



Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

An ISO 9001
Company

ENQUIRY	Phone: +91 431 257 79 38 Fax : +91 431 252 00 31 Email : tvenkat@bheltry.co.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631300112	26.09.2013	28.10.2013

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity
10	25 Ton C – Frame Hydraulic Press as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	1.00 No

Important points to be taken care during submission of offer

1. Material shall be delivered to
Indigenous Vendors:
FOR, BHEL, Stores
Power Plant Piping Unit
Thirumayam, Pudukkottai Dist.
2. Delivery required 3 months from the date of purchase order.
3. Erection & Commissioning period required 1 Week from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
4. Checklist No. **TMM/IMP/04 & TMM/IND/04A** to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
5. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer **MM / CE / GENL / 001 – No EMD**) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference "**2631300112**".

Tenders should reach us before 14:00 hours on the due date
Tenders will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

Sr. Manager / Capital Equipment / MM

TECHNICAL SPECIFICATIONS FOR 25 Ton C-FRAME HYDRAULIC PRESS

S. No	Description	Parameters	Offer by Bidder	Deviations
1	Type of Press	Open Gap C-Frame Hydraulic Press with 4 post guided ram.		
2	PRESS PARAMETERS:			
2.1	Capacity	25 Tons (minimum)		
2.2	Return Force	8 Tons (minimum)		
2.3	RAM Fast Approach Speed	60 mm/sec (minimum)		
2.4	Pressing Speed	3 - 8 mm/sec (Adjustable)		
2.5	Return Speed	100mm/sec (minimum)		
3	CONSTRUCTION:			
3.01	Depth of Throat	500mm (minimum)		
3.02	Ram Stroke	400mm (minimum)		
3.03	Table Size	500 X 500 X 100mm (thick)		
3.04	T-Slot Size	T-18mm		
3.05	No Of Slots	2		
3.06	Bore In Table	170mm H8 Through		
3.07	Upper Tooling Plate (Ram Plate): Heavy ground upper tooling Ram plate of suitable size and min. 70 mm thick to be mounted on the ram.			
3.08	T-Slot on ram Plate	2 Nos		
3.09	T slot Size	T18		
3.10	Day light	600mm		
3.11	Working height (Floor to Table top)	Around 900 mm		
3.12	Cylinder Bore Diameter	200mm		
3.13	Ram Diameter	160mm		

S. No	Description	Parameters	Offer by Bidder	Deviations
3.14	Plate Thickness	25 mm		
3.15	Motor Capacity	Vendor to specify		
3.16	Press construction shall be such that it consists of a single extra heavy inner plate and reinforcing members to ensure adequate strength (fully stress relieved prior to machining)	Vendor to confirm.		
3.17	All structures are to be built with high quality rolled steel plates, cut to shape, interlocked and welded into strong rigid box sections.	Vendor to confirm.		
3.18	Hydraulic unit shall consist of suitable reservoir (drip proof oil reservoir with strainer and air-breather) with sight gauge glass filtered breather system, heat exchanger (REFRIGERANT type if required), temperature gauge, Pressure gauge, high low pump system (Immersed pump design not acceptable), filters, manifolds, minimess test points with gauge & 1m hose, piping, valves and suitable interconnecting hoses.	Vendor to confirm.		
3.19	Hydraulic main cylinder shall be of double acting type, accurately finished without external score marks on piston RAM and leak proof.	Vendor to confirm.		
3.20	Hydraulic circuit is to be designed with minimum number of control valves and to suit oil of ISO VG 46 or 68 only. All the pumps and suction lines to be provided with dust seals at the point of entry to the oil reservoir.	Vendor to confirm.		
3.21	Pressure gauge at the working level of the operator on the press side wall is to be provided for indicating working pressure and Tonnage in single dial.			
3.22	All solenoids should be of 24V DC Operated & have indications (LED).			

S. No	Description	Parameters	Offer by Bidder	Deviations
4	PRESS OPERATION:			
4.1	Press Operation: By electrical joystick, positioned at hand reach level.			
4.2	<u>Ram Operation:</u> Ram must stop anywhere within the day light whenever the joystick lever is in the neutral position. The ram must come down faster as the joystick lever is pressed downward and once the ram touches the job and gets loaded, it must move in the pressing speed, till the joystick is released to neutral position. At neutral position, the load should be held without pressure loss and all the pumped oil should get relieved to tank pressurelessly. The load should be released and the ram should return up as long as the joystick lever is lifted upwards. The pressing cycle (under set load) will extend for a period of two minutes as holding time.			
4.3	Load control: Variable from 0 to maximum limit through Adjustable knob operated pressure control valve located at hand reach level. In addition to the adjustable pressure control valve, the max load pressure is set using the adjustable and lockable PRV at the power pack.			
4.4	Pressing Speed control: Variable from 3 - 8 mm.	Through Adjustable knob operated Flow Control Valve.		
4.5	The Press function shall be smooth and vibration free during press operating cycles.			

S. No	Description	Parameters	Offer by Bidder	Deviations
5	OTHER FEATURES:			
5.1	Work Light to be provided beneath the head and behind the ram			
5.2	Color of the Machine	Apple Green		
5.3	Anchoring Material and Foundation Design shall be so rigid to withstand the pressing load and not to get detached in long run.			
6	GENERAL POINTS :			
6.01	The offer shall clearly indicate the list of standard accessories that will be supplied along with the machine			
6.02	Other special accessories shall be quoted separately as optional items			
6.03	All controls and other operating systems shall be located in a centralised convenient place for easy operation.			
6.04	All hydraulic elements shall be of Vickers/Rexroth make or any other reputed make acceptable to BHEL.			
6.05	Seals for the Hydraulic Cylinder shall be of imported make (preferred brand SIMRIT / MERKAL / HUNGER / JAMES-WALKER) and shall withstand an over-loading of 25 % (100+25)			
6.06	Seal Kit: One set of spare seal kit for the cylinders to be supplied along with the machine.			
6.07	Electric Motor: The electric motor shall be 1450 rpm only and energy efficient (EFF1) one. All motors shall be from M/s Siemens / NGEF / KEC / ABB. If outside INDIA, make shall confirm to IEC standard.			
6.08	All S1 Duty Motors Shall be of Energy Efficient IE2 type as per IS 12615: 2011.			

S. No	Description	Parameters	Offer by Bidder	Deviations
6.09	All electrical devices like contactors, relays and limit switches, push buttons etc. shall be from Siemens / L&T / Alstom / Cuttler Hammer / Telemecanique.			
6.1	All the Power & Control Cables Shall be from IGUS, Lapp or equivalent make acceptable by BHEL.			
6.11	All the Cable Hoses Shall be of Spiral Steel Reinforced PVC Conduit type.			
6.12	All components/devices/terminals are to be incorporated with ferrules. (Numbered)			
7	SAFETY ARRANGEMENTS:			
7.1	Machine should have adequate and reliable safety interlocks / devices to avoid damage to the machine, work piece and the operator due to the malfunctioning or mistakes.			
7.2	All the pipes, cables etc. on the machine should be well supported and protected.			
7.3	All the rotating parts (if any) used on machine should be statically & dynamically balanced to avoid undue vibrations and suitable covers to be provided.			
	Motor-pump unit shall be mounted on anti-vibration pads.			
7.4	Emergency Switches at suitable locations as per International norms are to be provided.			
8	ENVIRONMENTAL PERFORMANCE OF MACHINE : [The Machine shall conform to following factors related to environment]			
8.1	Maximum noise level shall be 85 dB (A) at normal load condition, 1 M away from the machine with correction factor for back ground noise, if necessary. This will be measured as per international standards like DIN 45635-16. Vendor to demonstrate compliance to noise level, if so required.			
8.2	If any safety / environmental protection enclosure is required it should be built in the machine by the vendor.			
8.3	Paint of the machine should be oil / coolant resistant and should not peel off and mix up with coolant.			
9	LEVELING & ANCHORING SYSTEM:			

S. No	Description	Parameters	Offer by Bidder	Deviations
9.1	Complete anchoring system including foundation bolts, anchoring materials, fixtures, leveling shoes etc shall be supplied for the Machine etc.			
10	TOOLS FOR ERECTION, OPERATION & MAINTENANCE			
10.1	The vendor shall bring special tools and equipment required for erection of the machine. Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. for operation & maintenance of the machine should be supplied. List of such tools shall be submitted with offer			
11	DOCUMENTATION			
11.1	Vendor to provide the GA Drawing with major dimensions and Hydraulic circuit with BOM giving specification and make of valves & Pumps, along with the offer for technical assessment.	Vendor to confirm.		
11.20	THREE sets of following documents (Hard copies) in English language should be supplied along with the machine	Vendor to confirm.		
11.21	Detailed Operation and Maintenance manual of machine with all drawings of machine assemblies / sub-assemblies / parts including Electrical / Pneumatic/ Hydraulic circuit diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list / Bill Of Materials also. This also includes Cross section drawing of cylinders with seal details, foundation drawings, etc.	Vendor to confirm.		
11.22	Catalogues, O&M Manuals and drawings of all bought out items, bearings wherever applicable.	Vendor to confirm.		

S. No	Description	Parameters	Offer by Bidder	Deviations
11.23	Electronic and electrical interconnecting drawings	Vendor to confirm.		
11.24	Hydraulic and Electrical circuits with BOM giving specification and make of valves & Pumps.	Vendor to confirm.		
11.25	Detailed specification of all rubber items and hydraulic fittings	Vendor to confirm.		
11.26	One additional set of all the above documentation on CD ROM.	Vendor to confirm.		
12	MACHINE INSPECTION AND ACCEPTANCE: (Tests/Activities to be performed at Vendor's Works)			
12.1	Stage Inspection for Fabricated Parts prior to heat-treatment and machining, Physical Verification of Piston, Cylinder and Seals prior to assembly at Vendor's Works	Vendor to confirm.		
12.2	Full load test to demonstrate the maximum capacity of the machine.	Vendor to confirm.		
13	ERECTION & COMMISSIONING			
13.1	Vendor to provide supervision for carrying out the erection, start up, testing of machine, it's control system & all associated equipment supplied. Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by Vendor in their foundation/layout drawings.	Vendor to confirm.		

C-FRAME HYDRAULIC PRESS – 25 TON

PART A – QUALIFYING CRITERIA

SINo	Requirements	Vendor's Response
1.0	QUALIFYING CRITERIA	
1.1	The BIDDER / VENDOR (OEM) shall have a minimum of FIVE Years of Continuous Experience in the Design, Manufacture & Supply of “C-Frame Hydraulic Press”. Vendor may indicate the actual no. of years of experience in the field	
1.2	Only those vendors (OEMs), who have manufactured, supplied and commissioned at least one “ C-Frame Hydraulic Press ” having all the following features: 1. Capacity – minimum 25T 2. Daylight – not less than 600mm 3. Throat Depth (Gap between ram center-line and face of press column) – not less than 500mm in the past FIVE years are only eligible to quote. Such supplied machine should at present be working satisfactorily for at least one year after its commissioning (as on the date of opening of this Tender). The name and contact addresses of the customers to whom the machine has been supplied has to be furnished with details.	
1.3	Vendor has to submit at least one Performance Certificate from their customers in India, for satisfactory performance of “ C-Frame Hydraulic Press ” as given in under clause 1.2 above, for a minimum period of one year (as on date of opening tender). For obtaining the Performance certificate, a suggestive format is provided.	
1.4	BHEL reserves the right to verify the above information provided by vendor. In case the information provided is found to be false/ incorrect, the offer shall be rejected.	
2.0	INFORMATION TO BE PROVIDED BY VENDOR	
2.1	The BIDDER / VENDOR to furnish Reference List of Customers, with complete address, details of contact person, where C-Frame Hydraulic presses have been supplied in the past.	
2.2	Specify details of C-Frame Hydraulic presses supplied to other units of BHEL, if any (Year of commissioning, Press Capacity, Day light & Throat depth etc.)	
2.3	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	
2.4	Any Additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

Suggestive Format of Performance Certificate:

The performance certificate should be produced **on Customer's Letter Head.**

PERFORMANCE CERTIFICATE

- 1 Supplier of the machine :
- 2 Make & Model of the M/C :
- 3 Month & Year of Commissioning :
- 4 Machine Details :
 - a) Hydraulic Press Capacity (Tons)
 - b) Day Light (mm)
 - c) Throat Depth (mm)
- 5 Performance of the Machine : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
- 6 After sales service : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
- 7 Any Other remarks :

Date: Signature & Seal of the Authority

Issuing the Performance Certificate