



**INTERNATIONAL ADVANCED RESEARCH CENTRE FOR
POWDER METALLURGY AND NEW MATERIALS (ARCI),**
Balapur P.O, R.R. District, Hyderabad – 500 005, Telangana, India
Tel: 040-244523326, Fax: 040-24442699
Web Site: www.arci.res.in, eMail: stores@arci.res.in

Tender No. CF20170049/PO

Date: 27.09.2018

TENDER DOCUMENT
PURCHASE OF 55kN CLASS SERVO BALL SCREW STACK ASSEMBLY PRESS-A

1.	EMD (Earnest Money Deposit/Bid Security)	Rs. 2,00,000.00
2.	Tender document published date	27.09.2018
3.	Bid documents can be downloaded from	www.arci.res.in www.eprocure.gov.in
4.	Clarification start date and end date	28.09.2018 to 03.10.2018
5.	Bid submission start date and time	05.10.2018
6.	Bid submission end date and time	05.11.2018 before 03.30 PM
7.	Bids opening date and time (for Technical bids covers)	09.11.2018 at 02:30 PM



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Balapur P.O, R.R. District, Hyderabad – 500 005, Telangana, India

Tel: 040-24452326, Fax: 040-24442699

Web Site: www.arci.res.in eMail: stores@arci.res.in

Instructions to Bidder

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TENDER NOTICE

International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) is an Autonomous Research and Development Centre of Department of Science and Technology (DST), Government of India with main campus at Hyderabad and with operations in Chennai and Gurgaon.

ARCI would like to procure the following equipment. The Technical Specifications Schedule of Requirements and Allied Technical details are given in Part-1 of tender document.

Item: **PURCHASE OF 55kN CLASS SERVO BALL SCREW STACK ASSEMBLY PRESS-A**

Tender Enquiry No: (Case No.) **CF20170049/PO dated 27.09.2018**

- Last date and time of submission of Tender (EMD, Technical and Price Bid): **05.11.2018** before 3:30 PM.
- EMD should be in the form of Demand Draft drawn in favour of **Director, International Advanced Research Centre, payable at Hyderabad.**
- The item to be delivered and installed at:
Centre for Fuel Cell Technology, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), IIT-M Research Park, Phase-1, 2nd Floor, Section B1, TS No. 2D, F Block, 6 Kanagam Road, Taramani, Chennai 600 113, Tamil Nadu, India.
- **Estimated Delivery period: 03 (Three) Months**

The tender document should consist of the following:

Two bid system should be followed for this tender. In this system the bidder must submit offer in three separate sealed envelopes i.e., one envelope for each for EMD, Technical Bid and Commercial Bid. These envelopes should be securely sealed and stamped separately and clearly marked as “**Envelope No.1- EMD**”, “**Envelope No. 2- Technical Bid**” and “**Envelope No.3 – Commercial Bid**”. All the sealed envelopes should be placed in another larger envelope. The main envelope which will contain all the envelopes should be super-scribed with the tender enquiry no. **CF20170049/PO** date **27.09.2018** due on **05.11.2018** with name of the equipment /item and is to be submitted to the address given below so as to reach **on or before 05.11.2018 by 03:30 PM.**

The Bidder should ensure that the Prices are mentioned only in the Financial Bid and nowhere in the Technical Bid.

Validity of Bid

Quotation should have minimum validity of **120 days** from the date of opening.

Address for submission of the Tender:

Centre for Fuel Cell Technology, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), IIT-M Research Park, Phase-1, 2nd Floor, Section B1, TS No. 2D, F Block, 6 Kanagam Road, Taramani, Chennai 600 113, Tamil Nadu, India.

Last date for submission: 05.11.2018 at 03:30 PM

Tender should be submitted before last date stated above. The Tenders not accompanied by EMD in the form of Demand Draft in favour of Director, ARCI, payable at Hyderabad are liable for rejection.

The bid can be submitted in person or through post/courier. ARCI will not be responsible for transit delay for tenders submitted by Post / Courier etc.

All the tenders, in which any of the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected.

Clarification on bid

Bidders can seek clarification as per the schedule start and end date through email IDs given below:

For technical clarifications: **vedarajan.raman@arci.res.in**

For commercial clarifications: **stores@arci.res.in**

Opening of the tender

The offer/bid will be opened by a committee duly constituted for this purpose. The bidder if interested may participate on the tender opening date and time. The bidder should produce authorization letter from their company to participate in the tender opening. Only one representative will be allowed to participate in the tender opening. The schedule of tender opening is:

Technical Bid opening date and Time: **09.11.2018** at 02:30 PM (Friday).

PLACE: - Centre for Fuel Cell Technology, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), IIT-M Research Park, Phase-1, 2nd Floor, Section B1, TS No. 2D, F Block, 6 Kanagam Road, Taramani, Chennai 600 113, Tamil Nadu, India

The bidders who are technically qualified will be called separately for opening of price bids.

Award of Contract

Contract will be awarded to successful bidder and a copy of the award of the contract will be uploaded in CPPP portal after finalizing the tender.

Disqualification of the Tenders:

The tenders are liable for rejection in the following circumstances:

- If they are not in line with the terms and conditions of this tender notice
- Conditional quotations
- Incomplete tenders
- Tenders without EMD and cost of tender document
- Tenders submitted through Fax or e-mail
- If two bid system is not followed.

Director, ARCI reserves the right to accept or reject any or all tenders either in part or in full or to split the order without assigning any reasons there for.

IMPORTANT NOTE: Amendment, Corrigendum if any to this tender document, WILL BE HOSTED ONLY IN ARCI WEBSITE and CPP Portal and no separate Press Notification will be issued. Bidders are advised to visit our website and CPP Portal regularly to know such details.

Director, ARCI, Hyderabad

PART-1

TECHNICAL BID (Terms and Conditions)

I. Vendor qualification criteria:

- A. Original Equipment Manufacturer (OEM) or authorized representatives of OEM only can quote for this tender. Vendor should submit authorization letter valid on tender date from OEM along with the quotation.
- B. The OEM should have proven expertise in manufacture and supply of the item.
- C. The bidder should have supplied at least 7 or more similar units in India or abroad in the last 5 years.
- D. It is essential that the manufacturer shall provide the list of users of the equipment with contact particulars.
- E. OEM is required to submit a letter of commitment at the time of quote for supply of spares and also for efficient and prompt after sales service of the equipment for a minimum period of 5 years after the guarantee/warranty period under mutually agreed terms and conditions.
- F. Failure to meet any of the above vendor qualification criteria may lead to disqualification of tender at technical evaluation stage itself and vendor's quotation may not be considered for procurement.

II. Pre dispatch inspection

- A. The manufacturer/supplier of the unit shall demonstrate, if required, at their works during pre-dispatch inspection by ARCI personnel and shall satisfy all the technical specifications as described in the tender document.
- B. The manufacturer /supplier of the unit shall demonstrate the features as provided in **Annexure-I (Scope of supply work)**.
- C. All the consumables, raw materials, required for the above demonstration should be arranged by the tenderer.
- D. All the utilities and manpower required for the demonstration shall be arranged by the supplier only

III. Acceptance criteria:

- A. The manufacturer/supplier's trained engineer should carry out installation and commissioning of the unit at ARCI.
- B. The entire functionality of the equipment according to the specifications should be demonstrated at ARCI.

- C. The manufacturer/supplier of the unit shall demonstrate the features as specified in **Annexure I (Scope of Supply)**.
- D. Infrastructure required for the above demo will be arranged by ARCI.
- E. The manufacturer/supplier should comply with the Safety and Compliance Standards as specified in **Annexure I (Scope of Work)**.

IV. Other aspects:

1. PATENT RIGHTS:

The Supplier shall indemnify ARCI against all third-party claims of infringement of patent, trademark or industrial design rights, copy rights arising from use of the Goods or any part thereof in India.

2. Training:

The manufacturer shall impart training in the operation and preventive/breakdown maintenance of the complete unit including sub-parts during installation to ARCI personnel for at least 4 no. of day at ARCI.

3. Utilities/Infrastructure for installation:

- A. Supplier shall indicate all the required utilities/infrastructure such as power, water, gas, etc including power backup requirements.
- B. Supplier shall provide overall dimensions of the Unit along with floor area/height of the site or building, including foundation details if any, for accommodating the Unit.
- C. The operating environment for the Unit including temperature and humidity control, anti-vibration, EMI, EMC etc. should be indicated.
- D. If any charges extra are payable for Installation and Commissioning, the same should be included in the total cost of the stores as per the price schedule.

4. Manuals, software and other drawings etc.:

The following documents (in English) shall be provided along with the Unit in both hardcopy and softcopy forms:

- A. Operation and maintenance manuals, troubleshooting procedures, calibration methods, wiring and other schematic diagrams, list of components, spares and accessories.
- B. If there are any bought-out systems and components, manuals should be provided in hardcopy and softcopy forms for the same.
- C. Calibration certificates for sensors, instruments, gauges, display units etc. must be provided.
- D. Software upgrades pertaining to the supplied Unit should be provided free of cost as and when new versions are released by the OEM.
- E. Safety and security instruction manual should be provided.

5. After-sales service:

The supplier shall guarantee efficient and prompt after-sales service including the supply of the spares for a minimum period of 5 years after the guarantee/warranty period under mutually agreed terms and conditions.

6. Bought-out items:

All bought-out sub-systems and components if any should be of reputed make conforming to international standards. Make and details of all bought-out sub-systems and components shall be specified.

7. General Quote:

The breakup for accessories or sub system(s) /attachments apart from the basic system, if any, should be quoted separately.

8. Export License:

The supplier should clearly indicate their ability/readiness to obtain the export license /clearance from the concerned authority for the supply of the unit as per the contract specifications to ARCI.

9. Technical compliance statement:

The vendor should provide item wise details against each and every specification, Deviations if any are to be highlighted.

10. Guarantee/warranty:

The Unit shall be under warranty **for a period of three years from the date of acceptance.** During the warranty period, all software and hardware updates shall be provided free of cost. Items, if any, excluded from the warranty shall be explicitly mentioned by the supplier.

The Unit shall be guaranteed for satisfactory performance for 3 years from the date of installation, commissioning and acceptance at ARCI. The manufacturer shall replace premature failure of parts during the guarantee period at their cost and risk.

11. Delivery/ time schedule:

The offer shall be accompanied by a detailed delivery time schedule showing the individual time schedule required for delivery.

12. Packing:

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. In order to maintain safety of the equipment, we prefer to have wooden crating with adequate cushion inside for transportation of any goods.

The material has to be dispatched with International standard packing to withstand rigors, and to avoid any transit damages.

13. Packing Instructions:

Each package will be marked on three sides with proper paint/indelible ink, the following:

- i. Purchaser Name & Address
- ii. Item Nomenclature
- iii. Order/Contract No.
- iv. Country of Origin of Goods
- v. Packing list reference number

14. Insurance:

The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "Warehouse to warehouse" (final destinations) on "All Risks" basis including War Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after dispatch **or upto installation and commissioning of stores whichever is later**. However, in case of orders placed on FOB/FCA basis, the purchaser shall arrange insurance.

15. General instructions:

- A. The Technical Bid must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your quotation. **The price should not be mentioned anywhere in this document.**
- B. Tenders, which are submitted without following the Two-Bid Offer System, are liable to be rejected.
- C. The technical offer should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the bidder. Unsigned Tenders are liable to be rejected. Failure to comply with this requirement may result in the bid being rejected.
- D. The purpose of certain specific conditions is to get or procure best product/service etc. for ARCI. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- E. Vendor should provide list of deliverables / bill of materials and services.

PART- 2

EARNEST MONEY DEPOSIT

Earnest Money Deposit (EMD) in the form of Indian or foreign demand draft Drawn in favour of **Director, International Advanced Research Centre, Payable at Hyderabad.**

No interest is payable on EMD. The EMD will be returned to the bidders(s)/Agents whose offer is not accepted by ARCI within one month from the date of the placing of the final order(s) on the selected bidder(s). EMD of the successful bidder shall be converted into performance guarantee and shall be release on submission of bank guarantee.

EMD in the form of BG is not acceptable.

Amount of EMD Rs. 2,00,000.00 (Rupees Two Lakh only) in INR or equivalent foreign currency.

Bidder registered with Department of Micro, Small and Medium Enterprises as MSMEs and having valid NSIC registration are exempted for payment of EMD subject to submission of documentary evidences. Copies of registration certificate and other supporting documents should be submitted in Cover No. 1.

PART-3

PRICE BID

I. Terms and Conditions:

- a) Envelope 3 should contain price schedule (as per the table) complete in all respects with proper seal and signature of authorized person.
- b) Tender with any condition, including conditional rebate, are liable to be rejected.
- c) Cost of all the items should be mentioned clearly and individually in the Commercial Offer (Part- III) only.
- d) AMC scope with associated costs including number of visits has to be quoted separately.
- e) The Bidders are requested to quote for **research institutional prices** for Machine/ Equipment and, since ARCI is eligible for the same. The quoting party should ensure that the quoted prices are the minimum and that have not quoted the same item on lesser rates than those being offered to ARCI to any other customer.
- f) Printed conditions of the vendor submitted with the tender will not be binding on ARCI.
- g) The commercial bids of only the technically qualified bidders shall be considered for further processing.
- h) The price quoted shall be considered firm and no price escalation will be permitted during the currency of contract. The quotation should be in standard currency on Ex works/FOB/FOR basis. Freight, insurance, Agency commission (if any) and commissioning charges, if not included, may be quoted separately in Commercial Bid.
- i) Commercial Bid (prices quoted) should not be enclosed in the technical bid envelope. If the price quote is submitted with technical bid the tender are liable to be rejected.
- j) The Director ARCI reserves the right to accept the offer in full or in parts or reject summarily or partly thereof.

II. Payment terms:

1. For import:

An irrevocable Letter of Credit [L/C] for 100% of the order value will be established by the purchaser in favour of the supplier, through purchaser's bank in India once the following condition is met:

Receipt of order acknowledgement and acceptance of the order.

THE ACTUAL PAYMENT TO SUPPLIER WILL HOWEVER BE RELEASED IN TWO STAGES IN THE FOLLOWING MANNER:

Payment for 90% of the order value will be made upon shipment of the equipment and negotiation of the following shipping documents through L/C:

A) Signed Commercial Invoice - Original + 5 Copies

B) Airway Bill/Bill of lading - Original + 5 Copies.

C) Packing List -Original + 5 Copies

D) Certificate of conformity from the supplier that stores/equipment has been tested by the supplier and the same meet the technical specification - Original + 3 Copies.

E) Supplier's Certificate to the effect that the contents in each package are not less than those entered in the Invoice and the Packing List - Original + 3 Copies.

Balance 10% of the order value will be released through L/C upon submission of the following documents:

A) Commercial Invoice for 10% order value.

B) Final Acceptance Certificate [FAC] issued by the purchaser/authorized representative in original against satisfactory installation and commissioning of the equipment at ARCI Site.

C) Bank Guarantee Equivalent to 10% of total order value covering warranty period of the equipment issued or counter guaranteed by an Indian Bank clearly mentioning the relation with OEM if submitted by Indian Agent.

D) If the above-mentioned performance bank guarantee is not provided, 10% of the order value (i.e. second stage payment) will be released only after the expiry of the warranty period from the date of FAC.

2. Domestic purchase:

Payment Terms

Subject to deduction of taxes at source, if any,

90% of the goods cost + 100% taxes will be paid after receipt of the goods at our site subject to inspection & acceptance of the goods/works/commissioning by ARCI authorities.

Balance 10% will be paid against submission of Performance Bank Guarantee (i.e. 10% of the total order value excluding taxes etc.) from a Nationalized /Scheduled Bank valid till the expiry of the warranty period OR after completion of warranty period from the date of successful commissioning of equipment at ARCI.

III. Final Acceptance Certificate (FAC):

On installation, the working of the equipment should be demonstrated so as to comply with all the technical specifications. In this connection, it is to be noted that the installation report is not to be treated as the Final acceptance certificate (FAC)

The FAC will be issued by the PURCHASER only on demonstration of the technical specifications. The warranty shall commence only from the date of the issuance of the FAC. The FAC shall be issued by the PURCHASER at a date not later than 30 (thirty) days from the date of installation provided the equipment functions as per the specifications.

IV. Liquidated Damages (LD):

As time is the essence of the contract, delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise, LD clause will be applicable /enforced. If the supplier fails to Supply, Install and Commission the equipment as per specifications mentioned in the order within the due date, ARCI may levy a penalty for such delay by way of liquidated damages, at 0.5% per week of delay or part thereof, and in aggregate not exceeding 5% of the order value. Such LD will be deducted from any amount due or which may become due to the supplier.

V. Order acceptance:

The successful bidder, on award of contract / order, must send the contract / order acceptance in writing, within 15 days of award of contract / order failing which the EMD will be forfeited.

VI. Award of contract:

ARCI reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

VII. Corrupt or Fraudulent Practices:

ARCI requires that the bidders who wish to bid for this project have highest standards of ethics. ARCI will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. ARCI may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

VIII. Interpretation of the clauses in the Tender Document / Contract Document:

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, Director, ARCI's interpretation of the clauses shall be final and binding on all parties.

The equipment must be supported by service personnel trained by the principal vendors. The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc. Installation and integration of all supplied hardware and software shall be done by the vendor. The vendor shall install and configure all required hardware and software.

The bidder must install and configure user application / software, and demonstrate its running in parallel as part of the system acceptance. The application software will be provided by the Institute.

IX. Indemnity:

The vendor shall indemnify, protect and save ARCI against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

X. Arbitration

For Domestic Supplier

In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to arbitrator appointed by Director ARCI. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

The venue of the arbitration shall be the place from where the purchase order/contract is issued.

Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree.

For Imports

In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

PRICE SCHEDULE FOR FOREIGN SUPPLIERS

Currency _____:

Country of origin _____

Sl. No.	ARCI item code	Name of the Goods	Unit of measurement	Quantity	Price	Discount	Taxes if any	Price in currency
Total in foreign Currency								
Packing and forwarding Charges								
Ex work prices								
AMOUNT IN WORD								

Note: The Bidder may please fill in this form or the same may be typewritten on the Letter Head of the Bidder exactly as per the above format and submit the same as per the instructions given in the tender document.

NOTE: For imports, ARCI is entitled for concessional Customs duty as per Notification No.51/96-Custom (as notified by GST council). Hence rates to be quoted accordingly.

PRICE SCHEDULE FOR DOMESTIC SUPPLIERS

Sl No.	ARCI item code	Name of the Goods / Services / Works	HSN / SAC codes	UOM	Quantity	Unit Price	Discount	C G S T	S G S T	I G S T	Total Tax amount	Total amount (including tax)
1												
Total price												
AMOUNT IN WORDS:												

Note: The Bidder may please fill in this form or the same may be typewritten on the Letter Head of the Bidder exactly as per the above format and submit the same as per the instructions given in the tender document.

NOTE:

- I. **ARCI is a public funded research institution, concessional GST rate @ 5% may please be quoted for the supply of goods with reference to GST Notification no. 45/2017 dated 14.11.2017. ARCI will provide certificate for the same.**
- II. **For imports, ARCI is entitled for concessional Customs duty as per Notification No.51/96-Custom (as notified by GST council). Hence rates to be quoted accordingly.**

Other information:

- a) Installation and commission charges, if any to be added as a line item in the format given above.
- b) Prices of accessories, spares and consumables must be added as a line item as per the format given above
- c) Optional items, if any, and their prices should be mentioned separately

[SIGNATURE OF BIDDER]
NAME AND ADDRESS OF BIDDER

Declaration by the Vendor

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper authorization. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the conditions of the tender. We have not given any printed conditions beyond the scope of this tender. This is also certified that I/We/our principal manufacturing firm has no objection in signing the purchase contract if the opportunity for the supply of the items against this tender is given to me/us.

Date:

Signature:

Name:

Address:

Designation:

On behalf of:

SCOPE OF WORK

1. Scope of work
 - (a) Design, realization, supply and on-site erection of PEM Fuel cell press assembly.
 - (b) Installation, commissioning and demonstration of performance 55k N (5T)
 - (c) Press capacity tonnage: 55 kN plus or minus 5 kN
2. Type- Automated Fuel cell assembly press
 - (a) Servo driven ball screw for automated compression of stack with continuous closed-loop control
 - (b) Adjustable axial stack twist, up to plus or minus 30degree Adjustable press tilt, from vertical to horizontal.
3. Platen configuration
 - (a) The tooling (upper and lower platen interfaces and guide rod locations) will be specific to the stack dimensions.
 - (b) Active loading area on the platen: 450 mm x 350 mm (within a tolerance of 5 percentage on both L and W)
To accommodate a different plate geometry. Operator must change the platen set to match the stack being assembled.
 - (c) Parallelism and flatness over the area of platens shall be within 50 micron
4. Minimum operating load: within 1 percentage of full scale.
5. Load-pressure resolution should be 1 percentage or better of full scale
6. Minimum Daylight- 1200 mm
7. Pressing - closing Speed
 - (a) Load/pressure controlled ram movement on contact with the job.
 - (b) Expected pressing speed 31 inches Spring loaded containment bars (qty 3) provided (to push plates against datum rods
 - (c) Pressing without any spike in the applied load on contact
8. Holding time in full load condition shall be indefinitely
9. Working Height to place the sample for pressing - within 0.1 to 1.3 m.
10. Load stability on load application - within 1 percentage of applied load. plus or minus 1kN Mode of Operation-
11. Manually operated system - requires user to set pressure, valves, and read leak rate from a digital display.
12. Hydraulic tilt - Integrated leak test functionality.
Holds compression force indefinitely
13. Parameter Indication during operation

- (a) Load/Pressure- set value and actual value
 - (b) Pressing Hold time- set value and actual value
Digital display of force using electronic load cell.
14. Switching valves and mass flow meter technology for leak rate measurements of 0-50 SCCM
- (a) Exact location drawings of ports for seal gasket alignment will be provided.
 - (b) Single channel to allow testing of 1 circuit at a time (H₂-Air-Water).
15. Safety-
- (a) Audio visual alarm for readiness of press, working and failure of any system.
 - (b) Emergency off switch at safe reach of operator
 - (c) Limitation for all the process parameters.
 - (d) Overload relays to prevent the electrical system from overloading.
 - (e) Visual Indication in case of rise in oil temperature above 60 degreeC and interlock for press operation
16. Power fail safety
The equipment shall have a well defined fail safe response on power fail.
17. Compliance with following standards
- (a) The standards to which the offered item is complying shall be explicitly listed with details.
 - (b) DIN EN ISO 12100 -2010 - Principles and methodology for achieving safety in the design of machinery.
 - (c) EC Machinery directive 2006-42 EC- Directive harmonising the health and safety requirements applicable to machinery
 - (d) DIN EN ISO 13849:2008 -2008- Safe design of machine control systems
 - (e) DIN EN 60204:2006- electrical equipment on machines
 - (f) EN 2892004 plus A1-2008- Plastics and rubber machines - Safety
18. Additional Information
Linear encoder to monitor exact height of stack
Spring loaded containment bars for holding plates against alignment datums
Stack lifting fingers (pneumatic cylinders lift stack out of lower alignment plate for easy unloading)
Automated data collection
Integrated leak test capability
Strap forming and welding
19. Input Power - 220V,50 hertz single phase

Supply, installation, commissioning, training and services must be done at

Centre for Fuel Cell Technology, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), IIT-M Research Park, Phase-1, 2nd Floor, Section B1, TS No. 2D, F Block, 6 Kanagam Road, Taramani, Chennai 600 113, Tamil Nadu, India

CHECK LIST

BIDDER HAS TO FILL IN THE CHECK LIST GIVEN BELOW

(State YES/NO for each item)

1.	If bidder is not an original equipment manufacturer, authorization letter attached.	
2.	Whether Earnest Money Deposit (EMD) Submitted (envelope I)	
3.	Whether Technical Bid (envelope II) Submitted	
4.	Whether Commercial Bid (envelope III) Submitted	
5.	Whether the EMD (envelope I), Technical Bid (envelope II) and Price Bid (envelope III) are submitted in separate covers and all the covers enclosed in a common envelope.	
6.	Whether copies of GST Registration certificate and PAN Card enclosed	
7.	Whether declaration form signed and submitted	
8.	Validity of 120 days from the date of opening	
9.	Whether warranty clause mentioned	
10.	Does the instrument comply with all the specifications mentioned	
11.	Whether all pages of tender document signed and submitted	

NOTE: Please ensure all the relevant boxes are marked YES/NO against each column.

IMPORTANT NOTE: Tenderers must ensure that all the required documents indicated in the Tender documents are submitted without fail. Tenders received without supporting documents for the various requirements mentioned in the tender document are liable to be rejected at the initial stage itself.