



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

<b>TITLE</b> <b>SUPPLIER WANTED FOR SOLID CARBIDE DRILL, HOLE MILL, REAMERS AND HYDRO GRIP CHUCK.</b>	Phone: +91 431 2577083/7419 Fax : +91 431 252 0719 Email : <a href="mailto:kmanoj@bheltry.co.in">kmanoj@bheltry.co.in</a>
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<b>Reference Enquiry Number:</b> 1901400142	<b>Enquiry Date:</b> 13.06.2014	<b>Due date for submission of quotation: 27.06.2014</b>
You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order		

**Sealed tenders are invited by the Engineer/PSS/MM/RM for supply of SOLID CARBIDE DRILL, HOLE MILL, REAMERS AND HYDRO GRIP CHUCK.**

Tenders should reach us before 14:00 hours on the due date Technical bid 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  Engineer/Purchase, PSS/MM/RM, 4 <sup>th</sup> Floor – Bldg. 24, Bharat Heavy Electricals Ltd., Tiruchirappalli-620014, Tamilnadu.  Ph: 0431- 2577083, Fax: 0431- 2520719 Email: <a href="mailto:kmanoj@bheltry.co.in">kmanoj@bheltry.co.in</a>
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# BHARAT HEAVY ELECTRICALS LIMITED

( A Government of India Undertaking )  
HIGH PRESSURE BOILER PLANT  
PURCHASE DEPARTMENT - FOSSIL BOILERS  
THIRUCHIRAPALLI - 620014  
TAMILNADU (INDIA)

Page  
2/2  
PHONE :2577419  
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E-mail: cmuthuvel@bheltry.co.in  
Web:

1901400142 / 13.06.2014

NO	DESCRIPTION	NO	25.000	25.00	31.07.14
50	<b>TED5175E</b> SOLID CARBIDE ROUGH REAMER DIA. 13.5 +0.01/-0.00 MM WITH CYLINDRICAL HOLDING SHANK FOR REAMING TITANIUM ALLOY TUBE SHEET OF THICKNESS 92MM. MINIMUM FLUTE LENGTH REQUIRED IS 105MM. SOLID CARBIDE REAMER GRADE, COATING AND TOOL GEOMETRY TO SUIT TITANIUM ALLOY. MINIMUM LIFE OF THE REAMER BEFORE REGRINDING SHOULD BE 10 METRES DEPTH IN TOTAL ON TITANIUM ALLOY MATERIAL.	NO	25.000	25.00	31.07.14
60	<b>TED5175F</b> SOLID CARBIDE FINISH REAMER FOR FINISHING THE HOLE DIA. 13.9MM + 0.043 /-0.000 WITH CYLINDRICAL HOLDING SHANK FOR REAMING TITANIUM ALLOY TUBE SHEET OF THICKNESS 92MM. MINIMUM FLUTE LENGTH REQUIRED IS 105MM. MAXIMUM DRIFT IN HOLE (VERTICALITY) ALLOWED BETWEEN ENTRY AND EXIT SHOULD BE 0.2MM. REAMED HOLE FINISH REQUIRED IS BETTER THAN 1.6Ra MICRON. SOLID CARBIDE REAMER GRADE, COATING AND TOOL GEOMETRY TO SUIT TITANIUM ALLOY. PLEASE CONSIDER THE RUN OUT OF 0.02MM AND MACHINE SPINDLE. SUPPLIER HAS TO FINALISE THE FINISHING REAMER DIA. FOR THE HOLE DIA. 13.9MM + 0.043 /-0.000. TAKING INTO CONSIDERATION OF 0.02MM RUN OUT ON MACHNE SPINDLE. MINIMUM LIFE OF THE REAMER BEFORE REGRINDING SHOULD BE 10 METRES DEPTH IN TOTAL ON TITANIUM ALLOY MATERIAL.	NO	25.000	25.00	31.07.14
70	<b>TED5175G</b> HIGH PRECISION HYDRO GRIP CHUCK WITH THROUGH COOLANT FACILITY TO HOLD THE ABOVE SOLID CARBIDE ROUGHING AND FINISHING REAMERS. HYDRO GRIP CHUCK WITH ISO 50 SHANK AS PER DIN 69871. TOOL HOLDING DIA. TO SUIT THE ABOVE SOLID CARBIDE ROUGHING AND FINISHING REAMERS.	NO	2.000	2.00	31.07.14

### General Note:

TERMS AND CONDITIONS TO ENQUIRY NO: 1901400142-28 DT. 13.06.2014 - DUE DT. 27.06.2014

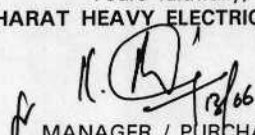
### Enclosures:

**"LD clause has to be confirmed without fail."  
"Payment to vendors will be made only thro E-Payment mode"**

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

**MANOJ KOTAKONDA**  
Engineer  
Purchase / PSS / MM / RM  
BHEL, TRICHY - 620 014.

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

  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,

Annexure - A

**Process involved in final use of enquired items:**

The titanium tube sheet drilling details, sequence of process, work centre detail, chemical composition & properties of titanium alloy and terms and conditions are detailed below.

**Titanium tube sheet drilling details are as given below:**

1. The hole size after reaming should be = **Dia. 13.90 ( +0.043/-0.000)**.
2. Material of Tube sheet to be reamed is **Titanium**
3. Thickness of Tube sheet = **92mm**
4. Number of holes to be reamed = **4000**
5. Surface finish in ID of hole after reaming = 1.6 microns
6. Drift / Perpendicularity of hole after reaming = 0.2mm

**The drilling & reaming will be done in the sequence given below:**

- a) Drilling of dia. 11 or 12mm holes = Dia. 11 or 12mm solid carbide drills
- b) Intermediate heat treatment after initial drilling.
- b) Hole mill dia. 13.0 mm for correcting possible hole drift occurred in initial drilling from entry to exit = Dia.13.0mm Solid Carbide hole mill.
- c) Rough Reaming of holes stage -1 = Dia. 13.5mm Solid carbide reamer
- d) Finish Reaming of holes stage -2 = For achieving the hole Dia. 13.9mm +0.043/-0.000 with surface finish of 1.6 microns Ra on titanium tube sheet.

**Work center** : BATLIBOI CNC VERTICAL / DRILLING / MILLING- BDC50-166 M/C SHOP / ATP. The machine is having high pressure through spindle coolant pressure of 15kg/sq.cm. Machine is having spindle run out of 0.02mm.

**Chemical composition and properties of titanium alloy:**

Aluminium	:	4.5 %
Vanadium	:	1.97 %
Zirconium	:	< 0.02 %
Silicon	:	0.012 %
Fe	:	0.07 %
O2	:	0.12 %
H2	:	0.003 %
N2	:	0.01%
C	:	0.012 %
Titanium	:	Balance

Hardness : 240 to 280 Vickers hardness.

**1. Special Note:**

- a). All the above tools should be procured as a single package from the single vendor to establish the complete hole finishing process.
- b). The supplier should supply 3 nos. each in drills, hole mill, rough reamer, finish reamers and one no. of ISO 50 (DIN 69871) high precision hydro grip chucks pertaining to the drill, hole mill, rough reamer and finish reamers for proving out the process. Based upon the trial performance, the remaining qty. shall be supplied.
- c). The remaining tools should be supplied only after proving out of the complete hole finishing process from the first lot.
- d). Operating parameters and Tool life for machining titanium alloy pertaining to each tool is to be furnished by each supplier in their offer.

2. Bidders shall submit the OFFER in English language (a single envelope containing two inner envelopes) as indicated below:

Envelope I: This sealed envelope should contain (a) technical bid (b) un-priced commercial bid (copy of the Priced Bid without the price details). This envelope should be clearly marked "Part I - Technical and Un-priced commercial bid, indicating Enquiry No., Date, Due Date, Address & Reference of the Bidder.

Envelope II: This sealed envelope should contain price details. This envelope should be clearly marked "Part II - Price bid", indicating Enquiry No., Date, Due Date, Address & Reference of the Bidder.

3. The OFFER, sealed and Superscribed as "Parts I & II inside" indicating Enquiry No., Date, Due Date, Address & Reference of the Bidder should reach this office on or before the due date by 14:00 Hrs (IST). Offers received after 14:00 Hrs. (IST) will not be considered for evaluation.

4. The OFFER to be addressed to:

ENGINEER / PURCHASE/PSS/ MM / RM  
4<sup>TH</sup> FLOOR – BUILDING 24  
BHARAT HEAVY ELECTRICALS LIMITED  
HIGH PRESSURE BOILER PLANT  
TIRUCHIRAPALLI - 620 014  
TAMIL NADU, INDIA.  
PHONE: +91 431 2577083/82  
(E-mail: kmanoj@bheltry.co.in)

Note: Bidders are requested to submit their offers only through sealed bids.

5. Tenders should be free from **CORRECTION AND ERASURES**. Corrections if any must be attested; all amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail. No revision of prices will be entertained after tenders are opened. The quoted prices should remain firm till the execution of the orders.

Discrepancy in "Words "&"Figures "

- a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.

6. The correspondence between the bidder and BHEL through email is considered to be valid document legally though not signed. It is treated as valid confirmations made on behalf of the respective company and comes under the legal ambit of the business transaction and hence binding on both the parties.

7. Bidders participating in the tender should declare in their technical bid whether they have been black-listed / kept on hold / given Business holiday for a specified period by any Public Sector Undertaking or Government Departments. The reasons for such action with details and the current status of such hold shall be clearly furnished to BHEL. If no such details are mentioned in the offer, it will be construed that the bidder is not under any such hold. However, at a later date if it comes to the notice of BHEL about any such hold under enforcement, BHEL reserves the right to reject the offer at any point of time and also under any stage of the finalization of the tender. Such bidders will not be permitted to participate in the further tender proceedings and will be communicated suitably.

8. Payment Term (Indigenous): Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials.

Any deviation in the above payment term will attract loading as mentioned below.

- "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders."
- Offers of indigenous Suppliers with payment terms as LC / Advance Payment are liable for rejection.
- Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of goods to stores with consignee copy attached. In this case Loading will be 3% on the offered value.

9. Payment Term (Imports):

BHEL Payment term is 100% payment on CAD basis after 45 days from the date of receipt of documents, specified in PO, at BHEL bank. Respective bank charges to respective account.

Any deviation in the above payment term will attract loading as mentioned below.

- Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.
- In the case of Usance LCs the loading will be considered @ 1.5% on the offered Value.
- For LC at sight the loading will be considered @ 3.5% on the offered Value.
- Normally CAD at sight and Confirmed LCs are liable for rejection.

10. Liquidated Damages / Penalty:

Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value. For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value.

Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).

11. Risk purchase:

BHEL at its option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute thereof. The supplier shall be liable for any loss which BHEL may sustain by reason of such risk purchases in addition to LD at the maximum rate mentioned in the LD clause above. Risk purchase acceptance should be given by the vendors without fail.

12. BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.

13. Fixed price: Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. A bid submitted with an adjustable price will be liable for rejection. Prices shall be written in words and figures. In the event of any discrepancy with regard to total price and unit price whichever is less shall be considered correct. Unit rates quoted should include all the charges like third party inspection charges, packing & Forwarding etc. If the charges are shown separately, the same shall be in % of basic unit rate. No Lump sum charges shall be quoted.

14. Bid currency:

Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their preferred currency. For evaluation, Exchange rate (TT selling Rate of SBI) as on Techno-Commercial bid opening date shall be considered.

15. Delivery terms for Indigenous vendors: Offers shall be quoted on F.O.R Destination basis only (inclusive of packing, forwarding, freight and transit insurance charges to supplier account). Ex-works offer will be rejected.

16. Delivery Terms for Foreign vendors:

- Suppliers to quote rate both in FOB and CFR basis. Offers mentioning CFR alone shall not be considered for evaluation.
- For CFR terms, moved through Containers (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis including extra charges, if any, like Container Imbalance Charges, Trade Imbalance charges or any other charges payable to the Liner. No other charges other than the quoted Freight rate will be paid by BHEL excepting applicable Terminal Handling Charges, Container cleaning Charges, DO charges to Shipping Liner at Discharge Port. If any deviation is taken by Tenderer, a loading of 22% on the freight rate per MT shall be considered by BHEL for arriving at the Total landed Cost.
- In case of shipment through Containers on CFR basis, the BL should bear the endorsement that "14 free days for Container Detention is applicable".
- For CFR terms, moved through Break Bulk basis (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis.

17. Validity: The offers shall be kept open for acceptance for 90 days from the date of Tender opening. Once the tenders are submitted, rates cannot be changed on any grounds.

18. Vendors not quoting for all the items will be rejected summarily.

19. On the due date of tender opening, only the technical bids will be opened. Technical bids will be evaluated by us and clarifications required, if any, will be called for from the bidders on technical and commercial points. The price bids of techno-commercially suitable bidders will be opened on a later date with prior intimation to techno-commercially bidders. Evaluation of techno-commercially accepted offers shall be on "Net Cash Outflow to BHEL for all enquiry items as a single package basis".

BHEL reserves the right to negotiate L1 rate or re float the tender opened if L1 price is not the lowest acceptable price to them inter-alia other reasons.

20. Conditional offers are likely to be rejected.

21. BHEL reserves the right to increase or decrease the tendered qty.

22. In the event of more than one vendor becoming L1 for all the items as a single package basis, the enquiry quantity for each items will be shared equally among all the L1 vendors.

23. Inspection will be done at BHEL Tiruchirapalli on receipt of items.

24. Any other conditions which might have been quoted by the seller and are in contravention to the terms prescribed in the order and which have not been specifically accepted in by purchaser will not be applicable to the contract.

25. MODVAT Credit: If any Excise Duty is payable, the chapter head / Sub-head reference and the rate of the duty should be quoted. If the tender is availing MODVAT credit for this input material, the effect of Performa credit should be passed on the purchaser. Tenderer under 'MODVAT' shall be preferred.

26. New Foreign vendors are requested to submit SUPPLIER REGISTRATION FORM AS PER Annexure – III  
Details are also available in our web site address: [http://www.bhel.com/vender\\_registration/vender.php](http://www.bhel.com/vender_registration/vender.php)

*Checklist for the Enquiry  
(To be Filled and submitted for evaluation and to consider for Price-Bid opening)*

Description of the Item:		Supply of SOLID CARBIDE DRILL, HOLE MILL, REAMERS AND HYDRO GRIP CHUCK.
Enquiry Ref:		<u>1901400142-28 DT. 13.06.2014 – DUE DT. 27.06.2014</u>
Sl No.	Description	Vendor's confirmation
1	Technical: Supply shall be as per BHEL's specification.	
2	Firm Price: The quoted/Finalised rates shall be Firm till execution of the supplies.	
3	Delivery and Price Basis: (Indigenous Vendor) Price should be quoted on FOR / BHEL Stores, Tiruchirapalli basis only (inclusive of freight and transit insurance). Ex-works offers will be rejected.	
	Foreign vendors: Price should be quoted on both FOB and CFR basis	
4	Payment terms acceptance: a) Indigenous vendor: As per Clause 8 Annexure - A of Enquiry Terms & Conditions.	
	b) Foreign vendor: As per Clause 9 Annexure - A of Enquiry Terms & Conditions.	
5	Delivery: Bidder shall indicate the firm delivery period required for the delivery of the materials from the date of Purchase Order.	
6	Validity: Price Validity of your offer shall be minimum 90 days from the date of techno-commercial bid opening.	
7	Liquidated damages: As per Clause 10 Annexure - A of Enquiry Terms & Conditions	
8	Acceptance to Risk Purchase clause 11 Annexure - A of Enquiry Terms & Conditions	
9	Contact Person details Name: Mobile No: E-mail ID :	
10	Bidders have to confirm that whether they have been black-listed / kept on hold / given Business holiday for a specified period by any Public Sector Undertaking or Government Departments/any other units of BHEL (With reference to Cl. No .27 of Annexure – A).	
11	a) Supply shall be made as a single package basis from the single vendor to establish the complete hole finishing process. b). The supplier should supply 3 nos. each in drills, hole mill, rough reamer, finish reamers and one no. of ISO 50 (DIN 69871) high precision hydro grip chucks pertaining to the drill, hole mill, rough reamer and finish reamers for proving out the process. Based upon the trial performance, the remaining qty. shall be supplied. c). The remaining tools should be supplied only after proving out of the complete hole finishing process from the first lot. d). Operating parameters and Tool life for machining titanium alloy pertaining to each tool is to be furnished by each supplier in their offer.	

Date:

Signature with Seal of Bidder

Annexure C applicable for new Indigenous vendors only:

Indigenous Vendors who are not currently registered with BHEL Trichy are requested to submit the following set of details mandatorily. Offers are liable for rejection for non-submission / incomplete submission of documents. Tags shall be put on the enclosures.

SI No	Details	Document submission
1	Nature of ownership & relevant documents. (Proprietorship-Professional Tax Regn& Municipal Regn; Partnership firm – Partnership Deed; Co-operative society – Society rules & bye laws ; Private/Limited Company – memorandum & Articles of Association)	Yes / No
2	Manufacturing range & facilities: <ul style="list-style-type: none"> <li>• List down the product range &amp; specification details.</li> <li>• List of Manufacturing facilities/equipment's (including material handling facility)</li> <li>• If In-house manufacturing facilities are not available, inform process outsourced with full details of the company &amp; details at their end as requested in point 'b' above. Ratio of outsourced cost to total production value to be recorded.</li> </ul>	Yes / No Yes / No Yes / No
3	Inspection & Testing Facilities: <ul style="list-style-type: none"> <li>• List of Inspection &amp; Testing facilities / equipment – Make &amp; year of manufacturing with current calibration status.</li> <li>• If In-house testing facilities are not available, indicate source of testing along with their facilities &amp; experience.</li> </ul>	Yes / No Yes / No
4	<ul style="list-style-type: none"> <li>• Permanent Account No</li> <li>• Central Sales Tax registration number</li> <li>• State sales Tax / TIN number</li> <li>• Excise duty registration number</li> <li>• Excise control code number</li> <li>• Service tax registration number</li> <li>• Regn number of category as per MSMED Act</li> </ul>	Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No
5	If registered with any other BHEL unit <ul style="list-style-type: none"> <li>• Letter of registration with BHEL unit</li> <li>• Proof of successful execution of one or more purchase orders</li> </ul>	Yes / No Yes / No
6	Letter of approval from ASME / BTPC / NPC / EIL / DGS&D / RAILWAYS etc.,	Yes / No
7	Accreditation certificate for ISO:9001 / TOC of Quality System manual / ISO:14000 / OHSAS ISO 18000	Yes / No
8	Experience list / Performance certificates	Yes / No
9	Balance Sheet for the last four years along with the audit report	Yes / No
10	EFT bank certificate as per Annexure D	Yes / No

ANNEXURE D: EFT BANK CERTIFICATE:  
THE PURCHASE/CONTRACT EXECUTING AGENCY/BHEL

ACCEPTANCE FOR ELECTRONIC FUND TRANSFER / RTGS TRANSFER

01	Name & Address of the Supplier / Sub-contractor	
02	VENDOR CODE assigned by BHEL	
Details of Bank Account:		
03	NAME & ADDRESS OF THE BANK	
04	NAME OF THE BRANCH	
05	BRANCH CODE	
06	MICR CODE	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
07	ACCOUNT NUMBER	
08	TYPE OF ACCOUNT	CURRENT A/C / OD / CASH CREDIT
09	BENEFICIERY'S NAME	
10	IFSC CODE OF THE BRANCH	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
11	EMAIL ID	
12	TELEPHONE/MOBILE NO.	

**CERTIFICATE**

I / We hereby agree to receive the payments due from BHARAT HEAVY ELECTRICALS LIMITED by the National Electronic Funds Transfer and/or RTGS Transfer mode by credit to my / our above mentioned Bank Account. I / We also agree that payments made to the above mentioned Account is a valid discharge of the liability of Bharat Heavy Electricals Limited. I / We also agree to bear the applicable Bank Charges for the above mode of transfer. **A copy of the cheque leaf/cancelled cheque leaf of the above account is sent herewith.**

AUTHORISED SIGNATORY WITH NAME SEAL

**Banker's Certification**

We confirm that we are enabled for receiving RTGS and NEFT credits and we \_\_\_\_\_ further confirm that the account number of \_\_\_\_\_ (name of account holder), the signature of the authorized signatory and the MICR and IFSC codes of our Branch mentioned above are correct.

PLACE:

(Manager / Officer's)

DATE :

Signature Under Bank stamp and Name Seal

With Membership No.

(Telephone / Mobile No. \_\_\_\_\_ )

Forwarded to Accounts Dept.

We confirm the above details are verified with the records available with us.

Signature of the BHEL Executive with Name Seal (Operating the Contract/Services)