



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT/ MATERIALS MANAGEMENT

ENQUIRY

NOTICE INVITING TENDER

Phone: +91 431 257 7653/7360/ 7775

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Email : skaruna@bheltry.co.in

ajay@bheltry.co.in

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Web : www.bhel.com

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two parts	2631700047	30.09.2017	31.10.2017

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.

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	Qty.
10	"Cryogenic Bath" as per the technical specification, BHEL commercial terms & conditions applicable (to be downloaded from web site www.bhel.com or https://eprocure.gov.in)	01 No.

Important points to be taken care during submission of offer:

1. Delivery terms shall be FOR BHEL Stores, Trichy-620014.
2. Compliance Form No.:TRY/IND/08 to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
3. Delivery required 3 months from the date of purchase order.
4. Erection and commissioning shall be done at BHEL, Trichy by the supplier.
5. Erection & Commissioning period required 2 Weeks from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
6. EMD: Not Applicable.
7. 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/GENL001), commercial Terms check list (Compliance Form) and Technical Specification can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender <https://eprocure.gov.in> under Enquiry reference "2631700047".

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

AJAY V. ASALKAR

Sr. MANAGER

MM / Capital Equipment

BHEL, Tiruchirappalli - 620 014.

Cryogenic Bath for Mechanical Testing At Sub-Zero Temperatures, Qty - 1No.

PART A

SECTION – 1: Qualifying Criteria

The BIDDER has to compulsorily meet the following requirements to get qualified.

S No.	REQUIREMENTS	BIDDER'S RESPONSE
1.1	Only BIDDER/OEM who have a minimum of last TEN Years (as on the first date of opening of tender) of Continuous Experience in the Design, Manufacture & Supply of 'Cryogenic Bath used for Testing at Sub-Zero Temperatures' are eligible to quote for this tender. The bidder shall indicate the actual no. of years of experience in the field and submit Purchase Orders (PO) copies or relevant documents as proof of experience.	
1.2	The BIDDER should have supplied at least 3 nos. of 'Cryogenic Bath used for Testing at Sub-Zero Temperatures' of the quoted model to their customers in the last 5 years. Also, indicate the number of such Cryogenic baths sold internationally / within India.	
1.3	The Bidder shall submit a performance certificate for satisfactory performance of the Cryogenic bath (model quoted against this tender or a higher model) for a minimum period of one year from the date of commissioning (as on the first date of opening of tender) from any of the customers to whom such equipment was supplied in the last 5 years. Full contact details of the customer to be provided from whom the performance certificate is obtained. For obtaining the Performance certificate, a suggestive format is given in Annexure.	

BHEL reserves the right to verify the information provided by bidder. In case the information provided by bidder is found to be false/ incorrect, the offer shall be rejected.



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SECTION – 2:

The BIDDER to provide the following details:

S. No.	PARTICULARS	BIDDER'S RESPONSE
2.1	BIDDER to indicate the Country of Origin for the supply of the Cryogenic Bath.	
2.2	YEAR of LAUNCH of the MODEL quoted against this ENQUIRY	
2.3	Number of such 'Cryogenic Baths' supplied, till date in the QUOTED MODEL	
2.4	The BIDDER shall give details about supply of similar Cryogenic bath to BHEL units if any with Make, Model and Year of Supply & Commissioning etc.	
2.5	Details on International Standards followed in Design and Testing of Cryogenic bath.	
2.6	Comprehensive Details, on Performance Testing of 'Cryogenic Bath for Mechanical Testing at Sub-Zero Temperatures' carried out at the Factory, to be furnished with the Technical Offer.	
2.7	The service after sales set up should be available in India. The details on SERVICE-AFTER-SALES Set-Up including the Addresses of Agents / Service Centres in India, to be furnished compulsorily. The OEM or authorized supplier shall have a well-trained service network available in India to cater the service requirements of the offered Cryogenic Bath. The details of the same shall be submitted along with the technical bid.	



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SECTION – 3

The BIDDER to note the following:

S. No.	REQUIREMENTS	BIDDER's TO COMPLY
3.1	The BIDDER shall submit the offer in TWO PARTS – 1. Technical [with filled in PART A & PART B] 2. Commercial and Price Bid.	
3.2	The BIDDER'S RESPONSE against each clause in PART A & B of the offer should be filled by the BIDDER compulsorily with complete details. The Offer shall contain a comparative statement of Technical Specifications given by BHEL and the Offer Details submitted by the Bidder, against each clause. In case of any deviations in any of the technical specifications, such deviations should be clearly specified in the comparative statement.	
3.3	The BIDDER shall assure a continuous support for SPARES and SERVICE for FIVE Years, from the date of commissioning of the equipment at BHEL Works.	
3.4	The Technical Offer shall be supported by Product Catalogue and Data Sheets in ORIGINAL and complete technical details / literature on the QUOTED MODEL of the Cryogenic Bath.	
3.5	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid.	


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

Suggestive Format of Performance Certificate

(On Customer's letter head)

PERFORMANCE CERTIFICATE

1. Supplier of the equipment :
2. Make & Model of the m/c :
3. Month & Year of Commissioning :
4. Quantity :
5. Equipment Details
 - a) Type :
 - b) Capacity :
6. Application :
7. Performance of the Machine : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
8. After sales service : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
9. Any Other remarks :

Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

Cryogenic Bath for Mechanical Testing At Sub-Zero Temperatures, Qty. 1 No.

PART B - Technical Specification

S. No.	BHEL SPECIFICATION	OFFER BY BIDDER
1	Application: The Cryogenic Bath is intended to carry out Mechanical Testing of test specimens at Sub-Zero Temperatures. The equipment shall use appropriate LR grades of Leishman's stain solution or AR grade isopropyl alcohol as medium for cooling the specimens. The equipment shall be able to cool and maintain the medium in the range of -70 deg C to +20 deg C and facilitate cooling of drop weight testing samples and impact testing sample of any grade of metals in the medium.	
2	Machine Configuration : [The scope of supply shall consist of the following]	
2.1	The medium used for cooling the bath shall be any appropriate LR grade of Leishman's stain solution or AR grade isopropyl alcohol only.	
2.2	The tank temperature range shall be -70 deg C to +20 deg C and the quoted model shall cool the medium to -70 deg C in not more than 1 hour at no load and not more than 4 hours at full load.	
2.3	Working space shall be 200x200x250 (Depth) or higher so that the sample placement rack provided shall accommodate a minimum of 12 numbers of the following Test samples simultaneously:- • Drop weight test sample of size 130 mm x 50 mm x 19 mm each, • Impact Testing sample of size 55 mm x 10 mm x 10 mm each,	
2.4	The offered equipment shall have the following additional features:	
2.4.1	A digital microprocessor based PID, Auto tuning temperature Indicator cum controller with 0.1°C Display resolution for the tank. Vendor to specify	
2.4.2	Control Accuracy: +/- 0.5°C or better. Vendor to confirm and specify	
2.4.3	Sensor: PT 100 Class A Sensor. Vendor to confirm	
2.4.4	Immersion type heater to maintain the constant temperature. Vendor to confirm	
2.4.5	Automatic High temperature safety cut off. Vendor to confirm	


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S. No.	BHEL SPECIFICATION	OFFER BY BIDDER
2.4.6	Stirrer driven by continuous electric motor for uniformity of temperature for the tank. Vendor to confirm	
2.4.7	Built in CFC Free (Eco friendly) Cascade refrigeration system with hermetically sealed compressors of reputed make like TECUMSEH, EMERSON, DANFOSS or any other reputed make acceptable to BHEL. Vendor to specify	
2.4.8	Condenser: Fin and tube type air-cooled type. Vendor to specify	
2.4.9	Insulation: Polyurethane Foam (PUF). Vendor to confirm	
2.4.10	Inner Tank made of Stainless Steel 304 grade	
2.4.11	Outer made of Mild Steel with powder coated.	
2.4.12	Input Power Supply: 230 V, Single Phase, 50 Hz	
2.5	The equipment shall have an appropriate drainage system to drain the cooling medium completely as and when desired.	
2.6	The overall dimension of the equipment shall not exceed (LxWxH): 1m x 1m x 1.25m Vendor to specify.	
2.7	The net weight of the equipment shall not exceed 250 kg.	
2.8	The cryogenic bath shall be portable and mobile, with caster wheels (minimum 4 Nos.), by manual pushing.	
2.9	The cryogenic bath as a whole shall come in single enclosure and there shall be no stand-alone parts.	
2.10	Protection: Necessary protective measures to ensure safety of the equipment and the operator shall be taken care, including: a) Inbuilt protection for the cryogenic bath against Overload / Short-Circuit conditions b) All electronic circuitry of the equipment shall be protected suitably to prevent damage from dust and grinding particles c) Machine Design to ensure proper earthing for the machine and its peripherals d) Safety of the operator shall be ensure in all circumstances.	


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S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
2.11	Vendor shall quote for the following: 1. LR grade of Leishman's stain solution or AR grade isopropyl alcohol - 30 Litres 2. Refrigerant: R404A - 10 kg and R23A - 4 kg along with storage cylinders		
3	Operation & Maintenance (O&M) Manuals		
3.1	Manual Details :	(a) Manual shall contain all instructions for machine installation and for carrying out operation trial, testing in the correct sequence/ method (b) Manual shall clearly describe the operation of the cryogenic bath and all other items in item numbers 2.1 to 2.5 including compressor. (c) Manual shall contain general circuit diagrams, showing the interconnection of various elements and also details on PCBs [Printed Circuit Board] like tapping voltages, main electronic elements' specifications and ratings, etc. (d) Manual to give other details like troubleshooting details etc. (e) Master List of Parts & Spares used in the machine with Make, Model, Rating, etc.	
3.2	Hard copy	2 sets of manuals in English Language	
3.3	Soft copy	Soft copy of the manual in CD-ROM – 1 no.	
4	Pre-dispatch Inspection	The equipment shall be offered for pre-dispatch inspection (PDI) at the supplier's works by BHEL Engineers before despatch of the equipment. During the PDI, a trial test is to be performed to ensure the capability of the equipment to cool and maintain the medium in the temperature range -70 Deg C to + 20 Deg C and cool the medium to -70 deg C in not more than 1 hour at no load and not more than 4 hours at full load.	

S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
5	Commissioning	The equipment shall be installed and commissioned by the supplier's representative at BHEL Works. Prove out of the equipment shall be carried out by the suppliers representative to demonstrate the capability of the equipment to cool and maintain the medium in the temperature range -70 Deg C to +20 Deg C and cool the medium to -70 deg C in not more than 1 hour at no load and not more than 4 hours at full load.	
6	Training	The Supplier's SERVICE ENGINEER shall give training in the Operation and Maintenance of the Machine to BHEL Staff after the successful commissioning of the Cryogenic Bath.	
7	Performance Guarantee	The performance of the equipment shall be guaranteed for a period of 12 months from the date of commissioning at BHEL works or 18 months from the date of dispatch whichever is earlier.	



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