



BHARAT HEAVY ELECTRICALS LIMITED

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

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","Kindly quote the Narrow Gap torch convenient for the offered power source for the following thickness
o,,For the thickness of 70 mm
o,,For the thickness of 100 mm
o,,For the thickness of 150 mm,,Vendor to confirm
Vendor to confirm
2.0,,SCOPE OF SUPPLY OF EQUIPMENT,,
1,,Orbital TIG welding power source
2,,Orbital Welding head equipped with Torch weaving, wire feeding (5 kg spool), motorized up & down cross slide, torch tilting arrangement etc.)
3,,Suitable guide ring for covering 200 mm to 700 mm range (adjustable feet, device for parallelism, clamping ring for elbow, removable adjustable tracker etc.)
4,,Centralized Controller
5,,Remote pendent
6,,Water cooling unit
7,,Interconnecting cable & hoses
8,,Safety interlocks
9,,Welding Spares (Mechanical, Electrical & Welding) for 2 year trouble free operation
10,,Pre-Inspection at vendor's works
11,,Service (Installation, Commissioning & Training) at BHEL
12,,Documentation
13,,Packing & Transportation
14,,2 year warranty
15,,General,,
Vendor to confirm
2.1,,ORBITAL TIG WELDING POWER SOURCE,,
""
¢,,Invertor Type constant current power source suitable for TIG welding
in continuous & pulsed current mode
¢,,3 Ph AC 415 V $\pm$ 10%, 50 Hz
¢,,Output current range 15 to 400 A
¢,,Welding power source duty cycle 250 amps @ 100% duty cycle.
¢,,Inbuilt HF for arc start,,
Vendor to confirm /specify
2.2,,ORBITAL WELDING HEAD ,,
""
¢,,Orbital welding head with oscillation unit.
¢,,Orbital carriage equipped with TIG welding torch, wire feeder, cross slide etc. (welding head mounting on guide ring)
¢,,Water cooled welding torch
¢,,Welding torch of rating 250 amps @ 100% duty cycle
¢,,Torch vertical motion (motorized) Stroke - 60 mm
¢,,Torch vertical motion (motorized) Speed - 10 to 500 mm/min

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.

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

MANAGER / PURCHASE
(FOSSIL BOILERS)
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(adjustable)
\$,Torch adjustment capability (lead/lag adjustment) - + /- 15?
\$,Torch adjustment capability (tilt adjustment, transvers) - + /- 35 degree
\$,Motorized tractor speed - 50 to 900 mm/min (adjustable)
\$,Inbuilt with forward and reverse facility (welding head movement)
\$,Tungsten electrode diameter 1.6 to 4.0 mm
\$,Axial clearance (min) required:
\$,Radial clearance (min) required:
\$,Estimated weight of the welding head
\$,Oscillation dwell independently adjustable- 0-9.9 sec
\$,Weaving width :
\$,Weaving frequency :
WIRE FEEDER (capable for handling 5 kg of wire spool)
\$,Wire feeder mounted on head
\$,Drive type: four roll drive (with various groove geometries)
\$,Wire diameter - 0.8 to 1.2 mm
\$,Wire feed speed - 100-2000 mm/min
\$,Synchronised pulsing of wire with welding current pulses
\$,Wire feed speed should have manual override
\$,Wire feed start delay - 0 - 60 sec min
\$,Wire feed stop delay (Programmable) - In degree
\$,Wire feed speed regulation - + /- 1%
\$,Slop control (Slop up time & Slop down time)
\$,Gas control (Gas pre flow & post flow),,
Vendor to confirm /specify
2.3.,,SUITABLE GUIDE RING,,
\$,,Guide rings to cover all pipe diameter range from 200 - 700 mm
(specific diameter guide rings shall be provided for the following diameters)
o,,219.1 mm, 323.9 mm, 406.4 mm, 508 mm & 660 mm,,Vendor to confirm
2.4.,,CONTROLLER,,
\$,The below mentioned parameters are to be programmable with the offered equipment's
",,Pre-purge time / Post purge time
",,Up slop time / down slop time
",,Wire stat delay / wire stop delay
",,Rotation start delay / rotation stop delay
",,Welding Current Pulsing ON / Pulsing OFF
",,Oscillation ON / Oscillation OFF
",,Oscillation dwell time (IN/OUT)
",,oscillation width and frequency (adjustable)
",,Synchronized wire feed with pulsing current
",,Segmental parameter setting / programming

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","Pulsing frequency (for welding current)
o,,Pulse current
o,,Pulsing time duration
o,,Background current
o,,Background duration,,
Vendor to specify/confirm
2.5,,REMOTE PENDENT,,
,,Remote pendant with high visibility screen and
program and trim
minimum parameters of pulsed current, pulsed
frequency, travel speed,
oscillation frequency, oscillation width during
welding, dwell time,
wire feed, torch position etc.,Vendor to specify
2.6,,WATER COOLING UNIT,,
,,Input power supply : 220 V / single phase
/AC, 50 Hz
Cooling tank capacity min 5.5 ltr
Water flow rate min 4 l/min
Pumping pressure or Head min 4 bar
All the hose connectors are to be quick release
type,,Vendor to specify
2.7,,INTER-CONNECTING CABLES AND HOSES,,
,,The vendor has to supply all the necessary
inter-connecting cables
and hoses of sufficient length of quick release
type,,
2.8,,SAFETY INTERLOCKS,,
,,
The system shall stop or give alarm / warning
in the event of
following:-
","Stoppage of shielding gas flow
","Stoppage of cooling water flow
","Stoppage of wire feeding
","Arc start failure
","Stoppage of carriage movement head around
pipe
¢,,All the pipes, cables etc. on the machine
should be well supported
and protected. These should not create any
hindrance to machine
operator's movement for effective use of
machine.,,
Vendor to specify
2.9,,SPARES (WELDING, MECHANICAL &
ELECTRICAL) ,,
,,Welding Spares
","List of all welding spares to be included in
the scope of supply.
","It should be mentioned separately for 2 years
of trouble free
operation.
","Unit wise cost of all the items must be
provided along with technical
offer.,,Vendor to specify
,,Mechanical Spares
","List of all mechanical spares to be included in
the scope of supply.
","It should be mentioned separately for 2 years

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of trouble free operation.
",,Unit wise cost of all the items must be provided along with technical offer.
",,Vendor to specify
",,Electrical Spares
",,List of all electrical spares to be included in the scope of supply.
",,It should be mentioned separately for 2 years of trouble free operation.
",,Unit wise cost of all the items must be provided along with technical offer.,,Vendor to specify
2.10.,,PRE INSPECTION AT VENDOR WORKS.,
",,Before dispatch the system, the complete pre-inspection will be carried out by BHEL engineer and the welding trials on mock up job of similar application at vendors place.
",,Minimum 2 number of continuous weld joint to be carried out at vendors place
",,The acceptance criteria for weld quality are as per BHEL quality standards.
",,The pipe & necessary consumable for the PDI trials to be provided by the vendor.
",,The expenditure for the travel & stay of BHEL engineer will be under BHEL scope.
",,Vendor to Confirm
2.11.,,SERVICES:
INSTALLATION, COMMISSIONING AND TRAINING AT BHEL
",
",,o.,,The orbital TIG welding equipment and accessories shall be tested for its performance proves out as per BHEL specification, at the supplier's works prior to dispatch.
o.,,Welding trials have to be conducted on short length sample pipes in presence of BHEL engineers, at supplier's works for a minimum 5 joints (pipe dia 400 mm x 6 of ss material)
o.,,The pipe and welding consumables are to be arranged by the supplier.
o.,,Airfare, board & lodging for the BHEL Engineer who will be visiting supplier's works for pre-dispatch inspection and training, shall be borne by BHEL.
o.,,The acceptance criteria for weld quality shall be passing Radiography as stipulated in ASME Sec IX, ANSI B31.1, and B31.3 for welding high-pressure piping in power plant

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„Vendor to confirm
„¢„Installation, commissioning of the system at
WRI, BHEL„Vendor to
confirm
„o„The prove-out trials of the welding operation
shall be for the pipe
specification mentioned under joints (pipe dia
400 mm x 6 of ss
material)
o„The supplier to program the welding
parameter for the above joints
and welded samples.
o„The machine output and productivity has to
be proved out.
o„The materials will be supplied by BHEL.
o„ Welded joints shall be satisfactorily meeting
the quality
requirements as per ASME SEC IX for welding
high pressure piping in
power plant (minimum 10 joints to be welded
in succession for meeting
quality requirements as per ASME SEC IX &
ANSI B31.1, and B31.3)
„Vendor to confirm
„¢„Training of operators at WRI for operating
the machine after
completing the commissioning. „Vendor to
confirm
2.12„DOCUMENTATION„
„o„Three sets of following documents in tear
proof hard copy and soft
copy (CD)
o„Machine operation manuals
o„Maintenance and troubleshooting manuals
o„Troubleshooting procedures for different error
codes and problems
must be addressed in the manuals.„Vendor to
specify
„Machine Operation manuals:
o„Operating manuals of Machine & system with
machine
specifications, detailed operating instructions for
machine operation,
setting of machine parameters, precautions, and
machine safety details.
o„Programming Manuals of Machine &
system„Vendor to specify
„Maintenance and troubleshooting manuals:
o„Detailed Maintenance manual of machine with
all drawings of machine
assemblies/sub-assemblies/parts, Hydraulic,
Electrical circuit diagrams.
All Assembly/ Sub Assembly Drawings shall be
supplied with the part list
also
o„Maintenance, Interface & commissioning
manuals for system
& drives
o„Manufacturing drawings for all supplied
holders, adapters, sleeves,

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fixtures etc if any.
o,,Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.
o,,Detailed specification of all wear items and hydraulic / lube fittings
o,,PLC program printouts with comments in English.
o,,PLC program on CD, NC data & PLC data on CD
o,,Complete back up of hard disk on CD and clear written Instructions to take back up and reloading of a new hard disk.
o,,The vendor shall submit complete Master List of parts used in the machine.
o,,One additional set of all the above documentation on CD
o,,On line fault diagnostic system,,Vendor to specify
Vendor to specify
2.13,,MACHINE PACKING
"
,,o,,Sea worthy & rigid packing for all items of complete machine, control system, all accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes,,Vendor to confirm
2.14,,GUARANTEE TERMS
"
,,o,,Performance Guarantee for a minimum period of 24 months (for the machine in total and sub-systems or bought-out items in particular) from the date of acceptance of the machine.,,Vendor to confirm
2.15,,GENERAL POINTS
"
,,o,,Make and Model of the machine to be mentioned. Detailed catalogs of the machine to be sent with the offer.
o,,Complete description of all systems & sub-systems shall form part of the technical bid
o,,A schematic diagram showing the layout of the machine & associated systems with salient dimensions shall be submitted along with the offer
o,,The operating sequence of the machine with broad outline of various operations involved should be furnished with the offer.
o,,Standards for Design, Manufacture and testing of the machine shall be in accordance with internationally accepted

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standards.
o.,Total weight of the Machine & Sub-Systems.
o.,Weight of the heaviest part of the machine
o.,Total connected load KVA
o.,Floor area required (Length x width x height)
for complete machine
and accessories
o.,Warranty period for the total system will be
one year from the date
of commissioning of the system at BHEL
.,Vendor to specify
ORBITAL TIG PIPE WELDER

General Note:

PL. SUBMIT YOUR OFFER ON F.O.R - BHEL, TRICHY (TAMILNADU) BASIS AND IN TWO PART (TECHNO-COMMERCIAL BID AND PRICE BID) IN A SEPARATE COVER.

IF THE OFFER IS SUBMITTED IN SIGNLE PART AND THE SAME WILL BE LIABLE FOR REJECTION.

ANNEXURE-III ENCLOSED HERewith MUST BE FILLED, SIGNED AND SUBMITTED ALONG WITH YOUR OFFER.

THIS TENDER IS HOSTED IN BHEL WEBSITE VIDE NIT REF. _____ DT. _____ AND ANY CORRIGENDUM MAY PL BE VIEWED IN THE BHEL WEBSITE (HTTP://WWW.BHEL.COM)
FOR MSME VENDORS YR GUIDE LINES WILL BE FOLLOWED FOR THIS TENDER .

ENCLOSURE: ANNEXURE - III

Enclosures:

"LD clause has to be confirmed without fail."

"Payment to vendors will be made only thro E-Payment mode."

PR Links

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
	89549050	00010	1.000	/000000	

list of suppliers

RFQ-5200002455

BLUE STAR LIMITED,
46/104,GARUDA BUILDINGS
46, CATHEDRAL ROAD,
CHENNAI
PIN- 600086

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MM: CAPITAL EQUIPMENT

Bharat Heavy Electricals Limited, Trichirapalli – 620 014
(To be filled and submitted along with Offer)

BHEL Enquiry No.:

Date:

BHEL Commercial Terms and Conditions for IMPORT SUPPLIES	Vendor's Confirmation/ Comments
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	To be furnished along with offer
Prices shall be quoted item wise only.	
Prices shall be quoted on "FIRM PRICE" basis only. The prices should be only on FOB/FCA basis inclusive of Packing & Forwarding charges if any.	
Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent shall be clearly mentioned in the offer.	
Liquidated damages @ ½% per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
Payment terms for Foreign vendor (Principal): 100% value of the goods will be paid through an irrevocable Letter of Credit established by our bankers. (OR) 100% payment on CAD (CASH AGAINST DOCUMENTS) BASIS All bank charges outside India are to vendor's account only. Any advance payment or payment before dispatch is not acceptable to us and If you fail to accept our payment terms, your offer is liable for rejection.	
Payment terms for Indian Agent: Indian Agency commission, if any, shall be clearly specified in the offer and the same will be paid in Indian Rupees against acceptance / commissioning of the equipment.	
Part Shipment or Transshipment is not permissible	
In case of any short shipment in the spares, where separate rates are not available in the contract, the customs duty levied on such supplies, shall be borne by the supplier / Indian agent.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHEL, Trichy.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
Offers should be submitted only in sealed cover superscribing clearly the Enquiry reference and due date.	

NOTE:-

- It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.**
- The prices are to be offered only on FOB/FCA basis, inclusive of Packing & Forwarding charges if any.**
- Your specific acceptance to BHEL Payment terms & LD are essential for consideration of your offer. Otherwise your offer is liable for rejection.**

Signature & Office Seal of the vendor

BHEL commercial terms and conditions for Indigenous suppliers		Vendor's Confirmation/comments
Technical confirmation to BHEL's Specification shall be furnished. If needed additional sheets shall be used.		
Prices shall be quoted item wise only as per the model format enclosed		
Prices shall be quoted on "FIRM PRICE" basis only. The price quoted should be only on F.O.R./Dispatching station basis inclusive of packing and forwarding charges Or EX-works basis If Ex-works basis the material has to be sent through BHEL-Approved Carriers. BHEL approved carrier List will be provided alongwith purchase order. if any. Applicable % of ED & sales tax, Freight & Insurance should be clearly indicated If there is no confirmation/comments, FOR BHEL-Trichy –STORES will be taken.		
Delivery period from the date of letter of intent / Purchase order shall be clearly mentioned in the offer (No.of weeks/Months)		
Liquidated damages(LD) @ ½ % per week subject to maximum of 15% of the order value shall be applicable for delay in deliveries If there is no confirmation/comments, LD clause accepted will be taken.		
Following risk purchase (RP) clause shall be applicable The purchaser at his 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 if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the purchaser may sustain by reason of such risk purchase. If there is no confirmation/comments, RP clause accepted will be taken.		
Payment terms for supply portion: 100% payment will be made within 45- 90 days after receipt and acceptance of goods at BHEL Any other Payment term is not acceptable by BHEL. If there is no confirmation/comments, GR payment will be taken.		
Erection / commissioning: (if applicable only) Erection / commissioning charges if any has been mentioned in the offer or else confirmation that Erection / commissioning shall be done at free of cost is available in the offer.		
Equipment will be inspected and proved at vendor's works prior to dispatch.,if required. However final inspection and acceptance of equipment will be after installation at BHEL, Trichy. STORES		
The equipment shall be guaranteed for a period of 12 months from the date of receipt & acceptance./ (commissioning date ,if applicable)		
The vendor shall provide necessary drawings, Test certificates and operating Maintenance Manuals etc. as called for in the technical specification wherever necessary.		
Any warranty replacement during the warranty period shall be supplied free of charge on FOR BHEL Tiruchi basis		
Offers should be submitted only in sealed cover super scribing clearly the enquiry reference and due date		
Validity of the offer should be for a period of not less than 120 days from the date of tender opening. If there is no confirmation/comments, 120 days validity will be taken.		
Indicate the Delivery Terms:(EXW Basis (or) FOR Dispatching Station (or) FOR/BHEL/Stroes/Trichy)		
Name of Contact person	Phone/Fax No:	Mobile No
E-mail ID	Company PAN No	Company CST/ VAT No:

NOTE:-

- It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- Your offer should be indicating applicable if any P&F Charges, % of ED, Sales Tax -CST or VAT, Service Tax), Freight, Insurance and Installation and Commissioning Charges etc., as per our Price Format.
- Your specific acceptance to our Payment terms, LD & Risk Purchase (RP) Clause are essential for consideration of your offer. Other wise your offer is liable for rejection.
- No row shall be left blank. Please indicate NA, in case the item is "not applicable"

Full postal Address:

Signature and office seal of the vendor

