



DELHI TECHNOLOGICAL UNIVERSITY

Established by Govt. of Delhi vide Act 6 of 2009
(Formerly Delhi College of Engineering)
Shahbad Daulatpur, Bawana Road, Delhi-110042

MECHANICAL ENGINEERING DEPARTMENT

F.NO. DTU/MED/HOD/2023/1320

DATE:28.12.2023

NOTICE INVITING QUOTATION

On behalf of Delhi Technological University, the mechanical engineering department invites a sealed quotation envelope for the procurement of **5-liter photo bioreactor**. Sealed quotation should be sent to the “**HOD, Mechanical Engineering Department, Delhi Technological University, Delhi-110042.**”

The quotations on the company’s letter head including GSTIN No. with File No. (F.NO. DTU/MED/HOD/2023/1320) written on the paper should reach the above mentioned address at the latest by 12 -01-2023. 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 amounts in words. The details of the **5-liter photo bioreactor** are as below in the table:

Sl.no	Items and specifications	Quantity	Rate quoted by a reputed firm	Total cost quoted by reputed firm/agency with GST
1.	Photo bioreactor and specification are attached below: page no. (3-5)			

Terms & conditions of the NIQ

1. The quoted Price should be inclusive of applicable GST.

2. Product supplied must be of good quality.
3. A datasheet of the above said item should be provided.
4. Details of service center declaration should be provided for the item.
5. Warranty of the item should be minimum of one year.
6. Mode of payment would be subjected to the satisfactory completion of supply and its verification of quality at the site.

Copy to: -

1. Registrar, DTU
2. Sr. Account officer, DTU
3. HOD CC, for uploading on the DTU website
4. Notice Board

Experimental setup of photo bioreactor assembly for hydrodynamic study of biomass generation

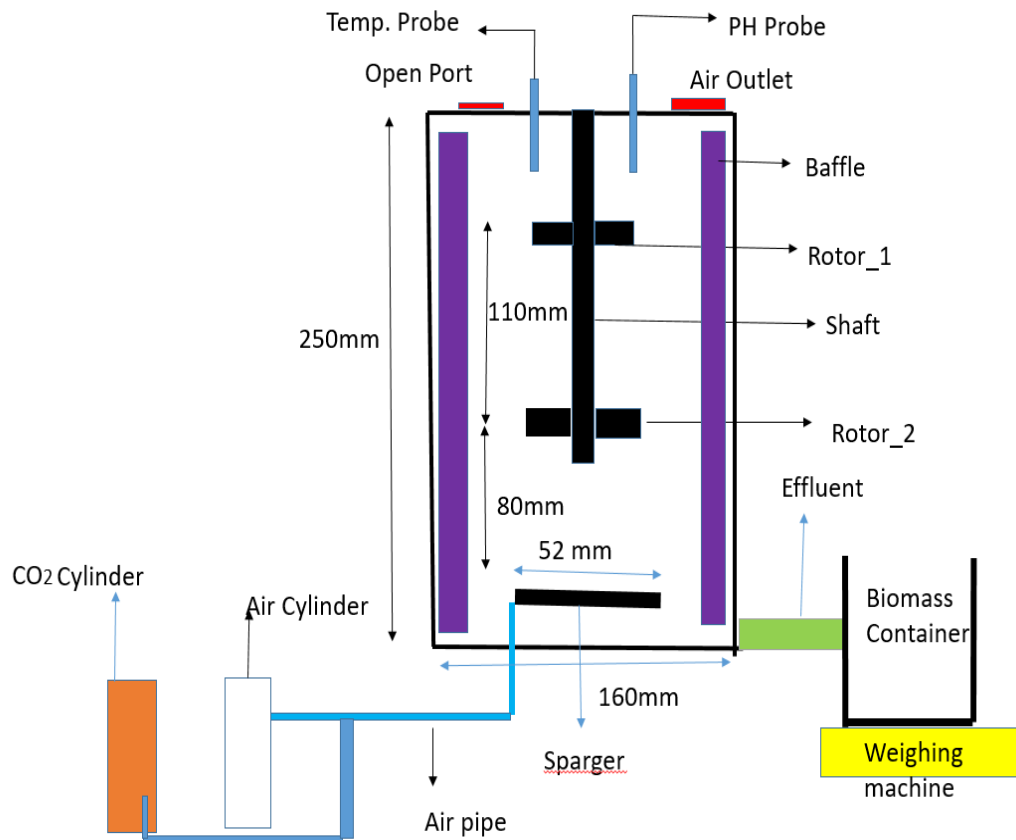


Fig : Photo bioreactor of 5 liters with different component.

Estimated cost of the different component involved in the proposed experimental setup for Bioreactor assembly.

Components	Specifications
Glass container	5 Liter volume diameter near to 160 -180mm Borosilicate glass body; top lid and bottom plate of Stainless Steel 304 with 4 tie rods and silicon gaskets
Oxygen Cylinder	2 Liter bottle with proper connections
Carbon dioxide Cylinder	2 Liter bottle with proper connections
Hose pipe	10-meter length Silicon pipe with high chemical and heat resistivity
Air Pump	Capacity 2 lpm or more Adjustable air volume
Sparger	3-D printed Sparger diameter near to 50 to 75 mm with 16 to 64 holes for gas release
Rotor and Shaft	Propeller Stainless Steel shaft with attachable impeller Steel blade assembly of required configuration, with 3 rotor
Motor	A/C Induction motor with coupling Up to 2600 rpm
pH Controller	Digital pH controller with pH probe
Peristaltic Pumps	With 1 solution of Acid and Alkali each Connected with pH Controller to be run automatically
Humidifier	Capacity 0.5 Liter
Temperature Sensors	PT100 Sensors with 1°C LC
Pressure Sensors	Pressure transducers

Data Acquisition System	16-channel computer interfaced data acquisition system
Baffle	Stainless Steel plates
Gas Flow meter	One each for CO ₂ and O ₂ cylinder
Biomass container	2 Liter glass vessel
Fluorescent LED Lamps	LED Tubes of suitable length and illumination intensity as required
LED Lamp fixtures and mounting	Stainless Steel
Control cum display panel	HMDR water proof board with MS frame