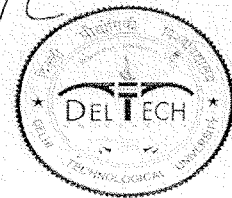


14/C

**Department of Mechanical Engineering  
Delhi Technological University  
Shahbad Dualatpur, Bawana Road, Delhi - 110042**



No. DTU/MED/HOD/2025/2015

Dated: 30/03/2026

**NOTICE INVITING QUOTATION**

Department of Mechanical Engineering invites a quotation for the procurement of “**Laboratory Scale Photo Bioreactor**” in the I C Engines Lab, Sealed quotation (mentioning on top of envelop as

**F. No. No. DTU/MED/HOD/2025/2015** should be sent to the following address (through speed post/ courier) at the latest by 15-04-2026/01/2026:

**The HOD,  
Department of Mechanical Engineering,  
Delhi Technological University,  
Bawana Road, Delhi 110042**

The quotations should be on the company's letterhead including GSTIN No. with reference no. as F. No. DTU/MED/HOD/2025/1819.

The rate should be quoted and GST should be indicated separately as per the prevailing GST Laws in Indian National rupees (INR) and also mention the total amount in the words. The work needs to be completed within one month of issuing PO else 2% penalty shall be imposed for next month in case of valid reasons else order may be cancelled.

The technical specifications and details of the “**Laboratory Scale Photo Bioreactor**” are provided in the following table:

Sl. No.	Item	Specification
1.	<p>Laboratory-scale closed Photo-Bioreactor (custom-designed) comprising: Borosilicate glass cylindrical transparent reactor body. SS-304, end plates and glass top lid with ports for gas inlet, gas outlet, culture sampling and sensor mounting (pH, temperature, DO – provision); SS-304 connectors with silicone seals. SS-304 end plates with tie rods and silicone gaskets.</p> <p><b>Illumination system:</b></p> <ul style="list-style-type: none"> <li>High-efficiency LED lamps fluorescent/white/red spectrum suitable for algal growth; adjustable/dimmable intensity; low heat generation; corrosion-resistant fixtures, mounts and housing ensuring uniform illumination.</li> </ul> <p><b>Mechanical &amp; structural components</b></p> <ul style="list-style-type: none"> <li>Internal SS-304 baffles;</li> <li>low-shear impeller/agitator, variable speed, mechanical drive with DC motor;</li> <li>SS-304/brass valves, connectors, hydraulic fittings, leak-proof valves, connectors, junctions, hydraulic fittings as needed.</li> </ul> <p><b>Instrumentation: Monitoring and Data Acquisition System:</b></p> <ul style="list-style-type: none"> <li>Control-cum-display panel: Powder-coated MS enclosure with displays, switches, fuses and earthing. Working volume minimum approx..15L</li> </ul> <p>Heating and cooling provision for temperature control to keep temperature within required range. Laboratory-grade oxygen cylinder with regulator, CO<sub>2</sub> cylinder with dual stage regulator.</p>	<ul style="list-style-type: none"> <li>Temperature sensors: RTD (Pt-100) type, range 0–100°C, accuracy ±0.5°C, digital PID controller relay output for heating of media.</li> <li>DC Power supply of 12/24 VDC, amperage as needed.</li> <li>Gas flow meter: Rotameter/digital type for air &amp; CO<sub>2</sub>, suitable for 0.01–1 vvm,</li> <li>Dissolved Oxygen sensor range 0–20 mg/L, accuracy ±3% FS, suitable for continuous monitoring with a PC input.</li> <li>Lux meter: Digital, range 0–200,000 lux, accuracy ±5%</li> <li>pH sensor &amp; controller: Combination glass electrode, range 2–12 pH, accuracy ±0.1 pH.</li> <li>Data acquisition &amp; logging system: 16-channel data acquisition system, output to USB drive in excel format, with 1 second frequency CSV/Excel export, with provision for future expansion.</li> </ul>

.....cont

KW. 205/8  
 16/03/26  
 01/04/26  
 DTU/MED/HOD/2025/2015  
 BAWANA ROAD DELHI-110042

**Terms & conditions of the NIQ**

The quoted price should be inclusive of applicable GST and freight charges (if any)

1. Product supplied must be of good quality.
2. A data-sheet and manual of the above-said items should be provided.
3. Details of service center declaration should be provided for the items.
4. Warranty of the item should be a minimum of two year.
5. Mode of payment would be subject to the satisfactory completion of delivery to the IC engines lab, Wind Tunnel Building, Department of Mechanical Engineering, DTU and working demonstration of the apparatus by expert personnel of the supplier.
6. Delivery and successfully working demonstration of apparatus by supplier's technical expert at the time of delivery is a must.

  
Dr. Amit Pal

61/04/2026  
Professor in Mechanical Engineering  
Lab In charge I C Engines Lab  
Department of Mechanical Engineering,,DTU

Copy to:

1. Sr. Account Officer, DTU
- ✓ 2. HOD, (CC) request to upload on DTU website
3. HOD MED
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