



# COEP Technological University

A Unitary Public University of Government of Maharashtra  
(Formerly College of Engineering Pune)

## Department of Mechanical Engineering

Wellesley Road, Shivajinagar, Pune-411005, Maharashtra, India

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Website- www.coep.org.in

### Enquiry Letter

Sealed Quotation are invited by the Department of Mechanical Engineering, COEP Technological University Pune from reputed vendors/reseller/suppliers/service providers for the equipment purchase of Hydrogen Direct Injection for Single Cylinder IC Engine in Engine Test Lab of Mechanical Engineering Department.

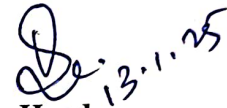
Enquiry Number :-	COEPTU/Mech/Enq/Equipment purchase for Hydrogen Direct Injection for Single Cylinder IC Engine /2024-25/ 682
Enquiry Date:-	13/01/2025
Description & Qty:-	<p><b>1. Hydrogen DI Injector:</b> Outward-opening piezo injector with direct needle actuation. Needle actuation: Direct Spray angle: <math>85^\circ \pm 5^\circ</math> System Pressure: 20 Mpa Injection Time: 70-5,000 <math>\mu</math>s</p> <p><b>2. Engine Control Unit to drive Piezo Injector:</b> ECU Processor: Infineon Camshaft position: Cam trigger wheel Cam position sensor: Hall effect sensor Map: NTC Software: Engine control system Fuel Rail: Bosch Connecting pipes: Stainless steel Injector: Piezo Injector – 2 Nos Hydrogen Injection kit: Can set start angle of injection Capabilities: Can set the spark timing Injection Pressure: 2.8 bar Flash Back Arrestor: Operating pressure [bar]: 1.5 max. Capacity: 19 m<sup>3</sup>/h Quantity: 1 No</p>

Location:-	Engine Test Lab, Mechanical Department
Quotation Submission Date@ Time:-	24/01/2025 @ 3.00pm
Quotation Submission Place:-	Mechanical office, Department of Mechanical Engineering COEP Technological University, Wellesley Road, Shivajinagar, Pune-411005
Quotation Opening Place:-	Head, Department of Mechanical Engineering, COEP Technological University, Wellesley Road, Shivajinagar, Pune-411005

**Terms & Conditions: -**

1. Fax and Email quotation are not acceptable.
2. The taxes, insurance, freight, packing and forwarding charges if any be quoted in Indian Rupees separately.
3. The rates shall be valid for 90days.
4. Validity: Quotation Validity at least 90 days from the due date.
5. Quotations shall be sent in sealed envelopes clearly marked Quotation for Supply and Installation of Hydrogen Direct Injection for Single Cylinder IC Engine, Enquiry Number, Enquiry date and Enquiry due date
6. addressed to The Head, Department of Mechanical Engineering, COEP Technological University Pune-411 005.
7. 100% payment will be paid after satisfactory delivery, installation and commissioning/work.
8. Please specify the make and model of the item.
9. Quotation(s) received after last date of Quotation submission will be rejected.
10. Delivery/Work Period and Terms Conditions should be mentioned clearly.
11. Delivery/Work: The penalty conditions are applicable for the late delivery as per Government norms.
  - a) at the rate of 0.5 % per week; maximum limit of 10% shall be charged in case of PO value is less than 2 Lakh.
  - OR
  - b) at the rate of 0.5 per week; maximum limit of 5% shall be charged in case of PO value is 2 Lakh and above.
12. All following documents/certificates should be provided / attached at the time quotation submission.
  - a) Shop Act License/Incorporation Certificate/Firm Registration Certificate Copy. b) PAN Card Copy
  - c) GST Certificate Copy
13. Optional items should be quoted in separate sheet otherwise your quote will be rejected

14. Supply/Work and Installation:- Vendor shall be responsible for successful installation, commissioning and testing of the supplied items at Department of Mechanical Engineering , COEP Technological University Pune-411005.. Any defective component/device will be replaced by vendor at his cost.
15. The Registrar of COEP Technological University Pune reserves right to reject any one or all the quotation(s) without assigning any reasons there for.

  
13.1.25  
Head

**Department of Mechanical Engineering**  
**COEP Technological University**

OKC  






## COEP Technological University

(COEP Tech)  
A Unitary Public University of Government of Maharashtra  
w.e.f 21<sup>st</sup> June 2022  
(Formerly College of Engineering Pune)

Date: 07/01/2025

### Submitted:

Subject: Mechanical Department Engine LAB Equipment Purchase

Dear Sir,

Request for the approval of the equipment purchase of Hydrogen Direct Injection for Single Cylinder IC Engine in our Engine Test Lab of Mechanical Engineering Department. This equipment is Rs. 8,26,000 and necessary for sustainable research for PhD and MTech students by conducting research and trials on this setup. The available engine currently has provision for multi-fuel like Petrol and Diesel, additionally we are proposing to equip it with the Hydrogen direct injection to investigate combustion, performance and emission parameters. By this we can introduce optimization strategies for improving engine efficiency and emission control with Hydrogen as alternative fuel.

1) Hydrogen Direct Injection System for the Single cylinder IC Engine.

**Approximate cost for the work is Rs.8,26,000/-**

Hydrogen DI Injector	Outward-opening piezo injector with direct needle actuation. Needle actuation: Direct Spray angle: $85^\circ \pm 5^\circ$ System Pressure: 20 Mpa Injection Time: 70-5,000 $\mu$ s
<b>Engine Control Unit to drive Piezo Injector</b>	
ECU Processor	Infineon
Camshaft position	Cam trigger wheel
Cam position sensor	Hall effect sensor
Map	NTC
Software	Engine control system
Fuel Rail	Bosch
Connecting pipes	Stainless steel
Injector	Piezo Injector – 2 Nos
Hydrogen Injection kit Capabilities	Can set start angle of injection Can set the spark timing Injection Pressure: 2.8 bar
Flash Back Arrestor	Operating pressure [bar]: 1.5 max. Capacity: 19 m <sup>3</sup> /h Quantity: 1 No

We request for your approval for mechanical department engine lab equipment purchase for research and experimentation work.

*M.R.*  
*7/1/2025*  
In charge  
Prof. M. R. Nandgaonkar  
Mechanical Engineering  
COEP Technological University

*ssuohili*  
*8/1/25*  
Dean  
School of Mechanical and Materials Engineering  
COEP Technological University

*Recommended through*  
*Equipment budget of*  
*Department, if available*  
*9.1.25*  
Registrar  
COEP Technological University

*9.1.25*  
HOD  
Mechanical Engineering  
COEP Technological University

*Recommended*  
*N. S. Mohanty*  
Director-RIL  
COEP Technological University

*9.1.25*  
Approved/Not Approved  
Hen. Vice Chancellor  
COEP Technological University