

**Punjab Engineering College**

**(Deemed to be University)**

**Chandigarh**

**Sector 12, Chandigarh 160012**



**E-tender Document**

**For**

**Up-gradation of  
Stir Casting Machine**

## SECTION I: INVITATION FOR E-TENDER

1. The Punjab Engineering College (Deemed to be University), Chandigarh invites e-bids from eligible bidders for “Up-gradation of Stir Casting Machine”.
2. Interested eligible Bidders may obtain further information from Production and Industrial Engineering Department, Punjab Engineering College (Deemed to be University), Sector 12, Chandigarh 160012, India.
3. The bidding document can be downloaded from institute website <http://www.pec.ac.in> or <http://etenders.chd.nic.in>
4. All bids must be accompanied by an EMD as specified in the bid document and must be delivered to the office address mentioned below by the date and time indicated below.
5. Bids will be opened in the presence of Bidders' representatives who choose to attend on the specified date and time.

**TABLE - 1**

S. No.	Name of the Work	EMD (INR)	Performance Security Deposit
1	<b>“Up-gradation of Stir Casting Machine” AS PER SUB-SECTION 3.1 OF SECTION III</b>	30,000/-	@ 5% of the value of the contract

**TABLE - 2 Time Schedule**

I	Date of publication	12/02/2021
II	Downloading of e-tender document	Start date: 12/02/2021 End date: 27/02/2021 till 3:00 P.M.
III	Date of submission of e-tender	Start date: 12/02/2021 End date: 27/02/2021 till 3:00 P.M.
IV	Physical submission of EMD	Start date: 12/02/2021 End date: 27/02/2021 till 3:00 P.M.
V	Opening of Technical Bid (online) and meeting for scrutiny of technical bid and declaring eligible bidders.	Date: 01/03/2021 at 3:30 P.M.
VI	Opening of Financial Bid of only eligible technically qualified bidder as determined by the Committee.	To be informed after checking eligibility of Bidders
VII	Place of opening of bids	<b>Production and Industrial Engineering Department</b> Punjab Engineering College (Deemed to be University), Sector 12, Chandigarh 160012
VIII	Address for communication	Punjab Engineering College (Deemed to be University), Sector 12, Chandigarh 160012

**Important Note:**

I.	Bidders shall have to submit their bids on-line in Electronic Format with Digital Signatures.
II.	All terms and conditions, instructions to bidder regarding e-tendering process etc. may kindly be seen from the Detailed Notice Inviting Tender (DNIT) available on Chandigarh Administration website ( <a href="http://etenders.chd.nic.in">http://etenders.chd.nic.in</a> ) or on the Punjab Engineering College (Deemed to be University) institute website ( <a href="http://www.pec.ac.in">www.pec.ac.in</a> ).
III.	The bidder has to submit the original documents in physical form such as EMD, eligibility documents and other desired documents on the date fixed for the same as above. The failure will entail summarily rejection of its tender.
IV.	The undersigned reserves the rights to reject or accept any or all tenders without assigning any reasons.

**Director**

Punjab Engineering College  
(Deemed to be University),  
Sector-12, Chandigarh 160012

## SECTION II : TERMS AND CONDITIONS OF CONTRACT

1. **Qualifications for Tendering: Tenderers should possess the following qualifications:**
  - The Bidder should be either OEM or Authorized service partner of OEM/OEM Dealer
2. **Scope of Work:**

Up-gradation of **Stir Casting Machine**, mentioned as below and as per sub-section 3.1 of section III

  - Replacement of manually control panel with wireless “Electronic Control System (ECS)” unit.
  - Operation of machine by Human Machine Interface Software(HMI)
  - Addition of Data Acquisition System for Obtaining Cooling Curve
  - Attachment of Squeeze Die Casting (40 Tons)
3. **Earnest Money Deposit:** Tender have to be accompanied by an Earnest Money Deposit (EMD) of Rs.30,000/- (Thirty Thousand rupees only) in the form of FDR/Demand Draft/Banker Cheque/Bank Guarantee from any commercial Bank in the favor of Director, Punjab Engineering College (Deemed to be University) Chandigarh which shall be valid for 120 days from the last date prescribed for submission of the tender. Tender without earnest money shall be considered unresponsive and rejected.
4. The details of EMD specified in the tender documents should be the same as submitted online (scanned copies) otherwise tender will be rejected.
5. **Performance security**@5% of the total value of contract shall be obtained from the successful bidder awarded the contract in the shape of Fixed Deposit Receipt or Bank Guarantee from a Commercial Bank which should be valid for period of 60 days beyond the completion of obligations of the supplier including warranty. Performance security will be forfeited and credited to the institute in the event of breach of contract obligation by supplier in terms of relevant contract.
6. **Opening of tenders:**

The PEC will open all bids, in the presence of Bidders' representatives who choose to attend, **on 01/03/2021 at 3:00 P.M.**, at the following location:

**Production and Industrial Engineering Department**  
Punjab Engineering College (Deemed to be University),  
Sector 12, Chandigarh 160012

The Bidders' representatives who are present shall sign a register to mark their attendance. In the event of date of opening of Tender being declared a holiday, the due date of opening of the Tender will be the next working day at the same hours and venue.
7. An affidavit as per specimen enclosed as Annexure – 2.2 of SECTION II should accompany the tender. The tenderer who has been black-listed or his/her tenders have ever been cancelled or any legal proceedings have ever been initiated/pending or any penalty has ever been levied on account of delay or non-completion of supply order by any State/UT/Central Government, his/her tender will be out rightly rejected. A scanned copy of affidavit shall be uploaded online and in physical form along with EMD.

8. The bidder shall submit the covering letter (Annexure - 2.1 of SECTION II) duly signed by the authorized signatory.
9. The conditional bids shall not be considered and may be rejected out rightly in very first instance.
10. The financial bids (e bids) of only those bidders shall be opened who qualify in the technical bid criteria.
11. The bidder shall submit Proprietary article certificate, Authorization certificate of OEM.
12. The bidder shall be manufacturer of the stir casting machine with the said features or experience of up-gradation of the stir casting machine with said features.
13. The bidder shall submit Rate reasonability certificate to the extent that the rates quoted by the firm are the same and not higher than those quoted with other government, public sector or private organizations.
14. The bidder shall submit Audited copies of Financial Statements for last two financial years i.e. 2018-19 and 2019-20.
15. The bidder shall submit Self-attested copies of PAN/TAN Card/GST.

ANNEXURE – 2.1

From

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**Subject: Submission of Tender for Up-gradation of Stir Casting Machine.**

Dear Sir,

With reference to your above-mentioned notice inviting tenders, I/We hereby offer to provide “**Up-gradation of Stir Casting Machine**” as per sub-section 3.1 of Section III for Punjab Engineering College (Deemed to be University), Chandigarh.

I/We shall supply the up-gradation services truly and faithfully as set forth in the terms and conditions of the tender document. I/We shall be responsible for all complaints as regards to product and in case of any dispute; the decision of the Director, Punjab Engineering College (Deemed to be University), Chandigarh shall be final and binding on me/us.

A FDR/DD No. \_\_\_\_\_ Dated \_\_\_\_\_ drawn on \_\_\_\_\_ intended for the prescribed amount of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ Only) in favor of Director, Punjab Engineering College (Deemed to be University), Chandigarh, payable at Chandigarh is enclosed as earnest money as desired.

I/WE shall have no claim to the refund of earnest money / performance security prescribed against this tender in the event of my/our non-compliance of the contract, provided such contract is implemented within the period of validity of my/our tender.

I/We further understand that my/our earnest money shall stand forfeited in case of unsatisfactory supply of equipment’s/service/violation of any term, or if I/We withdraw my/our tender at any stage during the period of validity. My/Our tender shall remain valid for a period of 120 days from the last date prescribed for submission of the tender against the above-mentioned notice. My/Our tender along with terms and conditions with relevant columns and annexure duly filled in under my/our attestation and with each page of the tender paper including the enclosed terms and conditions signed by me/us (in the capacity of sole owner/general or special attorney attached) is submitted for your favorable consideration.

I/We have read the terms and conditions carefully and have signed the same in token of our absolute and unqualified acceptance.

Thanking you,

Place

Yours faithfully,

Signatures  
Date with stamp  
& Full Address

**ANNEXURE - 2.2**

**(To be furnished on non-judicial stamp paper duly attested by the 1st Class Magistrate or Notary Public)**

**AFFIDAVIT**

I/We/M/s \_\_\_\_\_ are registered Company/Ltd Company etc. as per Registration Certificate No. \_\_\_\_\_ issued by \_\_\_\_\_ having registered office at \_\_\_\_\_ and manufacturing/supply base at \_\_\_\_\_ do hereby declare and solemnly affirm that I/We have not been Black-listed, nor mine/our Tenders have ever been cancelled by any State/UT/Central Government or any partner or shareholder either directly or indirectly connected with or has any subsisting interest in the business of my/our firm nor any legal proceedings have ever been initiated/pending or any penalty has ever been levied due to delay of non-completion of work/service/supply order by any State/UT/Central Government or by any authority.

**Place:** \_\_\_\_\_

**DEPONENT**

**Dated :** \_\_\_\_\_

**Verification**

I/We do hereby solemnly declare and affirm that the above declarations are true and correct to the best of my knowledge and beliefs. No part of it is false and nothing has been concealed therein.

**Place :** \_\_\_\_\_

**DEPONENT**

**Dated :** \_\_\_\_\_

## SECTION III

### TECHNICAL BID

#### 3.1 Technical Specifications of Up-gradation of Stir Casting Machine

##### ECS (Electronic Control System) unit:

ECS (Electronic Control System) unit consists of following features:

- The ECS unit consist of the indication & control system, where all the details performed are displayed, recorded and stored continuously in the ECS unit.
- The Human Machine Interface Software (HMI) is to be installed on the PC. This HMI Software communicates to the ECS unit of the machine wirelessly and controls the entire machine from the PC.
- All the appropriate parameters (such as furnace temperature, stirrer speed etc.,) are to be controlled from this HMI software and the data can also be recorded. The user can use the HMI software at a distance of 10m away from the machine, while fulfilling the following research purposes.

It should have the following features:

**Display & Control:** from PC, **Interface;** Computer & the machine is to be connected through wireless interface. **Record:** Parameters such as melt temperature, mold temperature with +/- 1 °C accuracy, Stirrer speed with +/- 10 RPM accuracy, **Controls:** Bottom Pouring Gate Valve, Gas Mixing, Gas pressure control. It should also be able to control optional attachment such as Vacuum Die Casting, Squeeze Die Casting, Rotary Centrifugal casting, Extrusion set up.

##### Attachment-1: Squeeze Die Casting (40 Tons)

- The melt from the bottom pouring furnace is transferred into the squeeze casting die through "RUNWAY TUBE". This runway tube is preheated to about 800 degrees Celsius to avoid solidification or temperature loss in the melt while transferring.
- The die is placed in the squeeze frame which also contains hydraulic cylinder setup. Hydraulic power pack is powered by electrical motor and this power pack is capable of attaining at least 70 tons load. The pressure applied is to be indicated in the Human Machine Interface.
- This "RUNWAY TUBE" is made of stainless steel and heated with furnace which heats the tube for 800 °C and avoids solidification of melt in the runway tube.
- The temperature in RUNWAY tube furnace is controlled and maintained by PID based controller in the ECS unit. Once the melt is poured into the die, user has to press down button to bring down the piston and squeeze the melt.
- The maximum load on the die is 40 Ton. Digital squeeze load indicator is to be incorporated in the furnace Human Machine Interface.
- Mould is to be of M.S. (Mild Steel) **Cast Dimension:** 50mm O.D. (Outer diameter) x 250mm ht. (Height)



## **Attachment-2: Data Acquisition System for Obtaining Cooling Curve**

- This data acquisition is to be added in the system of stir casting machine allowing the user to obtain the cooling curve while solidification of melt in the die.
- The temperature is sensed at the vertical-center with at least 3 different heights using thermocouple.
- The data obtained is displayed & recorded in real time and can be exported in MS Excel format to obtain the cooling curve.
- The custom built HMI Software is designed in such a way to obtain high accuracy.

It should have following features with details as:

**Sampling Rate:** adjustable from 1 sec to 120 secs; **Inputs:**4 No. (K-Type Thermocouple); **Temperature Sensors Used:** 3 No. (K-Type Thermocouple); **Cast Dimension:** 300 x 100 x 15mm thickness; **Spares:**3 No. (K-Type Thermocouple).

## PRE-QUALIFYING CRITERIA

FIRST COVER TITLED as “Technical Bid” should contain the Self-attested scanned copies of following with consecutive Sr. No.:-

1. Name of the firm/organization & address, Contact person name and telephone/ Mobile No./Fax. No./ on letter pad of the company/firm.
2. Earnest money deposit as mentioned in Point 16 of SECTION II of the tender document.
3. Audited copies of Financial Statements for last two financial years i.e. 2018-19 and 2019-20.
4. Self-attested copies of PAN/TAN Card.
5. OEM Authorization certificate
6. Proprietary article certificate of OEM
7. Certificate of acceptance of terms & condition mentioned in Section II of Tender Document.
8. Registration Certificate of the company issued by the competent authority
9. Affidavit of not being Black Listed (Affidavit as per **Annexure 2.2 of SECTION II**)
10. Covering letter (**Annexure 2.1 of SECTION II**)

**NOTE: All the above mentioned documents should be duly in order and are essential to qualify Technical Bid Stage.**

## SECTION IV

### FINANCIAL BID

#### **“FINANCIAL BID” CONSISTS OF**

Financial (Price) Bid for Up-gradation of Stir Casting Machine as per sub-section 3.1 of Section III for Punjab Engineering College (Deemed to be University), Sector 12, is to be submitted in **excel sheet provided online**.

#### **Note:**

1. Rate should be quoted in Indian Rupees only exclusive of Taxes/Levies as per Indian law except custom duty/excise duty.
2. The Institute is registered with the Department of Scientific & Industrial Research (DSIR) for purpose of availing custom duty exemption in terms of Govt. Notification no. 51/96-Customs dated 23.07.1996. Notification No. 47/2017 Integrated Tax (Rate) dt. 14.11.2017 and Notification No. 2017 Central Tax (Rate) dt. 14.11.2017, Notification No. 45/2017 Union Territory Tax (Rate) dt. 14.11.2017 as amended from time to time and Central Excise Duty Exemption in terms of Govt. notification no. 10/97- Central Excise dated 01-03-1997 as amended from time to time.

## SECTION V

### GENERAL TERMS AND CONDITIONS

#### 1. Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the bidding documents may notify the PEC in writing or by email or fax at the PEC's mailing address indicated in the Invitation for Bids. The PEC will respond in writing to any request for clarification of the bidding documents which it receives no later than 15 days prior to the deadline for submission of bids prescribed by the PEC.

#### 2. Amendment of Bidding Documents

At any time prior to the deadline for submission of bids, the PEC may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the PEC, at its discretion, may extend the deadline for the submission of bids.

#### 3. Language of Bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the PEC, shall be written in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the translation shall govern.

#### 4. Period of Validity of Bids

Bids shall remain valid for 120 days after the deadline for submission of bids prescribed by the PEC. A bid valid for a shorter period shall be rejected by the PEC as non-responsive.

#### 5. Warranty

The entire system shall be in warranty (from OEM) for a **period of two years** from complete commissioning & handing over the system.

#### 6. Payment

- Payment for Goods and Services shall be made in Indian Rupees only as follows:
  1. On Final Acceptance
  2. 100 percent of the Contract Price shall be paid on the Successful Installation & Training
- The Supplier's request(s) for payment shall be made to the PEC in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted and upon fulfillment of other obligations stipulated in the contract.
- No advance payment will be made. Payment will be released after satisfactory receipt of goods/ material, demonstration/training and installation etc.

#### 8. Documents comprising the Bids

The Bids prepared by the Tenderers shall comprise of following components:

- Bid to be furnished as per the format for technical specifications.
- Technical literature for each product/service, covering full technical specifications.
- Bid prices should be quoted item wise as per format provided in excel sheet only duly signed and complete as per the format.
- Maximum educational discount as could be offered should be mentioned.

#### 9. Cost of Tender

The tenderer shall bear all costs associated with the preparation and submission of its Bid, including the cost of presentation for the purpose of clarification of the bid, if so desired by the PEC and the PEC will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering Process.

## 10. Others Terms and Conditions

- An EMD/ bid security of equipment should be submitted in form of FDR/Demand Draft/Banker Cheque/Bank Guarantee from any commercial Bank in favour of Director, Punjab Engineering College (Deemed to be University) Chandigarh which shall be valid for 120daysrespectively from last date of submission of bids. Tender without earnest money shall be considered unresponsive and rejected.
- A Performance security @ 5% of the total value of contract will have to be deposited by the successful bidder awarded the supply order in form of Fixed Deposited Receipt or Bank Guarantee from a commercial bank which should be valid for 60 days beyond the completion of warranty/contract period.
- Performance Security will be forfeited and credited to the institute (Punjab Engineering College (Deemed to be University), Chandigarh) in the event the supplier does not honour the warranty/contract and other terms and conditions of the tender.
- Please quote delivery period also. It should be less than 30 days from the date of supply order.
- All legal disputes will be subject to Chandigarh Jurisdiction and will be interpreted under Indian Laws.
- The Director Punjab Engineering College (Deemed to be University) reserves to himself the right to reject any or all tenders without assigning any reasons.
- The firm who has been blacklisted by Centre/State Govt./UT/Boards/Corporations/any government authority/Punjab Engineering College (Deemed to be University) are not eligible for the Tender.
- The penalty will be charged @ 0.5% of cost of equipment per week after the expiry of delivery period, mentioned in the purchase order if delivery date is extended by the PEC.
- All the rates will be FOR, Punjab Engineering College (Deemed to be University), Chandigarh.
- The institute being a premier Education and Research Institute funded by Chandigarh Administration, discounts as applicable to Research Institute/Educational Institutes may be provided in the Tender.
- The bidders shall not be allowed to change, alter or modify the bids after expiry of the deadlines for the receipts of bids.
- In a tender, either Indian agent on behalf of the Principal/OEM (Original Equipment Manufacturer) or Principal/OEM itself can bid, but both cannot bid simultaneously for the same tender for the same item/ product.
- EMD/Performance security will stand forfeited, if a bidder withdraws its bid during the period of bid validity specified by the bidder on the bid form (**ANNEXURE – 2.1**), and in case of successful bidder, if the bidder fails to supply the software or to furnish performance security in accordance with the tender.
- Bids received after the due date will not be considered.
- In case, any free gift scheme / cash scheme is launched by the company same will be offered by the vender to Punjab Engineering College (Deemed to be University), Chandigarh free of cost.
- Generally, the bid offer will be received /opened on the day as specified in the schedule. If the scheduled date is declared as a holiday, then the tender shall be received / opened on the next working day at the same time.
- The institute has been exempted from custom and central excise duty.

All the terms and Conditions of this tender document are acceptable to me /us.

Signature of Bidder

## PERFORMANCE SECURITY FORM

(on Non-Judicial Paper)

### BANK GUARANTEE BOND FOR PERFORMANCE WARRANTY

To

The President of India,  
( through the Director)  
Punjab Engineering College (Deemed to be University),  
Sector-12, Chandigarh-160012

Dear Sir,

Sub: \_\_\_\_\_

1. You, on behalf of President of India, have entered into a contract with reference No. \_\_\_\_\_ with \_\_\_\_\_ (herewith after referred to "as the contractor") for the development, fabrication and supply of \_\_\_\_\_ (herein after referred to as stores) for the price and on the terms and conditions contained in the said contract.
2. In accordance with the terms of said contract the Contractor has undertaken to produce a Bank Guarantee for Rs \_\_\_\_\_ being 5% of (Rs \_\_\_\_\_) of the total value of the said stores supplied o you for the due fulfilment of its obligations to the President of India for due performance as per the contract during warranty period.
3. In consideration thereof, we happily expressly, irrevocably and unconditionally undertake and guarantee as principal obligors on behalf of the contractor that in the event that the President of India submits a written demand to us that the contractor has not performed according to the contractual obligations included in the said contract, we will pay you on the written demand, without demur and without reference to the contractor any sum up to a maximum \_\_\_\_\_ amount ofRs. \_\_\_\_\_ (Rupees. \_\_\_\_\_).  
Your demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. Payment by us to you will be made within (30) days from receipt of your written request making reference to this guarantee and on demand.
4. This guarantee shall not be revoked without your express consent and shall not be affected by your granting any indulgence to the contractor, which shall include but not be limited to postponement from time to time of the exercise the same in any manner at any time and either to forbear or to enforce any covenant continued or implied in the said contract or any other course remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by your exercising any of your rights with reference to matters aforesaid or any of them or by reason of any other indulgence shown by you or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving our bank from its obligation under this guarantee.
5. Notwithstanding anything herein contained, our liability under this guarantee is restricted to Rs. \_\_\_\_\_ (Rupee. \_\_\_\_\_).and the guarantee shall remain in

force up to and including the day of being reported to us by you returned to us duly discharged.

6. Unless a demand or claim under this guarantee is made on us in writing on or before the aforesaid expiry date as provided above or unless this guarantee is extended by us all your rights under this guarantee shall be prescribed and we shall be discharge from the liabilities hereunder.
7. This guarantee shall not be affected by any change in the constitutions of our Bank or of the contractor or for any other reason whatsoever.

We, lastly undertake not to revoke this guarantee during its currency except with the prior consent from your office in writing.

Not with standing anything contained herein:

- i. Our liability under this Bank Guarantee shall not exceed Rs. \_\_\_\_\_  
(Rupees. \_\_\_\_\_).
- ii. This Bank Guarantee shall be valid up to \_\_\_\_\_ .
- iii. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before

This Bank Guarantee shall be returned to our \_\_\_\_\_ Name of the Bank Branch at Office Address, once the purpose of the issuance has been fulfilled or upon expiry of this guarantee whichever is earlier. Even return of Original Bank Guarantee is essential for invoking the guarantee with specific request letter from the beneficiary.

Witness: \_\_\_\_\_, Signature \_\_\_\_\_

Witness: \_\_\_\_\_, Signature \_\_\_\_\_

For \_\_\_\_\_ Bank For \_\_\_\_\_ Bank

Authorized Signatory

Authorized Signatory