

INVITATION FOR TENDER FOR SUPPLY OF EQUIPMENT

Sealed tender offers are invited in two separate sealed covers (Technical and Commercial offers) from eligible manufacturers/suppliers or their direct Indian agents for the supply of the following equipment.

150 TON HYDRAULIC PRESS FOR EXTRUSION AND FORGING

Please send offers, ALONG WITH DESCRIPTIVE CATALOGUE/ BROCHURE. The validity of the bid should be at least four months (120 days) or more from the date of the opening of this tender. Please ensure that your quotation reaches not later than **20/09/2017 at 15:00 Hrs** at the following address:

Dr. S. Biswas,
Assistant Professor, Department of Metallurgical and Materials Engineering,
Indian Institute of Technology Kharagpur – 721 302, West Bengal, India

Earnest money of **Rs.100,000/-** is to be deposited in the form of Account payee Demand Draft in favour of IIT Kharagpur, payable at Kharagpur, India. Any bid which is not accompanied with an EMD shall be summarily rejected. Earnest money deposited will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. No interest will be paid on the earnest money of the unsuccessful bidders.

Tender Reference	IIT/SRIC/MME/ECU/SB / 2017-18/EQ-1, Dated: 16.08.2017
Price of Tender Document	NIL
Last Date and Time for submitting the tender document	20.09.2017 at 15:00 Hrs (Indian time)
Time and Date of Opening of Technical Bids	20.09.2017 at 16:00 Hrs (Indian time)
Place of Opening Tender	Department of Metallurgical and Materials Engineering, Indian Institute of Technology Kharagpur – 721 302, West Bengal, India
Address of Communication	As stated above
Contact Telephone Numbers	+91- 3222 - 283264
E-mail	somjeetbiswas@metal.iitkgp.ernet.in

**DETAILED TECHNICAL SPECIFICATIONS FOR 150 TON HYDRAULIC PRESS FOR
EXTRUSION AND FORGING**

Sl. No.	Parameter	Specifications
1	Application	Extrusion, Forging
2	Type	Hydraulic press
3	Action	Vertical
4	Body/ Frame	Ring / Close Frame
5	Type of construction	Fabricated from steel confirming to IS:2062, thermally stress relieved
6	Maximum forwarding (downward) capacity of the press	150 Ton
7	Maximum return (withdrawal) capacity	30 Ton
8	Open daylight	800 mm
9	Geometrical accuracies	Flatness, perpendicularity, parallelism as per JIS Grade II
10	Shut height	400 mm
11	mechanical stoppers	4 numbers of Fixed type mechanical stoppers Fixed type and Stoppers needs to be changed as per variation in component height.
12	Paint	As per company specifications
13	Machine Manual	One set in hard copy and one set in soft copy (in CD)
14	Drawings	All engineering drawings of and related to the extrusion / forging press are required to be submitted
Slide		
15	Slide drive	Hydraulic cylinder/s
16	Slide guiding	8-point, adjustable guides with phosphor bronze replaceable liners
17	Slide forward capacity	150 T
18	Slide withdrawal capacity	30 Ton
19	Slide size (LR x FB)	900 mm x 800 mm
20	Slide stroke	400 mm (adjustable using limit switch)
21	Slide approach down speed	5 mm/sec ($\pm 10\%$) Speed control through servo motor through

22	Slide pressing speed	2 mm/sec to 5 mm/sec ($\pm 10\%$)	HMI touch screen
23	Return speed	5 mm/ sec ($\pm 10\%$)	
24	Slide reversal	By limit or pressure sensing	
25	Center tapped hole – internal screwed on moving slide	60 mm Hole size with suitable tapping	
26	T-slot in top slide (LR x FB)	T-18, Front to back direction – 4 numbers on top slide	
27	Cycle control	Through PLC	
Bolster			
28	Type	Fixed	
29	Min. tool size (LR x FB) considered in design	600 mm x 800 mm	
30	Max. tonnage considered for min. tool size	150 T	
31	Bolster size (LR x FB)	900 mm x 800 mm	
32	Bolster hole at the centre	Diameter = 60 mm	
33	T-slot in bolster (LR x FB)	T-18, Front to back direction-4 numbers on bolster	
34	Bolster deflection	<0.18 mm/m when full load is uniformly distributed over 2/3 rd LR and full FB dimensions of the bolster/slide.	
35	Bolster height from the ground	800 mm approx.	
Hydraulic Cylinder			
36	Hydraulic cylinder pipe	Seamless steel tube, bored and honed	
37	Cylinder piston rods	Material, precision ground and hard chrome plated	
38	Seals and bearings	Should be designed for continuous leak proof operation and low friction	
Hydraulics & Pneumatics			
39	Hydraulic system	Manifold logic type with seamless pipes with full penetrated and tested weld joints, and hoses, as needed. Suitably colour coded for pressure/tank/pilot lines. Clamped to avoid vibration.	
40	Hydraulic panel	At suitable position on press frame with glycerine Pressure gauge, pressure control valves and pressure switches.	
41	Oil reservoir	Suitably designed with suitable baffles to avoid turbulence,	

		inspection covers, oil breather/filler, oil level indicator, float switch, low level alarm, drain plug
42	Oil filtration	Should be return line filter (10 micron) with choke indication
43	Oil cooling	By suitable heat exchanger to cool hydraulic oil. With temperature indicator/interlock
44	Lubrication	Centralized automatic motorised oil/grease lubrication system
45	Hydraulic pump	Main pump- AC Servo motor driven Internal gear pump
46	System working pressure	As per design requirements
47	Pressure settings	Through HMI touch screen
48	Power pack	At ground or overhead
Electricals & Electronics		
49	Power supply	3 phase AC, 415 V $\pm 6\%$, 50 Hz $\pm 3\%$, 4 wire
50	Main Motor	AC Servomotor
51	Drive	Servo Drive
52	Control Panel	Mounted on ground, stand alone
53	Machine controls	24VDC PLC with HMI touch screen color Monitor
54	Operating panel	Push button panel housing push button/selector switches on fitted on press RHS column
55	Cycle time and counter display	On HMI
56	Two hand process start pendant	Two-hand process start push buttons with emergency stop
57	Panel cooling	fan cooling
58	Control panel cable entry	On top side
59	Machine lamps	LED lamp should be provided with the press
60	Tower lamp	LED red, yellow, green lamp should be provided with the press
Sequence of Operation		
61	Manual	Inching by push buttons
62	Auto	Cycle start by two hand process start push buttons.
		Slide reversal by limit or pressure sensing
63	Input component size: Dia = 50 mm and Length = 200 mm. Base plate (bolster) will have 60 mm diameter hole through which ~2000 mm length vertical finished rod of 10 mm diameter will come out.	
64	The supplier/vendor of the 150 Ton Hydraulic press for extrusion and forging is required to provide the floor plan layout drawings and all required information for civil construction, power requirements, cooling water, air, hydraulic oil and mechanical items.	

65	Warranty	Minimum 12 Months from the date of installation and commissioning.
66	The supplier should have servo drive testing and design facilities in-house for future service requirements.	
67	The supplier / vendor of the 150 Ton Hydraulic press for extrusion and forging must confirm in writing that the spares for the entire instrument will be available for a period of at least 20 years after the installation of the instrument.	
68	The manufacturer will have to inform us the requirement of minimum tool size, center of gravity of the pillar set for tool. Information regarding the off-set loading consequences and what is the minimum specified area for loading below which the machine may be damaged.	
69	The vender should be ISO 9001 and 9008 certified along with CE registration done.	
70	All the required taxes, insurance, packaging, transport and installation charge (if any) must be mentioned separately along with the equipment price. The consolidated (total) price also needs to be mentioned.	
71	<p>Only those bidders are eligible to quote who have supplied and installed at least five >100 Ton hydraulic press with servomotor driven power pack technology in India during past three years.</p> <p>The technical bid must accompany:</p> <p>(a) the name, address. Phone & e-mail address of these five indian clients.</p> <p>(b) customer satisfaction certificate from one such organization is to be attached with the technical bid.</p> <p>(c) preference will be given to companies who are DSIR approved for in-house r & d activities.</p> <p>IIT Kharagpur reserves the right to verify confidentially the information in this regard from the users.</p>	

GENERAL TERMS & CONDITIONS

PLEASE SPECIFICALLY INDICATE THE FOLLOWING POINTS IN YOUR QUOTATIONS AND COMPLY THE TERMS AS MENTIONED HEREUNDER:-

1. TENDERS ARE INVITED COMPLYING THE REQUIREMENT FOR TENDER AS DETAILED IN THE TENDER SPECIFICATION TO BE SUBMITTED IN THE COMPANY'S / FIRM'S LETTERHEAD NEATLY PRINTED / TYPED DULY SIGNED BY AUTHORIZED PERSON WITH THE SEAL OF THE BIDDERS. ALL ENVELOPES CONTAINING THE TENDER SHOULD BE PROPERLY SEALED. SEPARATE ENVELOPES SHOULD BE USED FOR TECHNICAL AND PRICE BID AND INDICATION TO THEIR EFFECT MAY PLEASE BE SUPERSCRIBED ON THE ENVELOPE.

THE FOLLOWING DOCUMENTS ARE REQUIRED FROM THE INDIAN AGENTS OF FOREIGN FIRMS:

- 1.1 FOREIGN PRINCIPAL'S PROFORMA INVOICE INDICATING THE COMMISSION PAYABLE TO THE INDIAN AGENT AND NATURE OF AFTER SALES SERVICE TO BE RENDERED BY THE INDIAN AGENT.
 - 1.2 COPY OF THE AGENCY AGREEMENT WITH THE FOREIGN PRINCIPAL INDICATING THE NATURE OF AFTER SALES SERVICES, PRECISE RELATIONSHIP BETWEEN THEM AND THEIR MUTUAL INTEREST IN THE BUSINESS.
 - 1.3 PLEASE ENCLOSE THE DOCUMENT(S) RELATED TO THE ENLISTMENT OF THE INDIAN AGENT WITH DIRECTOR GENERAL OF SUPPLIES & DISPOSALS (DGS & R) UNDER THE COMPULSORY REGISTRATION SCHEME OF MINISTRY OF FINANCE.
2. TECHNICAL CATALOGUE/LEAFLET SHOULD BE ENCLOSED WITHOUT FAIL. PROVIDE COMPLIANCE STATEMENT WITH RESPECT TO THE TECHNICAL SPECIFICATIONS MENTIONED ABOVE.
 3. PLEASE CONFIRM WHETHER YOU ARE AUTHORISED TO QUOTE ON BEHALF OF YOUR PRINCIPALS AND IF SO, PLEASE ENCLOSE A COPY OF SUCH AUTHORISATION WITH YOUR QUOTATION.
 4. **PRICE BIDS FOR FOREIGN FIRMS:** PRICES ARE TO BE QUOTED ON 'EX-WORKS' DULY PACKED OR ON "FCA/FOB" INTERNATIONAL PORT" BASIS AND ALSO INCLUDING AGENCY COMMISSION PAYABLE TO YOUR INDIAN AGENTS, IF ANY SHOWING CLEARLY THE FOLLOWING BREAK UP:-
 - I) EX-WORKS PRICE
 - II) PACKING & FORWARDING
 - III) FREIGHT
 - IV) ANY OTHER RELEVANT EXPENSES.
 - V) TAXES PAYABLE BY THE INSTITUTE

INSURANCE WILL BE PAID BY OUR INSTITUTE SEPARATELY AND SHOULD NOT FORM PART OF THE QUOTED PRICE.

PRICE BIDS FOR INDIAN FIRMS: PRICES ARE TO BE QUOTED ON F.O.R., IIT KHARAGPUR, ON DOOR DELIVERY BASIS CLEARLY SHOWING THE BREAK UP.

5. **PERIOD OF VALIDITY:** BIDS SHALL REMAIN VALID FOR ACCEPTANCE FOR A PERIOD OF 120 DAYS FROM THE DATE OF OPENING.
6. INDIAN AGENTS ADDRESS AND PERCENTAGE OF AGENCY COMMISSION INCLUDED IN ABOVE F.O.B./EX-WORKS PRICE. (THIS WILL BE PAID TO THE INDIAN AGENTS IN INDIAN RUPEES ONLY)

AND NOT IN **FE**). PLEASE ENCLOSE COPY OF AGENCY AGREEMENT ENTERED INTO WITH YOUR PRINCIPALS INDICATING THE NATURE OF AFTER SALES SERVICES OF INDIAN AGENTS, PRECISE RELATIONSHIP & MUTUAL INTEREST IN THE BUSINESS.

7. **MEASUREMENTS/WEIGHT:** NETT/GROSS OF THE CONSIGNMENT. IN CASE OF AN ORDER, YOU SHALL USE AIR WORTHY PACKAGE (AS APPLICABLE) DULY CERTIFIED WITH DOCUMENTS – PLYTO – SANITARY CERTIFICATE (AS PER QUARANTINE ORDER 2003).
8. **SCOPE OF SUPPLY:** SHOULD INCLUDE FREE INSTALLATION AND COMMISSIONING
9. **PAYMENT TERMS FOR FOREIGN FIRMS**

The offer will be made on a single currency and only one PO will be issued for the entire scope of the supply.

- A) 90% PAYMENT THROUGH SIGHTDRAFT/FORIGN DEMAND DRAFT/LC (EXCEPTIONAL CASES)/SWIFT TELE TRANSFER AFTER RECEIPT OF STORE IN GOOD ORDER AND CONDITION AND 10% AFTER SUCCESSFUL INSTALLATION & COMMISSIONING.
- B) BANK CHARGES ON LC/SD (WITHIN INDIA APPLICANT ACCOUNT AND OUTSIDE INDIA TO BENEFICIARY ACCOUNT).

PAYMENT TERMS FOR INDIAN FIRMS

- A) 100% PAYMENT THROUGH CROSSED ACCOUNT PAYEE CHEQUE / ELECTRONIC TRANSFER AFTER RECEIPT OF STORE IN GOOD ORDER & CONDITION AND SUCCESSFUL INSTALLATION & COMMISSIONING.
- B) ENSURE MENTIONING
 - i) BANK DETAILS OF THE BENEFICIARY, GST NO. AND PAN NUMBER
 - ii) FULL NAME AND ADDRESS OF THE BENEFICIARY ON WHOM ORDER HAS TO BE PLACED

10. WHETHER ANY EXPORT LICENCE IS REQUIRED FROM YOUR GOVERNMENT, IF SO, PLEASE CONFIRM WITH DETAILS.
11. COUNTRY OF ORIGIN OF THE GOODS IS TO BE MENTIONED.
12. THE INSTITUTE SHALL PROVIDE THE CONCESSIONAL CUSTOMS DUTY AND EXCISE DUTY EXEMPTION CERTIFICATE AS PER GOVT. NOTIFICATION NO. 51/96 CUSTOMS DATED: 23.07.1996 AND CENTRAL EXCISE DUTY EXCEMPTION IN TERMS OF GOVT. NOTOFICATION NO. 10/97 – CENTRAL EXCISE DATED: 01.03.1997 AS AMENDED FROM TIME TO TIME.
13. **LIQUIDATED DAMAGES:** THE STORES SHOULD BE DELIVERED / DISPATCHED TO DESTINATION AND READY FOR OPERATION NOT LATER THAN THE DELIVERY DATE SPECIFIED. IT THE SUPPLIER FAILS TO DELIVER ANY OR ALL THE STORES OR PERFORM THE SERVICE BY THE SPECIFIED DATE, LIQUIDATED DAMAGES AT 1% PER MONTH OR PART THEREOF IN RESPECT OF THE VALUE OF STORES WILL BE DEDUCTED FROM THE CONTRACT PRICE SUBJECT TO A MAXIMUM OF 5%. ALTERNATIVELY, THE ORDER WILL BE CANCELLED AND THE UNDELIVERED STORES PURCHASED FROM ELSEWHERE AT THE RISK AND EXPENSE OF SUPPLIER.
14. **PATENT RIGHTS:** THE SUPPLIER SHALL INDEMNIFY THE PURCHASE AGAINST ALL THIRD PARTY CLAIMS OF INFRINGEMENT OF PATENT, TRADEMARK OR INDUSTRIAL DESIGN RIGHTS ARISING FROM USE OF THE GOODS OR ANY PART THEREOF IN INDIA.

15. ONLY THOSE BIDDERS ARE ELIGIBLE TO QOUTE WHO HAVE SUPPLIED AND INSTALLED AT LEAST FIVE SUCH EQUIPMENT (> 100 T HYDRAULIC PRESS WITH SERVOMOTOR DRIVEN POWER PACK TECHNOLOGY) IN INDIA DURING PAST THREE YEARS.

THE TECHNICAL BID MUST ACCOMPANY:

(A) THE NAME, ADDRESS. PHONE & E-MAIL ADDRESS OF THESE FIVE INDIAN CLIENTS.

(B) CUSTOMER SATISFACTION CERTIFICATE FROM ONE SUCH ORGANIZATION IS TO BE ATTACHED WITH THE TECHNICAL BID.

(C) PREFERENCE WILL BE GIVEN TO COMPANIES WHO ARE DSIR APPROVED FOR IN-HOUSE R & D ACTIVITIES.

IIT KHARAGPUR RESERVES THE RIGHT TO VERIFY CONFIDENTIALLY THE INFORMATION IN THIS REGARD FROM THE USERS.

16. ONLY THOSE BIDDERS WHO'S BIDS HAVE BEEN TECHNICALLY FOUND ACCEPTABLE WILL ONLY BE INVITED FOR PARTICIPATION IN THE PRICE BID.

17. THOSE BIDDERS WHO DO NOT RECEIVE ANY COMMUNICATION FOR PARTICIPATION IN PRICE BID OPENING MEETING MAY PRESUME THAT THEIR BID HAS NOT BEEN ACCEPTED BY THE INSTITUTE.

18. CONDITIONAL OFFER WILL NOT BE ACCEPTED.

19. LATE TENDERS I.E. TENDER RECEIVED AFTER THE DUE DATE AND TIME OF SUBMISSION AS MENTIONED ABOVE SHALL NOT BE ACCEPTED.

20. BIDDERS TO ENCLOSE THE FOLLOWING DOCUMENTS IN THE TECHNICAL BID:-

A) CURRENT INCOME TAX AND SALES TAX CLEARANCE CERTIFICATES (GST No.), AND PAN NO.

B) BANKER'S SOLVENCY CERTIFICATE

C) SUMMARY OF AUDITED STATEMENT OF ACCOUNTS FOR THE LAST THREE YEARS TO BE ENCLOSED AND FINANCIAL HIGHLIGHTS AND THE KEY PERFORMANCE DURING THE LAST THREE QUARTERS TO BE ENCLOSED AS PER FORMAT:-

COMPANY'S KEY PERFORMANCE

DESCRIPTION	JAN. TO MARCH	APRIL TO JUNE	JULY TO SEPT.
GROSS REVENUE			
PROFIT BEFORE TAX			
PROFIT AFTER TAX			
RETURN ON INVESTED			
CAPITAL (ROIC)			

D) THE NAME OF THE INDIAN AGENT WHO WILL BE RESPONSIBLE FOR MAINTAINING THE EQUIPMENT DURING THE ENTIRE PERIOD UNDER WARRANTY AND CMC.

E) NAMES OF SERVICE ENGINEER WHO ARE POSTED IN INDIA; THE SERVICE ENGINEERS SHOULD HAVE BEEN TRAINED AT ORIGINAL EQUIPMENT MANUFACTURER'S (OEM'S) OWN UNIT.

21. **WARRANTY / GUARANTEE:** THIS COMPREHENSIVE WARRANTY / GUARANTEE SHALL REMAIN VALID FOR **12 MONTHS** AFTER THE GOODS (OR ANY PORTION THEREOF AS THE CASE MAY BE) HAVE BEEN DELIVERED AND COMMISSIONED TO THE FINAL DESTINATION.
22. THE INSTITUTE DOES NOT BIND ITSELF TO OFFER ANY EXPLANATION TO THOSE BIDDERS WHO'S TECHNICAL BID HAS NOT BEEN FOUND ACCEPTABLE BY THE EVALUATION COMMITTEE OF THE INSTITUTE.
23. ALL TENDERS (UNLESS OTHERWISE SPECIFIED) ARE TO BE SUBMITTED / HANDED OVER TO **DR. S. BISWAS, MT-311, DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR – 721302** AND ACKNOWLEDGEMENT TO BE OBTAINED.

IMPORTANT

1. IIT Kharagpur authority may accept or reject any or all the bids in part or in full without assigning any reason and does not bind itself to accept the lowest bid. The Institute at its discretion may change the quantity / upgrade the criteria / drop any item or part thereof at any time before placing the Purchase Order.
2. Promptly make arrangements for repair and / or replacement of any damaged item (s) irrespective of settlement of claim.
3. In case of any dispute, the decision of the Institute authority shall be final and binding on the bidders.
4. For any query pertaining to this bid document correspondence may be addressed to **Dr. S. Biswas**, at the address mentioned above.

LAST DATE FOR SUBMISSION OF SEALED BIDS: 20/09/2017

- 1) Please Note that the Institute remains closed during Saturdays & Sundays and all specified government holidays.
 - 2) Fax, e-mail Tender will not be accepted.
 - 3) The General Terms and Conditions as stated above relate to supply of stores / equipment /assets etc. and for specific service other terms and conditions of the Institute will apply.
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