



Indian Institute of Technology Jodhpur

N.H. 62, Nagaur Road, Karwar, Jodhpur - 342030, Rajasthan (India)

☎ 02912801826 | ✉ office_aero@iitj.ac.in

Website: Department: <https://iitj.ac.in/aero> | IITJ: www.iitj.ac.in

INDIAN INSTITUTE OF TECHNOLOGY JODHPUR

Request For Technical Information and Pro Forma Quotations

For Procurement of Gas Turbine Rig

1. Introduction

The Indian Institute of Technology Jodhpur (IIT Jodhpur) intends to procure a **Gas Turbine Rig** as an academic teaching demonstrator with training and research capabilities.

Before initiating the formal procurement process, the Institute invites Technical Information and Indicative Pro Forma Quotations from eligible Original Equipment Manufacturers (OEMs) or their authorised representatives.

2. Purpose

- The objectives are to:
- Obtain technical information from prospective OEMs/authorised representatives.
- Obtain indicative Pro Forma Quotations for estimating the procurement cost.
- Identify suitable systems for demonstrating overall gas turbine operations and functions of its components.
- Evaluate additional accessories for additional training and research purposes.

3. Disclaimer

This document is issued **only for obtaining technical information and indicative Pro Forma quotations.**

Submission of information under this proposal:

- shall **not** be treated as a financial bid;
- shall **not** constitute any commitment on the part of IIT Jodhpur to procure the equipment;
- shall **not** confer any right upon the participating firm for award of any future contract;
- shall **not** automatically qualify the responding firm for participation in any future tender.

The Institute reserves the right to modify the technical specifications, estimated cost, procurement methodology, or procurement timeline based on its requirements.



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4. Equipment Details

- Name of Equipment: **Gas Turbine Rig**
- Quantity: **01**
- Broad Functional Requirements:
Attached

(The above requirements are indicative and may be revised after evaluation of the responses.)

5. Eligibility Criteria

Interested firms should:

- Be an Original Equipment Manufacturer (OEM) or an authorised distributor/dealer.
- Have experience in supplying similar equipment.
- Have adequate installation and after-sales service support in India.

6. Information/Documents to be Submitted

The interested firms shall submit the following (*Annexure-I*):

1. Company Profile.
2. Details of the OEM.
3. Product Brochure/Catalogue.
4. Detailed Technical Specifications.
5. Compliance with the Broad Functional Requirements.
6. List of previous users/clients with installation reports
7. Details of Warranty.
8. Details of After-Sales Service Support.
9. Authorization Letter from OEM (where applicable).
10. Any additional technical information relevant to the offered equipment.

7. Pro forma Quotation

- Interested firms are requested to submit a Pro forma Quotation (*Annexure-II*) along with their Request for Technical Information and Pro Forma Quotations response. Indicative **Pro Forma** quotation in Indian Rupees (INR), including the cost of the equipment, essential accessories, taxes, duties, freight, insurance, installation, commissioning, training, and any other associated charges. Wherever applicable, the Annual Maintenance Contract (AMC) and/or Comprehensive Maintenance Contract (CMC) charges and spare parts shall be quoted separately as additional charges.
- Expected delivery schedule and other relevant technical and commercial information.

Important Note:



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- The **Pro Forma** quotation is required only for cost estimation and budget planning purposes.
- The prices quoted shall be indicative/non-binding.
- The Pro Forma quotation shall not be treated as a financial bid.
- Submission of a **Pro Forma** quotation shall not confer any right or preference in the subsequent procurement process.

8. Presentation/Demonstration

The Institute may invite for a technical presentation or product demonstration. The date and venue shall be communicated separately.

9. Submission:

Interested firms may submit their Proforma Quotations on or before the due date in sealed cover or through email (as applicable).

The envelope/email should be superscribed as:

"Request For Technical Information and Pro forma Quotations for Procurement of Gas Turbine Rig"

8. Important Dates

Activity	Date
Publication	03/08/2026
Last Date for Submission	12/08/2026
Technical Presentation (if required)	To be informed
Clarification Meeting (if required)	To be informed

10. General Terms & Conditions

1. This **Request for Technical Information and Pro forma Quotations** is issued only for obtaining technical information and **Pro Forma** estimates.
2. The Institute reserves the right to accept or reject any or all responses without assigning any reason.
3. Submission of a **Request for Technical Information and Pro forma Quotations** does not create any contractual obligation.
4. The Institute may seek additional information, technical clarifications, demonstrations, or presentations from any participant.
5. The Institute may modify the technical requirements based on the responses received.



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6. The final technical specifications may be prepared by the User Committee after evaluating all **Request for Technical Information and Pro forma Quotations** responses.
7. The subsequent procurement, if any, shall be carried out through an appropriate procurement method in accordance with the GFR 2017 and applicable procurement rules.
8. Participation in this **Request for Technical Information and Pro forma Quotations** does not automatically entitle any firm to participate in or receive any preference during the subsequent tender process.

11. Contact Details

Name: Dr Himanshu Dave

Designation: Assistant Professor

Department: Aerospace Engineering

Email: himanshudave@iitj.ac.in



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Annexure-I

Request For Technical Information and Pro forma Quotations Response Format

1. Name of the Firm:
2. Registered Address:
3. Name of OEM (if applicable):
4. Contact Person:
5. Email:
6. Phone:
7. Product Name and Model:
8. Brief Technical Description:
9. Compliance with Broad Functional Requirements:
10. List of previous users/clients with installation reports:
11. After-Sales Service Details:
12. Any Additional Features:
13. Remarks (if any).



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Annexure-II

Format for Pro forma Quotation

Sl. No.	Description	Amount (INR)
1	Indicative Pro forma quotation in Indian Rupees (INR), including the cost of the equipment, essential accessories, taxes, duties, freight, insurance, installation, commissioning, training, and any other associated charges.	

Warranty Period: _____

AMC/CMC Charges (after warranty): _____

Delivery Period: _____

Authorized Signatory

Name: _____

Designation: _____

Company Seal & Signature



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Technical Specification - Gas Turbine Rig

Sl. No.	Equipment/Component	Technical Specification
1	Gas Turbine Engine	Single-spool laboratory gas turbine engine suitable for teaching, demonstration and research. Turbojet or turboshaft configuration with centrifugal compressor, annular/reverse-flow combustor, single-stage turbine, and exhaust nozzle. Continuous operation with integrated safety interlocks.
2	Performance	Engine thrust not less than 120 N (turbojet configuration) or shaft power not less than 20 kW (turboshaft configuration). Maximum rotational speed $\leq$ 100,000 rpm. Stable operation from idle to full load.
3	Fuel System	Integrated fuel supply system compatible with Kerosene (preferred) or diesel fuel. Includes fuel tank, electric fuel pump, fine filters, pressure regulator, flow control valve, shut-off valve, fuel flow meter, and quick isolation system.
4	Starting System	Fully automatic electric starter system with electronic engine control. Automatic ignition and controlled startup sequence with emergency shutdown capability.
5	Electronic Control Unit (ECU)	Digital Engine Control Unit for automatic startup, speed regulation, fuel scheduling, fault monitoring and emergency shutdown. Real-time display of engine parameters and fault diagnostics.
6	Instrumentation	Complete instrumentation including measurement of compressor inlet and outlet pressures, combustor pressure, exhaust gas temperature (EGT), compressor discharge temperature, turbine inlet temperature (where feasible), ambient temperature, rotational speed, thrust/torque, fuel flow rate and vibration. Measurement accuracy better than $\pm 1\%$ of full scale wherever applicable.



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7	Data Acquisition System	Multi-channel computer-based DAQ with minimum 16 analog input channels, 16-bit resolution, minimum sampling rate of 10 kS/s per channel, USB/Ethernet interface, synchronized acquisition of all engine parameters, expandable architecture and real-time visualization.
8	Control Console	Bench-mounted control console incorporating ECU interface, emergency stop switch, fuel controls, engine start/stop controls, parameter display, status indicators and safety annunciation panel.
9	Software	Windows-compatible software for real-time monitoring, engine control, data logging, graphical visualization, performance calculations, alarm logging, trend analysis and export of data in CSV, Excel and MATLAB-compatible formats. Lifetime institute license preferred.
10	Load System	Suitable loading arrangement depending on engine configuration. For turbojet engines, a calibrated thrust measurement system. For turboshaft engines, eddy-current or dynamometer-based loading systems are capable of continuous load variation with torque and power measurement.
11	Safety System	Integrated safety package including overspeed protection, over-temperature protection, low oil pressure protection, excessive vibration shutdown, emergency fuel shutoff, fire-resistant enclosure (if applicable), protective guards around rotating parts and automatic fault shutdown.
12	Lubrication System	Self-contained lubrication system including oil reservoir, pump, filter, oil pressure monitoring, oil temperature monitoring and low-oil-level protection.
13	Air Intake & Exhaust System	Intake filtration with flow straightener, acoustic attenuation where applicable, stainless steel exhaust duct with thermal shielding and provision for exhaust temperature measurements.



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14	Emissions Measurement Provision	Provision for connecting external gas analyzers for measurement of CO, CO ₂ , NO _x , O ₂ and unburned hydrocarbons through standardized sampling ports located in the exhaust section.
15	Research Accessibility	The rig shall provide accessible measurement ports for pressure transducers, thermocouples and future research instrumentation. Provision for integration of additional sensors and external DAQ systems without modification of the engine control system.
16	Training & Educational Features	The system shall demonstrate Brayton cycle operation, compressor characteristics, combustion process, turbine expansion, thrust/power generation, engine transient response and overall thermal efficiency. Educational manuals and laboratory experiments shall be included.
17	Utilities Required	Standard 230 V AC, 50 Hz electrical supply. Cooling and compressed air requirements (if any) shall be clearly specified by the manufacturer.
18	Documentation	Complete operation manual, maintenance manual, circuit diagrams, calibration certificates, spare parts catalogue, troubleshooting guide and laboratory experiment manual in English.
19	Installation & Training	Complete installation, commissioning, calibration and minimum five days of on-site training covering operation, maintenance, safety procedures, data acquisition and experimental demonstrations.
20	Warranty	Minimum three-year comprehensive warranty covering engine, ECU, instrumentation, DAQ system and software. Availability of AMC/CMC and long-term spare parts support shall be indicated separately.

Recommended Optional Accessories

Sl. No.	Accessory	Technical Requirement
A1	Exhaust Gas Analyzer	Simultaneous measurement of CO, CO ₂ , NO _x , O ₂ and HC.



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A2	High-Speed Data Logger	≥ 100 kS/s synchronized acquisition for combustion dynamics.
A3	Dynamic Pressure Sensors	High-frequency pressure transducers (up to 20 kHz or higher) for combustion instability studies.
A4	Optical Access Combustor (Optional)	Quartz-window combustor section suitable for flame visualization.
A5	Remote Monitoring	Ethernet-based remote operation and monitoring capability.