li> <li>• Stainless tubing with ¼ inch diameter for the corrosive gas flow between the gas regulator to MFC and MFC to gas mixing chamber.</li> <li>• Polyurethane (PU) tubing with 10 mm diameter for non-corrosive gas flow between the gas regulator to MFC and MFC to gas mixing chamber.</li> </ul>			
5.	Sample heater and electrical test probes	<ul style="list-style-type: none"> <li>• Heater which goes up to 250°C with PID controller.</li> <li>• Accuracy of the temperature controller <math>\pm 1^\circ\text{C}</math></li> <li>• Heating Area 50x50 mm<sup>2</sup> Spring.</li> <li>• Spring loaded Gold Plated Four probe set up</li> <li>• Spacing of the probs: 3 mm</li> <li>• Diameter of the probe tip: 500µm</li> </ul>			
6.	Warranty	Minimum 1 year			

**Rate quoted should be inclusive of all charges such as packing, forwarding, freight, loading/unloading/handling or installation charges and Government duties leviable, if any.**

Period within which goods should be delivered: As per the Delivery Schedule in the Purchase Order.

**Other special conditions:** Defective items, if any, supplied should be rectified/replaced to the satisfaction of the University by the suppliers at their own cost.

**Dr. Deepa K.G.**  
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