

Tender Notification for the Procurement of Electromagnet and its related accessories

(Last Date for Submission: 23rd December 2021)

This is a Request for Quote (RFQ) from **Class I** and **Class II** local suppliers/ manufacturers only for the procurement of an Electromagnet with its related accessories, for the Department of Aerospace Engineering at the Indian Institute of Science (IISc), Bangalore.

Only the Indian Original Equipment Manufacturer (OEM) or their distributor shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact listed below. **The quotations should be on FOR-IISc Bangalore basis in INR only.**

With respect to this tender, the rules laid out by the Government of India in order **No. P45021/2/2017-pp-BE-II** issued by the Public Procurement Section, Department or Promotion of Industry and Internal Trade, Ministry of Commerce, and Industry, dated 4th June 2020 will be followed. The bidders must go through the Government of India order stated above and follow all the rules and regulations therein. Relevant definitions as per Government of India order:

Class-I local supplier - A supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%.

Class-II local supplier - A supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%.

Non-local supplier - A supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%” is ineligible to participate in this tender.

Local content – The amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

The tender should be submitted in two separate sealed envelopes: one containing the **technical bid** and the other containing the **commercial bid**, both of which should reach us, duly signed on or before **23rd December 2021**.

The bids should be addressed to:

**The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Vivekanand Dabade**

Email: chair.aero@iisc.ac.in, dabade@iisc.ac.in

Phone: +91-80-2293-3164/3027

Technical specifications and components required for the Electromagnet and its related accessories

Mandatory Specifications:

S.N.	Parameter	Specification / Comments
1.	Maximum achievable field strength	a. 3.5T , At a minimum air gap of 10mm with small pole cap. b. 1.7 T With 150mm Pole Cap, at Pole Gap= 60mm.
2.	Range of pole gap variation required (with pole cap attached)	5 - 160mm Electromagnet with variable air gap is required.
3.	Pole cap sizes	250 mm to 50 mm Must have a option of wide variety of pole caps to achieve a large band of Field Vs Air gap.
4.	Mount orientation	Must have different sets of mount orientation. a. Vertical Mount b. Horizontal Mount c. 45° Mount
5.	Electromagnet Base	Base must have the option of motorized rotation for easy access.
6.	Cooling options	Must have options for both, air cooling (for low fields) and water cooling (for high fields).
7.	Field uniformity	Field must be highly uniform. a. Deviation perpendicular to the axis of the Electromagnet: Less than 0.10%. b. Deviation along the axis of the Electromagnet: Less than 0.15%.
8.	Field Stability	Field must be highly stable over continuous operation. For a continuous operation of 100 minutes , field Deviation should be less than 0.30mT
9.	Temperature Stability	There should be no deviation in outlet water temperature with respect to time, after attaining its maximum temperature (which should be $\leq 28^{\circ}\text{C}$)

Mandatory Requirements/Features:

1. Electromagnet must have a soft iron pole cap with **precise pole gap spacing (5-160 mm)**.
2. **Overtemperature Interlock** and **Water Flow Interlock** must be provided to avoid the possibility of coil overheating, caused by excessive power dissipation or inadequate cooling.
3. Manufacturer should provide necessary software to control the electromagnet and its systems from a computer.
4. The Electromagnet should be warranted for a standard period of 2 years.
5. Servicing and Repairing of Electromagnet should be done in timeframe of 3-5 days, and 10-15 days, if the Electromagnet has to be shipped abroad (Excluding time of shipping).
6. Lead Time of delivery of electromagnet must be in 10 to 12 weeks, upon finalization of the order.

Optional Requirements/Features:

1. High power programmable unipolar DC power supply must be provided with Power supply stability of 0.05% over 8 hours.
2. Power Supply should be warranted for a standard period of 2 years.
3. A 15 Kilo-Watt, 38 liters/minutes recirculation water chiller.
4. Quick connect electrical cables and coolant lines of at least 3 m length. Cables and coolant lines should be de-attachable from both the Power supply and the electromagnet side to facilitate easy transportation.
5. Future upgradation possibilities and options, must include :
 - a) Current Reversal Switch and Magnet Control
 - b) Pole Spacers to achieve higher field uniformity.
 - c) Bias Coils for obtaining a 'zero' field or for superimposing a modulated signal on the field.
 - d) Rack cabinet to provide ample space for the power supply, reversing switch, and other instrumentation.
 - e) A competent computer with necessary software for magnet control (preferably LabVIEW Magnet Control software).

The above features must be available on the Electromagnet system. This upgrades should be made possible at the user laboratory without the need of shipping the Electromagnet back to the manufacturer.

Terms and Conditions:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a) **Technical Bid** (Part-A) – Technical bid consisting of all technical details and checklist for conformance to technical specifications. The proposal should contain a compliance table. The compliance table should include all the items of the technical specifications in the same order and format. The first additional column should describe product specifications. The next column should indicate compliance in a “Yes” or “No” response. If “Yes”, necessary supporting data must be provided. If “No”, comments on it must be specified.
 - b) **Commercial Bid** (Part-B) – Indicating item-wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscribing on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscribed with the Tender No, Tender Description & Due Date.
4. The SEALED COVER superscribing tender number and due date & should reach the office of **The Chairman, Department of Aerospace Engineering, Indian Institute of Science Bangalore 560012, India. Kind attention: Dr. Vivekanand Dabade**, on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
5. The covering letter should clearly state that whether the vendor is a Class-I or Class-II local supplier. Failing this the bid will be automatically rejected.
6. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
7. The lead-time for the delivery of the equipment should be less than 10 to 12 weeks from the date of receipt of necessary documents. It should be clearly mentioned in the technical and commercial bids.
8. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer’s literature and published papers. Any other claim will not be accepted and may lead to the rejection of the bid.
9. Wherever requested, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
10. The institute reserves the right to verify the accuracy and seek clarification of submitted specifications after opening the technical bids. Based on such clarification, if specifications are found to be unsuitable, the technical committee reserves the right to disqualify vendors. Any discrepancy between the promised and verified specifications will be deemed as technical noncompliance.

11. The technical bid should also contain warranty details and terms. Further, any periodic maintenance requirements for regular operation should be specified in detail, along with the extent of coverage under warranty for such maintenance activity.
12. The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid. The vendor is responsible for the installation of the system at the institute, along with the training of end-users.
13. In the commercial bid, the price should be inclusive of all discounts. The price quotation should include the cost of installation and training of potential users if any. Please quote the price of each optional item, separately.
14. The quotations should be on FOR-IISc Bangalore basis in INR only. GST must be not more than 5% (Institute will provide the GST exemption certificate).
15. Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from the bidding process.
16. The vendor should have an office with qualified technical service personnel based in India and should assure a response time of less than five business days.
17. The vendor must submit a list of all Indian customers (only Government of India organizations) where similar systems have been installed. References from this list can be used to disqualify vendors with a poor track record of service, build quality, system performance, or poor availability of spares. Additionally, IISc shall have the absolute right to take the opinion of other departments/institutes for their opinion/experience about the bidder's services/sales. Based on such input, IISc may decide about the rejection of a bid of such bidder(s) with poor track record of service, build quality, system performance or poor availability of spares.
18. The vendor shall include up to five testimonials from existing users of a similar Electromagnet, DC Power Supply and its related accessories indicating its performance and maintenance satisfaction.
19. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
 - a) To accept OR reject the lowest tender or any other tender or all the tenders.
 - b) To accept any tender in full or in part.
 - c) To reject the tender, offer not confirming the tender terms.
20. The indenter reserves the right to relax any or all the above conditions without assigning any reason.
21. If the vendor has agreed to the technical specifications, but has offered a product that does not meet the requirements in the technical specifications, repercussion of such offers are, they are considered as not meeting the tender conditions and are liable to be summarily rejected. No deviation with respect to specifications is acceptable.
22. IISc will issue payment for the equipment through a Letter-of-Credit (LC)

Vendors should utilize the following checklist to ensure that their submissions are complete and contain all the required information.

Checklist:

1. The technical bid should contain:

- (a) Technical compliance certificate as per item 2(a) of the above Terms and Conditions;
- (b) Full technical specifications of the Electromagnet with its related accessories (Power Supply) along with the product brochure.
- (c) Electromagnet, Power Supply and its related accessories warranty details with terms, and any periodic maintenance requirements
- (d) Declaration of track record as per item 6 in Terms and Conditions.
- (e) Letter of acceptance of all terms and conditions listed above.
- (f) A list of Electromagnet and its related accessories supplied to Government of India organizations and a Declaration regarding experience.
- (g) Bidders Details

2. The commercial bid should contain:

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

A price quotation for the Electromagnet and optional items:

- A table, in the format shown below, must be submitted in the commercial bid on mandatory/essential items noted in the technical specification and also in Terms and Conditions.

S.No	Description	Cat.Number	Unit Price	Quantity	Sub Total
1.	Essential items noted in the technical specification				
2.	... (details of essential items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

- A similar table for optional items noted in technical specification and also in Terms and Conditions must be submitted in the commercial bid.

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date. These envelopes should be put in a bigger cover which should also be sealed and duly superscribed with Tender No., Tender description & Due Date.

All enquiries and clarification requests should be directed to:

Dr. Vivekanand Dabade

Assistant Professor

Department of Aerospace Engineering

Indian Institute of Science, Bengaluru 560 012, India

Email: dabade[at]iisc[dot]ac[dot]in

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