

MAHARSHI DAYANAND UNIVERSITY, ROHTAK

Department of Physics

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STANDARD BIDDING DOCUMENT FOR PURCHASE OF GAS SENSING SYSTEM

PART 1: COMPLETE BIDDING DOCUMENT

Name of Work: Development of Gas Sensing System in the Department of Physics, M. D. University, Rohtak.

PRESS NOTICE

M.D. UNIVERSITY, ROHTAK Notice Inviting E-tender	
Name of Work	Development of Gas Sensing System in the Department of Physics, M. D. University, Rohtak.
Tender Docs Fee+ E Service Fees	Rs. 1000/- + Rs. 1180/- (non-refundable)
Earnest Money	Rs. 16,800/-
Online tenders to be received till: 19.10.2026	
i) The tenders will be received only through E-tendering for further details visit website https://etenders.hry.nic.in & www.mdu.ac.in	
ii) Cost of Bid document is Rs. 1000/- (non-refundable) for each bid to be deposited through online mode only.	
iii) Earnest Money, Tender Document Fees and E-Service Fees (as mentioned above) will be deposited through online mode only.	
iv) The contractors / agencies will keep in touch with the University Web Site www.mdu.ac.in and http://www.etenders.hry.nic.in for any amendment / addendum till the last date / revised last date of submission of tender and may incorporate such changes in the tender bids, if required.	

REGISTRAR

-M. D. University, Rohtak

NOTICE INVITING TENDER

Sr. No	Name of Items	Appx. Total Cost (Rs. in lacs)	EMD to be deposited by Bidder (Rs.)	Tender Document Fee & eService Fee (Rs.)	Start Date & Time of Bid Preparation & Submission	Expiry Date & Time of Bid of EMD Submission
1.	<u>Laboratory Equipment:</u> Development of Gas Sensing System	-	16,800/-	Rs 1000/- for Tender Document fee & Rs. 1180/- for e-Service fee	Date: 24.09.2026 Time: 9:00AM	Date: 19.10.2026 Time: 2: 00PM

e-Tender is invited for the purchase of below-mentioned items in single stage two cover system i.e. Request for Pre-Qualification / Technical Bid (online Bid under PQQ / Technical Envelope) and Request for Commercial Bid (comprising of price bid Proposal under online available as BOQ) :

1. Tender/ Bidding documents are available on website <http://mdurohtak.ac.in>
2. The bidders would submit bid through e-tendering only on the website i.e. <http://www.etenders.hry.nic.in>

Under this process, the Pre-qualification/ Technical online bid Application and online Price Bid shall be invited at single stage under two covers i.e. PQQ/Technical & Commercial Envelope. Eligibility and qualification of the Applicant will be first examined based on the details submitted online under first cover (PQQ or Technical) with respect to eligibility and qualification criteria prescribed in this Tender document. The Price Bid under the second cover shall be opened for only those Applicants whose PQQ/ Technical Applications are responsive to eligibility and qualifications requirements as per Tender document.

1. **The payment for Tender Document Fee and e-Service Fee shall be made by eligible bidders through online mode only and the payment for EMD can also be made online.**

2. Intending bidders will be mandatorily required to online sign-up (create a user account) on the website <https://etenders.hry.nic.in> to be eligible to participate in the e-Tender. **He/ She will be required to make an online payment of the EMD fee. The intended bidder failing to pay the EMD fee under the stipulated time frame shall not be allowed to submit his / her bids for the respective event / Tenders.**
1. The interested bidders must remit the funds at least T+1 working day (Transaction day + One working Day) in advance i.e. **on or before 19.10.2026; and make payment through online mode only and submit their bids on or before the expiry date & time of the respective events/Tenders at <https://etenders.hry.nic.in>.**

The interested bidders shall have to pay a mandatory e-Service fee of Rs. 1180/- (Rupee One Thousand one hundred eighty Only), and Tender Document Fees (Nonrefundable) Rs. 1000/- (Rupees Two thousand only) through online mode only.

The Bidders can submit their tender documents (Online) as per the dates mentioned below:

Key Dates

Sr. No.	Department Stage	Bidder's Stage	Start date and time	Expiry date & time
1		Tender Document Download and Bid Preparation/Submission	Date: 24.09.2026 Time: 9:00AM	Date: 19.10.2026 Time: 2: 00PM
2	Technical Bid Opening *		Date: 23.10.2026 Time: 2:00PM	
3	Commercial Bid Opening		After evaluating the Technical Bids	

Important Note:

- 1) The Applicants/bidders have to complete 'Application / Bid Preparation & Submission' stage on scheduled time as mentioned above. If any Applicant / bidder failed to complete his / her aforesaid stage in the stipulated online time schedule for this stage, his / her Application/bid status will be considered as 'Applications / bids not submitted'.

- 2) Applicant/Bidder must confirm & check his/her Application/bid status after completion of his/her all activities for e-bidding.
- 3) Applicant/Bidder can rework on his/her bids even after completion of 'Application/Bid Preparation & submission stage' (Application/Bidder Stage), subject to the condition that the rework must take place during the stipulated time frame of the Applicant/Bidder Stage.
- 4) In the first instance, the online payment details of tender document fee + e-Service and EMD & PQQ/Technical Envelope shall be opened. Henceforth financial bid quoted against each of the item by the shortlisted bidder/ Agency wherever required shall be opened online. The bidders can submit their bids through online as per the dates mentioned in the schedule/Key Dates above.

The bids shall be submitted online in two separate envelopes:

Envelope 1: Technical Bid

The bidders shall upload the required eligibility & technical documents online in the Technical Bid.

Envelope 2: Commercial Bid

The bidders shall quote the prices in price bid format under Commercial Bid.

CONDITIONS :

1. DNIT & prequalification criteria can be seen on any working day during office hours in office of the undersigned.
2. Conditional tenders will not be entertained & are liable to be rejected.
3. In case the day of opening of tenders happens to be holiday, the tenders will be opened on the next working day. The time and place of receipt of tenders and other conditions will remain unchanged.
4. The undersigned reserves the right to reject any tender or all the tenders without assigning any reason.
5. The societies shall produce an attested copy of the resolution of the Co-operative Department for the issuance of tenders.
6. The tender without earnest money/bid security will not be opened.
7. The Jurisdiction of court will be at **Rohtak**, Haryana.
8. The tender of the bidder who does not satisfy the qualification criteria in the bid documents is liable to be rejected summarily without

assigning any reason and no claim whatsoever on this account will be considered.

9. The bid for the work shall remain open for acceptance during the bid validity period to be reckoned from the last date of 'Manual submission of BS. If any bidder/aspirant withdraws his bid/tender before the said period or makes any modifications in the terms and conditions of the bid, the earnest money shall stand forfeited. Bids shall be valid for 180 days from the date of bid closing i.e. from last date of manual submission of EMD. In case the last day to accept the tender happens to be holiday, validity to accept tender will be the next working day.

For & on behalf of
Registrar, MDU, Rohtak

Rajesh Punia (PI)
Department of Physics
M. D. University, Rohtak

TERMS AND CONDITIONS GOVERNING THE TENDERS FOR THE SUPPLY

1. Every e-tender shall be accompanied by the Earnest Money of Rs. 16,800/- and Rs. 1000/- as tender fee and Rs. 1,180/ for e-services fee should be deposited **through online mode only**.
2. The e-tender received without earnest money or after the due date shall not be entertained (except with the special approval of the competent authorities for MSME only).
3. **The e-tenders shall be opened in the office of Head, Department of Physics, M.D. University, Rohtak on 23.10.2026 by the Purchase Committee.**
4. The goods shall be supplied by the Supplier within the time limit specified in the supply order. **In case, the material is not supplied within the delivery period, the supplier shall be liable to pay compensation amount equivalent to 1% (one percent) of the cost of material each day to the University or such other amount as the University may decide till the supply remains incomplete, provided that the total amount of compensation shall not exceed 10% (ten percent) of the total amount of the cost of material supplied.** Appeal against these orders shall, however, lie with the Vice-Chancellor, M.D. University, Rohtak whose decision shall be final.
5. **Only the firms having GST No. can quote their rates for required items.**
6. **HSN Code must be entered in the hard copy while quoting the rates.**
7. FOR shall be Department of Physics, M.D. University, Rohtak.
8. **All the charges, including packing, forwarding and installation, taxes, and other levies, should be specified in the tender. The charges etc. not specified in the tender shall not be paid.**
9. **The EMD tender fee etc. exemption be allowed for those MSMEs registered with Govt. of India (Ministry of Micro, Small and Medium Enterprises) and located in State of Haryana only (as per Haryana State Public Procurement Policy for MSMEs 2016 vide G.O. No. 02/02/2016-41B11(1) dated 20/10/2016).**
10. The quantity of material/supplies shall be subject to increase or decrease on the tendered rates. This increase or decrease shall be communicated by the University within 180 days of acceptance of the tender.
11. Supplies shall be made as per the schedule and within such time as is indicated in the supply order.
12. The rates accepted by the University shall be applicable up to 180 days and the supplier shall have to make supply during the period as and when required.
13. The University is situated within the Municipal Limits. As such, Octroi, if any, shall be payable. In case, the material is supplied through a Transport Company by road, the Transport Company's charges, labour charges and octroi charges shall be borne by the supplier. It may be mentioned specifically as to whether the material will be sent by rail or by road through a Transport Company.
14. The University is registered with the Department of Scientific & Industrial Research, Ministry of Science & Technology, New Delhi, in

terms of Govt. Notification No. 10/97- Central Excise dated 1 March 1997 and Notification No. 51/96-Customs dated 23.7.1996 vide Registration No. TU/V/RG-CDE (244)/2020, dated September 18, 2020, up to August 31, 2025. Thus, the University is exempted from payment of Customs Duty and Excise Duty. The consignee shall issue necessary certificates duly countersigned by the Registrar, M.D. University, Rohtak, to avail of exemption.

15. Guarantee/warranty of items must be mentioned.
16. No tender documents will be issued separately and rates are to be offered on company's letter pad.
17. If a holiday occurs on the opening day, the tenders will be opened on the next working day.
18. The packing, forwarding, freight, insurance charges etc. may be quantified in terms of amount. These charges will not be payable against any vague statement such as "packing, forwarding, freight and insurance charges etc. extra".
19. In case, the supplier/contractor fails to execute the supply order/contract on the rates, and terms and conditions as contained in the supply order within the stipulated period, they shall be liable to such action as blacklisting, debarring from having any business with this University, forfeiture of earnest money/security, besides any other action as may be deemed proper by the University.
- 20. As a general policy, the University tries to make 100% payment within 30 working days of the receipt of material subject to proper installation, wherever applicable, and satisfaction of the Inspection Committee. No advance payment or payment against documents negotiated through Bank shall be made.**
21. The acceptance of the material shall be subject to a satisfactory report of this Office's Inspection Committee/Technical Committee/Experts Committee.
22. The acceptance of the tender shall rest with the Registrar who does not bind himself to accept the lowest tender and reserves the right to reject any or all items of tender without assigning any reason thereof. The Registrar also reserves the right to accept tender in part i.e. any item or any quantity and to reject it for the rest.
23. It may be certified that you have not been debarred/blacklisted for any reason/period by DGS&D, DS&D (Haryana) or any other Central/State Govt. Dept./University/PSU etc. If so, particulars of the same may be furnished. Concealment of facts shall not only lead to cancellation of the supply order, but may also warrant legal action.
24. In case, any other information/clarification is required, the undersigned may be contacted at Telephone No. 9215701113 on any working day (Monday to Friday) during office hours (9 a.m. to 5.00 p.m.) or by sending e-mail at : hod.physics@mdurohtak.ac.in.
25. The Sub Committee reserves the right for negotiation thereafter if considered necessary.
26. The items be purchased from the firm(s) on the basis of quality and not merely on the lowest rates.
27. The rates should be quoted for required specifications. The technical specifications of machineries & equipments required must accompany the tender. The decision of the University will be final with regard to the quality of material to be purchased.
28. The tender should be submitted only if the material is readily available in your stock or can be supplied within 60 days after the order is

placed.

29. Terms and conditions printed on the tender/Invoice of the firm, if any, shall not be binding on the University, except those mentioned specifically on the supply order of MDU, Rohtak, and your acceptance of the order shall be construed as your agreement to all the terms and conditions contained in the order.
30. The dispute, if any, shall be subject to the jurisdiction of the Courts at Rohtak. Any other jurisdiction mentioned in the tender or invoices of the manufacturers/distributors/ dealers/suppliers etc. shall be invalid and shall have no legal sanctity.
31. TDS and any other statutory tax/cess/levy shall be deducted at source as per Govt. Rules.
32. EMD of unsuccessful bidders will be returned on completion of the Tender process. No interest shall be paid on EMD.
33. The successful bidder will have to deposit a 5% Performance Security of the total cost of the supplied item(s), in the form of a Bank Guarantee/Demand Draft, along with the invoice submitted for payments, failing which invoice shall not be admitted. The Performance Security shall remain valid for sixty days beyond the date of completion of contractual obligations of the supplier including warranty obligations. The same will be released after sixty days of completion of the warranty period. The Bank Guarantee/Demand Draft/FDR shall be drawn in favour of the Finance Officer, M.D. University, Rohtak, payable at Rohtak. The Bank Guarantee/Demand Draft/FDR amount shall be forfeited if the firm fails to replace the damaged/defective/below standard material within the stipulated period. The University will not pay any interest on the security deposit.

Signature _____

Name of the firm with seal/stamp _____

Affix Rubber Stamp of the firm

For & on behalf of
Registrar, MDU, Rohtak

Rajesh Punia (PI)
Department of Physics
M. D. University, Rohtak

TECHNICAL DOCUMENTS

S.No	Description	Bidders Response (Yes/No)	Remarks
1.	Copy of PAN Card		
2.	Copy of Income Tax Return for the last 3 years		
3.	Copy of GST Number of the firm		
4.	Email ID and Contact details of the Authorized person of the firm/company		
5.	The bidder must submit an Affidavit on nonjudicial stamp paper, which must be notarized by a notary public to the effect that they have not been debarred/blacklisted by any State Government / Central Government / PSU Department in India / Public or Private Institute / Organization as Annexed-I.		

Undertaking (on non-judicial stamp paper)

This is to certify that M/s _____,
address _____, has not ever been debarred/blacklisted from any by
any School / Board / University / Organization / Government Agency, etc., for any reason at any point of
time and no legal case/proceedings is pending against the Agency as on date.

Place: _____

Dated: _____

**Signature of the Tenderer
with full name and Address
with seal & stamp**

Technical Specifications:**Development of Gas Sensing System**

S. No.	Components	Specifications
1.	Analyte gas cylinder (02)	-
2.	Mass flow controllers (2No.), 1-50 sccm for analyte gas(01), 1000-3000 sccm(01) for diluting gas	Annexure-I & II
3.	Needle valve (2 No.)	1/4" Swagelok needle valve
4.	Stainless Steel Chamber with cartridge heater and thermocouple (~100 ml volume) (01)	Design as provided by PI
5.	Interfacing of Keithley's Electrometer with measurement set-up	-
6.	Installation and Calibration	-
7.	USB connecting cable for Keithley Electrometer	2 Meter IEEE-488 GPIB/HPIB CN24 Male to Female Metal Connector Extension GPIBCable
Total		

Specification for Mass Flow Controller (For Corrosive Gases) with Flow Rate: 0-50 SCCM	
<u>SENSOR AND CONTROL PERFORMANCE</u>	
Parameters	Specifications
Mass Flow Accuracy at calibration conditions	$\pm 0.75\%$ of reading or $\pm 0.1\%$ of full scale or better
High Accuracy Option	$\pm 0.6\%$ of reading or $\pm 0.1\%$ of full scale or better
Repeatability (2σ)	$\pm (0.2\%$ of reading + 0.02% of full scale) or better
Steady State Control Range	0.5–100% of full scale or better
Temperature Sensitivity	Mass flow zero shift: $\pm 0.03\%$ of full scale per $^{\circ}\text{C}$ from tare temperature Mass flow span shift: $\pm 0.01\%$ of reading per $^{\circ}\text{C}$ from 25°C
Pressure Sensitivity	Mass flow zero shift: $\pm 0.01\%$ of full scale per ATM from tare pressure Mass flow span shift: $\pm 0.1\%$ of reading per atmosphere from calibration conditions
Operating Temperature Range	-10 – 60°C or better
Temperature Accuracy	$\pm 0.75^{\circ}\text{C}$
Operating Pressure Full Scale	60 PSIA
Pressure Accuracy above 1 ATM	$\pm 0.75\%$ of reading
Pressure Accuracy below 1 ATM	± 0.1 PSIA
Totalizer Volume Uncertainty	$\pm 0.5\%$
Sensor Response Time	<1 ms
Typical Indication Response Time	127 ms (adjustable)
Typical Warm-Up Time	<1 s
<u>Mechanical</u>	
Parameters	Specifications
Minimum Operating Pressure	11.5 PSIA common mode pressure
Maximum Operating Pressure	80 PSIA common mode pressure
Ingress Protection	IP40
Humidity Range	0–95%.
Wetted Materials	302 / 303 / 304 stainless steel, Viton®, heat-cured silicone rubber, glass-reinforced polyphenylene sulfide, heat-cured epoxy, alumina, gold, silicon, glass
<u>POWER AND COMMUNICATIONS</u>	

Parameters	Specifications
Analog I/O Options	4–20 mA, 0–5 VDC, 1–5 VDC, 0–10 VDC
Digital I/O Options	RS-232 Serial by default RS-485 Serial, Modbus RTU (over RS-232 or RS-485), Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, Profibus
Electrical Connection Options	6 pin locking, 8 pin mini-DIN, 8 pin M12, DB-9, DB-15
Power Requirements	12–24 VDC, 250 mA
Digital Data Update Rate	40 Hz at 19200 baud
Analog Data Update Rate	1 kHz
Display Update Rate	10 Hz
Analog Signal Accuracy	±0.1% of full scale
<u>Additional Features required</u>	
Parameters	Specifications
Monochrome LCD or Color TFT Display with integrated touchpad	Simultaneously displays mass flow, volumetric flow, temperature, and pressure
Gas Select	98 user selectable gases stored internally. Each gas optimized to match NIST's REFPROP 10 gas property calculations across the operating temperature and pressure ranges for highest accuracy.
COMPOSER	20 user definable gas mixes. Each mix may have up to 5 gases with 0.01% precision.
STP Reference Conditions	25°C and 1 atm
NTP Reference Conditions	0°C and 1 atm
Flow Vision Software	Script Writing
Swagelok Connector	1/4 Inch
Leak Integrity & Magnetic Valve	At the inlet
Corrosion Resistance Body	Yes
Macro Particle Filter	Yes
Calibration of many gases	Yes

Specifications for Mass Flow Controller (For Non-Corrosive Gases) with Flow Rate: 1000-3000 SCCM	
<u>SENSOR AND CONTROL PERFORMANCE</u>	
Parameters	Specifications
Mass Flow Accuracy at calibration conditions	$\pm 0.75\%$ of reading or $\pm 0.1\%$ of full scale or better
High Accuracy Option	$\pm 0.6\%$ of reading or $\pm 0.1\%$ of full scale or better
Repeatability (2σ)	$\pm (0.2\%$ of reading + 0.02% of full scale) or better
Steady State Control Range	0.5–100% of full scale or better
Temperature Sensitivity	Mass flow zero shift: $\pm 0.03\%$ of full scale per $^{\circ}\text{C}$ from tare temperature Mass flow span shift: $\pm 0.01\%$ of reading per $^{\circ}\text{C}$ from 25°C
Pressure Sensitivity	Mass flow zero shift: $\pm 0.01\%$ of full scale per ATM from tare pressure Mass flow span shift: $\pm 0.1\%$ of reading per atmosphere from calibration conditions
Operating Temperature Range	-10 – 60°C or better
Temperature Accuracy	$\pm 0.75^{\circ}\text{C}$
Operating Pressure Full Scale	60 PSIA
Pressure Accuracy above 1 ATM	$\pm 0.75\%$ of reading
Pressure Accuracy below 1 ATM	± 0.1 PSIA
Totalizer Volume Uncertainty	$\pm 0.5\%$
Sensor Response Time	<1 ms
Typical Indication Response Time	127 ms (adjustable)
Typical Warm-Up Time	<1 s
<u>Mechanical</u>	
Parameters	Specifications
Minimum Operating Pressure	11.5 PSIA common mode pressure
Maximum Operating Pressure	80 PSIA common mode pressure
Ingress Protection	IP40
Humidity Range	0–95%.
Wetted Materials	302 / 303 / 304 stainless steel, Viton®, heat-cured silicone rubber, glass-reinforced polyphenylene sulfide, heat-cured epoxy, alumina, gold, silicon, glass
<u>POWER AND COMMUNICATIONS</u>	

Parameters	Specifications
Analog I/O Options	4–20 mA, 0–5 VDC, 1–5 VDC, 0–10 VDC
Digital I/O Options	RS-232 Serial by default RS-485 Serial, Modbus RTU (over RS-232 or RS-485), Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, Profibus
Electrical Connection Options	6 pin locking, 8 pin mini-DIN, 8 pin M12, DB-9, DB-15
Power Requirements	12–24 VDC, 250 mA
Digital Data Update Rate	40 Hz at 19200 baud
Analog Data Update Rate	1 kHz
Display Update Rate	10 Hz
Analog Signal Accuracy	±0.1% of full scale
<u>Additional Feature required</u>	
Parameters	Specifications
Monochrome LCD or Color TFT Display with integrated touchpad	Simultaneously displays mass flow, volumetric flow, temperature, and pressure
Gas Select	98 user selectable gases stored internally. Each gas optimized to match NIST's REFPROP 10 gas property calculations across the operating temperature and pressure ranges for highest accuracy.
COMPOSER	20 user definable gas mixes. Each mix may have up to 5 gases with 0.01% precision.
STP Reference Conditions	25°C and 1 atm
NTP Reference Conditions	0°C and 1 atm
Flow Vision Software	Script Writing
Swagelok Connector	1/4 Inch
Leak Integrity & Magnetic Valve	At the inlet
Corrosion Resistance Body	Yes
Macro Particle Filter	Yes
Calibration of many gases	Yes

Validate Print Help		Item Rate BoQ						
Tender Inviting Authority: Registrar, Maharshi Dayanand University Rohtak								
Name of Work: Development of Highly Sensitive and Full-automated Gas Sensing System for Hazardous Gases and Chemical Vapors								
Contract No: 3215701113								
Name of the Bidder/ Bidding Firm ?								
PRICE SCHEDULE								
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)								
NUMBER #	TEXT #	NUMBER	TEXT #	NUMBER #	NUMBER	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	BASIC RATE In Figures To be entered by the Bidder Rs. P	GST	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In Words
1	2	4	5	13	15	53	54	55
1	Development of Gas Sensing System							
1.01	Analyte gas cylinder	1.000	Nos			0.000	0.000	INR Zero Only
1.02	Mass flow controllers (2No.), 1-50 sccm for analyte gas(01), 1000-3000 sccm(01) for diluting gas	2.000	Nos			0.000	0.000	INR Zero Only
1.03	Needle valve	2.000	Nos			0.000	0.000	INR Zero Only
1.04	Stainless Steel Chamber with cartridge heater and thermocouple ("100 ml volume) (01)	1.000	Nos			0.000	0.000	INR Zero Only
1.05	Interfacing of Keithley's Electrometer with measurement set-up	1.000	Nos			0.000	0.000	INR Zero Only
1.06	Installation and Calibration	1.000	Nos			0.000	0.000	INR Zero Only
1.07	USB connecting cable for Keithley Electrometer	1.000	Nos			0.000	0.000	INR Zero Only
Total in Figures						0.000	0.000	INR Zero Only
Quoted Rate in Words		INR Zero Only						

For & on behalf of
 Registrar, MDU, Rohtak
 Head, Department of Physics, M.D.U., Rohtak.