



# TATA INSTITUTE OF FUNDAMENTAL RESEARCH

*TIFR Centre for Interdisciplinary Sciences*

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|--------------------|----------------------|
| PUBLIC TENDER NO : | TCIS/PCH/IC 14 -0175 |
| PUBLISHED ON :     | 20.12.2014           |
| DUE DATE :         | 16.01.2015           |
| COST OF TENDER :   | Approx. Rs. 45 Lakh  |
| TYPE OF TENDER :   | TWO PART             |

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## **DESCRIPTION OF MATERIAL**

High Pressure Helium Recovery Compressor for TIFR Hyderabad  
(as per specifications enclosed)

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|--------------------------|---------------------------|
| Closing time and date :  | 13.00 Hours on 16.01.2015 |
| Tender will be open at : | 15.30 Hours on 16.01.2015 |

Both Technical Bid (Part A) and Financial Bid (Part B) to be submitted within the due date and time in separate envelopes and marked on top as Part A and Part B. These two sealed envelopes should be further put in one Master Envelope superscribed with the Tender No., Due Date in Bold Letters.

Please see attached sheet for conditions of tender.

**Yours faithfully**

**(D. Hari Prasad)**  
**Administrative Officer**

**Section A: Technical Specifications**

**High Pressure Helium Recovery Compressor for TIFR Hyderabad**

| Sr No                             | Description  | TIFR Specifications  | Bidders Compliance as "Yes" or "No" or with Remarks |
|-----------------------------------|--|--|---|
| <b>SYSTEM GENERAL DESCRIPTION</b> |  |  |   |
| 1.                                | Medium   | Helium gas   |   |
| 2.                                | Capacity/Free Gas (for Helium gas only) Delivery   | 500 lpm (~30 m3/hr)  |   |
| 3.                                | Working Pressure   | 200 bar  |   |
| 4.                                | Inlet temperature/Intake Gas Temperature   | +5 Deg C to +45 Deg C  |   |
| 5.                                | Type of Housing  | Super silent version with noise level <75 dB(A @ 1 meter   |   |
| 6.                                | Tolerance on capacity  | max ± 5%   |   |
| 7.                                | Cooling  | Air Cooled Intercoolers & After cooler   |   |
| 8.                                | Compression stages   | Multi stage  |   |
| 9.                                | Safety valves and switches   | To be provided with suitable inlet and final safety along with inter stage safety valves                 |   |
| 10.                               | Intake (suction) line should be provided with  | Particle filter  |   |
|                                   |  | Intake buffer vessel with pressure gauge   |   |
|                                   |  | Condensate collecting vessel for gas re-feeding over a solenoid valve to suction                         |   |
|                                   |  | Shutoff solenoid valve   |   |
|                                   |  | Manual shut off valve  |   |
| 11.                               | Automatic Condensate Drain (ACD) arrangement   | To drain all oil/water separators during compressor operation.   |   |
|                                   |  | Draining interval should be adjustable.  |   |
|                                   |  | Unloaded start to be integrated.   |   |
|                                   |  | Condensate collecting vessel for gas re-feeding over a solenoid valve to the suction side to be provided |   |
|                                   |  | ACD should be provided with inter stage manual drain valves  |   |
| 12.                               | Monitoring of Gas Intake pressure and all interstate pressure including final pressure and lube oil pressure | To be provided   |   |
| 13.                               | Monitoring of final temperature including inter stage temperature  | To be provided   |   |
| 14.                               | Compressor Operation   | Fully Automatic/Semi-Automatic   |   |
| 15.                               | Compressor Control   | Should be PLC based  |   |
| 16.                               | Hand valves for inlet and outlet   | To be provided   |   |

| <b>TECHNICAL DATA OF THE PRIME MOVER</b> |   |  |  |
|--|---|--|--|
| 17.                                      | Motor Type  | 3 phase electric motor   |  |
| 18.                                      | Drive   | V-belt driven  |  |
| 19.                                      | Enclosure/Protection  | IP 55  |  |
| 20.                                      | Voltage   | 400V $\pm$ 5%  |  |
| 21.                                      | Frequency   | 50 Hz  |  |
| <b>COMPRESSOR BLOCK</b>                  |   |  |  |
| 22.                                      | Oil Pumping System  | force feed lubrication with Oil filter to be provided  |  |
| 23.                                      | Inter Stage Coolers & After Cooler                                    | Air Cooled for an approx. outlet temp. 10-15 °C above ambient temp   |  |
| 24.                                      | Final Water/Air Separator   | To be provided   |  |
| 25.                                      | Gastight, re-feeding pipeline to the intake buffer vessel             | To be provided after each stage  |  |
| 26.                                      | Pressure Maintaining and Check Valve                                  | To be installed before compressor outlet   |  |
| 27.                                      | Crankcase venting back to suction side                                | To be incorporated   |  |
| 28.                                      | Oil Filling   | First fill of lubrication oil should be done by the vendor. Synthetic oil will be preferred  |  |
| <b>COMPRESSOR CONTROL PANEL</b>          |   |  |  |
| 29.                                      | Control Panel   | Only Programmable Logic Control (PLC) based with Color Screen Display for Fully Automatic Start/Stop operation according to user specific parameters |  |
| 30.                                      | Supervisory controls  | Shut down when deviation from specified operating parameters   |  |
| 31.                                      | Display of  | Operating data, maintenance information, error indication  |  |
| 32.                                      | Emergency OFF switch  | To be provided   |  |
| 33.                                      | Main circuit breaker  | To be provided   |  |
| 34.                                      | Supervision or Control to be provided with process parameters such as | Intake pressure  |  |
|  |   | Inter stage pressure of all stages including final pressure  |  |
|  |   | Oil pressure   |  |
|  |   | Temperature of all stages  |  |
|  |   | Motor overcurrent  |  |
|  |   | Maintenance interval   |  |
|  |   | Signal for automatic condensate drain device incl. cycle registration  |  |

|                             |  |  |  |
|-----------------------------|--|--|--|
|                             |  | Signal for solenoid valve at intake line   |  |
|                             |  | Signal for solenoid valve between condensate tank and inlet buffer vessel  |  |
| 35.                         | Remote monitoring of compressor process parameters in a PC (provided by TIFR).   | The offer should include supply of required cabling of suitable length and end connectors along with its required software package, license if any and commissioning, demonstration at site.   |  |
| <b>PURIFICATION SYSTEM</b>  |  |  |  |
| 36.                         | Built-in Purification System onto compressor unit for de-oiling /drying.   | <ul style="list-style-type: none"> <li>- With indication for filter change</li> <li>- With check valve</li> <li>- With bleed valve</li> <li>- Pressure maintaining- and check valve</li> </ul> |  |
| <b>GENERAL REQUIREMENTS</b> |  |  |  |
| 37.                         | Required room size, Overall unit size and weight of the complete unit  | To be provided   |  |
| 38.                         | Details of 3 similar such units to be supplied to DAE or other government institutions in the past 5 years for technical acceptance of the offer | To be provided   |  |
| 39.                         | Detail certificate mentioning the overall helium leak tightness of the complete unit must be supplied along with the offer                       | To be provided   |  |
| 40.                         | Supply of operational and maintenance manual (in English) along with the e-manual  | To be provided   |  |
| <b>OPTIONAL ITEMS</b>       |  |  |  |
| 41.                         | Consumable maintenance spares kit for 2000hrs operation  | To be provided with detailed list of items and individual spares cost  |  |
| 42.                         | Major maintenance spares kit required for 6000hrs or 5 years whichever is earlier  | To be provided with detailed list of items and individual spares cost  |  |
| 43.                         | Onsite AMC for the period of 3 years after the standard warranty   |  |  |
| 44.                         | Onsite AMC for the period of 5 years after the standard warranty   |  |  |

**Section B: COMMERCIAL BID**

**High Pressure Helium Recovery Compressor for TIFR Hyderabad**

| <b>Sr No</b>          | <b>Description</b>  | <b>Unit cost<br/>(mention the currency)</b> | <b>Total cost<br/>(mention the currency)</b> |
|-----------------------|---|---|--|
| 1                     | Supply of High pressure helium gas compressor as per our tender technical details (Section A –Technical Specifications) |   |  |
| <b>OPTIONAL ITEMS</b> |   |   |  |
| 2                     | Consumable maintenance spares kit for 2000hrs operation   |   |  |
| 3                     | Major maintenance spares kit required for 6000hrs or 5 years whichever is earlier                                       |   |  |
| 4                     | Onsite AMC for the period of 3 years after the standard warranty  |   |  |
| 5                     | Onsite AMC for the period of 5 years after the standard warranty  |   |  |

## General Terms and Conditions

1. **PART "A" (Technical Bid) consisting of Technical Bid & Commercial Terms and PART "B" (Financial Bid) consisting of only Price** shall be submitted in **separate** sealed envelopes duly superscribed with the tender enquiry number, and the due date in bold letters, addressed to the Administrative Officer, Tata Institute of Fundamental Research, 21, Brundavan Colony, Narsingi, Gandipet Road, Hyderabad - 500 075. The envelopes should be clearly marked on top as either PART "A" or PART "B". The two sealed covers should be further put in a master cover superscribed with the Tender Enquiry No., Due Date in bold letters, addressed to the Administrative Officer, Tata Institute of Fundamental Research, 21, Brundavan Colony, Narsingi, Gandipet Road, Hyderabad - 500 075. The sealed master envelop has to be delivered by hand/courier at the security Gate Officer of TIFR, Hyderabad on or before 13.00 hrs on the due date specified. The technical bid will be opened in the presence of attending tenderers at 15.30 hrs on the due date at Administration Section, TIFR, Hyderabad. Tenders submitted after 13.00 hrs. on due date will not be considered.
2. **In case the PART „A" and Part „B" bids are not sealed in separate envelopes the tender will be rejected.**
3. **The technical bid should not contain any indication of the price.**
4. After scrutiny of Technical Bids, Financial bids of only those bidders who are shortlisted on technical basis will be opened at on later date. The opening date, time and venue will be intimated to the technically successful bidder.
5. After downloading the documents please inform your company details such as name, address, telephone nos., contact person and email address etc. by email to us. ([harid@tifrh.res.in](mailto:harid@tifrh.res.in)), to enable us to inform prospective bidder for any corrigendum/changes if any; in the Tender document before due date.
6. Quotations must be valid for a period of 180 days from the due date.
7. Tenders containing correction, overwriting will not be considered. Late or delayed/Unsolicited quotations/offers shall not be considered at all. These will be returned to the firms as it is. Post tender revisions/corrections shall also not be considered.
8. Tenderer should sign on all the pages of the technical bid and the price bid.
9. The offer for Import item should indicate separately the price on Ex-works basis (duly packed airworthy and of international standard ). The gross weight and net weight of the package and the dimensions of package(s) should be

indicated in the quote for our reference to calculate the total landed cost in INR.

10. If equipment offered is to be imported, arrangements for import will be made by us for direct import.
11. Tenders who do not comply with any of the condition are liable to be rejected.
12. The Institute shall be under no obligation to accept the lowest or any other tender received in response to this tender notice and shall be entitled to reject any tender without assigning any reason whatsoever.
13. TIFR reserves the right to place the order for part/reduced quantity than what is specified in the tender.
14. PAYMENT TERMS: **80%** payment shall be made through irrevocable L/C on presentation of complete and clear shipping documents and balance **20%** of the amount shall be released after the receipt, installation, commissioning and acceptance of the equipment.
- 15. For Import cases: No Agency commission will be paid as per Govt. of India rules.**
16. TIFR is exempted from paying of **Custom Duty** under the notification No.51/96 dated 23.07.1996, **Excise Duty** under the notification No.10/97 dated 01.03.1997, **Octroi Duty** under the registration No. 27664 dtd. 07.07.1953 & Letter No. OCT/755/HCCI Dtd.13.08.14 for all procurements/supply meant exclusively for Educational, scientific and research purpose. Whenever the exemption certificate not honored by the authorities, the applicable duty will have to be paid. Hence Excise & Custom duties, if any, should be shown separately.
17. SALES TAX: TIFR does not have any exemption/concession on payment of Sales Tax/VAT and we are not authorized to issue any Sales Tax Form „C“ & „D“
18. The delivery period should be specifically stated and earlier delivery may be preferred.
- 19. The Supplier shall arrange to ship the ordered materials within the mutually agreed delivery period mentioned in the order unless extended with/without penalty.**
  - a. In case of delay in supply on part of the supplier, a penalty @0.5% per week of order value will be charged for delayed period subject to a maximum of 10% order value.

- b. If the delay in the shipment of the ordered materials attributable to the supplier exceeds agreed time period from the date of original agreed upon date of shipment and extended with/without penalty, the TIFR, Mumbai shall have the right to cancel the contract / purchase order and recover the liquidated damages from other dues of the party or by legal means. It will also affect the other/future business dealings with such suppliers.
  - c. The same rate of penalty shall be applicable for late installation of the equipment/instrument also.
20. COMMENCEMENT OF WARRANTY PERIOD: The warranty period of an item shall commence from the date of receipt of the item in good working condition and satisfactory installation/commissioning/demonstration at the project site.
21. ANNUAL MAINTENANCE CHARGES: The party must mention in the quotation, the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period if necessary.
22. Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting party/manufacturer.
23. OBSERVANCE OF LOCAL LAWS: Wherever applicable (particularly for Local vendors), the vendor / contractor shall comply with all law, statutory rules & regulations etc. The vendor/ contractor shall obtain all necessary permits / approval from the local Governing Body, Police, and other concerned Authorities as may be required under law. The vendor /contractor shall pay all types of taxes, fees, license charges, deposits, duties, tolls, royalty or other charges that may be leviable on account of any the operations connected with the execution of this work/ contract.
24. In case of any interpretational issues arises in this tender, the interpretation/decision of TIFR shall be final and binding on the bidder.
25. It is the responsibility of the vendor to make sure that the system being proposed can be exported to India with TIFR as the end user. All clarificatory documentation must be submitted with the Bid.



26. TIFR reserve the right to ask for or to provide any clarification, changes after the release of this tender. **Any changes or clarifications provided by TIFR may be checked at TIFR website <http://www.tifrh.res.in/tcis/contact/tenders.html>**

Administrative Officer  
TIFR - Hyderabad