

CENTRAL UNIVERSITY OF HARYANA

Notice Inviting Quotation

NIQ No.: CUH/2025/SOET/CIVIL/131 dated 09.04.2026

Last Date for Submission: April 09, 2026

CUH Mahendergarh invites quotation for the supply of customized reactor for DST Sponsored Project titled, “Sustainable Hydrogen Production from Wastewater through Hybrid Microbial-Photo Electrochemical System and Purification through Metal Hydride Technology” (Ref. No.: CRG/2022/005643) for Department of Civil Engineering, School of Engineering and Technology, Central University of Haryana-123031 as per the specifications, terms and conditions given in this NIQ. Vendors should make sure that they will be able to quote the price of the reactor with all the specifications for quoting minimum total price.

- 1. Customized Multi-Chamber stackable MPES reactors with bio-photo electrodes and PEM upgrade to a scalable 4-chamber design using transparent PMMA for enhanced light penetration and visibility. This integrates with a multi-channel DC power supply for precise control in hydrogen production experiments from wastewater.**

Updated Reactor Specifications

- **Material and Design:** PMMA (transparent acrylic) construction; 4 chamber plates + 4 endplates; each chamber ~250 mL (total electrolyte ~1,000 mL); usable anode area 2–25 cm² (customizable); liquid & gas leak-proof with stainless steel bolts/wing nuts and silicon gaskets.
- **Electrodes and Holders:** Bio-photo anode (TiO₂/microalgae coated, 2–25 cm²); biocathode (carbon-based); 4 PTFE electrode holders (gold plated); PEM (Nafion, 50-200 μm, matching aperture).
- **Accessories:** 14 mm stoppers, adjustable clamps, rubber septa; compatible with LED solar simulator (365-450 nm).

Power Supply Specifications

- **Model:** MUDP530 Programmable Linear DC Power Supply; max output 373 W; 3 channels. [user-provided]
- **Outputs:**

Channel	Voltage Range	Current Range
CH1	0–32 V	0–5 A
CH2	0–32 V	0–5 A
CH3	0–6 V	0–3 A

- **Display/Control:** 4.3-inch TFT color display; 10 mV voltage resolution (main channels), 1 mA current resolution; 5-digit voltage/4-digit current precision.

Additional Materials

Carbon felt electrodes, Ta wire current collectors, pH/temp sensors, microbial inoculum, nutrient media, gas collection bags; include 1-year warranty, installation/training. Acrylic PMMA ensures UV-stability and biocompatibility for sustained microbial operation.

2. **Continuous MPES reactors enable steady-state operation for scaled wastewater treatment and hydrogen production, using flow-through multi-chamber H-cells with bio-photo electrodes separated by PEM. The 4L PMMA design supports higher throughput with peristaltic pumping and included electrodes/membranes for plug-and-play setup.**

Continuous Reactor Specifications

- **Material and Design:** Transparent PMMA; 4 chamber plates + 4 endplates; each chamber ~2,000 mL (total ~4,000 mL); usable anode area 2–100 cm² (customizable); liquid/gas leak-proof with stainless steel bolts/wing nuts and silicon gaskets.
- **Electrodes and Holders:** Bio-photo anode (TiO₂/microalgae coated); biocathode (carbon/nickel-based); 4 PTFE gold-plated holders.
- **Membrane:** N117 PEM (100 x 100 mm) – 5 pcs; pH-stable for proton conduction.

Included Components:

Item	Specifications	Quantity
Nickel Foam	200x300x1.5 mm	10 cs
Graphite Plate	100x100x5 mm	5 pcs
Graphite Rod	Dia 5 x 100 mm	5 pcs
Graphite Felt	200x300x5 mm	2 pcs
Carbon Fiber Brush	Dia 30 mm, L 80 mm + Ti wire 140 mm	1
Peristaltic Pump	Flow rate 350 mL/min	1 pc
Gas Sampling Tedlar Bag		Pack of 10
Ag/Ag+ Reference Electrode		2 pcs
Data Logger with The Data Logger system * RTD Temperature Sensor * pH Sensor * Conductivity Sensor * Voltage Measurement Input		1 unit

Integration Notes

Compatible with MUDP530 power supply; supports continuous flow at 350 mL/min for anodic/cathodic media circulation; LED solar simulator (365-450 nm). Include UV-stabilized PMMA certification, 1-year warranty, and installation for tender.

Terms and Conditions for MPES Reactor Tender:

1. Bidders must quote for all items listed. Partial bids will not be accepted. The lowest bidder will be determined based on the grand total price across all items.
2. Bidder must hold valid GST regular registration for FY 2026-27. Only GST-compliant invoices with serial numbers and GSTIN will be accepted.

3. Prices must include all duties, taxes, levies, and transportation charges (F.O.R. CUH Mahendragarh). Quote in Indian Rupees only, valid for 60 days from submission. Corrections must be crossed out, initialed, dated, and rewritten.
4. Single quotation per bidder required. Preference for manufacturers/authorized dealers of high-quality equipment with proven after-sales support and experience supplying research institutions.
5. Quotations valid for 60 days post-deadline.
6. CUH reserves the right to accept/reject any quotation or cancel the process without notice. Successful bidder will be notified before validity expiry; terms incorporated into Purchase Order.
7. Delivery at: Central University of Haryana, Jant-Pali, Mahendragarh, Haryana-123031.
8. E-payment mandatory (100% post-delivery verification). Provide bank details with bid. No advances.
9. CUH not liable for transit damage.
10. Submit password-protected PDF quotation by 11:00 AM, April 9, 2026, to: HOD, Department of Civil Engineering, School of Engineering and Technology at bhaskardas@cuh.ac.in. Be available on phone (7544903035) between 2:00-4:00 PM on April 9, 2026, to provide password during bid opening.
11. Delivery within 10 days of Purchase Order receipt to Civil Engineering Department.
12. Subject to latest GFR-2017 (GoI).
13. Contact: bhaskardas@cuh.ac.in

Quotation Addressed to:

Dr. Bhaskar Das
Professor & Head, Department of Civil Engineering
School of Engineering and Technology
Central University of Haryana-123031