

TENDER ENQUIRY NO.: X/6620/2023/0432/B/1

SUB: - TERMS & CONDITIONS FOR FABRICATION OF CASING & WATER BOXES

NIT-Notice Inviting Tender

Salient Details of Notice Inviting Tender (NIT)		
Sl. No.	Issue	Description
1.	Item details	As per Enquiry Annexure X/6620/2023/0432/B/1
2.	Issue of Tender Documents	From BHEL eProcurement website https://eprocurebhel.co.in/nicgep/app (Tender documents will be available for downloading from BHEL e-Procurement website till due date of submission)
3.	Due Date Of Offer Submission	Date: -27.09.2023 Time: 13:45 hrs https://eprocurebhel.co.in/nicgep/app Offer to be submitted in online only through e-procurement Portal. (Bidders are requested to visit website to view corrigendum/ addenda/ amendments/ extension/ modification etc. before submitting offer).
4.	Opening of Tender (Techno-Commercial Bid)	Date: -27.09.2023 Time: 14.00 Hrs Notes: <i>This tender being an e-tender, it shall be opened online only through the E-Procurement Portal. Participating bidders may witness the Opening online only.</i>
5.	Cost of Tender	INR 2000/- (If hard copy of tender document is required from BHEL otherwise not applicable.)
6.	EMD (Earnest Money Deposit)	0
7.	Schedule Of Pre-Bid Discussion	Not Applicable
8.	Integrity Pact & Details of Independent External Monitor (IEM)	Not Applicable
9.	Latest Updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL e-tender portal https://eprocurebhel.co.in/nicgep/app and not in the newspapers. Bidders to keep themselves updated with all such information

Please submit your offer only for the above requirement subject to our **GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (Version: June-2021, Rev.06)**. Please visit our site www.hwr.bhel.com for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries. All the bidders/vendors must ensure compliance of these GISTC. GISTC can also be referred by login to B2B Portal for Registered Vendors.

Tender Fee & EMD (If Applicable) will be submitted in the form of Pay Order / Demand Draft (drawn in favor of 'BHEL HARIDWAR') only. It may be noted that if hard copy of any tender document is required, then the same may be collected against copy of Pay Order / Demand Draft of requisite tender fee (while original to be submitted with Part-I).

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If EMD is not submitted along with the offer, then the offer may not be considered.

For E-Payment, the RTGS details are mentioned as below:

Bank Details	SWIFT Details of bank
STATE BANK OF INDIA RANIPUR BRANCH, OPP: BHEL MAIN GATE, SECTOR-5, RANIPUR, HARIDWAR, UTTRAKHAND, INDIA PIN CODE : 249403	SWIFT NO.: SBININBB225 CC ACCOUNT NO.: 10667995458 IFSC CODE: SBIN0000586

As per notification reference no. NSIC/HO/GP/15(4)/2013-14 dated 07.07.2013 Micro & Small Enterprises (MSEs) are not required to submit Tender fees. A Valid MSE certificate such as Udyog Aadhar (UAN)/Udyam Certificate/NSIC/EM (Part-II) etc. issued from competent authority shall be submitted in support of Micro & Small Enterprises (MSEs).

“As per the OM No. F. No. 1(2)(1)/2016-MA dated. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), “Traders and agents should not be allowed to avail the benefits extended under the PP Policy.”

Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.

BHEL will forfeit the EMD if, the successful bidder / vendor refuses to honor the order after award of the same on him and / or withdraws his bid and / or unilaterally changes the offer and / or any of its terms & conditions within the validity period.

INSTRUCTIONS TO BIDDERS FOR SUBMITTING OFFER

TECHNICAL QUALIFICATION: Technical Requirement, Pre-Qualifying Requirements/PQR to be submitted. It is the mandatory requirement. Offer of vendors not meeting these requirements may not be considered.

ESSENTIAL INSTRUCTIONS

The tender shall be **submitted in two parts** in separate cover as described below on or before the due date:

Part I (Cover-1) - Containing the following:

1. Techno -Commercial Bid
2. Tender Fee & EMD (Earnest Money Deposit) Or Valid certificate/Document towards exemption of Tender fee and/or EMD (applicable for Micro and small Enterprises, Central / State – PSUs / Government departments, PMD vendors etc.)

Part II (Cover-2) - Containing Price Bid in attached Format

Bidders against tender will necessarily have to obtain class – III DSCs. Procedure for application available on www.bhel.com.

E-Procurement Portal Inputs

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Procedure for Submission of Offer for E – Tender-Procedure for Submission of Tender is available in the “Bidder Manual for BHEL Bidders” at E-tender portal <https://eprocurebhel.co.in/nicgep/app> . Terms and conditions mentioned therein shall form integral part of the NIT and bidders shall abide by the same.

Hardware and Software requirements for participating in e-tender

Please refer the website for the minimum system requirements and setting document for Bidders under the link: <https://eprocurebhel.co.in/nicgep/app>

Digital Signature

To know the procedure for obtaining Digital Signature Certificate (DSC), suppliers who are not having the DSC are advised to visit our website [http://www.bhel.com/home.php/Tender Notifications/Sample Checklist](http://www.bhel.com/home.php/Tender%20Notifications/Sample%20Checklist).

NIC portal Helpdesk Contacts

For any technical related queries please call at 24 x 7 Help Desk Number

0120-4001 002

0120-4200 462

0120-4001 005

0120-6277 787

International bidders are requested to prefix 91 as country code

Email Support

Address: A) For any Issues or Clarifications relating to the published tenders, bidders are requested to contact the respective Tender Inviting Authority Technical - support-eproc@nic.in

Note

Offers/tenders submitted in the E-tender portal shall only be considered for further evaluation. Offers sent by FAX / E-mail / any mode other than E-tender would not be entertained.

The Tenderers must submit their Tenders, as detailed below:

SPECIAL NOTE: All documents to be submitted should be uploaded in respective places in the E-Tender portal as per the list mentioned given in this NIT. BHEL shall not be responsible for incomplete documents.

**SUB: - TERMS & CONDITIONS FOR FABRICATION OF CASING & WATER BOXES WITH
BHEL MATERIAL**

Online offers are invited through e-procurement portal <https://eprocurebhel.co.in/nicgep/app> from suppliers for the supply of the items.

The item name and drawing no. mentioned in the enquiry is for reference & will be available for ordering. A sample of Combined Bill of Materials and all reference drawings are also enclosed for having a general idea of the tender.

1. **SCOPE OF WORK:** -This enquiry is for pre-fabrication machining & fabrication of following items with BHEL Material as per drg., QP & other specifications.

Sl. No.	Item Description	Drg. No.	Qty.	Party material Weight /Piece (Kg)	BHEL Material Weight /Piece (Kg)	Total Weight/Piece (in kg.)
1	Casing	1162187010400	2	0	2496.5	2496.5
2	Water box	1162227003800	2	0	1569	1569
3	Water box	1162227003900	2	0	1698	1698
4	Casing	1162227004000	2	0	2658	2658

Remark-

1. T.R. AND INSTRUCTIONS OF THE DRAWINGS ARE TO BE STRICTLY FOLLOWED.
- 2) DELIVERY IS 60 DAYS FROM THE DATE OF LAST MATERIAL SENT

- **TOTAL LOAD FOR THE Enquiry (Approximately) = 16843 Kg.**
- The rate (s) should be quoted in **Rupees/Pc.**
- Cleaning of parts, removal of mill scale from components prior to assembly will be in scope of vendor.
- CHP Clearance may be obtained from NTPC/LLOYD/RITES/NPC at party's end.
- Final Assembly shall undergo cleaning to ensure that all parts are free from dents, mills, spatters.
- Customer's seal (if Any on supplied Material) to be transferred.
- Copies of the relevant certificates to be supplied to the receiving shop.
- Quality plan (if any) to be followed for Material induction and CHP.
- All special tests viz., UT, RT, HYDRAULIC & KEROSENE etc. are to be performed as per drg. requirements.
- Aesthetic appearance shall also be ensured and inspected before delivery to BHEL.
-

2. VALIDITY: -

The validity of offers by vendors should be at least for a period of **90 days for this enquiry from the date of enquiry opening.**

3. SUBMISSION OF OFFERS: -

Open tender is hoisted on the <https://eprocurebhel.co.in/nicgep/app> and no hard copy of document is provided by BHEL, no tender fee shall be insisted upon from the bidders.

The offer is to be submitted in **two parts** on NIC portal only on website: <https://eprocurebhel.co.in/nicgep/app>

BHEL reserves the right to reject any or all the tenders either in full or part thereof without assigning any reasons thereof.

4. DELIVERY: -

F.O.R.: HEPP, BHEL Haridwar.

5. DELIVERY SCHEDULE: -

Sl. No.	Item Description	Drg. No.	Qty.	Delivery
1	Casing	1162187010400	2	60 Days from last BHEL material sent to vendors work
2	Water box	1162227003800	2	60 Days from last BHEL material sent to vendors work
3	Water box	1162227003900	2	60 Days from last BHEL material sent to vendors work
4	Casing	1162227004000	2	60 Days from last BHEL material sent to vendors work

Note: - In case the delivery offered by any vendor is more than above mentioned Delivery days from Last Material Sent from BHEL to Vendor, loading shall be done @ 0.5% per week on the rate quoted by the vendor.

6. Bank Guarantee/Indemnity Bond: - 10 % Bank Guarantee and 90% Indemnity Bond for the value of materials to be given by vendor for free issue materials. Material value will be calculated on PPMIV/Challan value basis. On intimation from BHEL regarding BG & IB, the same shall be provided by the vendor (s) within 15 Days. If suitable BG and IB are not submitted to BHEL within 15 days of intimation, then the amount of days delayed beyond 15 days after intimation will be deducted from delivery days of that item and consequent PO amendment will be issued.

For Example: If intimation for requirement of BG & IB of an item of a PO is given to vendor on 01.04.2023 from BHEL, then vendor should mandatorily provide required BG and IB by 15.04.2023. In case, the vendor provides the same by 30.04.2023, then the difference of 15 days (between 30.04.2023 & 15.04.2023) will be deducted from delivery days of that item and consequent PO amendment will be issued.

7. INSPECTION: -

- The inspection will be carried out by BHEL/BHEL nominated inspection agency at Party's works. All facilities and equipment's, calibrated instruments and standard gauges required for inspection shall be provided by the vendor during inspection. In some cases, inspection by customer's representatives like NTPC/RITES etc. may also be carried out at Party's works and CHP clearance may be obtained. No additional charges will be paid on this account.
- The party is to follow system for material control, if applicable, as per BHEL Quality Control system.
- Identification marks shall be punched on each item by the vendor i.e. Purchase Order No., Drawing No., IR No. etc.
- Aesthetic appearance is to be maintained as per drg. requirement.

8. GUARANTEE CERTIFICATE: -

The vendor shall warrant that the supplied fabricated assemblies/items comply fully with the drawings and other technical conditions. If the fabrications/items are found defective owing to faulty workmanship/incomplete work within a period of eighteen (18) months from the date of dispatch, the vendor shall make good of it/replace the same free of cost. Alternatively, the rework/replacement charges will be recovered.

9. PAYMENT TERMS: -

- 9.1 90% after acceptance & final clearance of SRIV. 10% after FTS and final account of material.
- 9.2 No packing and forwarding charges will be paid extra.
- 9.3 In case of rejection, total cost of material will be recovered in case of BHEL Material and no labour cost will be paid.
- 9.4 For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, the payment will be made within 45 days or as prescribed in the relevant act.
- 9.5 Detailed terms at clause 10.0 of GISTC Rev. 06, June 2021.

10. LD CLAUSE: -

@ 0.5% per week subject to max 10% for the delayed portion of supply. The entry date mentioned by CISF on the challan at BHEL material gate will be taken as material receipt date.

11. GST: -

As per clause 11.0 of GISTC (attached). At present GST rate applicable for this enquiry will be 12%. However, it will be as applicable as per Govt. guidelines/circulars.

12. QUALITY REQUIREMENTS: -

Inspection by BHEL/BHEL nominated inspection agency as per drawing /Standard and quality plan requirements.

Quality plan no. QP/QA/232119 rev 00 dated 06.09.2023 is attached, which is to be followed.

Sub-contractor to provide a summary sheet of documents/TCs provided for correlation.

Sub-contractor to mention relevant QP clauses on all TCs/ reports for every lot.

13. REVERSE AUCTION: -

“BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.” For detailed terms and conditions of RA guidelines, kindly refer www.bhel.com.

14. EVALUATION OF BIDS:

All vendors will be assessed on total cost to BHEL basis that includes freight, taxes, ITC etc. Item wise evaluation will be applicable for this enquiry.

In the course of evaluation, if more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from respective L1 bidders. In case more than one bidder happens to occupy the L1 status even after soliciting discounts, the L1 bidder shall be decided by toss/draw of lots, in the presence of respective L1 bidder(s) or their representative(s). Ranking will be done accordingly. BHEL’s decision in such situation shall be final and binding.

15. TRANSPORTATION: -

Transportation of PPMIV material (raw material) will be in scope of BHEL and the freight will be borne by BHEL. However, the same will be loaded into the cost quoted by vendor in RA sheet. Vendor to deliver fabricated/machined/formed items to BHEL Haridwar at their own cost.

16. SCRAP: -

- Generated scrap is to be retained by the sub-contractor. This scrap is chargeable. The scrap rate will be calculated based on the monthly market scrap price Published in MSTC Bulletin/any other document under category of scrap MELTING SCRAP/any other similar category. The calculated monthly price for charging scrap will be rounded off to two decimal places of Rupee. GST charges on scrap shall also be applicable.
- BHEL would recover the amount of GST and Trade Tax as applicable from the sub-contractor’s account in lieu of scrap retained by them. The difference between raw material weight and finalized weight shall be considered for the calculation of scrap generation.
- A 3% invisible cutting allowance may be given on the finished weight.

17. RECTIFICATION: -

Any defect (noticed at Shop) arising out of the fabrication/machining/forming done by the Sub-Contractor, will have to be rectified or items replaced by the sub-contractor within 10 days at their own cost. Otherwise BHEL will be free to take necessary action as deemed fit and consequence/cost of the same will be to subcontractors-account.

18. RISK PURCHASE: -

In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law

Action against Bidders / vendor / supplier / contractor in case of default:

In order to protect the commercial interests of BHEL, BHEL shall take action against supplies / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/ money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc.

Suspension of Business Dealings could be in the form of "Hold" or "Banning" a supplier/ contractor or a bidder and shall be as per "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available at BHEL's website "<https://www.bhel.com/guidelines-suspension-business-dealings-suppliers-contractors>".

19. DISTRIBUTION OF LOADS: -

Enquiry has been issued with following terms & conditions :

Vendor has to quote the rate **in Rs. per Pc. Basis**.

Item will be placed on L1 vendor. Separate L1 vendor will be evaluated for each item (Sl.no.1 to 4 of indent).

20. GENERAL INSTRUCTIONS: -

20.1 No further sub-contracting to third party or sister concern by the sub-contractor is allowed Without prior permission of BHEL. If found guilty, will be debarred.

20.2 BHEL reserves the right to suspend/cancel the PO/Enquiry unilaterally without any financial repercussions, if Sub-contractor's performance is not found to be satisfactory.

20.2.1 BHEL reserves the right to revise the drawing after placement of purchase order. The prices in the purchase order will be amended according to revised drawing.

20.3 Please refer general instructions and standard terms & conditions (GISTC) for bidding against tender enquiry (version June-2021, Rev:06) the bidder/vendor must ensure compliance of these GISTC (version June-2021, Rev:06). Please refer <https://hwr.bhel.com>.

20.4 MSE suppliers are exempted for submission of EMD & Tender Fee.

20.5 Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.

20.6 Documents submitted with the offer/bid by the bidder should be signed and stamped in each page by authorized representative of the bidder.

20.6.1 PQR required documents is to be submitted along with the Techno- Commercial offer (PART-I).

Note: - Offer shall be entertained only after submission of duly filled, signed and stamped PQR and relevant documents. Offers of the vendor(s) not submitting this may be ignored.

20.7 Vendor Contract clause regarding GST ITC and provision for E-invoices:

(i) E-invoicing under GST is being implemented w.e.f. 01.04.2022 for all the taxable persons

having turnover more than Rs. 10 Cr. It has been specified by the Govt. that it is mandatory to mention a valid unique Invoice Reference No. (IRN) and QR code as generated from Govt. portal on a Tax Invoice. Based on such information, GST ITC as claimed by BHEL in GST Returns shall be matched with the corresponding details uploaded by supplier in E-invoicing System.

(ii) In case the vendor /contractor delays or fails to provide all the documents as per the Purchase order / Work Order at the time of submitting Tax invoice to BHEL, any subsequent financial loss to BHEL on account of vendor/contractor shall be to vendor's / contractor's account. BHEL has further right to take necessary steps to protect its interest at the time of release of payment. This further requires inclusion of IRN and QR code on tax invoice as announced by Govt. of India w.e.f. 01.10.2020.

20.8 In case of ordering against the tender, vendor should submit their invoices against goods and services immediately after supply of goods & services but not later than 30 days from the invoice date. In case of delay, consequential losses like loss of input credit and non-availability of concessional forms etc. shall be to the vendor account.

20.9 The bidders against open tender will necessarily have to obtain class – III DSC (Digital signature). Procedure for application is available on hwr.bhel.com.

20.10 Following MSE conditions shall be followed: -
UDYAM Certificate.

Detailed MSE conditions is at clause no. 23.0 of GISTC Rev. 06, June 2021.

* Govt. guidelines will supersede all clauses of this tender for MSE benefits to vendor(s).

MSE Suppliers can avail the intended benefits only if they submit along with the offer, attested copies of UDYAM Certificate.

Detailed MSE conditions is at clause no. 23.0 of GISTC Rev. 06, June 2021. * Govt. guidelines will supersede all clauses of this tender for MSE benefits to vendor(s).

21. "A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder who found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; or
- b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
- c) they have the same legal representative/agent for purposes of this bid; or
- d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or
- e) Bidder participates in more than one bid in this bidding process.

Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more than one bid; or

f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:

1. The principal manufacturer directly or through one Indian agent on his behalf; and

2. Indian/foreign agent on behalf of only one principal, or

g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or

h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

- **Against vendor's replies, BHEL reserves the right to ask for more information/ documents / clarifications. Vendor's offer shall not be considered if vendor fails to furnish the document / information / clarifications as mentioned above or doesn't meet the acceptance criteria. Time period for technical/commercial clarification is 3 days.**
- Amendments/Corrigendum, if any, will be hosted on designated web site/ GePNIC Portal only. Other terms and conditions will be as per tender documents. Any vendor who is under hold (for the item)/ delisted/ banned with BHEL on date of opening of Part – 1 will not be allowed to quote for this tender. In case their offer is received, it may be out rightly rejected.
- In view of Covid-19 and present situation, the Tender Documents, Drawings, P.O copy etc. shall be sent by e-mails and shall not be sent in hard copies. Vendors to kindly note that the details sent by e-mail shall be considered for delivery against the finalized contract(s)/ P. O's placed.
- ****OFFERS SHALL BE ADMITTED THROUGH GePNIC PORTAL <https://eprocurebhel.co.in/nicgep/app> ONLY**

Authorized Signature:

(with date & seal of company)

Name of Supplier: -

Annexure - A**SUB: - TERMS & CONDITIONS FOR FABRICATION OF CASING & WATER BOXES WITH
BHEL MATERIAL**

OpenTender Enquiry No.: X/6620/2023/0432/B/1

Sl. No.	Item Description/Drg No.	MATERIAL BY	Qty	Weight in Kg / piece	Quoted/Not Quoted (Tick the correct option)
1	Casing/ 11621870104-00	BHEL	2	2496.5	Quoted/ Not Quoted
2	Water box/ 11622270038-00	BHEL	2	1569	Quoted/ Not Quoted
3	Water box/ 11622270039-00	BHEL	2	1698	Quoted/ Not Quoted
4	Casing/ 11622270040-00	BHEL	2	2658	Quoted/ Not Quoted

Annexure - B

Make in India Certificate

Certificate In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated 28.05.2018, we hereby certify that we M/s

_____ (supplier name) are local supplier meeting the requirement of minimum local content (50%) as defined in above orders for the material against Enquiry No.

_____ Details of location at which local value addition will be made is as follows: _____

_____ We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

TERMS AND CONDITIONS FOR Enquiry No.X/6620/2023/0432/B/1

SL.	TERMS	VENDOR'S ACCEPTANCE/ REMARKS
1	Scope of Work: - Complete PRE-FAB. M/C & FAB. ONLY is to be carried out by the vendor as per Drawing/Standard, QP and Technical requirements (as per clause 1 of terms & conditions).	
2	Quotation is valid for a minimum period of 90 days from date of opening of enquiry. (as per clause no. 2.0 of Terms and Conditions)	
3	Submission of offers (as per clause no. 3.0 of Terms and Conditions)	
4	Quoted rates are on F.O.R. sub-contract store, HEEP, Haridwar basis.(as per clause no. 4.0 of Terms and Conditions)	
5	Delivery schedule 60 days as per clause 5.0 of T& C of enquiry.	
6	Bank Guarantee/Indemnity Bond: 10% BG & 90% Indemnity bond (as per clause 6.0 of T& C of enquiry)	
7	Inspection shall be done (as per clause no. 7.0 of Terms and Conditions of Enquiry)	
8	Guarantee Certificate shall be valid for 18 months . (as per clause no. 8.0 of Terms and Conditions of Enquiry)	
9	Payment 90% after acceptance & final clearance of SRIV. 10% after FTS and final account of material (as per clause no. 9.0 of Terms and Conditions of Enquiry).	
10	LD clause is applicable@0.5% per week or part thereof with a maximum limit of 10% of the delayed portion of the PO (as per clause no. 10.0 of Terms and Conditions of Enquiry).	
11	GST shall be applicable against documentary proof. Input Tax Credit shall be applicable and BHEL can claim benefit (as per clause no. 11.0 of Terms and Conditions of Enquiry).	
12	Quality Requirements (as per clause no. 12.0 of Terms and Conditions of Enquiry).	
13	We accept Reverse Auction(RA) clause as per standard policy of BHEL (as per clause no. 13.0 of Terms and Conditions of Enquiry).	
14	Evaluation of bids (as per clause no. 14.0 of Terms and Conditions of Enquiry).	
15	Transportation:Confirm acceptance of clause 15.0 of T & C. Manufactured items shall be despatched by BHEL approved transporter only and Insurance shall be borne by BHEL.	
16	Scrap : Confirm acceptance of Clause 16.0 of T & C of Enq.	
17	Rectification:Confirm acceptance of Clause 17.0 of T & C of Enq.	
18	We accept Risk Purchase clause as per standard policy of BHEL.	
19	Distribution of Load: Accept the Clause 19 of T & C	
20	We have read clause no. 20 of terms and conditions of Enquiry and confirm to abide the same.(Clause 20.1 -20.10)	
21	Conflict of Interest:Confirm acceptance of Clause 21.0 of T & C of Enq.	
22	Duly Filled Annexure A (Unpriced- Quoted / Not Quoted)	
22	We have submitted Make in India certificate (duly filled and signed as per Annexure-B).	
23	We accept all terms and conditions of GISTC Rev. 06.	
24	Rates have been quoted in indian Rupees on per Piece basis.	
25	PQR : as per clause 20.6.1 of T&C of enquiry.(duly filled, signed and stamped PQR and relevant documents)	


I have read and agreed all the terms and conditions of enquiry in detail and agree.

Note: BHEL reserves the right to reject any or all the offers (on techno-commercial ground) without assigning any reason thereof.

(Vendor's signature with Stamp)

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN							APPLICABILITIES TO			
BHEL Haridwar accepted sub-contractors only	ITEM	CASING, WATER BOX						Q.P. NO	QP/QA/232119	PROJECT		
								DATE	06.09.2023			
								REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR	
	WO. No.	12029A16901, 12030A16901						PAGE NO.	Page 1 of 2	Indent	20230432 rev 00	

S. No.	COMPONENT OPERATION	CHARACTRISTIC CHECKED	CATE-GORY	TYPE/ METHED OF CHECKED	QUANT-UM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE DOCUMENT	FORMAT OF RECORD					REMARK
									D	M	B	C	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.0	Material Receiving Inspection at sub-contractor's work	Verification of identification of material	Major	Visual inspection	100 %	As per Drg./ Standard	As per Drg./ Standard	PPMIV/ Q.no.	✓	P	V	-	Material will be supplied by BHEL, transfer of identification to be ensured.
		Verification of dimensions and visual Inspection	Major	Measurement	100 %	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	-	P	-	-	
2.0	<u>INPROCESS-INSPECTION</u>												
2.1	WPS, PQR & WPQ Qualification	Scrutinizing	Major	Record check	100%	ASME SEC IX	ASME SEC IX	Test Report	✓	P	V	-	WPS/PQR/WPQ witnessed by third party shall be submitted to BHEL for approval.
2.2	Welding Operation	i) Visual inspection of welds	Major	Visual	100%	As per drg./ Standard	As per drg./ Standard	Obs. sheet	✓	P	V	-	1) Welding electrode shall be used as per BHEL specification. 2) Welders qualification by third party shall be submitted to BHEL for approval.
2.3		ii) NDT of welds.	Major	NDT	As per drg.	As per drg./ Standard	As per drg./ Standard	Report	✓	P	V/ W	V	1) 'V by customer' 2) NDT shall be carried out by ASNT/ISNT Level I/II Qualified Operators 3) V in case of RT' W in case of UT/DPT. 4) NDT consumables shall be used as per BHEL specification.
3.0	<u>FINAL INSPECTION</u>												


Manufacturer/ Subcontractor	Legends: P: Perform by; W: Witness by; V: Record review; C: Customer; B: BHEL/BHEL Representative; M: Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use	
		Worked by: <i>Deepika Singh</i> Deepika Singh, DM (QAX)	Approved by:  Sunil Panday, Manager (QAX)

Manufacturer Name and Address		MANUFACTURING QUALITY PLAN					APPLICABILITIES TO				
BHEL Haridwar accepted sub-contractors only	ITEM	CASING, WATER BOX					Q.P. NO	QP/QA/232119	PROJECT		
							DATE	06.09.2023			
							REV. NO.	00	CONTRACTOR	BHEL (HEEP) HWR	
	WO. No.	12029A16901, 12030A16901					PAGE NO.	Page 2 of 2	Indent	20230432 rev 00	

3.1	Dimensions	Verification of dimension & inspection	Major	Visual & measurement	100%	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	✓	P	W	-	
3.2		Coating/ conservation (as applicable)	Major	Visual & measurement	As per drg.	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	✓	P	V	-	
3.3		Completeness of Job, Documentation	Major	Visual	100%	As per drg./ Standard	As per drg./ Standard	Record	✓	P	V	-	Item shall be dispatched to BHEL after acceptance by BHEL/ BHEL nominated agency after duly identifying by P.O.No., drg no. Plant Order No. and I.R.No

Note:

1. Requirements of P.O., drawing and standard shall be fulfilled.
2. BHEL reserves the right for conduct repeat test, if required.

Manufacturer/ Subcontractor	Legends: P: Perform by; W: Witness by; V: Record review; C: Customer; B: BHEL/BHEL Representative; M: Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use	
		Worked by: <i>Deepika Singh</i> Deepika Singh, DM (QAX)	Approved by:  Sunil Panday, Manager (QAX)

PQR(Pre-Qualifying Requirements of Indent no- 20230432)

Item : Casing, Water Box (drg.no- 11621870104-00, 11622270040-00, 11622270038-00, 11622270039-00)
PRE-QUALIFICATION REQUIREMENT

01.00	TECHNICAL REQUIREMENT	Required	Vendor's Offer	Remarks
01.01	Vendors should have experience of fabricating (cutting/bending/assembly/welding/pre-fabrication machining) and supplying of atleast 1 no. Casing/Water Box or equivalent having size 3500X1200mmX1200mm (LXBXH) and above and weight 3 Tons and above in last 7 years from the date of enquiry.	Vendor to Comply & submit suitable evidence		
01.02	Facilities Required: i) Lifting facility and capacity at vendor works must be EOT crane 5 Tons and above. ii) Vendor must have levelled bed plate size : Length= 5,000mm and Breadth=1,500mm and above to fabricate the job (Note: Concrete floor not acceptable). (iii) Vendor must have suitable WPS/PQR and qualified welders for welding approved by Third Party and submit documentary evidence with offer. (iv) Vendor must have cutting facility to cut plate of thickness 140 mm and above. (v) Vendor must have rolling bending facility of plate thickness 30mm and above at width of 2500mm and above. (vi) Vendor must have suitable drilling facility to drill hole of size 50mm and above in plate thickness of 140mm and above	Vendor to Comply & submit suitable evidence including technical specifications, technical brochure, photographs etc. of the facilities.		
01.03	Vendor to furnish certificate against clause 01.01 from the customer / company or end user duly confirming that Casing/Water Box or equivalent having size 3500X1200mmX1200mm (LXBXH) and above and weight 3 Tons and above was supplied and used for Hydro Pump or turbine/power plant/capital goods/infrastructure application OR Vendor to submit documentary evidence as per clause 1.03.	Vendor to Comply & submit suitable documents		
01.04	Vendor to furnish name of customer/company with complete contact details and month /year of previous supply along with copy of PO, type of manufacturing facility used for fabrication (assembly/welding/pre-fabrication machining), supply documents, Payment details(invoice copy) and inspection documents of supplied Casing/Water Box or equivalent having size 3500X1200mmX1200mm (LXBXH) and above and weight 3 Tons and above.	Vendor to Comply & submit suitable documents		
01.05	All PQR documents are to be stamped and signed in original by Vendor. In case documents and official stamp is in language other than English, documents and details of official stamp are to be translated in English and duly certified by Government agency/approved agency of Government/Embassy.	Vendor to Comply & submit suitable documents		
01.06	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, their offers shall be rejected.	Vendor to agree		

NOTE: PQR is not restrictive

09/09/2023
Ravi Dethwal
Manager (WT)

Sarvek
9/9/23
[Sarvek GMD]
mgr / WT

Bh
09-09-2023
(B) Army
ACM (FB) & WT



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11621870104 CBOM Var: 00 Revno: 0 Rev Date: 21.07.2023
Description: CASING Total weight: 2496.5

CBOM - 11621870104 00

	ENGG		WTX	
	Initial	Date	Initial	Date
Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11621870104 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 21.07.2023

Total weight: 2496.5

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	11621870104 00			2496.5						
1(1)	CASING			Y						
MF DR			N		0390-0317-0390					
1	21621870205 00	HXEW10102019		1451.0	3808.0X4045.0	1	1	1524.93	0.0	1524.93
1(1)	SHELL		T=12	Y	T=12					
MF DR					0072-0301-0390-0301-0390					KG
2	21621870196 00			187.0						
1(1)	LOWER DISHED END		SUB-ASSLY	Y						
MF DR			N		0390					
2-1	31621870429 00	W97716219154	HE57053	166.0	0.0	0	0	0.0	0.0	1.0
1(1)	DISHED END			Y						
BO DR					0074-0390					NO
2-2		AA1041155131	AA10455	14.5	250.0	1	1	0.25	0.0	0.25
1(1)	PIPE DIA219.1X6.3,L=250			Y	PI 219.1X6.3					
MF DR	PIPE				0072-0315-0390					MR
2-3	41622270056 00	AA1011819074	AA10119	2.4	240.0X240.0	1	1	2.8	0.0	2.8
1(1)	BLANK PLATE		B	Y	PL 10					
MF DR					0072-0301-0390					KG
2-4	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2		B	Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
2-5	41621970003 00	AA1010209248	AA10109	1.6	80.0	1	2	1.854	0.0	3.708
2(2)	SOCKET 2" NB		B	Y	RND 80					
MF DR					0072-0315-0317-0390					KG
3	21621870197 00	HXEW10102272		429.0	1050.0X850.0	1	1	1030.84	0.0	1030.84
1(1)	SHELL FLANGE		T=140	Y	T			Made in 4 segment		
MF DR					0072-0301-0390-0317-0390					KG
4	00032625042 00	AA1041801076	AA10401	26.9	500.0X689.0	1	2	28.42	0.0	56.84
2(2)	BASE SECTOR		BORROWED	Y	PL 10					
MF DR					0072-0301-0390					KG

ENGG

WTX

	Initial	Date	Initial	Date
Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11621870104 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 21.07.2023

Total weight: 2496.5

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
5	00032615090 00			55.5						
2(2)	SUPPORT		SUB-ASSLY.	Y						
MF DR			N		0390					
5-1	00032615091 00	AA1011808110	AA10108	26.62	580.0X414.0	1	2	31.7	0.0	63.4
1(2)	SUPPORT PLATE			Y	PL 16					
MF DR					0072-0301-0390					KG
5-2	00032615092 00	AA1011808110	AA10108	13.8	450.0X398.0	1	4	26.64	0.0	106.56
2(4)	SUPPORT RIB			Y	PL 16					
MF DR					0072-0301-0390					KG
7	31621870463 00			84.59						
1(1)	INLET PIPE			Y						
MF DR			N		0390					
7-1		AA1011819074	AA10119	30.2	700.0X700.0	1	1	40.43	0.0	40.43
1(1)	BLANK PLATE DIA 700			Y	PL 10					
RM DR	ST-FE410 WB-PLATE				0072-0301-0390					KG
7-2	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
7-3	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS			Y	RND 56			RND DIA 50, L=60		
MF DR					0072-0315-0317-0390					KG
7-4	31622270279 00	AA1041801092	AA10401	11.0	113.0X1483.0	1	1	16.59	0.0	16.59
1(1)	PIPE DIA 484X12			Y	PL 12					
MF DR					0072-0301-0390					KG
7-5	31622270280 00	AA1041801092	AA10401	33.5	945.0X1630.0	1	1	152.5	0.0	152.5
1(1)	CONICAL PIPE			Y	PL 12					
MF DR					0072-0301-0390-0317-0390					KG
7-6	31622270281 00	AA1041801092	AA10401	9.0	1923.0X50.0	1	1	9.5	0.0	9.5
1(1)	PIPE DIA 624X12			Y	PL 12					
MF DR					0072-0301-0390					KG

ENGG

WTX

	Initial	Date	Initial	Date
Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11621870104 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 21.07.2023

Total weight: 2496.5

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
9	31621870464 00			46.7						
2(2)	CONDENSATE DUMPING PIPE			Y						
MF DR			N		0390					
9-1		AA1011819074	AA10119	10.0	400.0X400.0	1	2	13.2	0.0	26.4
1(2)	PLATE DIA 400			Y	PL 10					
RM DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
9-2	31621870010 00	HW1041155760	AA10455	32.5	710.0	1	2	0.71	0.0	1.42
1(2)	INLET DRAIN PIPE			Y	PI 273.0X9.27					
MF					0072-0315-0317-0390					MR
9-3		AA1011808056	AA10108	3.2	255.0X255.0	1	2	4.29	0.0	8.58
1(2)	PLUG DIA 255, S=8			Y	PL 8			Dia 255		
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
10	41622270063 00	AA1041055056	AA10455	7.0	510.0	1	1	0.51	0.0	0.51
1(1)	BENT PIPE			Y	PI 88.9X6.3					
MF DR					0072-0315-0390					MR
11	31650170180 09	AA1011819163	AA10119	3.3	210.0X210.0	1	1	10.2	0.0	10.2
1(1)	PLT FLANGE			Y	PL 28			Dia 210		
MF DR	NP 1.6 NS 80				0072-0301-0317-0390					KG
12		HW1041146957	AA10446	1.6	160.0	1	1	0.16	0.0	0.16
1(1)	PIPE DIA 60.3X8, L=160			Y	PI 60.3X8					
MF DR	ST-BQ-A1-CDS-TUBE				0072-0315-0390					MR
13		AA1011808013	AA10108	0.12	75.0X75.0	1	1	0.23	0.0	0.23
1(1)	PLATE DIA 75			Y	PL 5					
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
14	41622270046 00	AA1041801173	AA10401	3.2	130.0X200.0	1	2	7.3	0.0	14.6
2(2)	LUG		B	Y	PL 32					
MF DR					0072-0301-0317-0390					KG
15	31621870011 00	AA1011819074	AA10119	2.5	250.0X300.0	1	1	3.5	0.0	3.5
1(1)	RIB		B	Y	PL 10					
MF DR					0072-0301-0390					KG

ENGG

WTX

	Initial	Date	Initial	Date
Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11621870104 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 21.07.2023

Total weight: 2496.5

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
16	41621970003 00	AA1010209248	AA10109	1.6	80.0	1	2	1.854	0.0	3.708
2(2)	SOCKET 2" NB		B	Y	RND 80					
MF DR					0072-0315-0317-0390					KG
17	41622270065 00	AA1010209183	AA10109	0.3	60.0	1	4	0.97	0.0	3.88
4(4)	STUB M 24			Y	RND 50					
MF DR					0072-0315-0317-0390					KG
18		AA1011808013	AA10108	0.25	90.0X90.0	1	4	0.33	0.0	1.32
4(4)	PLATE DIA 90			Y	PL 5					
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
19	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2		B	Y	RND 56					RND DIA 50,L=60
MF DR					0072-0315-0317-0390					KG
20	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS		B	Y	RND 56					RND DIA 50, L=60
MF DR					0072-0315-0317-0390					KG

CBOM - 11

	Initial	ENGG	Date	Initial	WTX	Date
Worked By	tgedk		13.07.2023	wtxman		18.07.2023
Checked By	tgedk		17.07.2023	bk2rd		21.07.2023
Approved By	hxenp		21.07.2023	wtxskg		21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270038 CBOM Var: 00

Revno: 1

Rev Date: 22.08.2023

Description: WATER BOX

Total weight: 1569.0

RECORD OF CHANGES

Drawing No	Var	Revno	Rev Date	Description
11622270038	00	1	04.08.2023	Blank size & weight update in item 2 from 580 to 575 as per new drawing

CBOM - 11622270038 00

	ENGG		WTX	
	Initial	Date	Initial	Date
Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270038 CBOM Var: 00
Description: WATER BOX

Revno: 1

Rev Date: 22.08.2023

Total weight: 1569.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	11622270038 00			1569.0						
1(1)	WATER BOX			Y						
MF DR			N		0390-0317-0390					
1	21621870193 00	HXEW10102272		373.0	1050.0X800.0	1	1	970.2	0.0	970.2
1(1)	WATER BOX FLANGE		T=140	Y	T			Made in 4 segment		
MF DR					0072-0301-0390-0317-0390					KG
2	21621870204 00	HXEW10102051		435.0	575.0X4150.0	1	1	492.17	0.0	492.17
1(1)	W/BOX SHELL		T=25	Y	T=25					
MF DR					0072-0301-0390					KG
3	31621870428 00	W97716219146	HE57053	424.0	0.0	0	0	0.0	0.0	1.0
1(1)	DISHED END			Y						
BO DR					0074-0390					NO
4	41621870370 00	AA1011819074	AA10119	90.0	1196.0X965.0	1	1	95.22	0.0	95.22
1(1)	FULL PARTITION			Y	PL 10					
MF DR					0072-0301-0317-0390					KG
5	41621870371 00	AA1011819074	AA10119	44.7	591.0X965.0	1	1	47.0	0.0	47.0
1(1)	HALF PARTITION			Y	PL 10					
MF DR					0072-0301-0317-0390					KG
6	41622270046 00	AA1041801173	AA10401	3.2	130.0X200.0	1	4	7.3	0.0	29.2
4(4)	LUG		B	Y	PL 32					
MF DR					0072-0301-0317-0390					KG
7	41622270049 00	AA1010209183	AA10109	0.5	60.0	1	2	0.924	0.0	1.848
2(2)	STUB 1" BSP		B	Y	RND 50					
MF DR					0072-0315-0317-0390					KG
8	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS		B	Y	RND 56			RND DIA 50, L=60		
MF DR					0072-0315-0317-0390					KG
9		AA1011819074	AA10119	0.26	70.0X70.0	1	1	0.4	0.0	0.4
1(1)	PLATE DIA 70			Y	PL 10					
MF DR	ST-FE410 WB-PLATE				0072-0301-0390					KG

ENGG

WTX

Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270038 CBOM Var: 00

Revno: 1

Rev Date: 22.08.2023

Description: WATER BOX

Total weight: 1569.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape			Remarks		
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	41622270050 00	AA1010209183	AA10109	0.3	60.0	1	1	0.308	0.0	0.308
1(1)	STUB		B	Y	RND 50					
MF DR					0072-0315-0317-0390					KG
11	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	2	1.54	0.0	3.08
2(2)	BOSS M33X2		B	Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
12	31621870459 00	AA1041801157	AA10401	12.7	450.0X790.0	1	2	73.32	0.0	146.64
2(2)	COMPENSATING RING			Y	PL 25			Bending allow. 300mm. incl.		
MF DR					0072-0301-0390-0317-0390					KG
13	31621870460 00			71.6						
2(2)	KNEE JOINT			Y						
MF DR			N		0390					
13-1		AA1011819074	AA10119	10.0	400.0X400.0	1	2	13.2	0.0	26.4
1(2)	BLANK PLATE DIA 400			Y	PL 10					
RM DR	ST-FE410 WB-PLATE				0072-0301-0390					KG
13-2	31621870462 00	AA1041155700	AA10455	12.12	208.0	1	2	0.208	0.0	0.416
1(2)	PIPE			Y	PI 323.9X12.5					
MF DR					0072-0315-0317-0390					MR
13-3	00032615043 00	AA1041155700	AA10455	12.92	214.0	1	2	0.214	0.0	0.428
1(2)	PIPE			Y	PI 323.9X12.5					
MF DR					0072-0315-0390					MR
13-4	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	2	1.54	0.0	3.08
1(2)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
13-5	00032615045 00	AA1041155700	AA10455	23.0	282.0	1	2	0.282	0.0	0.564
1(2)	PIPE			Y	PI 323.9X12.5					
MF DR					0072-0315-0390					MR

ENGG

WTX

Worked By	tgedk	13.07.2023	wtxman	18.07.2023
Checked By	tgedk	17.07.2023	bk2rd	21.07.2023
Approved By	hxenp	21.07.2023	wtxskg	21.07.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270039 CBOM Var: 00

Revno: 0

Rev Date: 26.08.2023

Description: WATER BOX

Total weight: 1698.0

CBOM - 11622270039 00

	ENGG		WTX	
	Initial	Date	Initial	Date
Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270039 CBOM Var: 00

Revno: 0

Rev Date: 26.08.2023

Description: WATER BOX

Total weight: 1698.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	11622270039 00			1698.0						
1(1)	WATER BOX			Y						
MF DR			N		0390-0317-0390					
1	21622270126 00	HXEW10102272		410.0	1110.0X810.0	1	1	1038.5	0.0	1038.5
1(1)	WATER BOX FLANGE		T=140	Y	T					Cut in 4 segment
MF DR					0072-0301-0390-0317-0390					KG
2	21622270127 00	HXEW10102051		461.0	570.0X4425.0	1	1	520.2	0.0	520.2
1(1)	WATER BOX SHELL		T=25	Y	T=25					
MF DR					0072-0301-0306					KG
3	31622270272 00	W97716219162	HE57053	419.0	0.0	1	0	0.0	0.0	1.0
1(1)	DISHED END			Y						
BO DR					0074-0390					NO
4	41622270156 00	AA1011819074	AA10119	103.0	1284.0X995.0	1	1	105.4	0.0	105.4
1(1)	FULL PARTITION			Y	PL 10					
MF DR					0072-0301-0317-0390					KG
5	41622270157 00	AA1011819074	AA10119	52.0	638.0X995.0	1	1	52.4	0.0	52.4
1(1)	HALF PARTITION			Y	PL 10					
MF DR					0072-0301-0317-0390					KG
6	41622270046 00	AA1041801173	AA10401	3.2	130.0X200.0	1	4	7.3	0.0	29.2
4(4)	LUG			Y	PL 32					
MF DR					0072-0301-0317-0390					KG
7	41622270049 00	AA1010209183	AA10109	0.5	60.0	1	2	0.924	0.0	1.848
2(2)	STUB 1" BSP			Y	RND 50					
MF DR					0072-0315-0317-0390					KG
8	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS			Y	RND 56					RND DIA 50, L=60
MF DR					0072-0315-0317-0390					KG
9		AA1011819074	AA10119	0.26	70.0X70.0	1	1	0.4	0.0	0.4
1(1)	PLATE DIA 70			Y	PL 10					Dia 70
MF DR	ST-FE410 WB-PLATE				0072-0301-0390					KG

ENGG

WTX

Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270039 CBOM Var: 00

Revno: 0

Rev Date: 26.08.2023

Description: WATER BOX

Total weight: 1698.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
10	41622270050 00	AA1010209183	AA10109	0.3	60.0	1	1	0.308	0.0	0.308
1(1)	STUB			Y	RND 50					
MF DR					0072-0315-0317-0390					KG
11	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	2	1.54	0.0	3.08
2(2)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
12	31622270274 00	AA1041801157	AA10401	28.0	500.0X786.0	1	2	81.06	0.0	162.12
2(2)	COMPENSATING RING			Y	PL 25					
MF DR					0072-0301-0317-0390					KG
13	31622270282 00			90.2						
2(2)	KNEE JOINT			Y						
MF DR			N		0390					
13-1		AA1011819139	AA10119	19.7	400.0X400.0	1	2	26.4	0.0	52.8
1(2)	PLATE DIA 400			Y	PL 20			Dia 400		
MF DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
13-2	41622270164 00	AA1041155700	AA10455	31.0	311.0	1	2	0.311	0.0	0.622
1(2)	PIPE DIA 323.9X12.5			Y	PI 323.9X12.5					
MF DR					0072-0315-0317-0390					MR
13-3	41622270053 00	AA1041155700	AA10455	13.5	205.0	1	2	0.205	0.0	0.41
1(2)	PIPE DIA 323.9 X12.5			Y	PI 323.9X12.5					
MF DR					0072-0315-0390					MR
13-4	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	2	1.54	0.0	3.08
1(2)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
13-5	41622270054 00	AA1041155700	AA10455	24.0	290.0	1	2	0.29	0.0	0.58
1(2)	PIPE DIA 329.9 X12.5			Y	PI 323.9X12.5					
MF DR					0072-0315-0390					MR

ENGG

WTX

Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270040 CBOM Var: 00 Revno: 0 Rev Date: 26.08.2023
Description: CASING Total weight: 2658.0

CBOM - 11622270040 00

	ENGG		WTX	
	Initial	Date	Initial	Date
Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270040 CBOM Var: 00
 Description: CASING

Revno: 0

Rev Date: 26.08.2023

Total weight: 2658.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
0	11622270040 00			2658.0						
1(1)	CASING			Y						
MF DR			N		0390-0317-0390					
1	21622270134 00	HXEW10102019		1580.0	4166.0X4029.0	1	1	1661.69	0.0	1661.69
1(1)	SHELL			Y	T=12			Make in 2 or 3 parts		
MF DR					0072-0301-0390-0301-0390					KG
2	21622270133 00			248.6						
1(1)	LOWER DISHED END		SUB. ASSY.	Y						
MF DR			N		0390					
2-1	31622270273 00	W97716219170	HE57053	228.5	0.0	0	0	0.0	0.0	1.0
1(1)	DISHED END			Y						
BO DR					0074-0390					NO
2-2		AA1041155131	AA10455	14.5	250.0	1	1	0.25	0.0	0.25
1(1)	PIPE DIA219.1X6.3,L=250			Y	PI 219.1X6.3					
MF DR	PIPE				0072-0315-0390					MR
2-3	41622270056 00	AA1011819074	AA10119	2.4	240.0X240.0	1	1	2.8	0.0	2.8
1(1)	BLANK PLATE			Y	PL 10					
MF DR					0072-0301-0390					KG
2-4	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
2-5	41621970003 00	AA1010209248	AA10109	1.6	80.0	1	2	1.854	0.0	3.708
2(2)	SOCKET 2" NB			Y	RND 80					
MF DR					0072-0315-0317-0390					KG
3	21622270129 00	HXEW10102272		410.0	1110.0X810.0	1	1	1038.5	0.0	1038.5
1(1)	SHELL FLANGE		T=140	Y	T			Cut in 4 segment		
MF DR					0072-0301-0390-0317-0390					KG
4	00032636034 00	AA1041801092	AA10401	31.0	658.0X500.0	1	2	32.5	0.0	65.0
2(2)	BASE SECTOR		B	Y	PL 12					
MF DR					0072-0301-0317-0390					KG

	ENGG		WTX
Worked By	Initial	Date	Initial
Checked By	tgedk	11.08.2023	wtxman
Approved By	tgedk	22.08.2023	bk2rd
	hxenp	26.08.2023	wtxskg



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270040 **CBOM Var:** 00
Description: CASING

Revno: 0

Rev Date: 26.08.2023

Total weight: 2658.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
5	00032636050 00			53.9						
2(2)	SUPPORT		SUB. ASSY.	Y						
MF DR			N		0390					
5-1	00032636051 00 00	AA1011808129	AA10108	25.35	580.0X346.0	1	2	29.8	0.0	59.6
1(2)	SUPPORT PLATE			Y	PL 18					
MF DR					0072-0301-0317-0390					KG
5-2	00032636052 00 00	AA1011808129	AA10108	13.7	450.0X350.0	1	4	23.4	0.0	93.6
2(4)	SUPPORT RIB			Y	PL 18					
MF DR					0072-0301-0390					KG
7	31622270283 00			81.5						
1(1)	INLET PIPE			Y						
MF DR			N		0390					
7-1		AA1011819074	AA10119	30.2	700.0X700.0	1	1	40.43	0.0	40.43
1(1)	BLANK PLATE DIA 700			Y	PL 10					
RM DR	ST-FE410 WB-PLATE				0072-0301-0390					KG
7-2	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2			Y	RND 56			RND DIA 50,L=60		
MF DR					0072-0315-0317-0390					KG
7-3	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS			Y	RND 56			RND DIA 50, L=60		
MF DR					0072-0315-0317-0390					KG
7-4	31622270284 00	AA1041801092	AA10401	13.0	108.0X1443.0	1	1	15.43	0.0	15.43
1(1)	PIPE DIA 484X12			Y	PL 12					
MF DR					0072-0301-0390					KG
7-5	31622270280 00	AA1041801092	AA10401	33.5	945.0X1630.0	1	1	152.5	0.0	152.5
1(1)	CONICAL PIPE			Y	PL 12					
MF DR					0072-0301-0390-0317-0390					KG
7-6	31622270281 00	AA1041801092	AA10401	9.0	1923.0X50.0	1	1	9.5	0.0	9.5
1(1)	PIPE DIA 624X12			Y	PL 12					
MF DR					0072-0301-0390					KG

ENGG

WTX

	Initial	Date	Initial	Date
Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270040 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 26.08.2023

Total weight: 2658.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
8		AA1011819074	AA10119	31.0	650.0X650.0	1	1	34.86	0.0	34.86
1(1)	PLATE DIA 650			Y	PL 10		Dia 650			
MF DR	ST-FE410 WB-PLATE				0072-0301-0390					KG
9	31621870464 00			46.7						
2(2)	CONDENSATE DUMPING PIPE			Y						
MF DR			N		0390					
9-1		AA1011819074	AA10119	10.0	400.0X400.0	1	2	13.2	0.0	26.4
1(2)	PLATE DIA 400			Y	PL 10					
RM DR	ST-FE410 WB-PLATE				0072-0301-0306					KG
9-2	31621870010 00	HW1041155760	AA10455	32.5	710.0	1	2	0.71	0.0	1.42
1(2)	INLET DRAIN PIPE			Y	PI 273.0X9.27					
MF					0072-0315-0317-0390					MR
9-3		AA1011808056	AA10108	3.2	255.0X255.0	1	2	4.29	0.0	8.58
1(2)	PLUG DIA 255, S=8			Y	PL 8		Dia 255			
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
10	41622270063 00	AA1041055056	AA10455	7.0	510.0	1	1	0.51	0.0	0.51
1(1)	BENT PIPE			Y	PI 88.9X6.3					
MF DR					0072-0315-0390					MR
11	31650170180 09	AA1011819163	AA10119	3.3	210.0X210.0	1	1	10.2	0.0	10.2
1(1)	PLT FLANGE			Y	PL 28		Dia 210			
MF DR	NP 1.6 NS 80				0072-0301-0317-0390					KG
12		HW1041146957	AA10446	1.6	160.0	1	1	0.16	0.0	0.16
1(1)	PIPE DIA 60.3X8, L=160			Y	PI 60.3X8					
MF DR	ST-BQ-A1-CDS-TUBE				0072-0315-0390					MR
13		AA1011808013	AA10108	0.17	75.0X75.0	1	1	0.23	0.0	0.23
1(1)	PLATE DIA 75			Y	PL 5		Dia 75			
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
14	41622270046 00	AA1041801173	AA10401	3.2	130.0X200.0	1	2	7.3	0.0	14.6
2(2)	LUG			Y	PL 32					
MF DR					0072-0301-0317-0390					KG

ENGG

WTX

	Initial	Date	Initial	Date
Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023



COMBINED BILL OF MATERIAL

Printed On:06.09.2023

Printed By:

CBOM No: 11622270040 CBOM Var: 00
Description: CASING

Revno: 0

Rev Date: 26.08.2023

Total weight: 2658.0

Item No	Drawingno Var Mvar	Mat Code	Mat Spec	Weight	Blank Sizes	Nos	Qty	Norm/pc	Extra Norm	Total Norm
Qty(Total)	Description		Assy. Remarks	Inclusion?	Mat Shape		Remarks			
Typ Cat Zone	Var/Matl. Description		ENGG SIZE/GRP	Fab Wt	Route				Spare Code	Unit
15	41622270118 00	AA1011819074	AA10119	3.0	150.0X500.0	1	1	6.18	0.0	6.18
1(1)	RIB			Y	PL 10					
MF DR					0072-0301-0390					KG
16	41621970003 00	AA1010209248	AA10109	1.6	80.0	1	2	1.854	0.0	3.708
2(2)	SOCKET 2" NB			Y	RND 80					
MF DR					0072-0315-0317-0390					KG
17	41622270065 00	AA1010209183	AA10109	0.3	60.0	1	4	0.97	0.0	3.88
4(4)	STUB M 24			Y	RND 50					
MF DR					0072-0315-0317-0390					KG
18		AA1011808013	AA10108	0.25	90.0X90.0	1	4	0.33	0.0	1.32
4(4)	PLATE DIA 90			Y	PL 5					
MF DR	ST-A(FE410 WA)PLATE				0072-0301-0390					KG
19	41620570002 00	AA1020218193	AA10218	0.44	60.0	1	1	1.54	0.0	1.54
1(1)	BOSS M33X2			Y	RND 56					
MF DR					0072-0315-0317-0390					KG
20	41620570007 00	AA1020218193	AA10218	0.5	60.0	1	1	1.11	0.0	1.11
1(1)	BOSS			Y	RND 56					
MF DR					0072-0315-0317-0390					KG
21		AA1011819074	AA10119	3.0	225.0X225.0	1	1	4.2	0.0	4.2
1(1)	PLATE DIA 225			Y	PL 10					
MF DR	ST-FE410 WB-PLATE				0072-0301-0390					KG
22		AA1011819058	AA10119	60.0	204.0X204.0	1	1	2.75	0.0	2.75
1(1)	PLATE DIA 204,T=8			Y	PL 8					
MF DR	ST-FE410 WB-PLATE				0072-0301-0390					KG

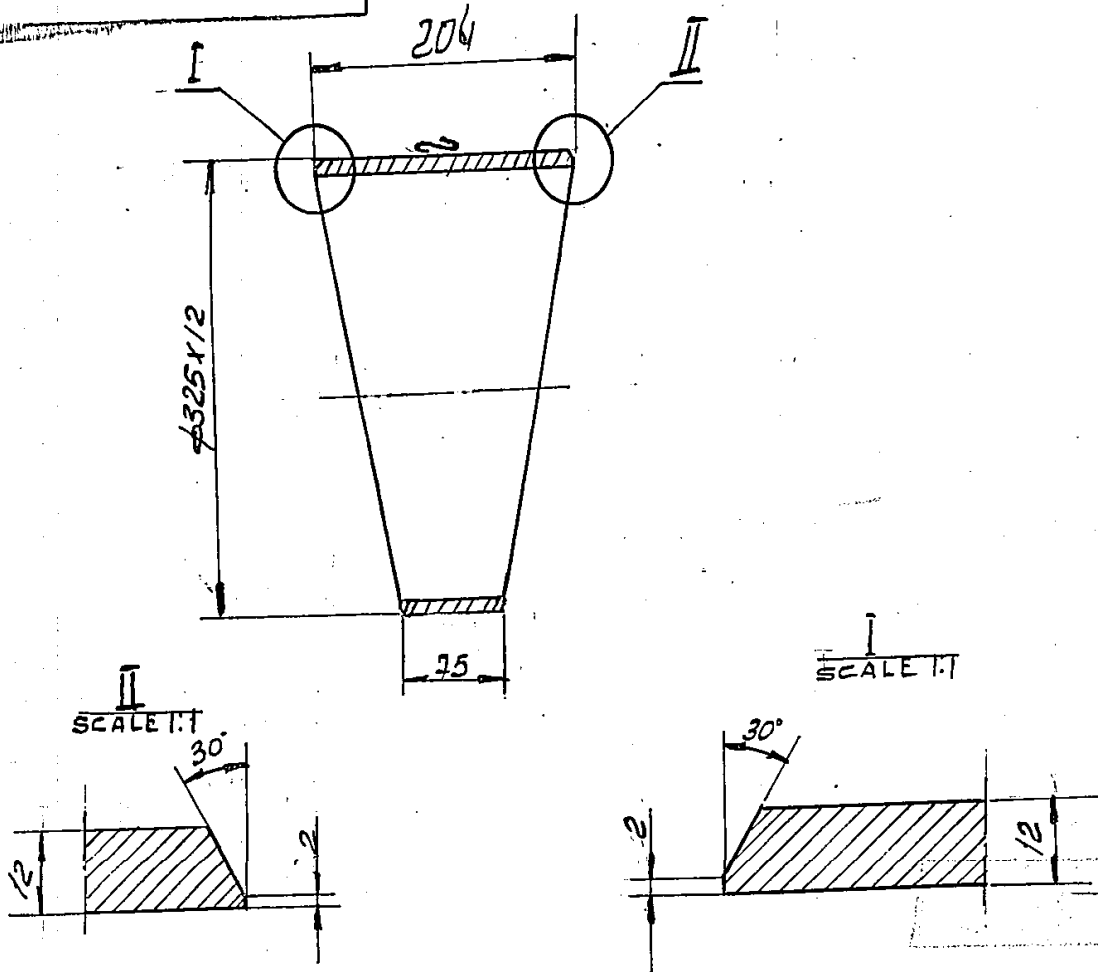
	ENGG		WTX	
	Initial	Date	Initial	Date
Worked By	tgedk	11.08.2023	wtxman	26.08.2023
Checked By	tgedk	22.08.2023	bk2rd	26.08.2023
Approved By	hxenp	26.08.2023	wtxskg	26.08.2023

FIRST ANGLE PROJECTION

FORM 01 . 01

32615043

▽ THE REST



SUPERSEDES THE OLD DRG.
 UNDER THE SAME NUMBER.
 CHANGE ADVICE NO. STD-73-41
 SIGN! - *K. N. Menta*
 DATE! - 14.4.73.

WA

WA

INVENTORY NO.	51-8157
SIGNS AND DATE	14-10-73
SUPERSEDES INVENTORY NO.	
DUPLICATE INVENTORY NO.	
SIGN AND DATE	
U.S.S.R. DRAWING NO.	
U.S.S.R. G.R.SP. (ASSEMBLY)	

QTY	1	STD-73-41	K. N. Menta	14.4.73
WORKED BY	K. N. MENTA	K. N. Menta	2.4.73	
CHECKED BY	ARJUN SINGH	Arjun Singh	4.4.73	
SUPERVISED	P. N. BHARAWA	P. N. Bhara	5.4.73	
TECH DESK	DHALL	Dhall	5.4	
STD CONT	7/1/1/1/1	1/1/1	7/1	
APPROVED	K. L. KHURANA	K. L. Khurana	6.4.73	

LPH-300-16-7-I

PIPE
 $\phi 325 \times 12$

STEEL

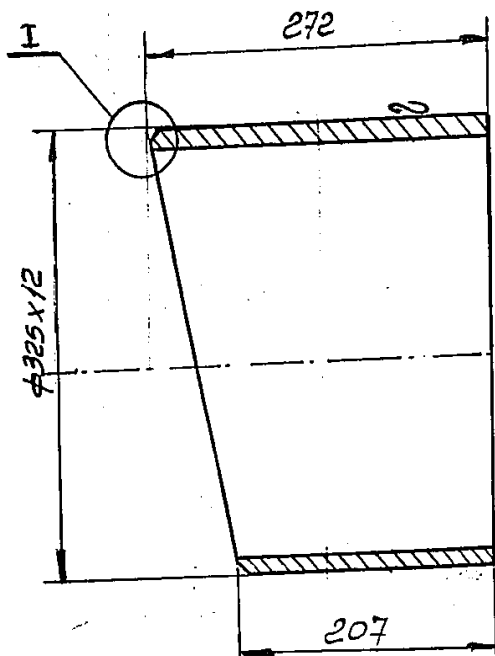
20 GOST 8731 - 66

32615000 sp		
32615043		
LETTER	WEIGHT	SCALE
- B	12.92	1:5
SHEET	TOTAL SHEETS	
1	1	
HEEP	STD	

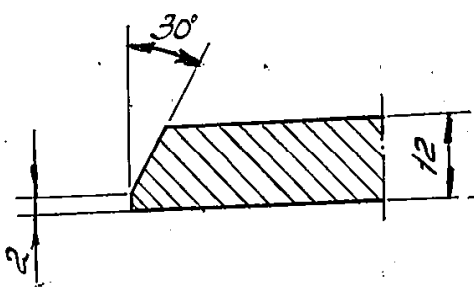
FIRST ANGLE PROJECTION

▽ THE REST

32615045



I
SCALE 1:1



INVENTORY NO.	SIGN AND DATE	SUCCESSORS INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN AND DATE	U.S.S.R. DRAWING NO.	U.S.S.R. O.R.SP. (ASSEMBLY)
51-8158	18-12-4-73					

CHG NO.	NOS.	DOCU NO.	SIGN	DATE
WORKED BY		K.N.MENTA	K.N.Menta	24.78
CHECKED BY		RAJUN SINGH	Rajun Singh	4.4.78
SUPERVISED		P.N.BHARGAVA	P.N.Bhargava	5.4.78
TECH GOVT		DHALL	Dhall	5.4
STD GOVT		MISHRA	Mishra	6.6
APPROVED		K.L.KHURANA	K.L.Khurana	6.4.78

LPH-300-16-7-II

PIPE $\phi 325 \times 12$

STEEL

20 GOST 8731-66

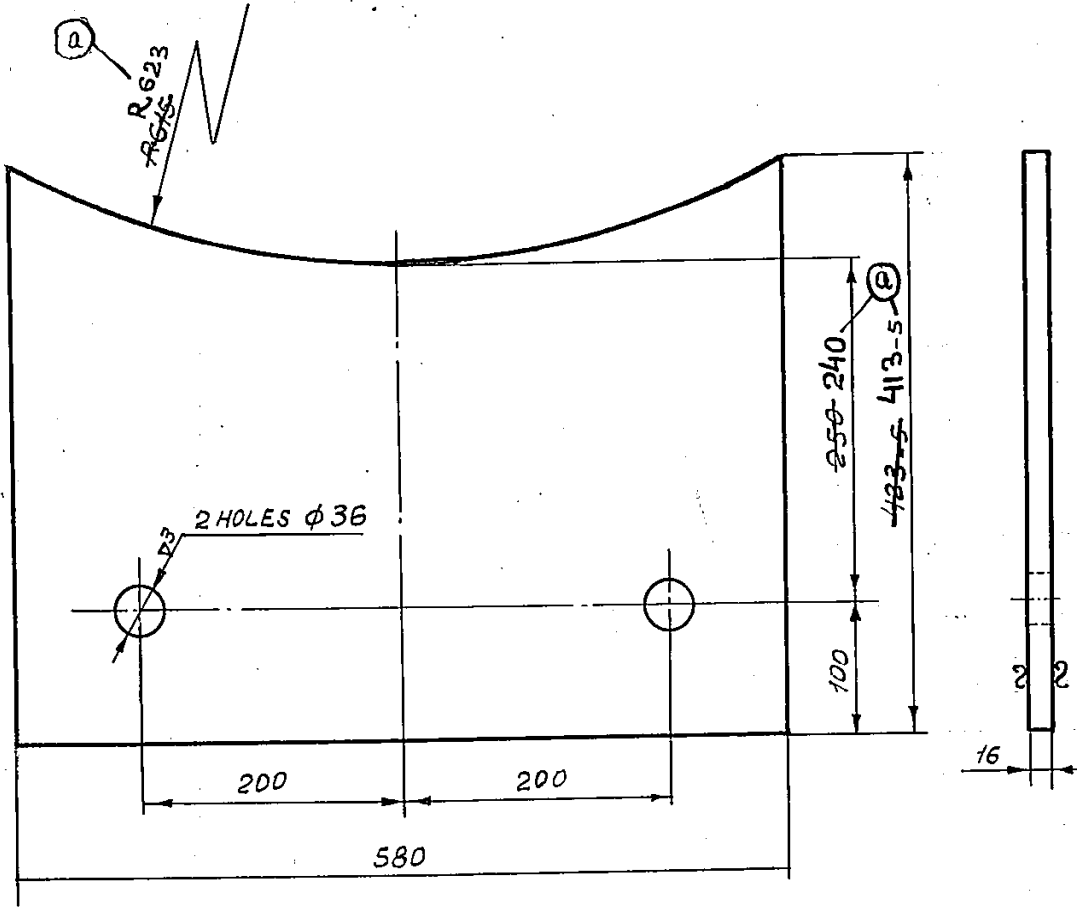
32615000 sp	
32615045	
LETTER	SCALE
- B	1:5
SHEET 1	TOTAL SHEET 1
NEEP	STD

FIRST ANGLE PROJECTION

FIGURE 01 . 01

3 2 6 1 5 0 9 1

▽ 1 THE REST



INVENTORY NO.	SIGN AND DATE	SUPPLIER'S INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN AND DATE	U.S.S.R. DRAWING NO.	U.S.S.R.G.R.SP.(ASSEMBLY)
5-6462	21/11/77				5-10018	CT-6089

CHG	NO.	DOCU NO.	SIGN	DATE
WORKED BY	B.B. HURIA	B.B. Huria		21.10.77
CHECKED BY	P.N. BHARGAVA	Kahayana		23.10.77
APPROVED				
TECH CONT	SIDDIQUI			13.11.77
STD CONT	M.P. SINGH			23/11/77
APPROVED	J.N. KARAN			23/11/77

LPH-300-16-7-II

SUPPORT PLATE

St 42 - W 15: 2082-62

BM Cm3 Cn

GOST 380-60

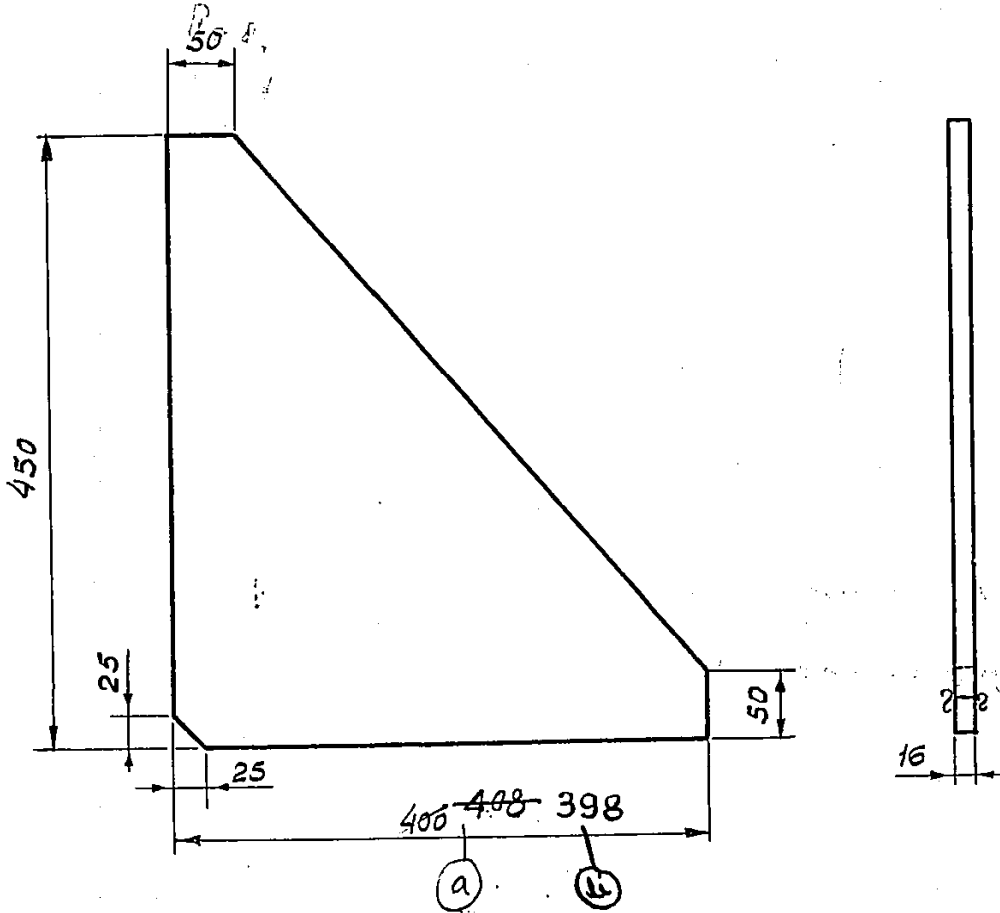
3 2 6 1 5 0 0 0 S P		
3 2 6 1 5 0 9 1		
LETTER	WEIGHT	SCALE
B	26.62	1:5
SHEET 1	TOTAL SHEET 1	
NEEP	STD	

FIRST ANGLE PROJECTION

FORM 02 - 01

32615092

▽ ALL OVER



INVENTORY NO.	SIGN AND DATE	SURCODES INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN AND DATE	U.S.S.R. DRAWING NO.	U.S.S.R.G.R.SP.(ASSEMBLY)
SI-6463	27/11/71				510019	CT-6089

CHG	NO.	DOCU NO.	SIGN	DATE
a	1	STD-75-51	B.B. HURIA	10/4/71
a	1	STD-74-95	P.N. BHARGAVA	14/5/71
WORKED BY	B.B. HURIA			
CHECKED BY	P.N. BHARGAVA			
SUPERVISED				
TECH CONT	SIDDIGHI			13/11/71
STD CONT	MPS			22/11/71
APPROVED	J.N. KARAN			13/11/71

LPH-300-16-7-II

SUPPORT RIB

st 42-W 15: 2062-62

BM Cm 3 Cn

GOST 380-60

3 2 6 1 5 0 0 0 SP		
3 2 6 1 5 0 9 2		
LETTER	WEIGHT	SCALE
B	13.8	1:5
SHEET /	TOTAL SHEET /	
MEEP	STD	
DATE 57		

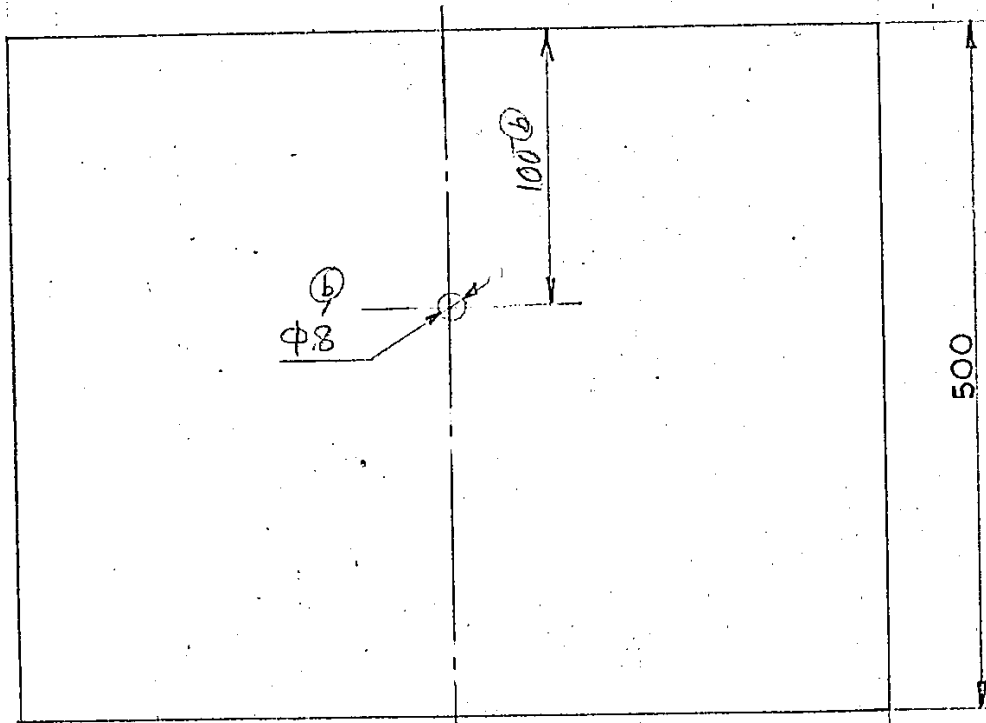
DRAWN BY MBajpai

FIRST ANGLE PROJECTION

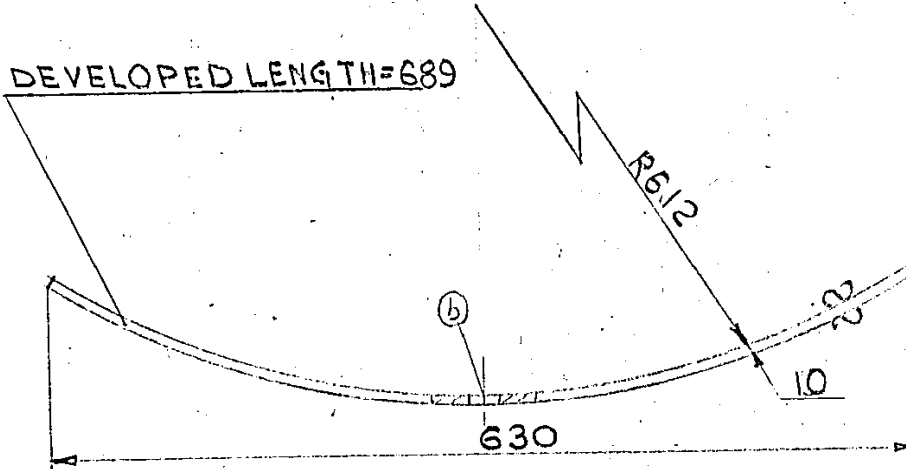
FORM 01.01.

32625042

∇ THE REST



DEVELOPED LENGTH=689



M F

INVENTORY NO.	SIGN. AND DATE	SUPERSEDES INVENTORY NO.	Duplicate INVENTORY NO.	SIGN. AND DATE	U.S.R. DRAWING NO.	U.S.S.R.G.R.SP.(ASSEMBLY)
32625042	5.6.2014					

CHG.	NOS.	DOCU NO.	SIGN.	DATE
b	3	HXE-79-21		21/4
a	-	STD-75-51		
WORKED BY AHMAD				
CHECKED BY G.P. GUPTA				
SUPERVISED				
TECH CONT SIBHARWA				
STD CONT				
APPROVED RAJ BHARGAVA				

LPH-300-30-7-III

BASE SECTOR

STEEL G_v2A, 0640-202

32625000Sp		
32625042		
LETTER	WEIGHT	SCALE
B	26.9	1:5
SHEET 1	TOTAL SHEETS 1	
HEEP		HE

DRAWN/TRACED AHMAD

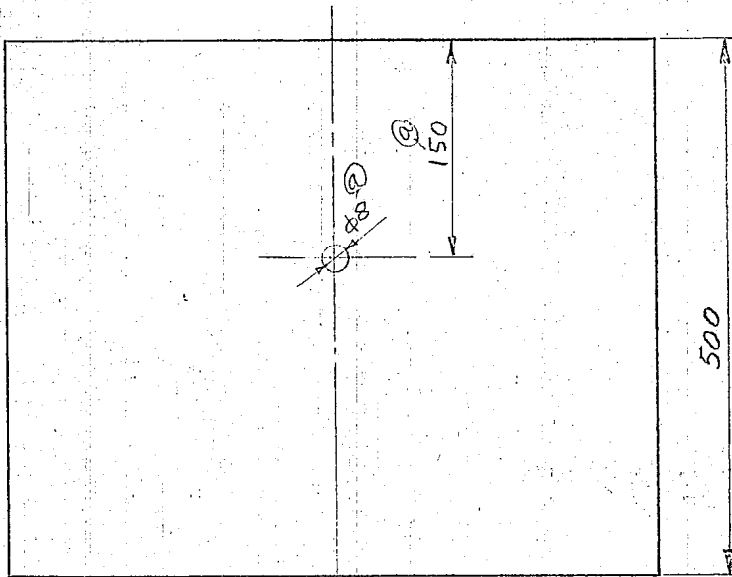
SIZE 11

FIRST ANGLE PROJECTION

FORM 01.01.

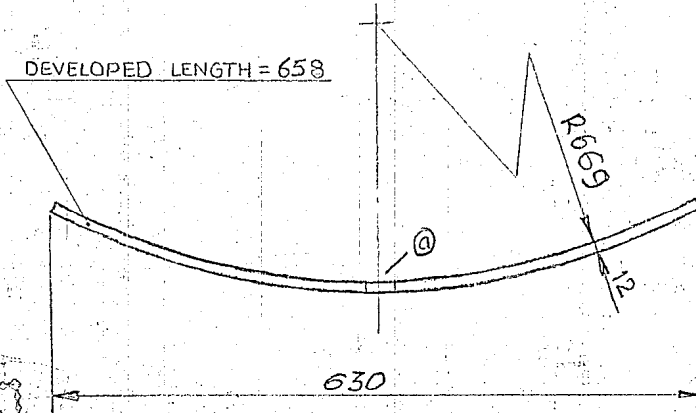
32636034

∇1 THE REST



500

DEVELOPED LENGTH = 658



630

R669

12

LPH-370-24-8-III

32636000 Sp.

32636034

BASE SECTOR

INVENTORY NO.	51-10235	SIGN. AND DATE	CLH/ML	SUPERSEDES INVENTORY NO.		DUPLICATE INVENTORY NO.		SIGN. AND DATE		U.S.S.R. DRAWING NO.		U.S.S.R. G.R.SP. (ASSEMBLY)	
CHG. NOS.	2	DOCU NO.	HXE-79-18	SIGN.		DATE	26/3/77	WORKED BY	H.P. MATHUR	CHECKED BY	K.N. MEHTA	SUPERVISED	A. SINGH
TECH CONT	G.D. GARG	STD CONT		APPROVED	R.M. BHARGAVA	DATE	26/3/77						

STEEL Gr. 2A; 0640.202

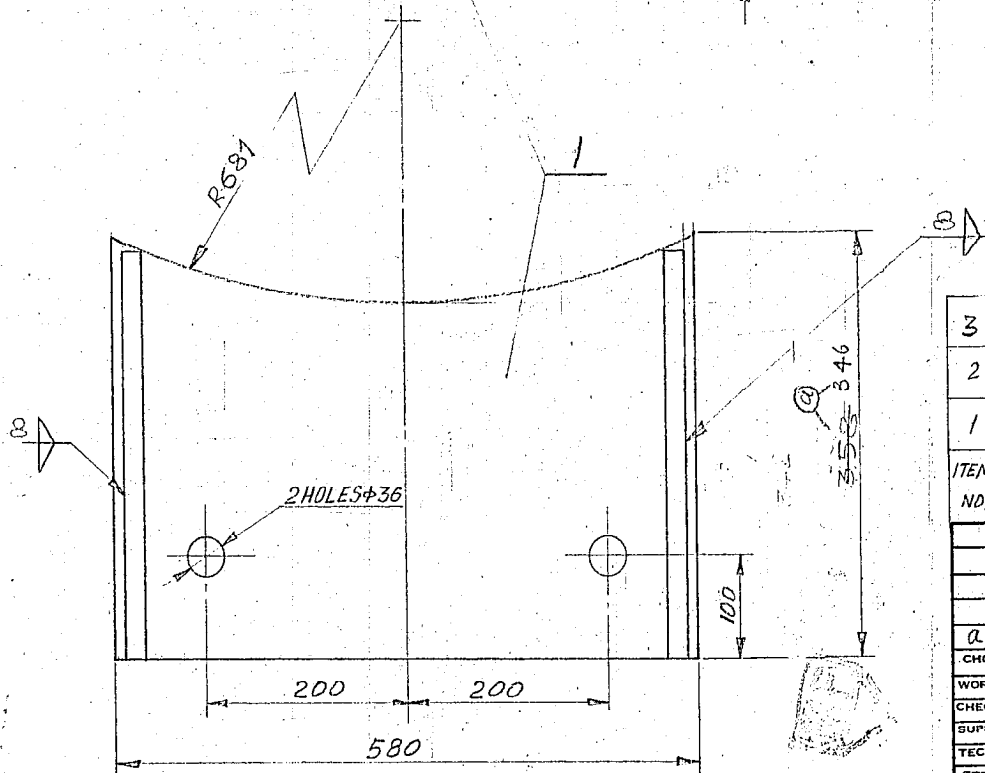
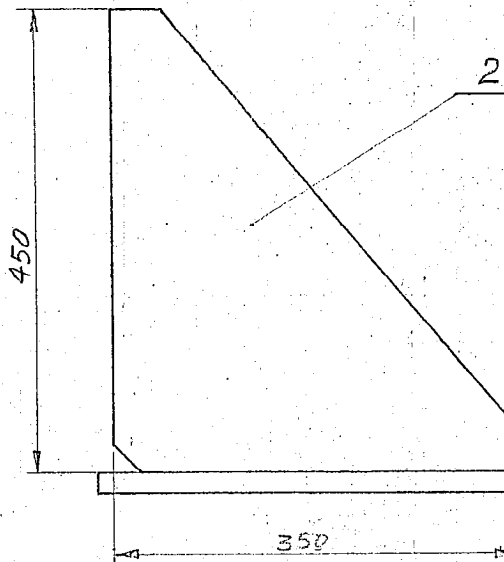
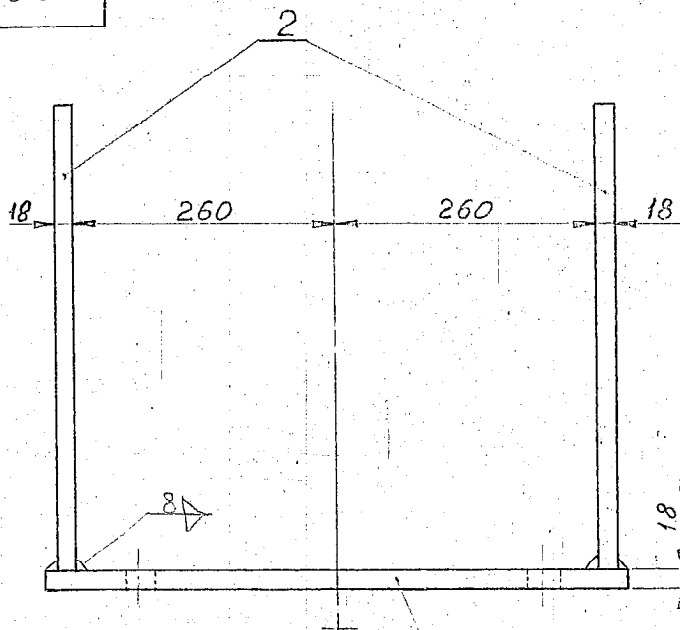
LETTER	WEIGHT	SCALE
- B	31.0	1:5
SHEET 1	TOTAL SHEETS 1	
HEEP	HED	

DRAWN/TRACED K. S. SHARMA

SIZE 11

FIRST ANGLE PROJECTION

32636050



ITEM NO.	DESIGNATION	DESCRIPTION	QTY.	PER PC. WEIGHT	TOTAL WEIGHT	MATERIAL	REMARK
3	-	DEPOSITED METAL	-	1.15	1.15	E-42	
2	32636052	SUPPORT RIB	2	13.7	27.4	STEEL St42-S 0500.001	
1	32636051	SUPPORT PLATE	1	31.0	31.0	STEEL St42-S 0500.001	

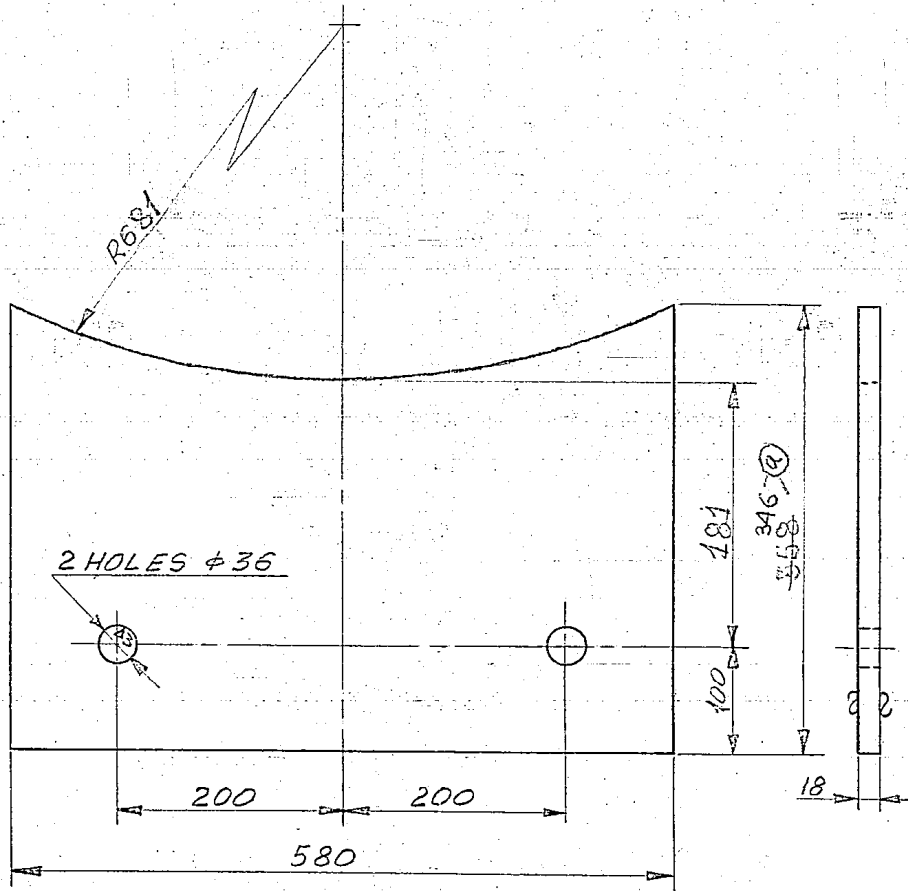
LPH-370-24-8-III						32636000 SP.			
SUPPORT						32636050			
						LETTER	WEIGHT	SCALE	
CHG. NOS.						-	B	59.55	1:5
WORKED BY						SHEET 1			
CHECKED BY						TOTAL SHEETS 1			
SUPERVISED						HEEP			
TECH. CONT						H.E.E			
STD. CONT									
APPROVED									

DRAWN/TRACED K. S. SHARMA

INVENTORY NO.	SIGN AND DATE	SUPERSEDES INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN AND DATE	U. S. S. R. DRAWING NO.	U. S. S. R. SP. (ASSEMBLY)
11-10208	1-1-77					

32636051

VI THE REST



INVENTORY NO.	SIGN. AND DATE	SUPERSEDES INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN. AND DATE	U.S.S.R. DRAWING NO.	U.S.S.R. SP. (ASSEMBLY)
S1-102-2-6	2/18/77					

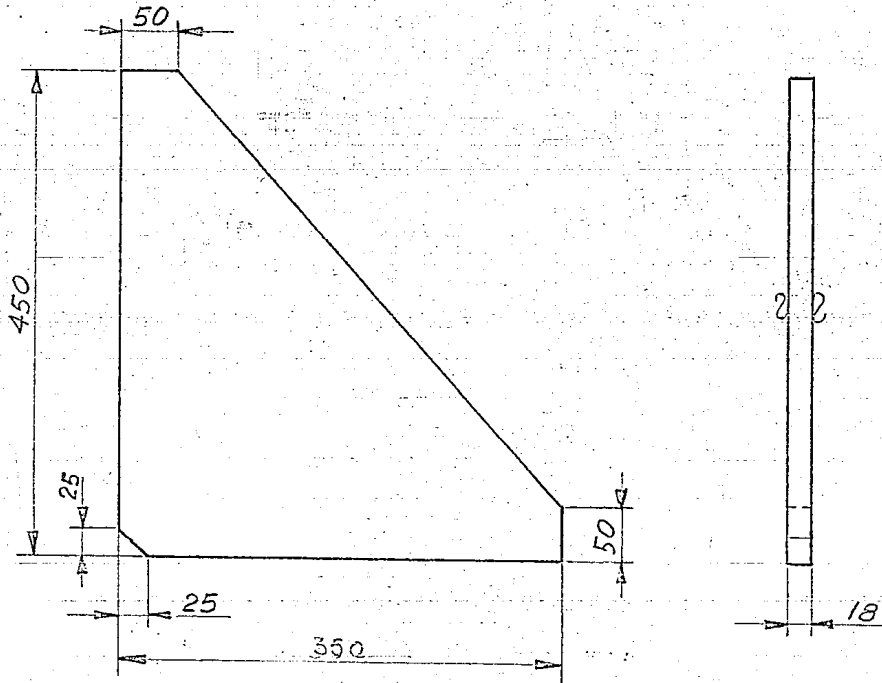
CHG. NOS.	DOCU. NO.	SIGN.	DATE
2	HXE-79-77	[Signature]	18-12-76
WORKED BY	M.P. MATHUR	[Signature]	1-2-77
CHECKED BY	K.N. MEHTA	[Signature]	7-2-77
SUPERVISED	A. SINGH	[Signature]	11.6.77
TECH CONT	G.D. GARG	[Signature]	11.6.77
STD CONT			
APPROVED	R.H. BHARGAVA	[Signature]	

LPH-370-24-8-III	32636000 SP	
SUPPORT PLATE	32636051	
STEEL St 42-S; 0500.001		
LETTER	WEIGHT	SCALE
B	310	1:5
SHEET 1	TOTAL SHEETS 1	
HEEP	HEE	

DRAWN/TRACED K.S. SHARMA

32636052

VI THE REST

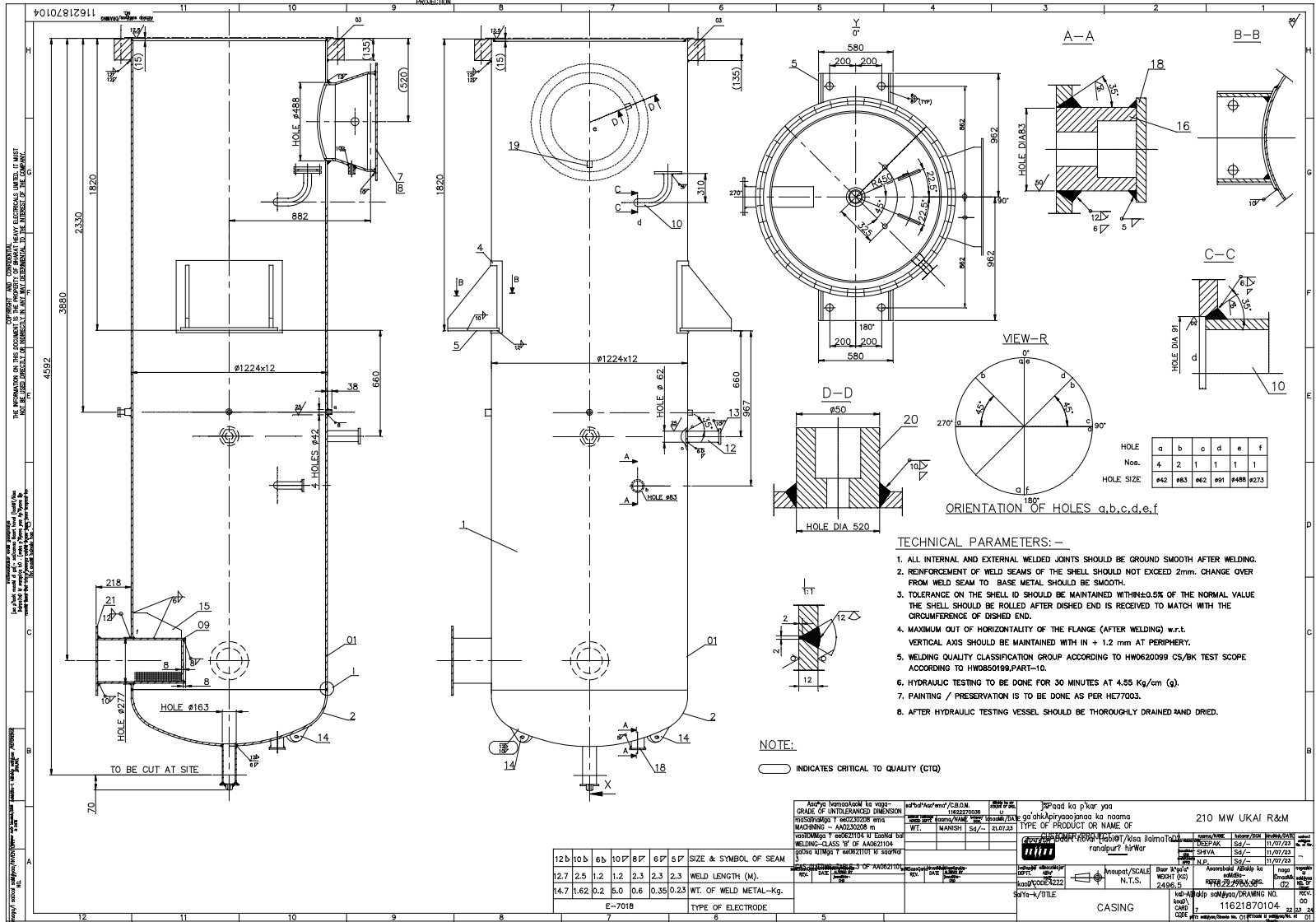


INVENTORY NO.	SIGN AND DATE	SUPERSEDES INVENTORY NO.	DUPLICATE INVENTORY NO.	SIGN AND DATE	U.S.S.R. DRAWING NO.	U.S.S.R. G.R.S.P. (ASSEMBLY)
51-10237	04/01/77					

CHG.	NGS.	DOCU NO.	SIGN.	DATE
WORKED BY	N.P. MATHUR			12-77
CHECKED BY	K.N. MENTA			7-3-77
SUPERVISED	A. SINGH			11.57
TECH CONT	G.D. GARG			11.6
STD CONT				
APPROVED	P.N. BHARGAVA			12.6

LPH-370-24-8-III	32 636 000 SP	
SUPPORT RIB	32-636052	
STEEL S142-S;0500.001		
LETTER	WEIGHT	SCALE
- B	13.7	1:5
SHEET 1	TOTAL SHEETS 1	
HEEP	HEE	

DRAWN/ISSUED K. S. SHARMA



- TECHNICAL PARAMETERS: -**
- ALL INTERNAL AND EXTERNAL WELDED JOINTS SHOULD BE GRIND SMOOTH AFTER WELDING.
 - REINFORCEMENT OF WELD SEAMS OF THE SHELL SHOULD NOT EXCEED 2mm. CHANGE OVER FROM WELD SEAM TO BASE METAL SHOULD BE SMOOTH.
 - TOLERANCE ON THE SHELL ID SHOULD BE MAINTAINED WITHIN ±0.5% OF THE NORMAL VALUE THE SHELL SHOULD BE ROLLED AFTER DISHED END IS RECEIVED TO MATCH WITH THE CIRCUMFERENCE OF DISHED END.
 - MAXIMUM OUT OF HORIZONTALITY OF THE FLANGE (AFTER WELDING) w.r.t. VERTICAL AXIS SHOULD BE MAINTAINED WITH IN + 1.2 mm AT PERIPHERY.
 - WELDING QUALITY CLASSIFICATION GROUP ACCORDING TO HW620099 CS/BK TEST SCOPE ACCORDING TO HW0850189, PART-10.
 - HYDRAULIC TESTING TO BE DONE FOR 30 MINUTES AT 4.55 Kg/cm (g).
 - PAINTING / PRESERVATION IS TO BE DONE AS PER HE77003.
 - AFTER HYDRAULIC TESTING VESSEL SHOULD BE THOROUGHLY DRAINED AND DRIED.

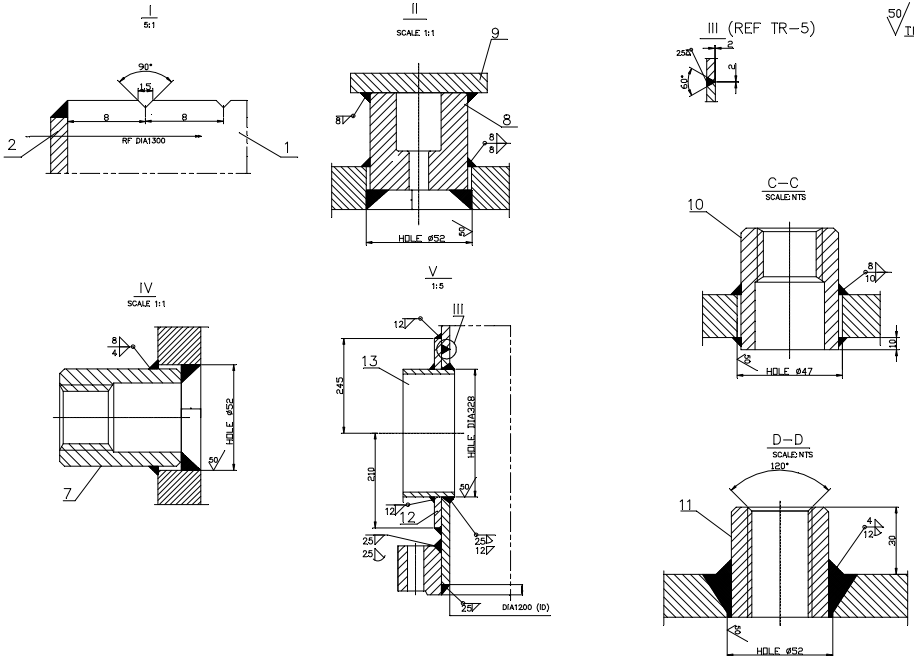
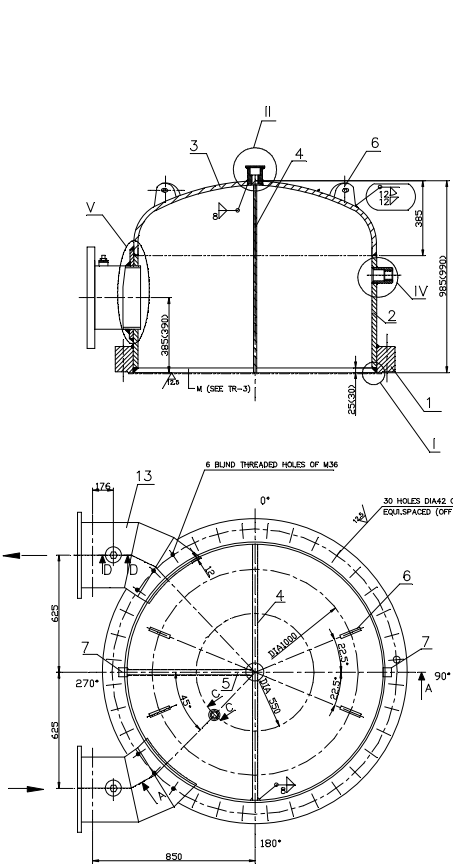
NOTE:
 INDICATES CRITICAL TO QUALITY (CTQ)

12b	10b	6b	10P	8P	5P	SIZE & SYMBOL OF SEAM
12.7	2.5	1.2	1.2	2.3	2.3	WELD LENGTH (M).
14.7	1.62	0.2	5.0	0.6	0.35/0.23	WT. OF WELD METAL-Kg.
E-7018						
TYPE OF ELECTRODE						

210 MW UKAI R&M TYPE OF PRODUCT OR NAME OF	11621870104 DRAWING NO.
CASING	11621870104 DRAWING NO.

11622270038

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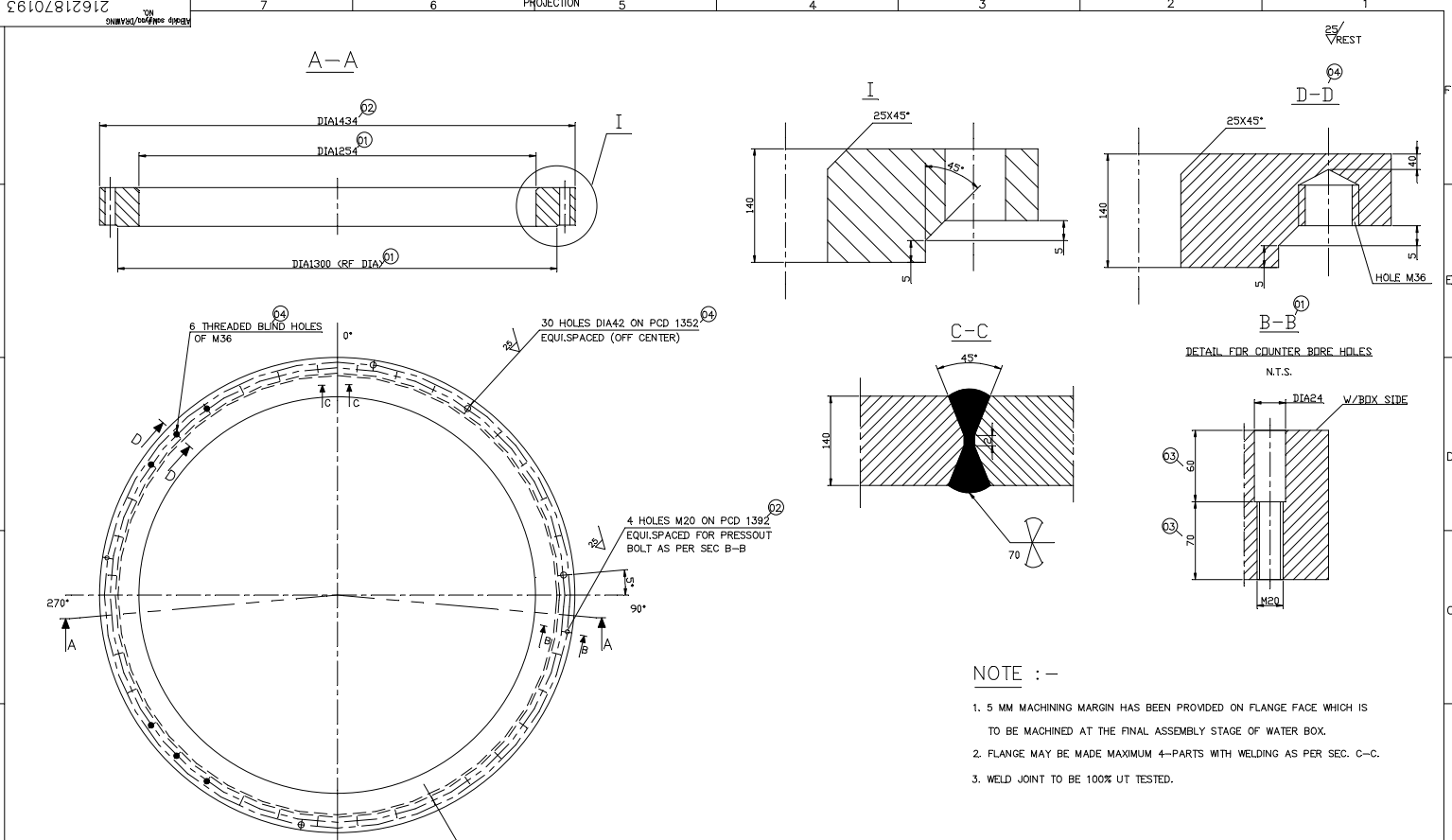
- TECHNICAL REQUIREMENTS:-**
1. ALL INTERNAL AND EXTERNAL WELDED JOINTS SHOULD BE GROUND SMOOTH AFTER WELDING.
 2. REINFORCEMENT OF WELD SEAMS OF THE SHELL SHOULD NOT EXCEED 2mm CHANGE OVER FROM WELD SEAM TO BASE METAL SHOULD BE SMOOTH.
 3. MACHINING ON SURFACE OD IS TO BE DONE (AS PER DETAIL-D).
 4. WELDING QUALITY CLASSIFICATION GROUP ACCORDING TO HW062099 CS/BK. TEST SCOPE ACCORDING TO HW065099, PART-10.
 5. THE CIRCUMFERENTIAL WELD JOINT SHOULD BE GROUND SMOOTH LOCALLY FOR PROPER SEATING OF COMPENSATING RING.
 6. FOR HYDRAULIC TESTING REFER ASSEMBLY DRAWING NO. 11622270036.
 7. PAINTING / PRESERVATION IS TO BE DONE AS PER HE77003.

NOTE:- INDICATES CRITICAL TO QUALITY (CTQ).

25 Δ	25 Δ	12 Δ	25 P	12 P	10 P	8 P	4 P	SIZE & SYMBOL OF SEAM
5.0	5.0	2.2	5.00	2.25	0.3	7.2	0.8	WELD LENGTH (M).
20.0	12.5	4.3	15.0	13.0	0.12	1.8	.005	WT. OF WELD METAL-Kg.
E-7018								TYPE OF ELECTRODE

आद्य इमांक का योग- GRADE OF UNTOLERANCED DIMENSION मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104	इमांक/कारण/सं.सं. 11622270036 आद्य इमांक का योग- मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104	आद्य इमांक का योग- TYPE OF PRODUCT OR NAME OF 210 MW UKAJ R&M आद्य इमांक का योग- मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104
आद्य इमांक का योग- GRADE OF UNTOLERANCED DIMENSION मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104	इमांक/कारण/सं.सं. 11622270036 आद्य इमांक का योग- मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104	आद्य इमांक का योग- TYPE OF PRODUCT OR NAME OF 210 MW UKAJ R&M आद्य इमांक का योग- मीमांसित/MAINTENANCE DIMENSION WELDING - AA032028 m वेल्डिंग क्लास 'B' ऑफ AA021104 वेल्डिंग क्लास 'B' ऑफ AA021104

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- NOTE :-**
1. 5 MM MACHINING MARGIN HAS BEEN PROVIDED ON FLANGE FACE WHICH IS TO BE MACHINED AT THE FINAL ASSEMBLY STAGE OF WATER BOX.
 2. FLANGE MAY BE MADE MAXIMUM 4-PARTS WITH WELDING AS PER SEC. C-C.
 3. WELD JOINT TO BE 100% UT TESTED.

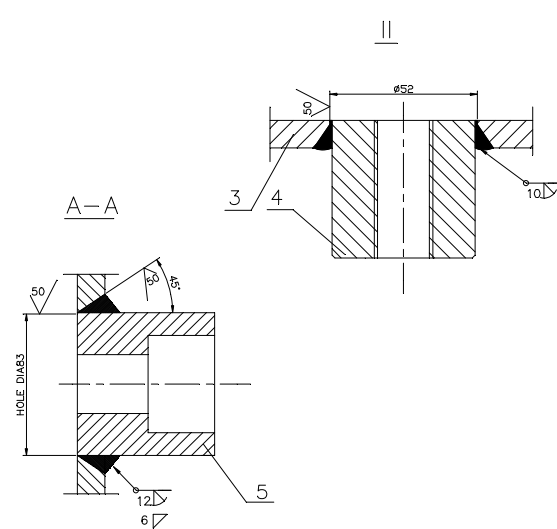
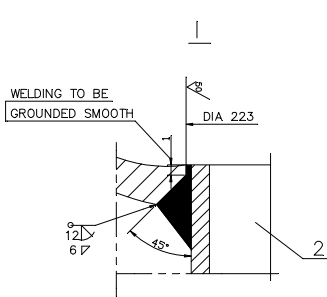
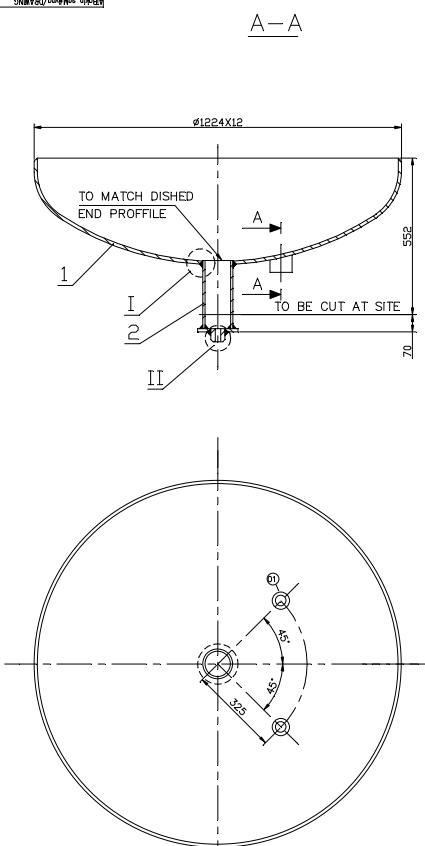
Aso'ya ivamaaAaM ka vago- GRADE OF UNTOLERANCED DIMENSION MACHINING - AA0230208 emg WELDING-CLASS 'B' OF AA0621104 ga0sa KITMga ? aa0621101 ki saarNa 3		sd'baI'Aso'erna*/C.B.O.M. 01621870137 ga'ahkApriyaaajanaa ka naama TYPE OF PRODUCT OR NAME OF		Paad ka p'kar yaa 2X210 MW UNCHA HAR R&M BHARAT HEAVY ELECTRICALS LIMITED RANIPUR, HARDWAR N.T.S.	
WT. MANISH Sd/- 28.01.19		SURAJ DATE 16.10.19		SURAJ DATE 14.05.19	
HXE-19-F0087 CHANGES AS MARKED (04)		HXE-19-F0082 CHANGES AS MARKED (03)		HXE-19-F0043 CHANGES AS MARKED (02)	
HXE-19-F0036 CHANGES AS MARKED (01)		SURAJ DATE 12.04.19		SURAJ DATE 12.04.19	

WATER BOX FLANGE

DRAWING NO. 21621870193

A2 size/A2 SIZE

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TECHNICAL REQUIREMENTS: -

1. WELDING QUALITY CLASSIFICATION GROUP ACCORDING TO HW 0620099 CS/BK. THE SCOPE ACCORDING TO HW0850199CATEGORY OF SERVICE REQUIREMENT-3

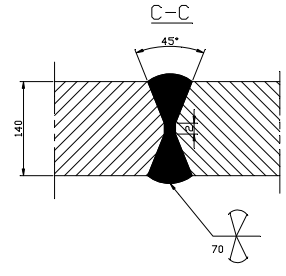
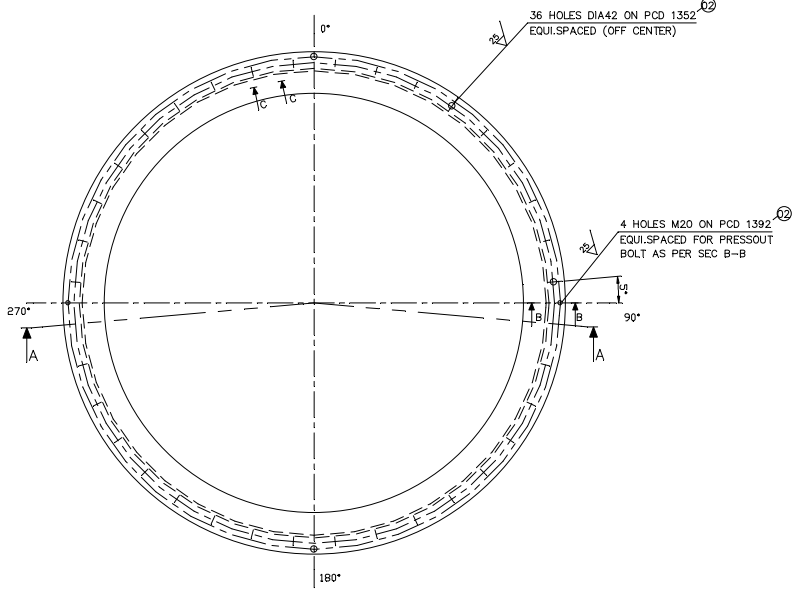
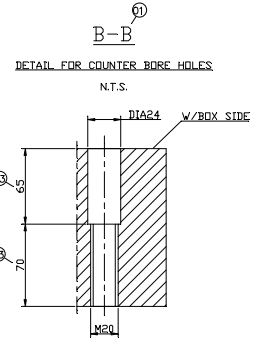
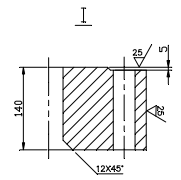
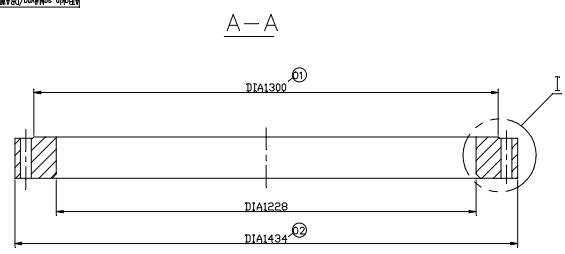
NOTE: -

THE ASSEMBLY OF ITEM NOS. 02 TO 05 (WITH DESHED END) MAY BE DONE WHILE WHILE FABRICATING THE CASING AS PER DRG. NO. 11621870097

6.7	12.8	10.8	SIZE & SYMBOL OF SEAM	Asa'ya ivamaaAaM ka vaa- GRADE OF UNTOLERANCED DIMENSION	sd'ba' Aa'o'ema' / C.B.O.M. 01621870137	Ma'paad ka p'kar yaa TYPE OF PRODUCT OR NAME OF	2X210 MW UNCHAHAR R&M
1.7	1.7	0.32	WELD LENGTH (M).	ma'paad ka p'kar yaa MACHINING - AA0230208 m	WT. MANISH Sd/- 28.01.19	ma'paad ka p'kar yaa TYPE OF PRODUCT OR NAME OF	2X210 MW UNCHAHAR R&M
0.24	1.15	0.15	WT. OF WELD METAL (Kg).	vo'edMmga y ee0621104 ki Eo'ngi ba WELDING-CLASS 'B' OF AA0621104	DATE 02.04.19	ma'paad ka p'kar yaa TYPE OF PRODUCT OR NAME OF	2X210 MW UNCHAHAR R&M
			E-7018	ga'usa KITMga y eao0621101 ki saar'na 3	DATE 02.04.19	ma'paad ka p'kar yaa TYPE OF PRODUCT OR NAME OF	2X210 MW UNCHAHAR R&M
			TYPE OF ELECTRODE	AS PER TABLE-3 OF AA0621101	DATE 02.04.19	ma'paad ka p'kar yaa TYPE OF PRODUCT OR NAME OF	2X210 MW UNCHAHAR R&M

LOWER DISHED END

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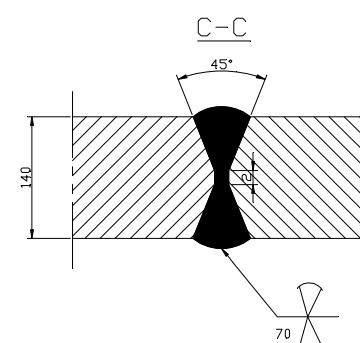
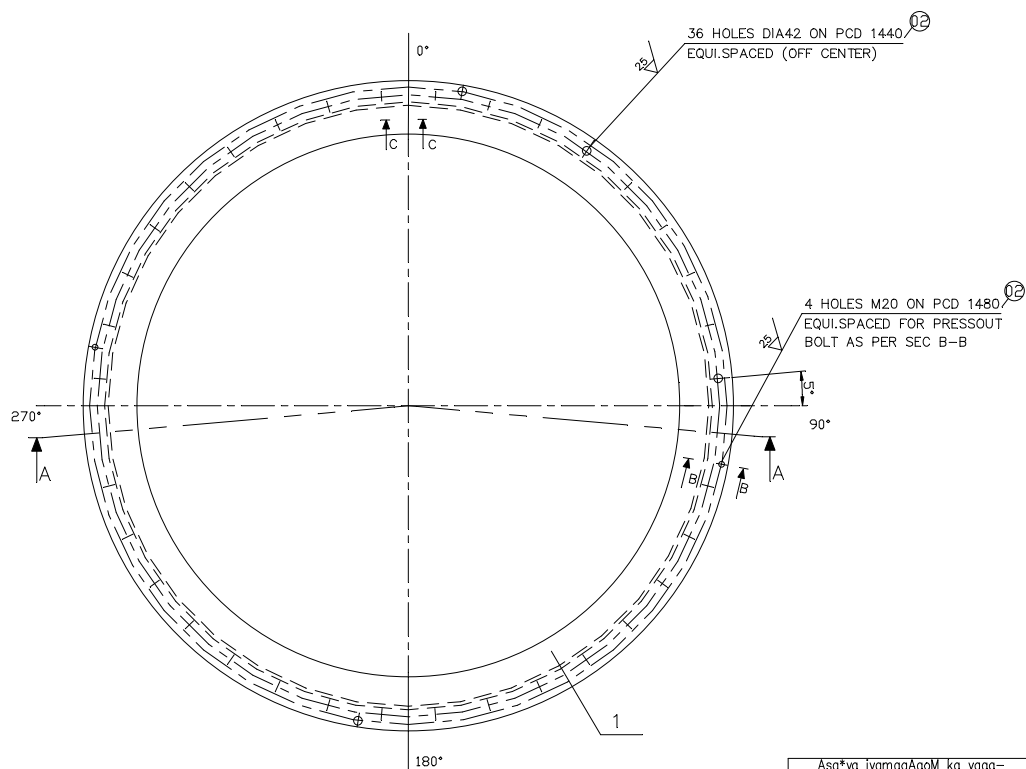
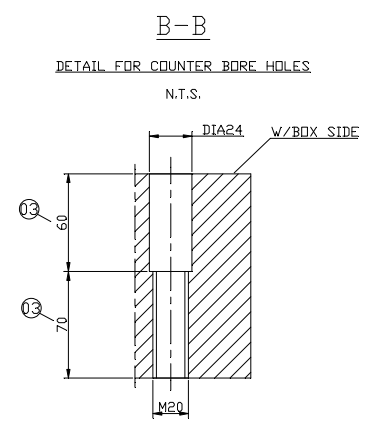
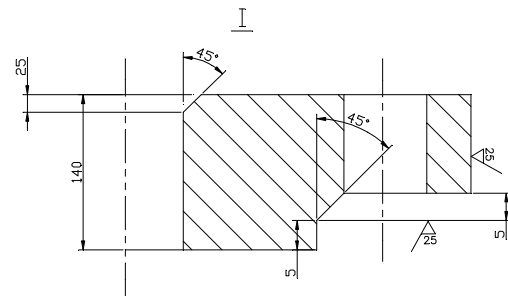
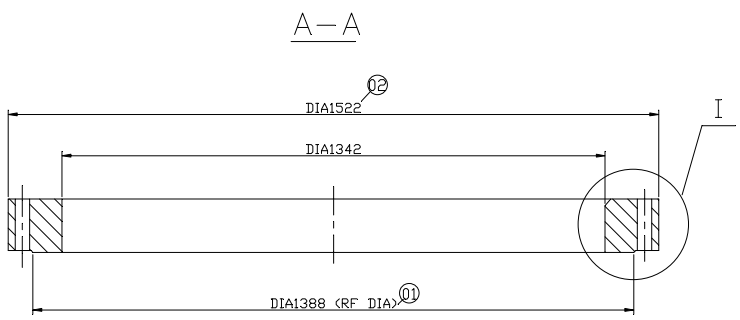


- NOTE :-
1. 5 MM MACHINING MARGIN HAS BEEN PROVIDED ON FLANGE FACE WHICH IS TO BE MACHINED AT THE FINAL ASSEMBLY STAGE OF SHELL.
 2. FLANGE MAY BE MADE IN MAXIMUM 4-PARTS WITH WELDING AS PER SEC. C-C.
 3. WELD JOINT TO BE 100% UT TESTED.

Aso'ya ivamaaAaM ka vaa- GRADE OF UNTOLERANCKED DIMENSION MACHINING - AA0230208 emg WELDING-CLASS 'B' OF AA0621104 gaUsa KITMga ? aa0621101 ki saarNa 3		sd'ba' Aso'erna' /C.B.O.M. 01621870137 U ga'ahkApiryaajanaa ka naama TYPE OF PRODUCT OR NAME OF		Paad ka p'kar yaa 2X210 MW UNCHAHAR R&M BHARAT HEAVY ELECTRICALS LIMITED RANIPUR - HARDWAR N.T.S.		nooma/NAME SURAJ Sd/- 14.01.19		katar/SIGN AXAY Sd/- 14.01.19		kanda/DATE N.P. Sd/- 14.01.19		nooga ki no. of sheets 03			
SURAJ DATE 16.10.19 REVISION 03 HSE-19-F0082 CHANGES AS MARKED 03		SURAJ DATE 14.05.19 REVISION 02 HSE-19-F0043 CHANGES AS MARKED 02		SURAJ DATE 02.04.19 REVISION 01 HSE-19-F0036 CHANGES AS MARKED 01		DEPT. RANIPUR - HARDWAR Andapat/SCALE N.T.S.		Bara k'ga'a WEIGHT (KG) 4222.0		Asaombalal Ailbakip ka sa46a- R11821870197 PRG.		nooga ki no. of sheets 03			
SHELL FLANGE												kaD-Ailbakip saM'yaq/DRAWING NO. 21621870197		nooga ki no. of sheets 22, 23, 24	

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21622270126



NOTE :-

1. 5 MM MACHINING MARGIN HAS BEEN PROVIDED ON FLANGE FACE WHICH IS TO BE MACHINED AT THE FINAL ASSEMBLY STAGE OF WATER BOX.
2. FLANGE MAY BE MADE IN MAXIMUM 4-PARTS WITH WELDING AS PER SEC. C-C.
3. WELD JOINT TO BE 100% UT TESTED.

Asa*ya ivamaaAaom ka vaga- GRADE OF UNTOLERANCED DIMENSION		sal*bal*Aao*emta*/C.B.O.M. 01622670059		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Paad ka p'kar yaa		210MW UNCHAHR R&M	
maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m		sal*bal*Aao*emta*/C.B.O.M. 01622670059		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		ga'ahkApiryaaajanaa ka naama TYPE OF PRODUCT OR NAME OF		210MW UNCHAHR R&M	
vaailDMMga ? ee0621104 kl EaoNal ba WELDING-CLASS 'B' OF AA0621104		WT. MANISH sd/- 12.02.19		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		CUS BOMER/PROJECT/ksa ilaimaTadT		naama/NAME hataxar/SIGN EdnaMk/DATE	
gaUsa kiTMga ? ee0621101 kl saarNal		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Bharat Heavy Electricals Limited		SURAJ Sd/- 29/01/19	
Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		RANIPUR, HARDWAR		NAVEEN Sd/- 29/01/19	
Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Baar ik'ga'a WEIGHT (KG) 410.0		Asaombalal AiBaklp ka saMba- No. of PRG. 32	
Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		kaad\ CODE 4222		naga EmaoMk No. of 23	
Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		SalYa-k/TITLE		naga EmaoMk No. of 24	
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Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		kaad\ CARD CODE		naga EmaoMk No. of 24	
Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		Asa*ya ivamaaAaom ka vaga- STATUS OF PRS. u		saMba- No. of 22		naga EmaoMk No. of 24	

8

7

6

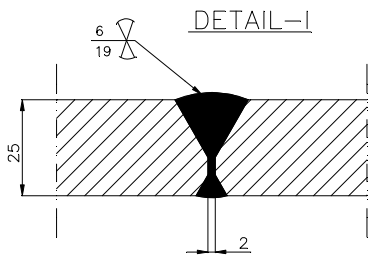
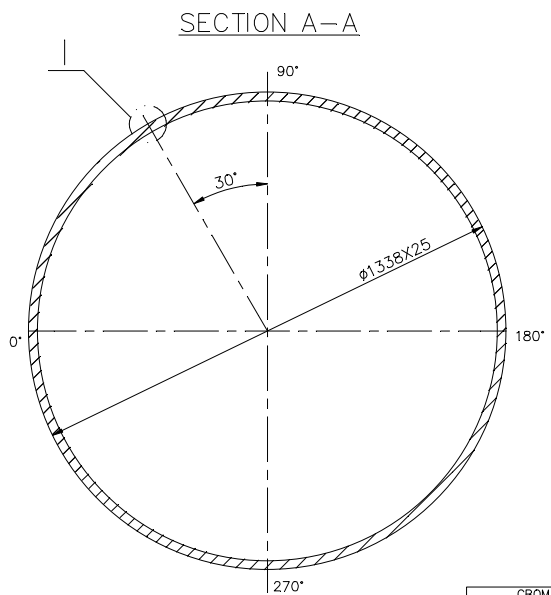
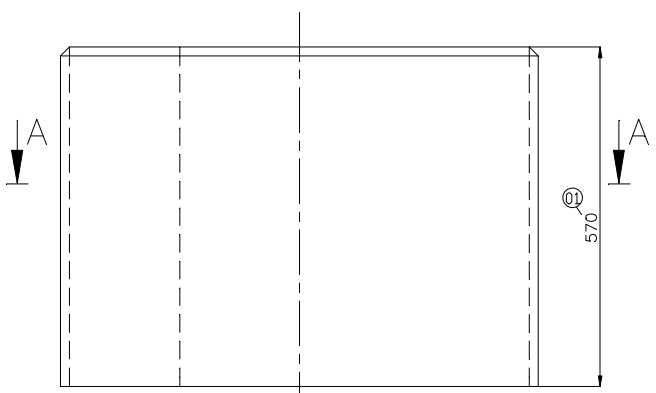
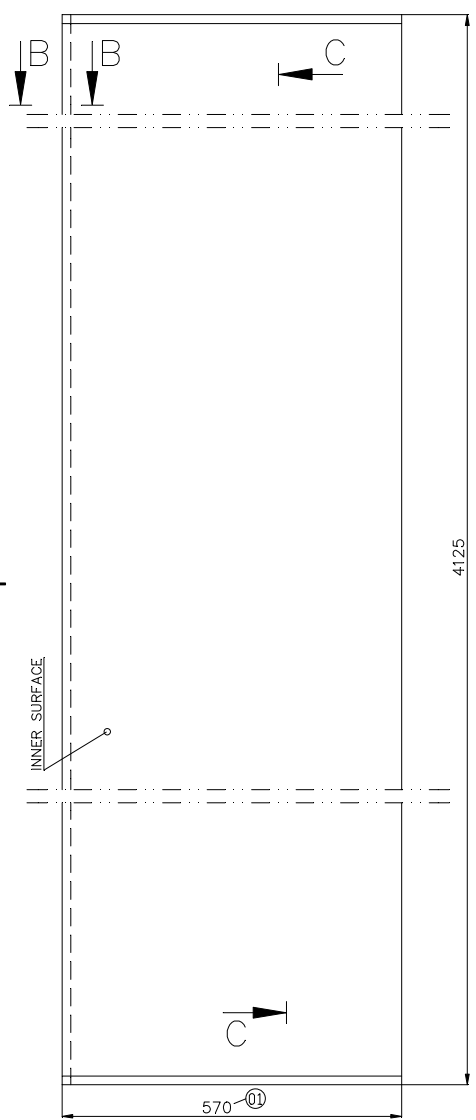
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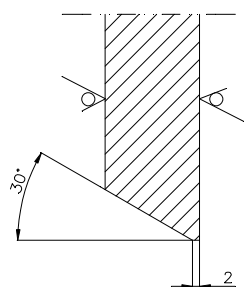
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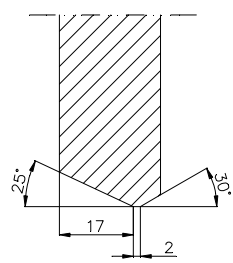
DEVELOPMENT
(AT MEAN DIA)



SECTION B-B



SECTION C-C



TECHNICAL REQUIREMENTS: -

1. TOLERANCE ON SHELL OUTER DIAMETER, SHOULD BE MAINTAINED WITHIN $\pm 0.5\%$ OF NOMINAL VALUE, THE SHELL SHOULD BE ROLLED AFTER DISHED END IS RECEIVED TO MATCH WITH THE CIRCUMFERENCE OF DISHED END.
2. SHELL MAY BE ALLOWED WITH TWO LONGITUDINAL WELD JOINTS. NO HOLES SHOULD FALL ON WELD JOINTS.
3. HOLES ARE TO BE CUT DURING ASSY OF WATER BOX.
4. **WELDING:-** VISUAL INSPECTION OF WELD SEAMS AS PER HW0620099,CS/BK.
5. N.D.E. OF WELDING AS PER HW0850199, PART-10.

6 Δ	19 Δ	SIZE & SYMBOL OF SEAM
0.595	0.595	WELD LENGTH (M).
0.14	1.08	WT. OF WELD METAL (Kg).
E-7018		TYPE OF ELECTRODE

GRADE OF UNTOL. DIM.: -
M/CG- V/C/M/F AA 0230208
WELDING-A/B/C/D-AA621104
GAS CUTTING-T3'AA0621101

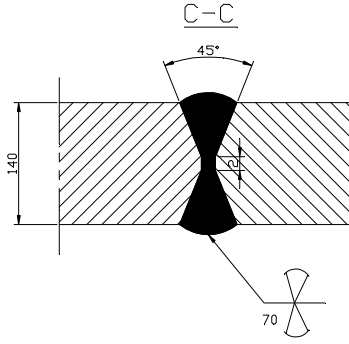
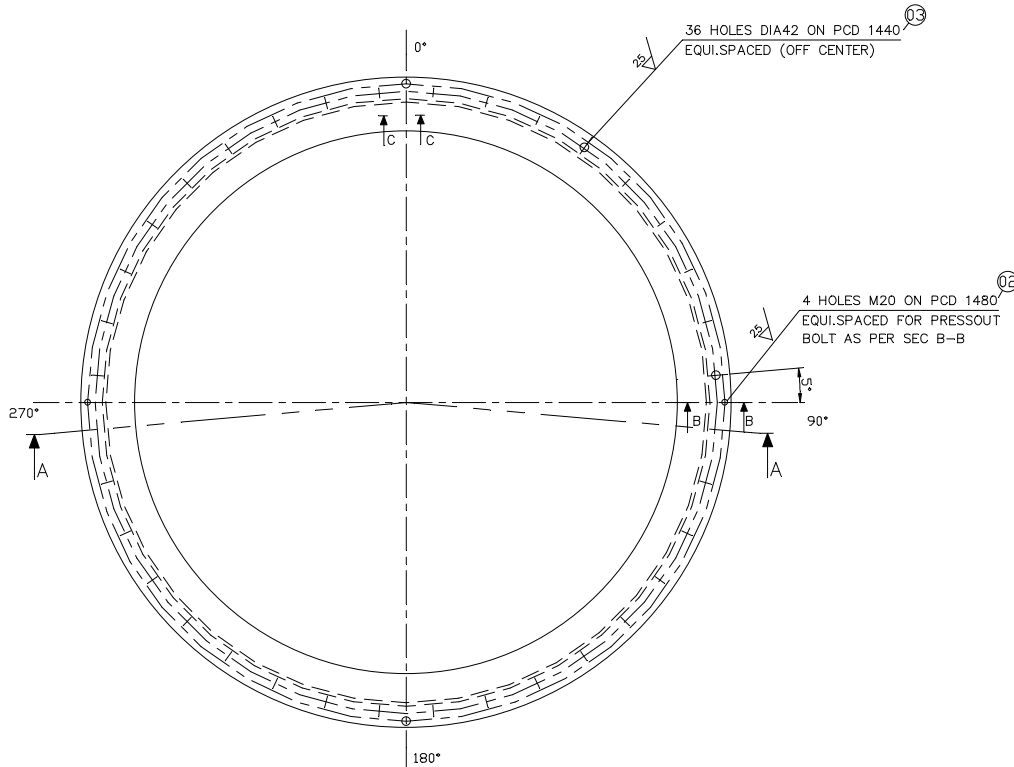
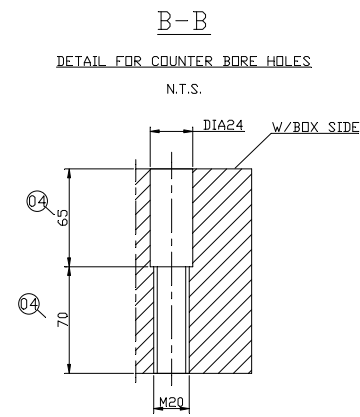
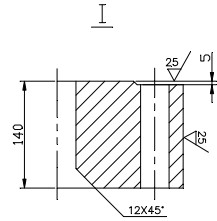
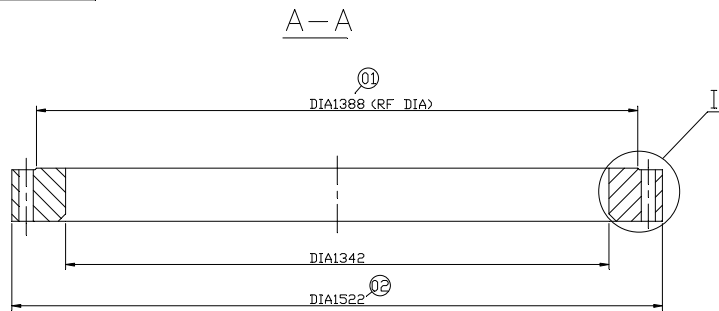
CBOM NO. 01622670059		STATUS OF DRG.	
AGREED	NAME	SIGN	DATE
DRN	MANISH	Sd/-	12.02.19
CHD			
APD			
REV. DATE	ALTERED	SURAJ	
	CHECKED	AXAY	
		HXE-19-F0035	
CHANGES AS MARKED (01)			

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		210MW UNCHA HAR R&M			
BHARAT HEAVY ELECTRICALS LTD. HARDWAR	DRN	NAME	SIGN	DATE	NO. OF VAR.
	CHD	SURAJ	Sd.	10.01.05	-
	APD	AXAY	Sd.	10.01.05	-
		NAVEEN	Sd.	11.01.05	13, 74
DEPT. HXE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEMS
CODE 4222	N.T.S.	461.0	11622270032	02	75, 77
TITLE		DRAWING NO.		01	
WATER BOX SHELL		21622270127		23, 24	
SHEET NO. 01		NO. OF SHEETS		01	

INVENTORY NO. SIGN & DATE REF. DRG NO. THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTERESTS OF THE COMPANY.

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THE REST.



NOTE :-

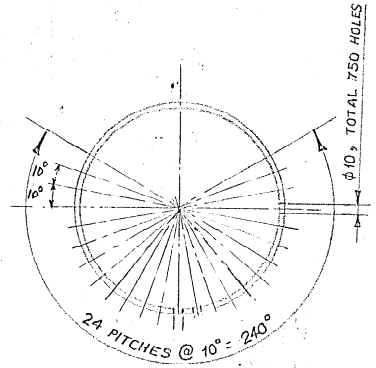
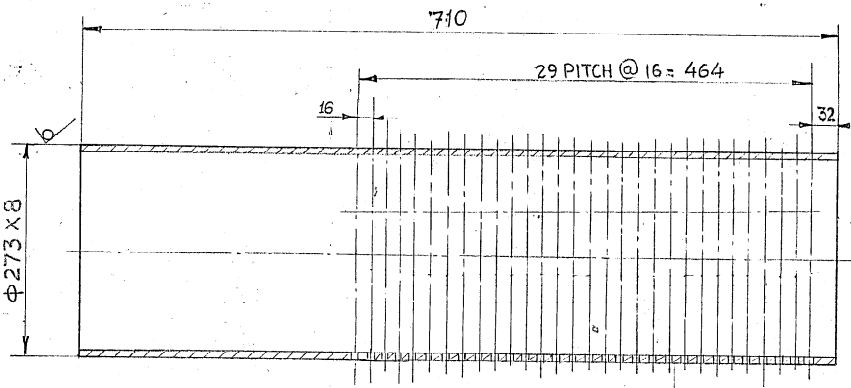
- 1. 5 MM MACHINING MARGIN HAS BEEN PROVIDED ON FLANGE FACE WHICH IS TO BE MACHINED AT THE FINAL ASSEMBLY STAGE OF SHELL.
2. FLANGE MAY BE MADE IN MAXIMUM 4-PARTS WITH WELDING AS PER SEC. C-C.
3. WELD JOINT TO BE 100% UT TESTED.

Table containing revision history, material specifications, and project details for the shell flange.

SHELL FLANGE

Drawing information including drawing number 21622270129, sheet number 23 of 24, and scale A2.

3-162-18-70010
DRAWING NO.



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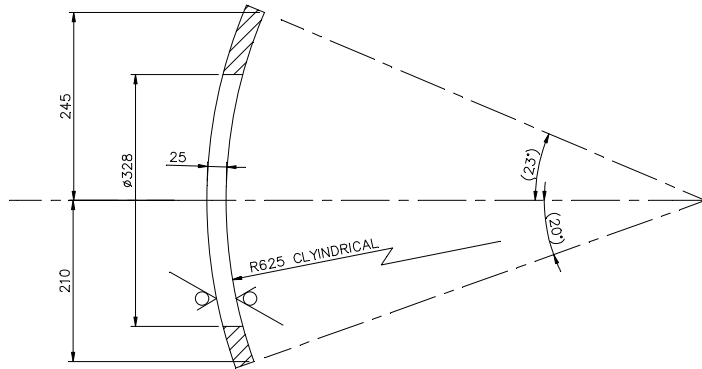
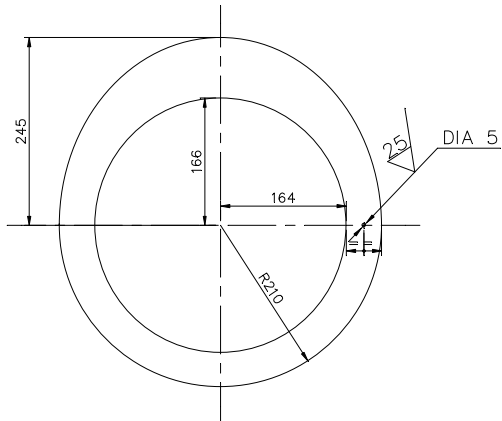
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Sign & Date	GMS/GR-SP. NO.		STATUS OF DRG.		TYPE OF PRODUCT					
	0-162-18-70003				OR					
Inventory No.	AGREED	NAME	SIGN.	DATE	NAME OF CUSTOMER/PROJECT					
	REV.	DATE	ALTERED	CHECKED	DEPT. HXE	GRADE OF UNTO DIM	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.
					4222	C/M/F	N.T.S.	32.50	3-160-18-70009	002
					TITLE			DRAWING NO.	REV.	
					INLET DRAIN PIPE			3-162-18-70010		
								SHEET NO.	NO. OF SHEETS:-	

31621870459

Backup sam#yaa/DRAWING NO.

50 / THE REST.

DEVELOPMENT



TECHNICAL REQUIREMENTS: -

- 1. DEVELOPED LENGTH IS CALCULATED ON THE BASIS OF INNER SIDE OF RING.
- 2. HOLE SHOULD BE CUT IN THE COMPENSATING RING AFTER BENDING.

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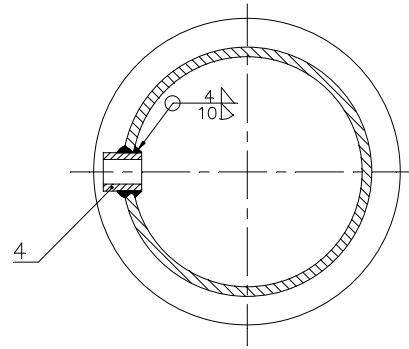
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Asa*ya ivamaAaoM ka vaga- GRADE OF UNTOLERANCED DIMENSION		saI*bal*Aao*ema*/C.B.O.M. 11622270036		Maha ka ee STATUS OF Dwg. U		Paad ka p'kar yaa ga'ahkApiryaaajanaa ka naama TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				2X210 MW UNCHAHAHAR R&M					
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saMmat iMbaaga AGREED DEPTT.		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME	
saMmat iMbaaga AGREED DEPTT.		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME	
saMmat iMbaaga AGREED DEPTT.		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME		hataar/SIGN		janaMk/DATE		naama/NAME	
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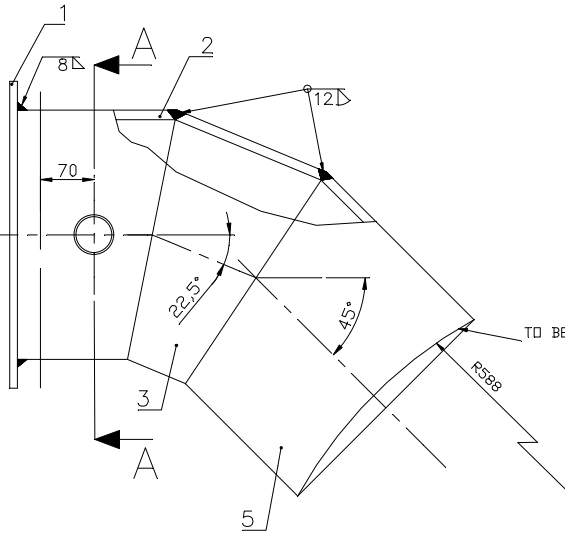
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31621870460

Backup sam#yaa/DRAWING NO.



SECTION A-A



TECHNICAL REQUIREMENTS: -

1. KNEE JOINT SHALL BE SUBJECTED TO SPOT RADIOGRAPHY.

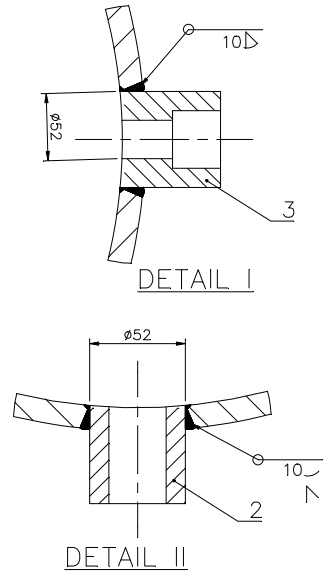
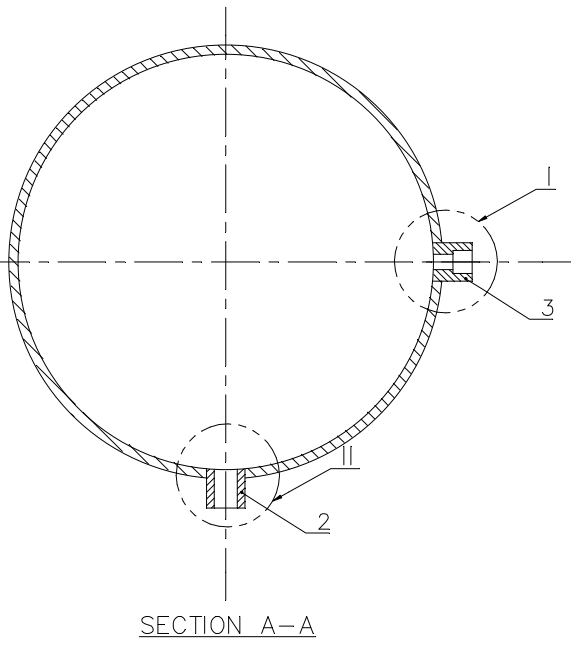
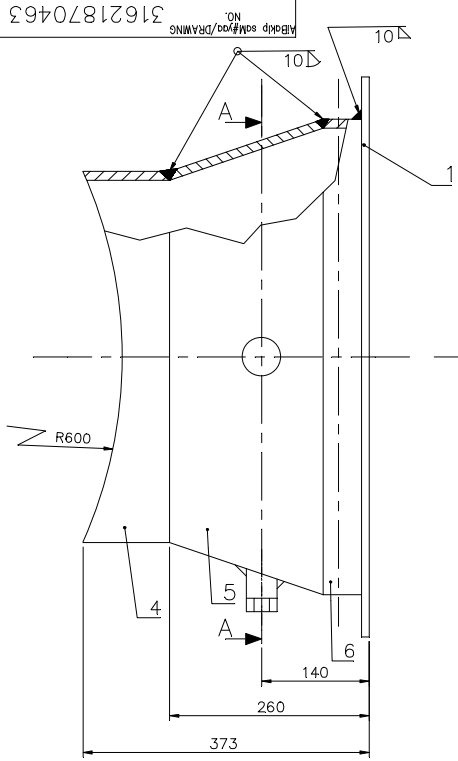
12	10	8	4	SIZE & SYMBOL OF SEAM
2.04	0.16	1.2	0.16	WELD LENGTH (M).
1.6	0.09	0.3	0.01	WT. OF WELD METAL (Kg).
E-7018				TYPE OF ELECTRODE

samsaBaf-1 Aibakp REFERENCE DRC. NO. DATE

Asa*ya ivamaaAaom ka vaga- GRADE OF UNTOLERANCED DIMENSION		sal'bal'Aao'ema'/C.B.O.M. 11622270036		Mada ka or STATUS OF Dwg.		Paad ka p'kar yaa ga'ahkApiryaaajanaa ka naama 2X210 MW UKAI R&M	
maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m		samsaBaf-1 Aibakp AIBAKP DEPTT.		naama/NAME		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	
vaoiIDMMga ? ee0621104 kl EgoNal bal WELDING-CLASS 'B' OF AA0621104		WTX. MANISH Sd/-		21.07.23		naama/NAME	
gaOsa kiTMga ? ee0621101 kl saarNal 3		jinaMk		Sd/-		hataxor/SIGN	
GAS CUTTING TABLE 3 OF AA0621101		jinaMk		Sd/-		dhaMak/DATE	
REV. DATE		REV. DATE		REV. DATE		REV. DATE	
AIBAKP DEPTT.		AIBAKP DEPTT.		AIBAKP DEPTT.		AIBAKP DEPTT.	
kaod\CODE 4222		kaod\CODE 4222		kaod\CODE 4222		kaod\CODE 4222	
SalYa-k/TITLE		SalYa-k/TITLE		SalYa-k/TITLE		SalYa-k/TITLE	
KNEE JOINT		KNEE JOINT		KNEE JOINT		KNEE JOINT	
Baar ik'ga'a' WEIGHT (KG) 17.5		Baar ik'ga'a' WEIGHT (KG) 17.5		Baar ik'ga'a' WEIGHT (KG) 17.5		Baar ik'ga'a' WEIGHT (KG) 17.5	
Asaombalal Aibakp ka saMaBa- REF 11622270036		Asaombalal Aibakp ka saMaBa- REF 11622270036		Asaombalal Aibakp ka saMaBa- REF 11622270036		Asaombalal Aibakp ka saMaBa- REF 11622270036	
kaD-Aibakp sam#yaa/DRAWING NO. 31621870460		kaD-Aibakp sam#yaa/DRAWING NO. 31621870460		kaD-Aibakp sam#yaa/DRAWING NO. 31621870460		kaD-Aibakp sam#yaa/DRAWING NO. 31621870460	
kaod\ CARD CODE 7		kaod\ CARD CODE 7		kaod\ CARD CODE 7		kaod\ CARD CODE 7	
p'pYz sam#yaa/Sheets No.01		p'pYz sam#yaa/Sheets No.01		p'pYz sam#yaa/Sheets No.01		p'pYz sam#yaa/Sheets No.01	
nagaMo ki sam#yaa No. OF ITEMS REV. 00		nagaMo ki sam#yaa No. OF ITEMS REV. 00		nagaMo ki sam#yaa No. OF ITEMS REV. 00		nagaMo ki sam#yaa No. OF ITEMS REV. 00	
22 23 24		22 23 24		22 23 24		22 23 24	
01		01		01		01	

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swaBaaCakar evaM gaapaaDya lsa p'haak maom di gal- solcaaa Baart hovaL [aa@/kha ihinaaQa ki sampiCa ho . lsaKa p'yaava yaa Ap'yaava p' maom kaad BaL th p'yaava nahil kava jaae jaae kaaDya ka th maom maom naaB.



10 b	10 ∇	SIZE & SYMBOL OF SEAM
3.8	2	WELD LENGTH (M).
2.5	0.8	WT. OF WELD METAL (Kg).
E-7018		TYPE OF ELECTRODE

saMaaB-1 Aibakp	saMaaB-1 Aibakp
REFERENCE DRG. NO.	REFERENCE DRG. NO.
DATE	DATE
INVENTORY NO.	INVENTORY NO.

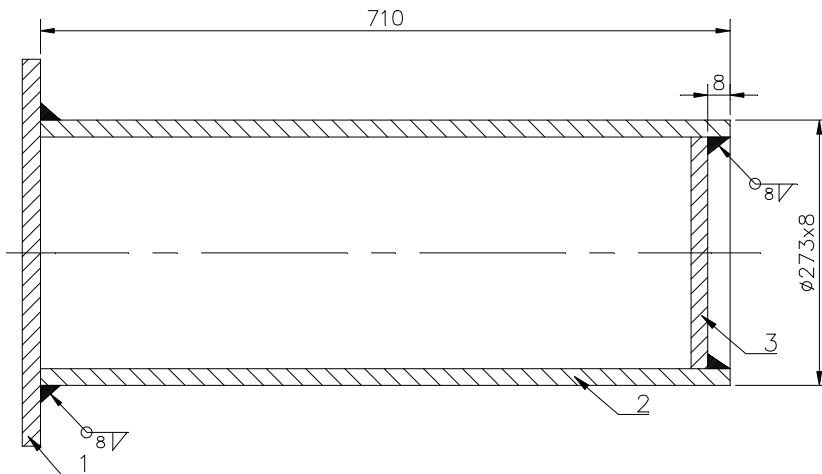
Asa*ya ivamaAaaM ka vaa- GRADE OF UNTOLERANCED DIMENSION maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m	saI'bal'Aaa'ema' /C.B.O.M. 11622270036	Maad ka ee STATUS OF DRG. U
vaaiDMMga ? ee0621104 kl EaaNaI ba WELDING-CLASS 'B' OF AA0621104 gaOsa KITMga ? ee0621101 kl saarNaI 3	saMaaB-1 Aibakp AGREED DEPTT. naama/NAME S.K. GOND	hataax/ SIGN iCaaMk/DATE Sd/- 21.07.23
REV. DATE	ALtered BY	DATE

Paad ka p'kar yaa ga'ahkApiryaaajanaa ka naama TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT ranalpur? hirWar BHARAT HEAVY ELECTRICALS LIMITED RANIPUR, HARDWAR Andupat/SCALE 1:5	2X210 MW UKAI R&M	naama/NAME AJAY KUMAR DEEPAK/SHIVA N.PRAKASH	hataax/SIGN Sd/- Sd/- Sd/-	iCaaMk/DATE 05.07.23 05.07.23 05.07.23	vaaiDMMga No. of Var. ---
kaad CODE 4222	saI'Ya-k/TITLE INLET PIPE	Baar ik'ga'a" WEIGHT (KG) 84.5	Asaambalal Aibakp ka saMaBa- REFER TO ASX-DRG 31621870463	naga Emaamk REO NO. 22	nagaMo ki saM#yaa No. OF ITEMS 23 24
			kaD-Aibakp saM#yaa/DRAWING NO. CARD GEBE 7		REV. 00

31621870463

DRAWING NO. 31621870464

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INVENTORY NO. SIGN & DATE REF. DRG NO.

8	SIZE & SYMBOL OF SEAM
1.65	WELD LENGTH (M).
0.416	WT. OF WELD METAL (Kg).
E-7018	TYPE OF ELECTRODE

CBOM NO. 11622270036		STATUS OF DRG. U	
AGREED DEPT. WTX.	NAME S.K. GOND	SIGN Sd..	DATE 21.07.23

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT
210 MW UKAI R&M

GRADE OF UNTOL. DIM.: -
M/CG- V/C/M/F - AA0230208
WELDING- A/B/C/D - AA621104
GAS CUTTING- 'T3'AA0621101

BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN	NAME	SIGN	DATE	NO.OF VAR.
CHD	AJAY KUMAR	Sd..	06.07.23	--
APD	DEEPAK/SHIVA	Sd..	06.07.23	--
	N.PRAKASH	Sd..	06.07.23	73, 74

REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED

DEPT.	HXE	SCALE	WEIGHT(Kg.)
CODE	4222	NTS	46.7

REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
11621870104	09	--

TITLE
CONDENSATE DUMPING DEVICE

DRAWING NO.	REV.
31621870464	00

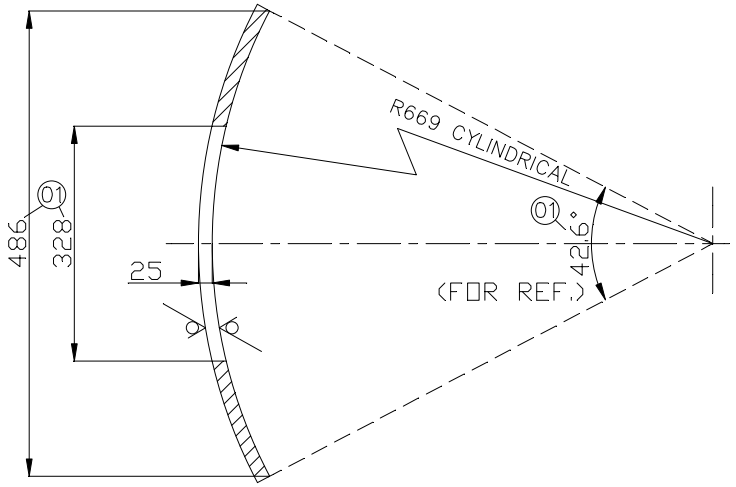
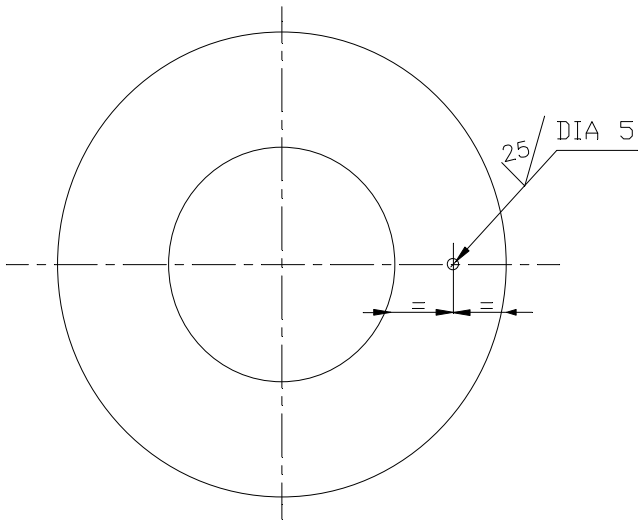
SHEET NO.	01	NO.OF SHEETS	01
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SIZE A3

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Backup sam#yaa/DRAWING NO. 31622270274

DEVELOPMENT



TECHNICAL REQUIREMENTS: -

1. DEVELOPED LENGTH IS CALCULATED ON THE BASIS OF INNER SIDE OF RING.
2. HOLE SHOULD BE CUT IN THE COMPENSATING RING AFTER BENDING.

somaaga/ saalcaI sam#yaa/ INVENTORY NO.

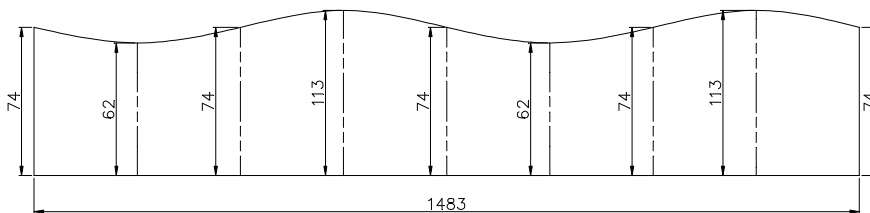
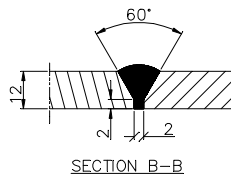
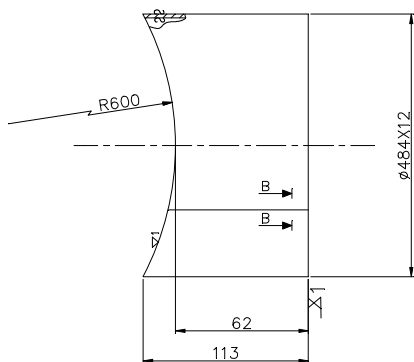
hataxar AaD' iMaaIak/ SIGN & DATE

saMaaB' t' AaBakp REFERENCE DRG. NO.

Asa*ya ivamaAaom ka vaga- GRADE OF UNTOLERANCED DIMENSION		saI'bal'Aao'ema' /C.B.O.M. 01622670059		MaaB' ka saI' STATUS or DRG.		Paad ka p'kar yaa ga'ahkApiryaaajanaa ka naama TYPE OF PRODUCT OR NAME OF			
maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m		WT. MANISH Sd/-		12.02.19		210MW UNCHA HAR R&M			
vaaiIDMga ? ee0621104 kl EaaNal bal WELDING-CLASS 'B' OF AA0621104		naama/NAME		hataxar/ SIGN		iMaaIak/ DATE		vaad'ant' saI'yaas No. of Var.	
gaOsa KITMga ? ee0621101 kl saarNal 3		SURAJ		AXAY		18/01/05		-	
GAS CUTTING TABLE 3 OF AA0621101		SURAJ		AXAY		19/01/05		-	
REV. DATE		REV. DATE		REV. DATE		REV. DATE		REV. DATE	
01 04.04.19		01 04.04.19		01 04.04.19		01 04.04.19		01 04.04.19	
HXE-19-F0035		HXE-19-F0035		HXE-19-F0035		HXE-19-F0035		HXE-19-F0035	
CHANGES AS MARKED		CHANGES AS MARKED		CHANGES AS MARKED		CHANGES AS MARKED		CHANGES AS MARKED	
SaI'Ya-k/TITLE		SaI'Ya-k/TITLE		SaI'Ya-k/TITLE		SaI'Ya-k/TITLE		SaI'Ya-k/TITLE	
COMPENSATING RING		COMPENSATING RING		COMPENSATING RING		COMPENSATING RING		COMPENSATING RING	
kaD-AiBaklp saM#yaa/DRAWING NO.		kaD-AiBaklp saM#yaa/DRAWING NO.		kaD-AiBaklp saM#yaa/DRAWING NO.		kaD-AiBaklp saM#yaa/DRAWING NO.		kaD-AiBaklp saM#yaa/DRAWING NO.	
7 31622270274		7 31622270274		7 31622270274		7 31622270274		7 31622270274	
p'p'Z saM#yaa/Sheets No.01		p'p'Z saM#yaa/Sheets No.01		p'p'Z saM#yaa/Sheets No.01		p'p'Z saM#yaa/Sheets No.01		p'p'Z saM#yaa/Sheets No.01	
22 23 24		22 23 24		22 23 24		22 23 24		22 23 24	
01		01		01		01		01	
A3 saal'ja/A3 SIZE		A3 saal'ja/A3 SIZE		A3 saal'ja/A3 SIZE		A3 saal'ja/A3 SIZE		A3 saal'ja/A3 SIZE	

DRAWING NO. 31622270279

50 THE REST.



DEVELOPMENT OF PIPE

12 Δ	SIZE & SYMBOL OF SEAM
0.085	WELD LENGTH (M).
0.06	WT. OF WELD METAL (Kg).
E-7018	TYPE OF ELECTRODE

CBOM NO. 11622270036		STATUS OF DRG. U	
AGREED DEPT. WTX.	NAME S.K.GOND	SIGN Sd..	DATE 21.07.23

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		210 MW UKAI R & M	
--	--	-------------------	--

GRADE OF UNTOL. DIM.: -	
M/CG- V/C/M/E AA-0230208	
WELDING- A/B/C/D-AA621104	
GAS CUTTING-'T3'AA0621101	
REV.	DATE
	ALTERED
	CHECKED

REV.	DATE	ALTERED	CHECKED
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BHARAT HEAVY ELECTRICALS LTD. HARDWAR		DRN	NAME	SIGN	DATE	NO.OF VAR.
DEPT.	HXE	CHD	AJAY KUMAR	Sd..	05.07.23	-
CODE	4222	APD	DEEPAK/SHIVA	Sd..	05.07.23	-
TITLE		REF. TO ASSY. DRG.		ITEM NO.	NO.OF ITEMS	
PIPE 484X12		31621870463		04	75, 77	

DEPT.	HXE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
CODE	4222	NTS	33.2	31621870463	04	75, 77
TITLE			DRAWING NO.		REV.	
PIPE 484X12			31622270279		00	
SHEET NO.		NO.OF SHEETS		01		22, 23, 24

SIZE A3

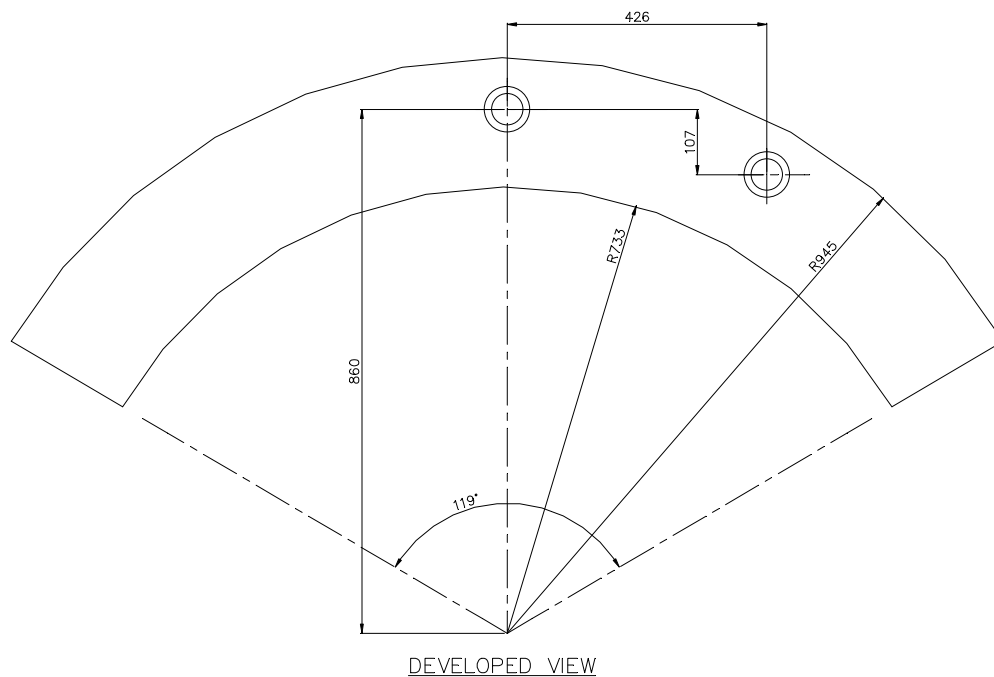
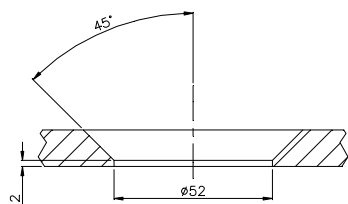
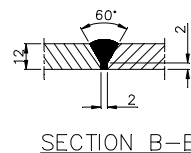
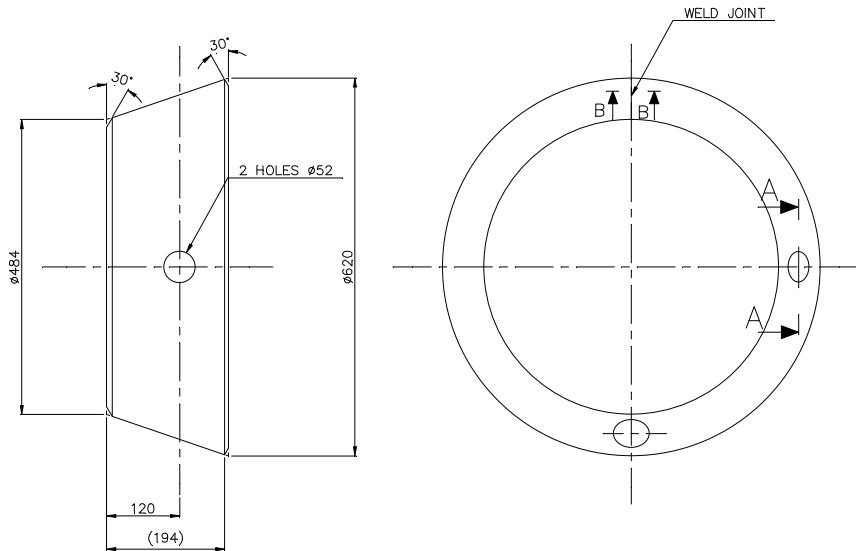
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INVENTORY NO. SIGN & DATE REF. DRG NO.

DRAWING NO. 31622270280

50 THE REST.

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12	SIZE & SYMBOL OF SEAM
0.211	WELD LENGTH (M).
0.16	WT. OF WELD METAL (Kg).
E-7018	TYPE OF ELECTRODE

CBOM NO. 11622270036		STATUS OF DRG. U	
AGREED DEPT.	NAME	SIGN	DATE
WTX.	S.K. GOND	Sd..	21.07.23

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT
 210 MW UKAI R & M

GRADE OF UNTOL. DIM.: -
 M/CG- V/C/M/E-AA-0230208
 WELDING-A/B/C/D-AA621104
 GAS CUTTING-'T3'AA0621101

REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED

BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN	NAME	SIGN	DATE	NO.OF VAR.
CHD	AJAY KUMAR	Sd..	05.07.23	-
APD	DEEPAK/SHIVA	Sd..	05.07.23	-
	N.PRAKASH	Sd..	05.07.23	73, 74

DEPT. HXE	SCALE	WEIGHT(Kg.)
CODE 4222	NTS	33.2

REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
31621870463	05	75, 77

TITLE
 CONICAL PIPE

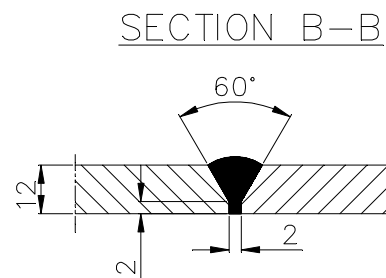
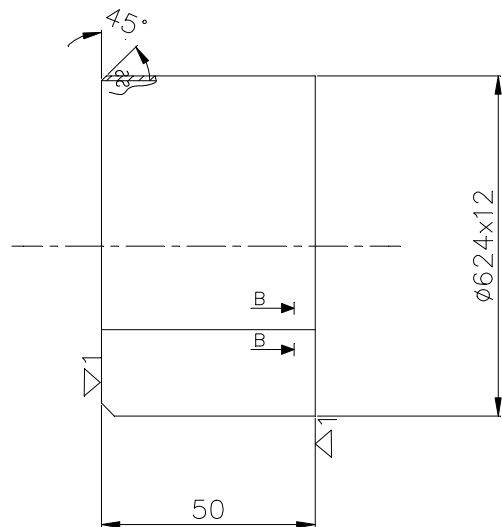
DRAWING NO.	REV.
31622270280	00

SHEET NO. 01 NO.OF SHEETS 01

18Z0Z2Z70Z81

DRAWING NO.

50 THE REST.



NOTE: -
DEVELOPED LENGTH = 1923

12 Δ	SIZE & SYMBOL OF SEAM
0.05	WELD LENGTH (M).
0.03	WT. OF WELD METAL (Kg).
E-7018	TYPE OF ELECTRODE

CBOM NO.		STATUS OF DRG.	
11622270036		U	
AGREED DEPT.	NAME	SIGN	DATE
WTX.	S.K.GOND	Sd.	21.07.23

TYPE OF PRODUCT	210 MW UKAI R&M
OR	
NAME OF CUSTOMER/ PROJECT	

GRADE OF UNTOL. DIM.: -	
M/CG - V/C/M/F AA 0230208 -	
WELDING - A/B/C/D - AA621104 -	
GAS CUTTING - 'T3' AA0621101	

REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED

DEPT.	HXE	SCALE	WEIGHT(Kg.)
CODE	4222	N.T.S	33.2

BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

NAME	SIGN	DATE	NO.OF VAR.
DRN AJAY KUMAR	Sd.	05.07.23	
CHD DEEPAK/SHIVA	Sd.	05.07.23	-
APD N.PRAKASH	Sd.	05.07.23	73, 74

REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
31621870463	06	-
		75, 77

TITLE
PIPE Ø624X12

DRAWING NO.	REV.
31622270281	00
SHEET NO.	NO.OF SHEETS
01	01

SIZE A3

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OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

REF. DRG NO.

SIGN & DATE

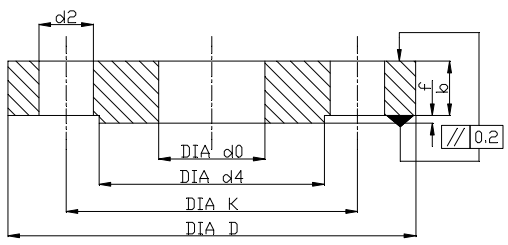
INVENTORY NO.

081017108

31650170180

12.5/ ALL OVER

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VAR	NOM SIZE	FLANGED DIMENSIONS						BOLTING DETAILS					CODE NO.	W.T.		
		d0		D		b		RAISED FACE			BOLT SIZE	HOLES NO			P.C.D K	
		NOM	TOL.	NOM	TOL.	NOM	TOL.	R4 NOM	TOL.	f						
01	10	17.7		90		14		40		2	M12	4	14	60	AA1011819155	0.53
02	15	21.8		95		14		45		2	M12	4	14	65	AA1011819155	0.59
03	20	27.4		105		16		58		2	M12	4	14	75	AA1011819155	0.73
04	25	34.2		115		16		68		2	M12	4	14	85	AA1011819155	1.02
05	32	42.9	+0.5 -0.0	140	±1	16		78		2	M16	4	18	100	AA1011819155	1.47
06	40	48.8		150		16		88	+0.0 -1.0	3	M16	4	18	110	AA1011819155	1.77
07	50	60.8		165		18		102		3	M16	4	18	125	AA1011819163	2.18
08	65	76.6		185		18		122		3	M16	4	18	145	AA1011819163	2.67
09	80	89.9		200		20		138		3	M16	8	18	160	AA1011819163	3.28
10	100	115.3		220		20		158		3	M16	8	18	180	AA1011819163	3.62
11	125	140.7		250	±1.5	22		188		3	M16	8	18	210	AA1011819171	4.99
12	150	169.3		285		22		212		3	M20	8	22	240	AA1011819171	6.00
13	175	194.7		315		24	+3 +0	242		3	M20	8	22	270	AA1011819171	7.82
14	200	221.1	+1.0 -0.0	340		24		268	+0.0 -2.0	3	M20	12	22	295	AA1011819171	8.31
15	250	275.0		405		26		320		3	M24	12	26	355	AA1011819180	11.90
16	300	325.9		460		28		378		4	M24	12	26	410	AA1011819180	14.70
17	350	357.8		520		32		438		4	M24	16	26	470	AA1011819198	24.30
18	400	408.4		580	±2	36		490		4	M27	16	30	525	AA1011819201	32.40
19	500	510.0	+1.5 -0.0	715		44	+5 +0	610	+0.0 -3.0	4	M30	20	33	650	AA1011819228	59.30
20	600	612.6		840		52		725		5	M33	20	36	770	AA1011819236	92.80

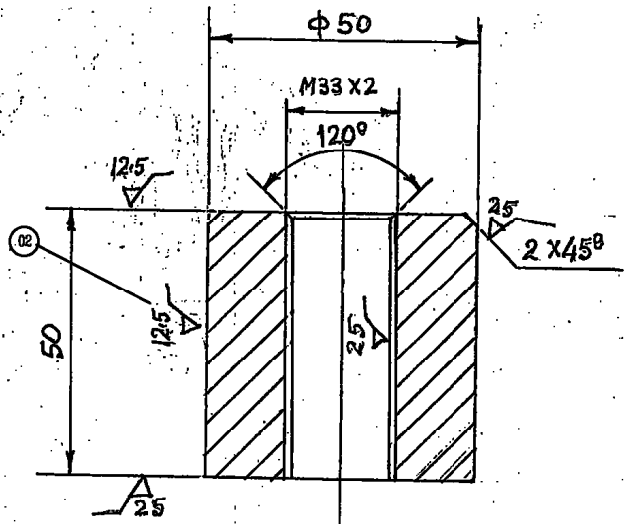
NOTE :- MATERIAL SPECN AA10119

saM#yaa/DRAWING NO. 31650170180
 saM#yaa/INVENTORY NO.

Asa*ya ivamaAaom ka vaga- GRADE OF UNTOLERANCED DIMENSION maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m	saI'bal'Aao'ema'/C.B.O.M. 01650170016	MaSa ka ee STATUS OF DRG.	Paad ka p'kar yaa ga'ahkApiryaaajanaa ka naama TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT ranapur? hirWar BHARAT HEAVY ELECTRICALS LIMITED	naama/NAME GARG RK	htaxoz/SIGN Sd/-	dhnaMk/DATE 15.02.94	vaadnaT saI'yaas No. of Var.
vaaiIDMMga ? ee0621104 kl EaaNal bal WELDING-CLASS 'B' OF AA0621104 gaOsa KITMga ? ee0621101 kl saarNal 3	WT	I.RAM	Sd/-	26.02.94	naama/NAME S.K.B	htaxoz/SIGN Sd/-	dhnaMk/DATE 16.02.94
GAS CUTTING TABLE 3 OF AA0621101	saI'baaQaa	dhnaMk/naama	saI'baaQaa	naama/NAME RAM KUMAR	htaxoz/SIGN ASHISH	dhnaMk/DATE 17.01.11	vaadnaT saI'yaas No. of Var.
REV. 01	DATE	17.01.11	ALTERED BY	ASHISH	kaadY CODE HXE-11-F0020	naama/NAME RAM KUMAR	htaxoz/SIGN ASHISH
SUPERSEDED NEW AUTOCAD UNDER THE DRG.NO.				kaadY CODE N.T.S	naama/NAME N.T.S	htaxoz/SIGN SEE BDM	dhnaMk/DATE
SaI'ya-k/TITLE PLT FLANGE PNOM 16 kg/cm ²				kaD-Aibakip saM#yaa/DRAWING NO. 31650170180	naama/NAME SEE BDM	htaxoz/SIGN REFER TO ASSLY. DRG.	dhnaMk/DATE
				kaD-Aibakip saM#yaa/DRAWING NO. 31650170180	naama/NAME SEE BDM	htaxoz/SIGN REFER TO ASSLY. DRG.	dhnaMk/DATE

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

REV. DATE	ALTERED	REV. DATE	TERED	RAJESH KR	GMS No.	STATUS
01 2-4-04	CHECKED	02 03.08.15	CHECKED	DK YADAV	0-162-05-70001	OF DRG.
HXE-00-05		HXE-15-P00 64			AGREED	DATE
CHANGES APPROVED		CHANGE AS A MARK			DEPT.	
M.F.					WT	5ARG
					SIGN	2.8.09



M.F.

AA 1010209183

QTY	NO OF	UNIT OF	DESCRIPTION	ITEM	DRG. NO.	ITEM	MATERIAL CODE	COMP	UNIT WT.
1	08	QTY	STUB	1		AA 1010208187	AA 10103	AA 10103	0.44
VAR	VAR	R.M. UNIT							
ANT	ANT	QTY.							

CARD TYPE - 2 CARD TYPE - 1



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR - HARDWAR

DEPT	CODE	SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.	ITEM NO.
HXE	043	1:1	0.44	2-162-05-70001	03

BOSS M33x2

DRAWN	NAME	SIGN.	DATE
CHECKED	D.V. STOMER		15.7.79
APPROVED	P.S.M		
	V.K.S.		18.12.17

Dimensions to be Controlled Within Limits, as Shown
Machining Tolerance ± 0.25 mm Unless Otherwise Shown
Non Machining Tolerance \pm

CARD CODE	DRAWING NO.
	4-162-05-70002
SHEET No.	NO. OF SHEETS.

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Ref. Drg No.

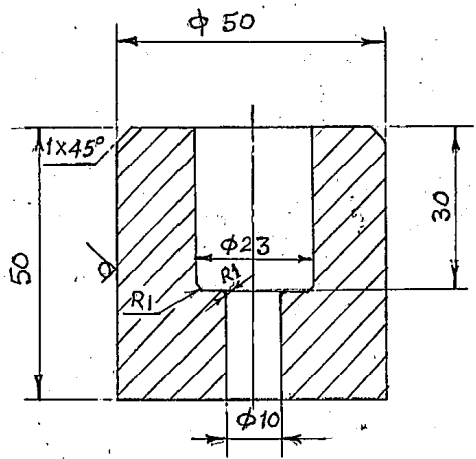
Sign. & Date

Inventory No.

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REV. 01	DATE 9.6.20	ALTERED CHECKED	REV. 02	DATE 11.11.85	ALTERED CHECKED	GMS NO./GR. SP. NO. 0-162-05-70001	STATUS OF DRG.
HXE-80-37		HXE-85-122		1. MATERIAL CODE & MATERIAL SPECN. CHANGED REV. 02 (TOTAL CH. 4)		AGREED DEPT. WT	NAME NAME
SUPERSEDES THE OLD DRG. UNDER SAME NO.						SIGN	DATE 11.11.85
REV. 03	DATE 2.4.00	ALTERED CHECKED	REV. 04	DATE 13/7/00	ALTERED CHECKED		
HXE-00-45		HXE-02-F-1240		CHANGES AS MARKED (03)		CHANGE DONE AS MARKED (04)	

25
✓ THE REST



(03) AA102020B180 (04)
AA10208
AA1010209183
AA10109

REMARKS	ITEM NO.	DESCRIPTION	UNIT WEIGHT
65	75 25 27 29	STUB	15
CARD TYPE-3		CARD TYPE-1	CARD TYPE-2

SIGN & DATE		BHARAT HEAVY ELECTRICALS LTD. HARDWAR		DRN. D.V.S.T.	NAME D.V.S.T.	SIGN D.V.S.T.	DATE 10.6.20	NO. OF VAR. 73 74
DEPT. HXE	GRADE OF UNTO DIM. C/M/F	SCALE N.T.S.	WEIGHT (KG) 0.5	APPD. V.K.S.	REF. TO ASSY DRG. 1-162-05-70001	ITEM NO.	NO. OF ITEMS 75 77	
INVENTORY NO. 4222	TITLE STUB	CARD CODE	DRAWING NO. 4-162-05-70007	SHEET NO.		NO. OF SHEETS.		SIZE A4

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

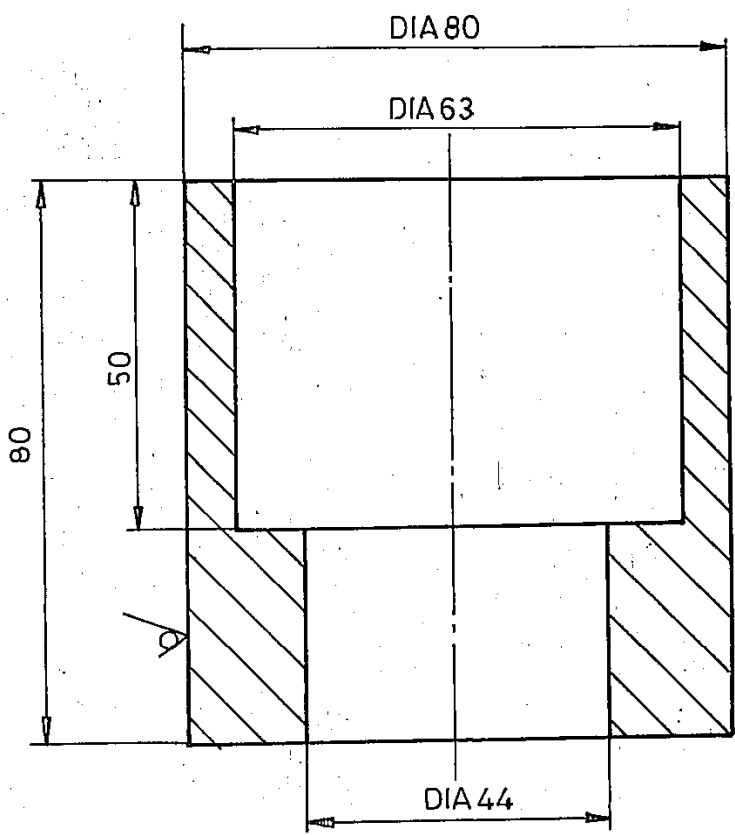
Form DG-39

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	CBOM	STATUS OF DRG.	
		CHECKED	01	7/10/07	CHECKED	1-162-19-70006			
			HXE/02/F1783			AGREED DEPT.	NAME	SIGN	DATE
			BOM DELTED			WT	SXS	2/12	4.11.91
							ER		

GRADE OF UNTOL. DIM:- MCG:-C/M/G/ AA 023 0208 WELDING:-T'0 610 003 GAS CUTTING:-T'3'AA 0621101

25 / THE REST



32644023 Ref. Drg. No.

REMARKS		ITEM NO	DESCRIPTION	DD	AA1010208241	1600
			SOCKET 2" NB		00 AA10108	
				29 31	MATERIAL CODE	UNIT WEIGHT
				34	45 A	
				VAR.	MATERIAL SPECN	
				32 33 46	84 55 56 57 66	71

28/10/91 Sign & Date



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN.	NAME	SIGN	DATE	NO. OF VAR.
	A.E.D.D(B)			
CHD.	DDT/NS	<i>[Signature]</i>	27.2.91	
APPD.	V.K.S.	<i>[Signature]</i>	21.9.91	73 74

HXE 2-6648 Inventory No.

DEPT. HXE	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (KG) 1.600	REF. TO ASSY DRG. 1-162-19-70006	ITEM NO. 007	NO. OF ITEMS 75 77
-----------	---------------------------	-----------	-------------------	----------------------------------	--------------	--------------------

TITLE	CARD CODE	DRAWING NO. 4-162-19-70003	REV.
SOCKET 2" NB			
SHEET NO. 01		NO. OF SHEETS. 01	

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

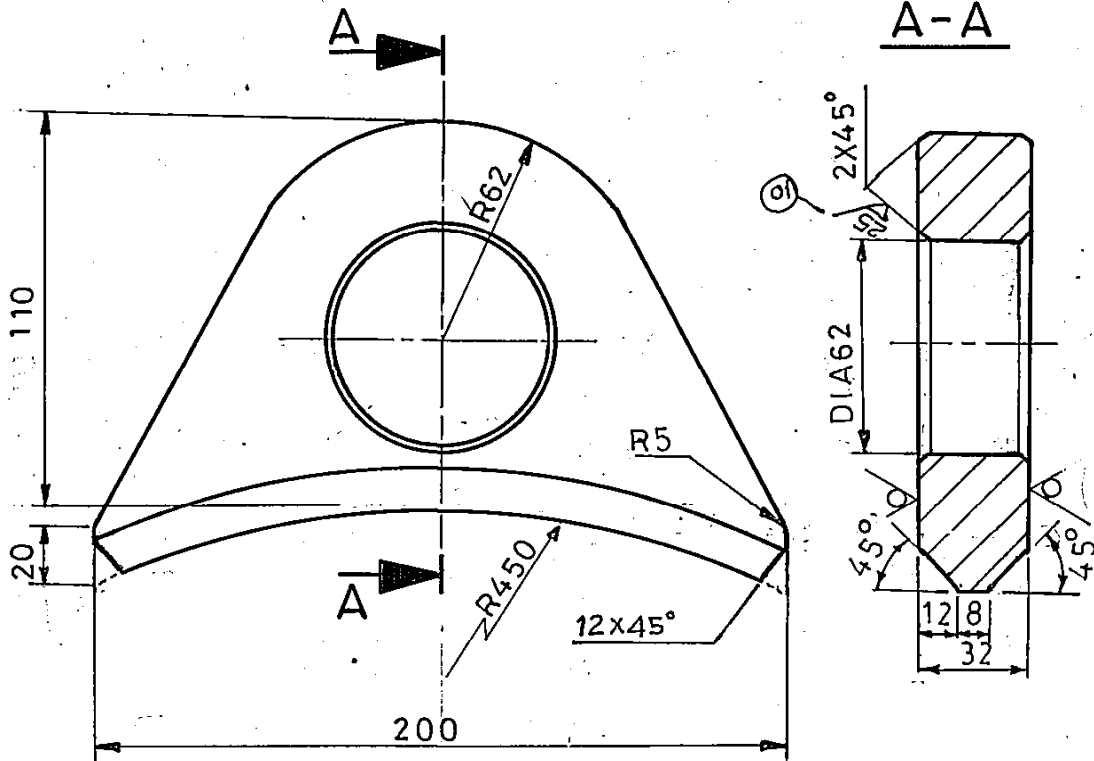
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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR-SP-NO.	STATUS OF DRG.
		CHECKED	01	18-2-06	CHECKED	0-162-22-70020	
			HXE-06-F0009			AGREED DEPT.	NAME
			CHANGES MARKED AS - 01			WT	SIGN
							DATE
							29.4.4)

GRADE OF UNTOL DIM: MCG-C/MF-AA0230208 WELDING TT0610003 GAS CUTTING T3 0621101

50° THE REST



TECH. REQT.:

LUGS ARE TO BE TESTED ULTRASONICALLY FOR LAMINATIONS.

001	LUG	AA1041801173	3	200
00	AA10401	C		
REMARKS	ITEM NO	DESCRIPTION	UNIT WEIGHT	
65	75 25 27 29	58 59 32 33 46	54 55 56 57 66	71
CARD TYPE-3	28	CARD TYPE-1	20	CARD TYPE-2



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN.	NAME	SIGN	DATE	NO. OF VAR.
	A EDD	(P)		
CHD.	D.D.T./N.S.		15.2.91	
APPD.	V.K.S.		31.12.91	73 74

DEPT. HXE	GRADE OF UNTOL DIM	SCALE	WEIGHT (KG)	REF. TO ASSY DRG.	ITEM NO.	NO. OF ITEMS
CODE 4222		1:2	3.200	0-162-22-70019	007	001

Inventory No. HXE-6893

TITLE	CARD CODE	DRAWING NO.	REV.
LUG		4-162-22-70046	
		SHEET NO. 01	NO. OF SHEETS. 01

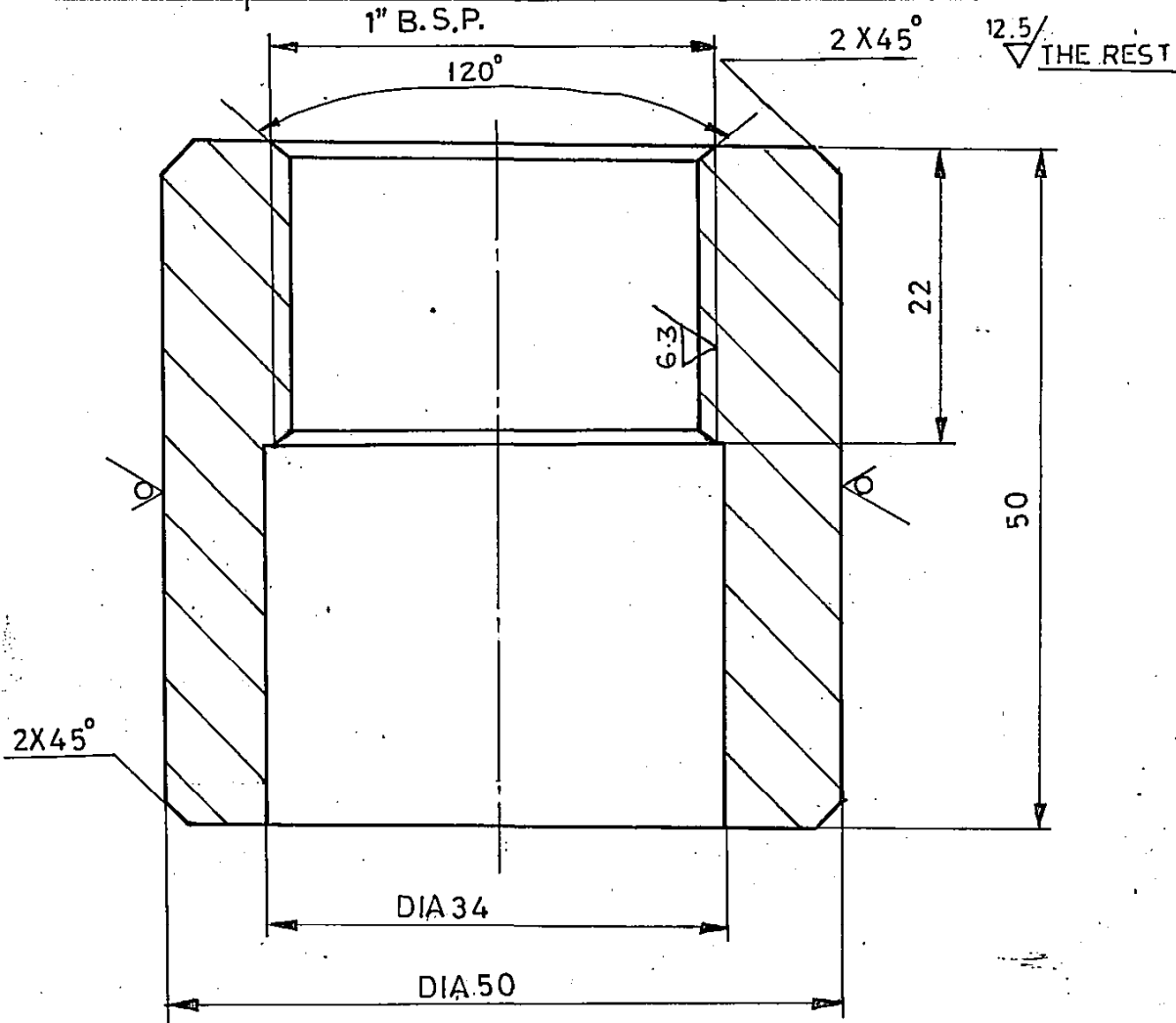
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

Form DG-39

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-70020	
						AGREED DEPT.	NAME
						WT	IR
						SIGN	DATE
							29.4.91

GRADE OF UNTOL DIM: MCG-2/MF-AA0230208 WELDING T. 1° 0610-003 GAS CUTTING T3 AA0621101



32615039

Ref. Drg. No.

Sign & Date

Inventory No. AXE2-6896

001	STUB 1" B S P	HW1010291165	0.500
REMARKS	ITEM NO	DESCRIPTION	UNIT WEIGHT
65	75 25 27 29	58 59 32 33 46	54 55 56 57 66 71
CARD TYPE-3	28 →	CARD TYPE-1	→ 20

	BHARAT HEAVY ELECTRICALS LTD. HARDWAR	DRN.	NAME	SIGN	DATE	NO. OF VAR.
		CHD.	A E D D	(P)		
		APPD.	D.D.T./N.S.	<i>[Signature]</i>	15.2.91	
			V.K.S.	<i>[Signature]</i>	31.12.91	73 74

DEPT. HXE	GRADE OF UNTOL DIM	SCALE 2:1	WEIGHT (KG) 0.500	REF. TO ASSY DRG. 0-162-22-70019	ITEM NO. 012	NO. OF ITEMS
CODE 4222						75 77

TITLE	CARD CODE	DRAWING NO.	REV.
STUB 1" B.S.P		4-162-22-70049	00
		SHEET NO. 01	NO. OF SHEETS. 01

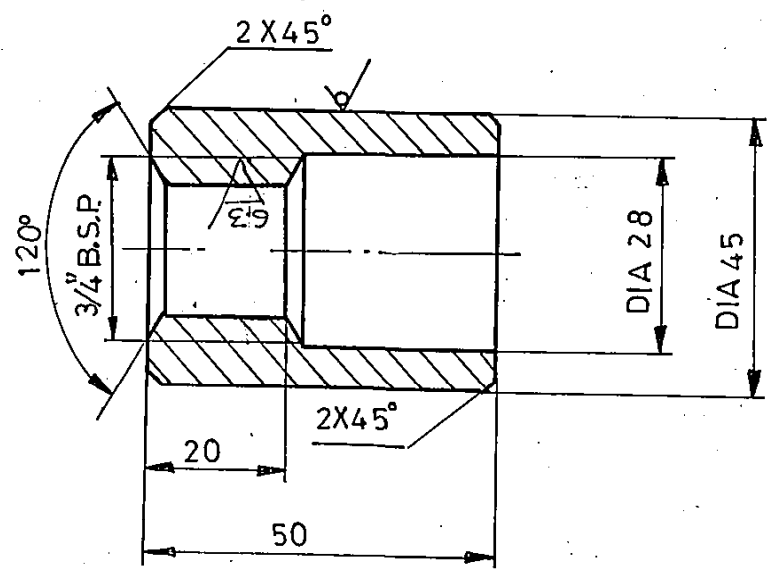
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-70020	
						AGREED DEPT.	NAME
						WT	IR
						SIGN	DATE
							29.4.91

12.5 / THE REST



32601475 Ref. Drg. No.

001	STUB	HW1010291157	0300
00	HW10191		
REMARKS	ITEM NO.	DESCRIPTION	UNIT WEIGHT
65	75 25 27 29	58 59 32 33 46	54 55 56 57 66 71
CARD TYPE-3	28	CARD TYPE-1	CARD TYPE-2



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN	NAME	SIGN	DATE	NO. OF VAR.
CHD.	AEDD	(P)	15.2.91	
APPD.	DDT/NS	<i>ADD</i>	31.12.91	73-74
	V.K.S.	<i>V.K.Saxena</i>		

HXE-6897 Inventory No.

DEPT.	GRADE OF UNTO L.DIM.	SCALE	WEIGHT (KG)	REF. TO ASSY DRG.	ITEM NO.	NO. OF ITEMS
HXE	C/M/F	1:1	0.300	0-162-22-70019	13	75-77

TITLE	CARD CODE	DRAWING NO.	REV.
STUB		4-162-22-70050	
SHEET NO.		NO. OF SHEETS.	

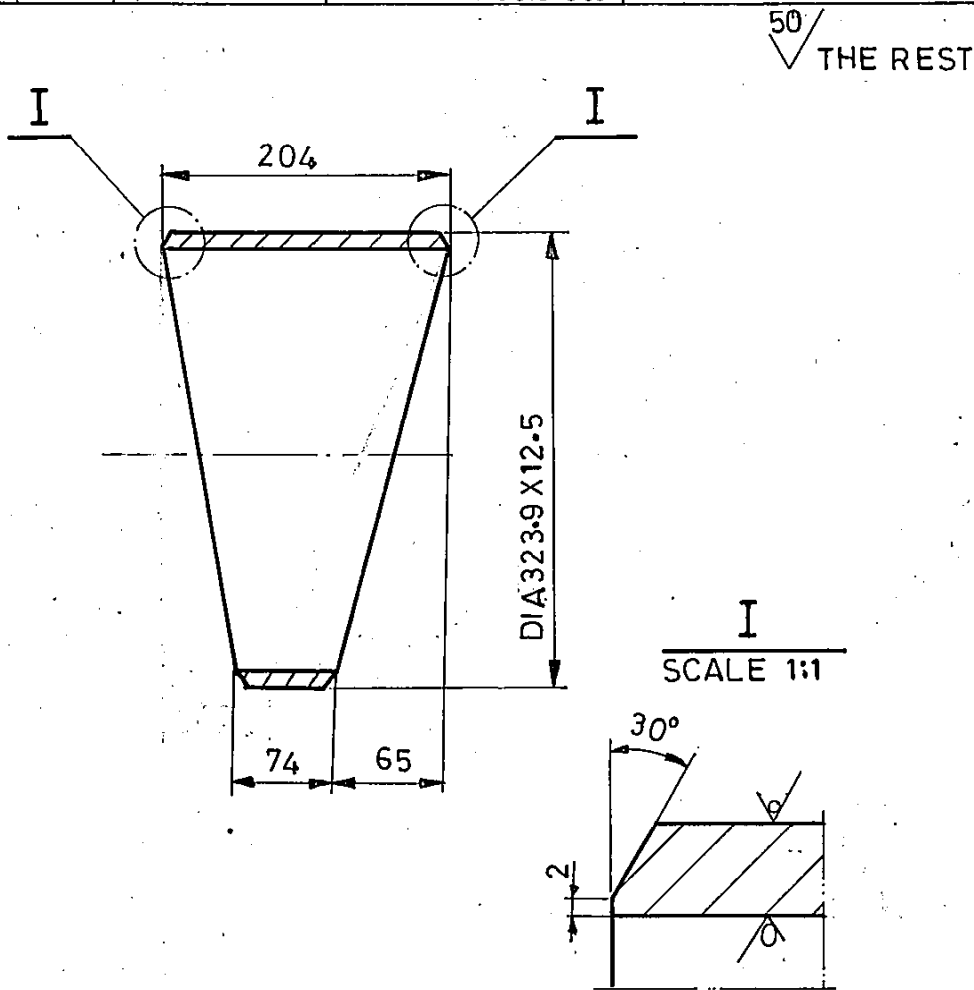
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

Form DG-39

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-70020	
						AGREED DEPT.	NAME
						WT	IR
						SIGN	DATE
							29.4.91

GRADE OF UNTOL DIM: MCG. C/M/F AA023 0208 WELDING 'T' 0610 003 GAS CUTTING 'T3' 06211 01



32636022

Ref. Drg. No.

001	PIPE Ø 323.9 X 12.5	AA1041155700	13	500
REMARKS	ITEM NO	DESCRIPTION	UNIT WEIGHT	
65	75 25 27 29	58 59 32 33 46	54 55 56 57 66	71
CARD TYPE-3	28	CARD TYPE-1	23	CARD TYPE-2

19/12/91

Sign & Date



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

DRN.	NAME	SIGN	DATE	NO. OF VAR.
CHD.	A EDD	(P)		
APPD.	D.D.T./NS.		15.2.91	
	V.K.S.		21.12.91	73 74

DEPT. HXE	GRADE OF UNTOL: DIM. C/M/F	SCALE 1:5	WEIGHT (KG) 13.500	REF. TO ASSY DRG. 3-162-22-70075	ITEM NO. 003	NO. OF ITEMS 75 77
-----------	----------------------------	-----------	--------------------	----------------------------------	--------------	--------------------

TITLE	CARD CODE	DRAWING NO.	REV.
PIPE Ø 323.9 X 12.5.		4-162-22-70053	
SHEET NO. 01		NO. OF SHEETS. 01	

HXE-6900

Inventory No.

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

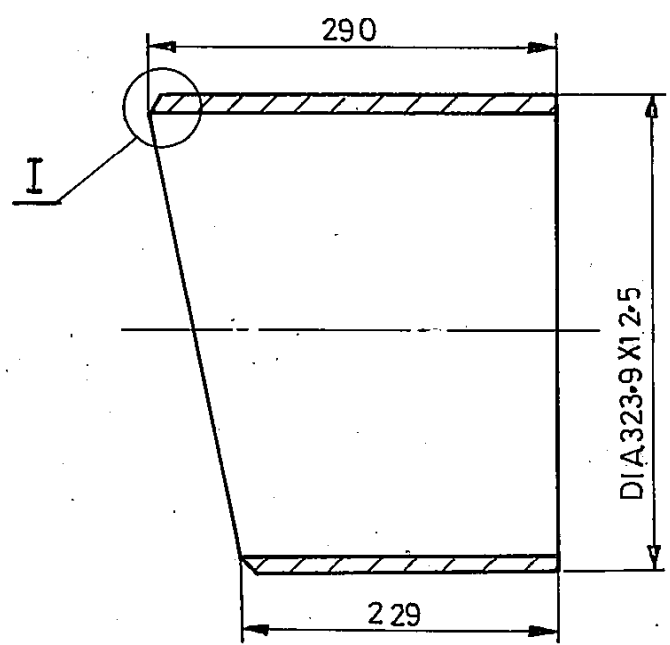
Form DG-39

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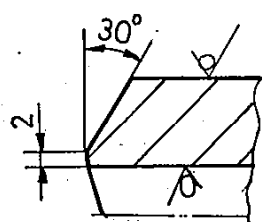
REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR-SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-700-20	
						AGREED DEPT.	NAME
						NT	IR
						SIGN	DATE
							23.4.91

GRADE OF UNTOL DIM:- MCG-C/M/F AA 0230208 | WELDING 'T' 1'061003 | GAS CUTTING 'T' 3'AA0621101

50/ THE REST



I
SCALE 1:1



32636023 Ref. Drg. No.

001	PIPE Ø323.9X12.5	AA 104115 57 00	24 000
REMARKS	ITEM NO	DESCRIPTION	UNIT WEIGHT
65	75 25 27 29	50 59 32 33 46	54 55 56 57 66 71
CARD TYPE-3	28	CARD TYPE-1	20

	BHARAT HEAVY ELECTRICALS LTD.		DRN.	NAME	SIGN	DATE	NO. OF VAR.
	HARDWAR		CHD.	D.D.T./NS.		15.2.91	
			APPD.	V.K.S.		31.12.91	73 74

DEPT. HXE	GRADE OF UNTOL: DIM. C/M/F	SCALE 1:5	WEIGHT (KG) 24.00	REF. TO ASSY DRG. 3-162-22-70075	ITEM NO. 004	NO. OF ITEMS 75 77
-----------	----------------------------	-----------	-------------------	----------------------------------	--------------	--------------------

TITLE	CARD CODE	DRAWING NO. 4-162-22-70054	REV. 00
PIPE Ø 323.9X12.5		SHEET NO. 01	NO. OF SHEETS. 01

Inventory No. HXE2-6901 Date 19/12/92

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

Form DG-39

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-70020	
						AGREED DEPT.	NAME
						W.T.	SIGN
							DATE
							24.1.91

GRADE OF UNTOL DIM :- MCG- C/M/G AA023 0208 WELDING TT 0610-003 GAS CUTTING T 3 AA062 1101

50/ THE REST

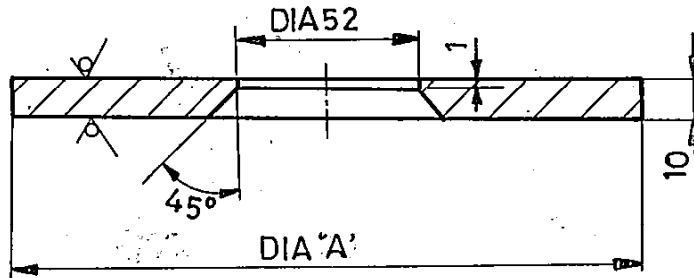


TABLE :-

VAR	DIA 'A'
00	180
01	240

002	BLANK PLATE	AA1011808072	2	400
001	BLANK PLATE	AA1011808072	1	300
00	AA10108			
REMARKS	KEY NO.	DESCRIPTION	UNIT WEIGHT	
65	75 25 27 29	58 59 32 33 46	54 55 56 57 66	71

65 75 25 27 29 58 59 32 33 46 54 55 56 57 66 71

CARD TYPE-3 28 28 CARD TYPE-1 28 CARD TYPE-2

	BHARAT HEAVY ELECTRICALS LTD.		DRN.	NAME	SIGN	DATE	NO. OF VAR.
	HARDWAR		CHD.	D.D.T./N.S.	<i>M. S.</i>	5.4.91	
			APPD.	V.K.S.	<i>V.K.S.</i>	31.12.91	73 74

DEPT. HXE	GRADE OF UNTOL DIM. C/M/F	SCALE 1:2	WEIGHT (KG) SEE BOM.	REF. TO ASSY DRG. 2-162-22-70046.	ITEM NO. 003	NO. OF ITEMS 75 77
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TITLE	DRAWING NO.	REV.
BLANK PLATE	4-162-22-70056	00
		22 23 24
	SHEET NO. 1	NO. OF SHEETS. 1

32644031 Ref. Drg. No.

21/12/92 Sign & Date

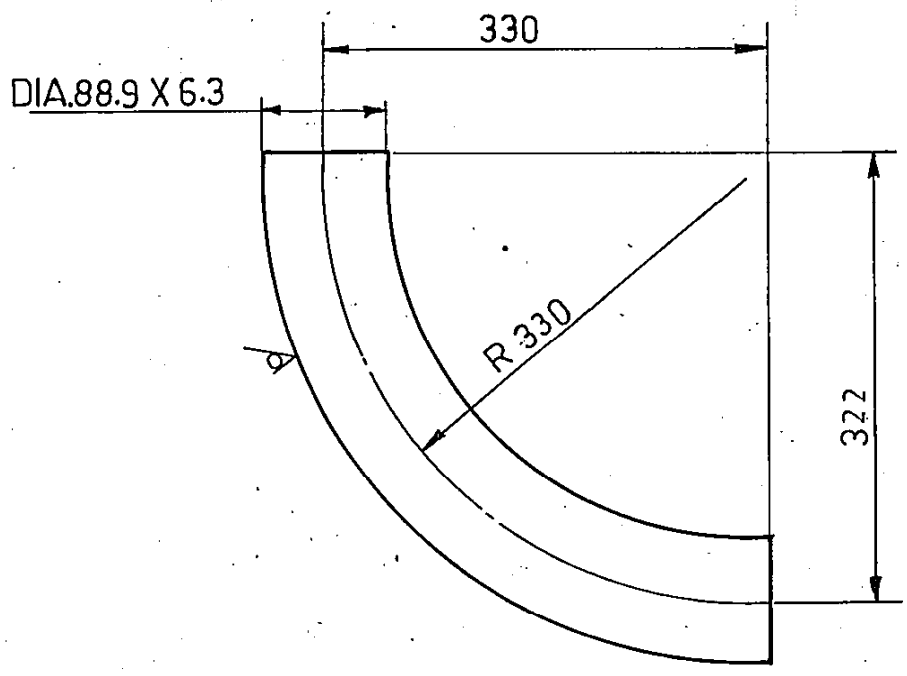
HXE-6903 Inventory No.

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REV	DATE	ALTERED	REV	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG.
		CHECKED			CHECKED	0-162-22-70020	
					AGREED DEPT.	NAME	SIGN
					WT	29.6.91	

GRADE OF UNTOL DIM MCG-C/MF AA0230208 WELDING 'T'1'0610-003 GAS CUTTING 'T'3'AA0621101

50/ THE REST



NOTE:-
DEVELOPED LENGTH 510 mm.

Inventory No. HXE₂-69/10
Sign & Date 19/12/92
Ref. Drg. No. 3262-5044

REMARKS	ITEM NO.	DESCRIPTION	UNIT WEIGHT
65	75 25 27 29	58 59	71
CARD TYPE-3		CARD TYPE-1	CARD TYPE-2
28		20	20

	BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE	NO. OF VAR.
	HARDWAR		CHD.	A.E.E.D		5.4.91	
			APPD.	V.K.S.	<i>[Signature]</i>	31.12.91	73 74

DEPT. HXE	GRADE OF UNTOL: DIM. C/M/F	SCALE 1:5	WEIGHT (KG) 7.00	REF. TO ASSY DRG. 0-162-22-70024	ITEM NO. 010	NO. OF ITEMS 75 77
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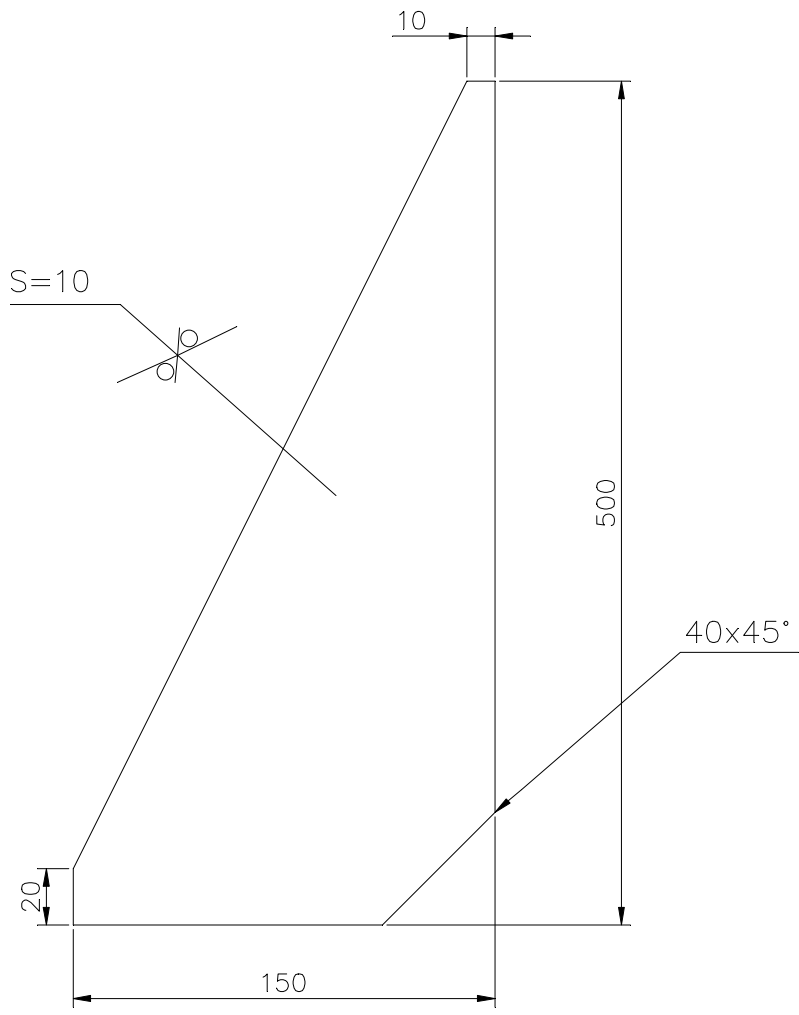
TITLE BEND PIPE DIA 88.9 X 6.3	CARD CODE 3	DRAWING NO. 4-162-22-70063	REV.
		SHEET NO. 01	NO. OF SHEETS. 01

p'qama kaoNa p'xaopNa/FIRST ANGLE PROJECTION p'p~ Dijal 39 (bal)

REV.	DATE	ALTERED BY	REV.	DATE	ALTERED BY	sal°bal°Aao°ema°/C.B.O.M. 01622270056		FORM 39 (B) STATUS OF DRG. U
jaacaDkta-CHD			jaacaDkta-CHD			sahmat ivaBaaga AGREED DEPTT.	naama/NAME	hstaxar/ SIGN.
						vaoiDMga	naama/NAME	idnaaMk/DATE
								07/05/05
maSalinaMga ? ee0230208 ema MACHINING - AA0230208 m			vaoiDMga ? ee0621104 kl EaoNal bal WELDING-CLASS 'B' OF AA0621104			gaOsa kiTMga ? ee0621101 kl saarNal 3 GAS CUTTING-TABLE 3 OF AA0621101		

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50 ✓
THE REST



saM#yaa
saM#yaa

saM#yaa
saM#yaa



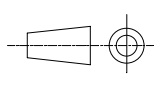
Bharat hova [laoi@T/ksa ilaimaToD? rana...]
BHARAT HEAVY ELECTRICALS LIMITED,
RANIPUR, HARDWAR

naama/NAME ASaak K~l	hstaxar/SIGN h°	idnaa/DATE 05/05/05
jaacaDkta-CHD ena°p°kaSa	h°	06/05/05
svalkRtidata APPD ena°pl°maqauh°	h°	07/05/05

vairenT saM#yaa
No. of Var.

saM#yaa
saM#yaa

ivaBaagT e@sacaaMjar
DEPTT. AiBa°
HXE
kaod CODE 4222



Anaups SCALE
N.T.S.

Baar ik°ga°a° Asaombalal AiBaklp ka saM#yaa
WEIGHT (KG)
3.00

REFER TO ASSLY. DRG.
11622270024

saM#yaa
NO. OF ITEMS
15

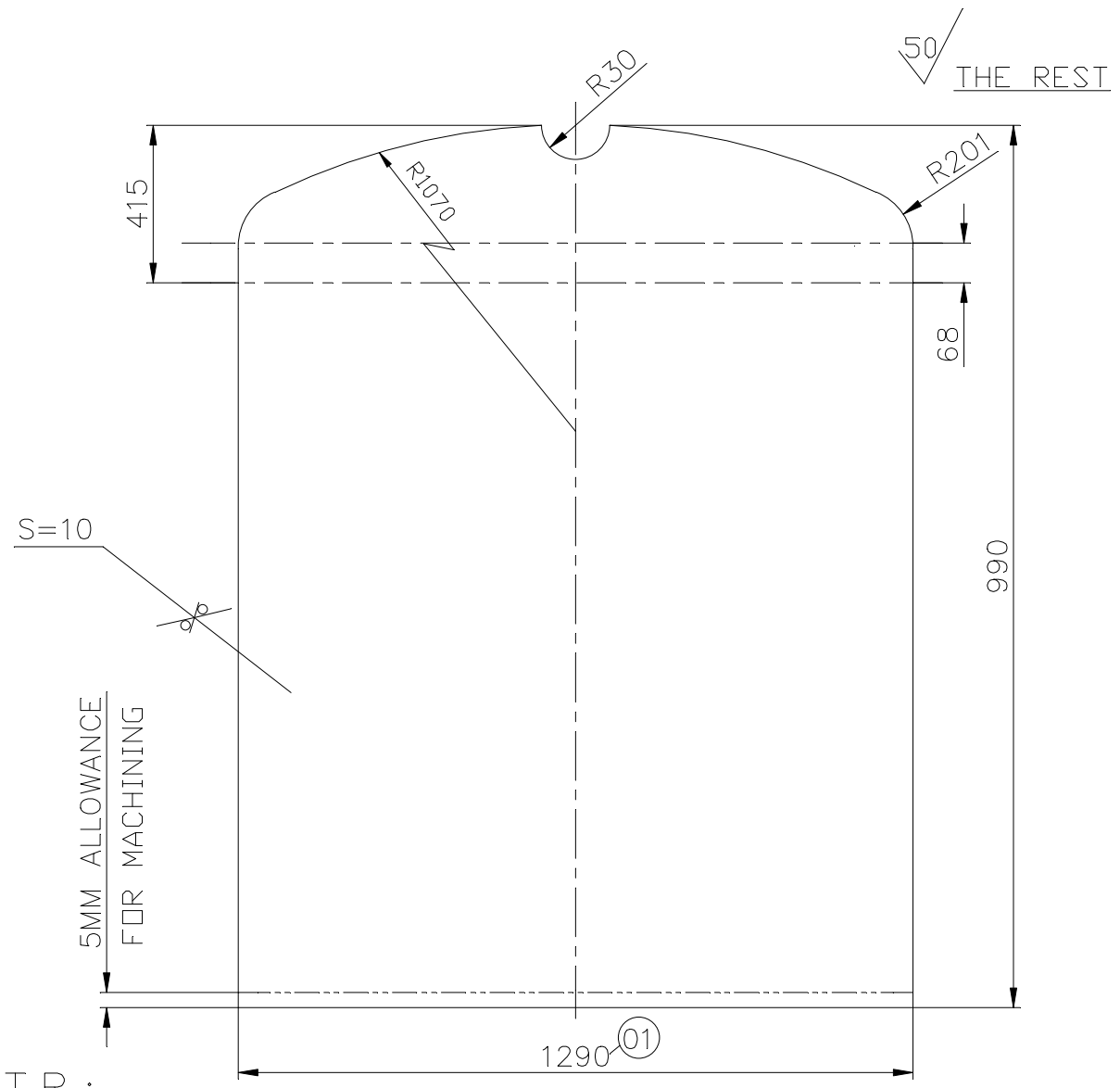
SalYg TITLE
RIB

kaD-koad\ CARD CODE
AiBaklp saM#yaa DRAWING NO.
7 41622270118
pRYZ saM#yaa No. 01 pRYZaom kl/saM#yaa Sheets 01

p'qama kaoNa p'xaopNa/FIRST ANGLE PROJECTION p'p~ Dijal 39 (bal)

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REV. 01	DATE 04.04.19	ALTERED BY jaacoDkta-CHD	SURAJ AXAY	sal°bal°Aao°ema°/C.B.O.M. 01622670059	FORM 30 (B) STATUS OF DRG. U
HXE-19-F0035			AGREED DEPTT. naama/NAME	hstaxar/SIGN. idnaaMk/DATE	
CHANGES AS MARKED (01)			WT. MANISH	sd. 12.02.19	
maSalinaMga ? ee0230208 ma MACHINING - AA0230208 m		vaooiDMMga ? ee0621104 kl EaoNal bal WELDING-CLASS 'B' OF AA0621104		gaOsa kiTMga ? ee0621101 kl saarNal 3 GAS CUTTING-TABLE 3 OF AA0621101	



PROFILE AS SHOWN IS TENTATIVE, FINAL SHOULD BE MATCH MARKED FORM DISHED END.



Bhart hova [laoi@T/ksa ilaimaToD? rana... SURAJ AXAY NAVEEN

NAME	SIGN	DATE
SURAJ	sd.	29/01/19
AXAY	sd.	29/01/19
NAVEEN	sd.	29/01/19

DEPTT. HXE	SCALE N.T.S.	WEIGHT (KG) 103.00	REFER TO ASSLY. DRG. 11622270032	ITEM NO. 04
CODE 4222				

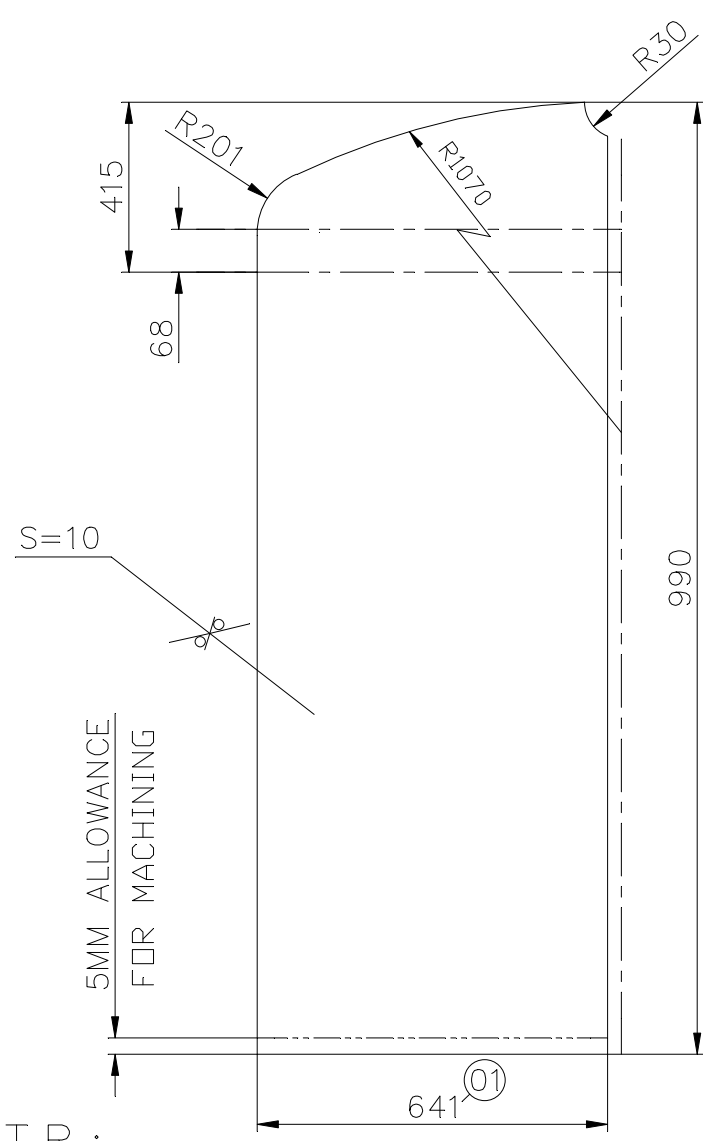
TITLE FULL PARTITION	DRAWING NO. 41622270156	NO. OF SHEETS 01
INVENTORY NO.	DRG. NO. 01	SHEETS 01

p'qama kaoNa p'xaopNa/FIRST ANGLE PROJECTION p'p~ Dijal 39 (bal)

REV. 01	DATE 04.04.19	ALTERED BY jaacaDkta-CHD	SURAJ AXAY	sal°bal°Aao°ema°/C.B.O.M. 01622670059	FORM 30 (B) STATUS OF DRG. U
HXE-19-FOO35			sahmat ivaBaaga AGREED DEPTT.	naama/NAME	hstaxar/ SIGN. idnaaMk/DATE
CHANGES AS MARKED ①			WT.	MANISH	sd. 12.02.19

maSalinaMga ? ee0230208 ma MACHINING - AA0230208 m vaaiiDMMga ? ee0621104 kl EaoNal bal WELDING-CLASS 'B' OF AA0621104 gaOsa kiTMga ? ee0621101 kl saarNal 3 GAS CUTTING-TABLE 3 OF AA0621101

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PROFILE AS SHOWN IS TENTATIVE, FINAL SHOULD BE MATCH MARKED FORM DISHED END.



Bhart hoval [laoi@T/klsa ilaimaToD? rana... SURAJ sd. 29/01/19
 BHARAT HEAVY ELECTRICALS LIMITED, RANIPUR, HARDWAR AXAY sd. 29/01/19
 NAVREEN sd. 29/01/19

DEPTT. HXE	SCALE N.T.S.	WEIGHT (KG) 52.00	REFER TO ASSLY. DRG. 11622270032	ITEM NO. 05
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HALF PARTITION	DRAWING NO. 41622270157	NO. OF ITEMS 01
INVENTORY NO.	7	22 23 24
SAFETY	Sheets No. 01	Sheets 01



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

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27. NOTE..... 12

1. GENERAL.

These general terms & conditions shall apply to all the Tender Enquiries, notice inviting tenders, request for quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd., HEEP, Haridwar (hereinafter referred to as BHEL or the Purchaser). In case of placement of order these conditions will become part of Purchase Order (P.O) until unless the deviations are specifically agreed by BHEL.

2. ORIGIN OF QUOTATION.

- a) The quotation should preferably be from the principal bidder. However tender specific authorized registered dealer/agent can also submit the bid on their behalf, failing which the quotation is liable to be ignored. BHEL prefers to deal directly with the principal manufacturers.
- b) An agent cannot quote on behalf of more than one principal in the same Tender Enquiry.

3. SUBMISSION OF TENDER.

- a) Bid / Quotation must be enclosed in sealed cover on which tender enquiry number and the due date MUST BE written and be invariably sent under REGISTERED POST / SPEED POST / COURIER / Dropped in the Tender Box: addressed as follows:

Quotation against Enquiry No. _____

Dated: _____

Due on: _____

To,

**THE HEAD OF MATERIALS MANAGEMENT,
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited,
HARIDWAR-249403 (Uttarakhand), INDIA.**

- b) TENDER ROOM is located at: Room No. - 415, 4th Floor, Main Admin. Building, BHEL-HEEP, Haridwar.

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

- c) In case of Three / Two Part Bid, technical bid containing technical offer, duly signed and un-priced copy of the Price Bid should be kept in one envelope. Price Bid containing only the price should be kept in a separate envelope. All envelopes indicating Part-1 or Part-2 or Part-3 as the case may be to be put in a bigger envelope. Please note that un-priced bid should be the exact replica of price bid but without prices.
- d) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Quotations sent by any mode but not received in time will be ignored. Tender received through authorized E-mail is also acceptable. However, in time submission of tender in tender box shall be the responsibility of the bidder, sent through any mode. Documents submitted with the offer / bid shall be signed and stamped in each page by authorized representative of the bidder.
- e) Any additional documents submitted by supplier / bidder, during processing of registration application / tender or after placement of order shall not be accepted unless it is submitted with forwarding letter and duly signed and stamped.
- f) The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, shall be rejected. The cutting / overwriting in the bid / offer must be duly attested by the signatories to the bid. The list of firms banned by BHEL is available on BHEL web site www.bhel.com.
- g) Being PMD vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list.
- h) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 2 Crore or more.
- i) In case of open tender, technically qualified unregistered bidders may apply online for registration through <http://www.bhel.com/index.php/vender>.
- j) BHEL reserves the right to award tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders). BHEL can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.
- k) In case of e-Tendering (Online bidding through e-portal), offline bid submitted in hard copy or in any other form by the vendor / supplier will not be accepted and will be rejected out rightly. Only e-portal bid will be accepted.

4. TENDER OPENING.

Tender opening is scheduled to start in the Tender Room at 2:00 PM, on the due date. Therefore, bid / quotations must reach this office / tender Box latest by 1:45 PM on due date. Only participating bidders are allowed to attend tender opening. **TENDERS RECEIVED AFTER THE SPECIFIED TIME OF THEIR 'SUBMISSION' WILL BE TREATED AS LATE TENDERS AND SHALL NOT BE CONSIDERED UNDER ANY CIRCUMSTANCES.** The bidders or their authorized representatives may be allowed to attend tender opening if duly authorized by their principals, through a tender specific letter on that particular day. General authorization letter is not acceptable.

Note: - Foreign bidders willing to attend the bid opening has to provide the requisite documents to the concerned Purchase executives for arranging gate pass for them.

5. SPECIFICATION, DRAWINGS & STANDARD.

- a) Bidders must give their detailed specification in the quotation along with relevant technical literature / catalogue etc. against the tender enquiry.
- b) The Bid should be accompanied with relevant copies of catalogues, drawings or specification as per tender enquiry.

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

If these documents are not furnished, the offer is liable to be rejected.

- c) Wherever national / international (N/IN) standards are referred, the latest N/IN standards are to be followed. Mention year & date of standard revision that shall be followed for the supply.
- d) All Drawings and Standards are proprietary of BHEL. It must not be used in anyway detrimental to the interest of BHEL or without permission of BHEL.

6. PRICE SCHEDULE.

- a) Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 status.
- b) Prices quoted should not be more than the prices quoted to any other BHEL units / offices / divisions. Vendor to submit copy of latest Purchase Order placed by any unit of BHEL for similar items in the technical bid. In case no order has been placed on such items, specific confirmation that no order has been placed on such items should be provided.
- c) Prices should be quoted on F.O.R. Destination basis. Transit insurance shall be arranged by BHEL and not to be included in the prices. The offers quoted on other than F.O.R destination basis may result in non-consideration of such bids.
- d) In case BHEL accepts the EX-Works prices, such offers will be loaded by 1.5% of EX-Works value towards freight or with actual freight charges as per BHEL freight rate contract whichever is higher.
- e) In case of Indigenous items covered by DGS & D Rate Contract, the bidders should submit latest valid copy of the rate contract along with bid / quotation
- f) Applicable **IGST / CGST / SGST** and any other statutory levy should be indicated separately and clearly in the bid / quotation.

- g) Bidders can dispatch goods through any Indian Bank Association approved transporters having their branch at HARIDWAR / destination. If material is dispatched through other than Indian Bank Association approved transporter, material to be delivered on door delivery BHEL Stores basis.
- h) In case of dispatch of material through any other unapproved transporter, payment shall be made only after receipt of material and any additional charges payable to the transporter shall be to the bidder's account.
- i) Any demurrage / godown rent payable to the transporter / or to godown's owner due to any delay attributed by the supplier shall be recovered from supplier's account.
- j) Currency of Evaluation shall be INR.

NB: Financial evaluation of L1, L2Status will be on the basis of Landed Cost to BHEL.

7. REVERSE AUCTION.

Wherever RA is declared in the special terms and conditions of tender enquiry, following shall be applicable and Bidders to confirm the same:

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."

8. DELIVERY TERMS.

- a) Goods shall be delivered on 'FOR Destination' basis to the named destination unless otherwise called for in the tender enquiry.
- b) Loading on account of 3rd party inspection charges in case of Indian bidders shall be 0.20%.

Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

9. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY.

a) Where items of Purchase Order are independently usable.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the Gross Value payable to the vendor (Before LD) against such supplies excluding taxes and duties.

b) Where the total items are required for a main equipment and items are interdependent.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on total value of Purchase Order subject to maximum of 10% of the total value of Purchase Order. Purchase Order value for this purpose shall be the Total Gross Value payable to the vendor (Before LD) excluding taxes and duties.

c) Bidders are requested to quote the best delivery meeting the delivery requirements. BHEL reserves the right to reject the offers not meeting BHEL's delivery requirement.

d) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

e) Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.

f) DELIVERY IN CASE OF REJECTION: In case the material is rejected, then date of replacement will be considered as the actual date of delivery.

g) DELIVERY AGAINST BANK DOCUMENTS: In case payment terms quoted by bidder are documents through bank, and the delivery terms being "FOR Haridwar / FOR Transporter Go-down" then date of delivery will be date of intimation by transporter / bidder of delivery of material at Haridwar for the LD purpose.

h) Where the payments are through bank, the documents may be presented for negotiation to BHEL authorized / nominated bank.

i) Payment of Liquidated Damages (LD) shall not in any way relieve the vendor from any of its obligations & liabilities under the contract.

10. PAYMENT TERMS.

a) BHEL's standard payment term is Payment after receipt and acceptance of materials / items at HEEP, BHEL-Store or at desired destination unless otherwise specified in Special Terms attached to the tender enquiry.

b) BHEL reserves the right to accept or reject the offer of the bidder who quotes the payment term other than BHEL's standard payment term.

c) Loading on account of deviation in payment terms shall be done as per extant rules of BHEL-Haridwar.

d) 100% payment along with taxes, freight & insurance will be made after receipt and acceptance of material and within 75 days from the date of invoice subject to submission of non-discrepant documents within 15 days of supply as per terms and conditions of Purchase Order. In case any discrepancy found in the documents, BHEL will notify the same to vendor within 7 days of receipt. Vendor has to clear all the discrepancies in one go within 7 days thereafter else the payment of vendor may get delayed.

e) For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, the payment will be made within 45 days or as prescribed in the relevant act.

f) Adherence to the above time schedule of payment is contingent upon Vendor complying with GST Rules w.r.t availment of Input Tax Credit by BHEL.

g) In case GST credit is delayed / denied to BHEL, due to non / delayed receipt of goods and / or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied / leviable on BHEL.

h) The taxes and duties that are reimbursed would be the ones applicable as on the contractual Purchase order delivery date or the amount actually paid whichever is less.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

i) **The loading criteria for the different payment terms shall be as under;**

Payment Terms	Days of Loading
After Receipt & Acceptance of material within 75 days of supply.	No Loading
Against Delivery at BHEL-Stores Haridwar.	45
Against documents through bank (CAD):	45
Letter of Credit (LC)	120
Usance LC	No Loading if usance period is > 120 Days.
	Loading of days' difference i.e. difference between 120 days and usance period if the usance period is < 75 days.
Advance	Delivery Period + 120 Days - Advance Payment Days.

11. TAXES & DUTIES.

- a) The bidder to specify in their offer (part 1 bid) the category of their registration under GST like Registered, Unregistered and composite dealer.
- b) The provisional GST registration number of Bharat Heavy Electrical Ltd, Heavy Electricals Equipment Plant, Ranipur, Haridwar is "05AAACB4146P1ZL" with state Code as "05" and State Name as "Uttarakhand".
- c) Please quote our provisional GST registration number in all invoices raised for supply of goods and services under GST regime and also ensure filing of timely return and payment of tax and compliance of other applicable provisions on supplier under GST regime.
- d) No GST will be reimbursed to unregistered or composite dealer. In the event, any GST is quoted by composite dealer, the same shall be added to the cost of supply in evaluating the bid.
- e) Since, input credit of GST will be available to BHEL-Haridwar only after correct filing of return and payment of applicable GST by supplier, reimbursement of GST shall be made by

BHEL-Haridwar on matching of vendor inputs at GST portal, ensuring availability of input credit to BHEL Haridwar. Payment of GST will be made to vendor after matching of input credit and vendor to ensure submission of their invoices along with consent to accept payment of tax after such matching in all cases where bills are submitted directly to BHEL-Haridwar or through bank or under LC or through any other mode.

- f) In the event of any disallowance of input credit or applicability of interest or any other financial liability arises on BHEL-Haridwar due to any default of supplier under GST, such implication shall be to supplier's account.
- g) In the event of any change in the status of the vendor after the submission of the bid but before the supply, GST applicable at the time of supply or in the bid, based on the registration status of the vendor, whichever is lower shall be payable.
- h) Where ever applicable If PAN (Permanent Account Number) of the recipient is not available, income tax is deductible either at the normal rate or at the rate of 20 percent, whichever is higher as per Section 206AA of Indian Income Tax Act 1961.
- i) The bidder shall clearly indicate HSN (*Harmonised System Nomenclature*) / SAC (*Service Accounting Code*), its description and applicable rate of GST for each item in his techno-commercial bid.
- j) Statutory Variation in Taxes & duties as applicable at the time of supply shall be payable. However, in the event of no change in law but bidder quoting certain tax structure in bid document which is lower than the applicable one, such amount shall be the maximum amount of tax that can be claimed by bidder.
- k) **IMPORTED GOODS OFFERED BY INDIAN BIDDERS AGAINST DEALER INVOICE:** Wherever the material being offered is imported, the bidder must quote the prices inclusive of IGST. The rate and value of IGST as included in the price must be indicated separately. In case quantum of IGST is not mentioned by the bidder the same will not be considered for



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evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

- l) In case of directly dispatchable items to Customer's Site, BHEL-Haridwar will inform the GST registration number of the respective customer which must be mentioned on the vendor's invoice. Vendor to ensure availability of such information from BHEL-Haridwar before dispatch of any material. However, while filing GSTN-1, BHEL Haridwar GSTN number to be quoted.

Note: - Vendors must ensure compliance of all the applicable rules and procedure as envisaged in the GST Regime. Any loss to BHEL-Haridwar due to fault / non-compliance by the vendor will be to the vendor's account.

12. BANK GUARANTEE.

In case the bank guarantees are required to be deposited towards security deposit/performance guarantee or for any other purpose as per the terms of this tender enquiry, such bank guarantees of the requisite value in the denominated currency of the purchase order should be from one of the Indian branch of BHEL consortium banks and the bank guarantee should be in the proforma as prescribed by BHEL. The proforma of bank guarantee and the list of consortium banks are displayed at BHEL website www.bhelhwr.co.in. However, in case the bank guarantee is not from BHEL consortium banks, then the bidder has to get the bank guarantee confirmed from one of the Indian branch of BHEL consortium banks and the bank charges for such confirmation will be borne by the bidder.

13. GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS.

Goods shall comply with the specifications for material, workmanship and performance. Unless otherwise specified, the warranty shall be for a period of 18 months from the date of receipt. If the delivery is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Seller at his cost and

replaced on Delivered Duty Paid (DDP) (FOR - BHEL Stores / designated destination basis) within such period. In the event of the Seller's failure to comply, Purchaser may take action as appropriate, including Repair / Replenish rejected goods & disposal of rejections, at the risk & cost of the Seller. In case the defects attributable to Seller are detected during processing of the goods at BHEL or at our subcontractor's works, the Seller shall be responsible for free replacement / repair of the goods as required by BHEL.

- b) **RETURN OF REJECTED MATERIAL FOR REPLACEMENT:** The bidder shall have to pay 5% incidental charges while taking back supplied material if it is found rejected on receipt. The rejected material shall be sent back only after receipt of replacement / submission of BG / refund of amount paid.

14. QUALITY REQUIREMENT.

Your bid / quotation should have specific confirmation regarding meeting all our quality requirements such as. (i) Test Certificate (TC), (ii) Guarantee Certificate (GC) / Warranty Certificate (WC), (iii) Quality Plan (QP) (if applicable); and (iv) Pre-Dispatch Inspection at your works (if applicable).

15. VALIDITY.

The quotation should be valid for a minimum period of 90 days effective from the date of opening of tender, unless otherwise specified in the tender enquiry.

16. RIGHT OF ACCEPTANCE.

- a) **BHARAT HEAVY ELECTRICALS LIMITED HARIDWAR** reserves the right to reject any or all the bids / quotations without assigning any reason thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Bidders should be prepared to accept order for reduced quantity without any extra charges.
- b) Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.



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- c) Unsolicited discounts / revised offers / bids given after Part-1 bid opening shall not be accepted. No change in price will be permitted within the validity period asked for in the tender enquiry.
- d) In case of changes in scope and / or technical specification and / or commercial terms & conditions having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on their price bids. In case a bidder opts to submit revised price bid instead of impact called for then the latest price bid shall prevail. However, in both situations, original price bid will be necessarily opened.
- e) The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
- f) BHEL reserves the right to short close the existing Purchase Order / Rate Contract / Work Order or any extension thereof at any stage.

17. TRANSIT INSURANCE.

- a) Transit Insurance will be covered by BHEL under its open Insurance Policy. Seller shall inform dispatch particulars (Purchase Order, RR /GR, Invoice value etc.) to "Finance department (Store bill Section), BHEL Ranipur, Haridwar (Uttarakhand-India) with value of consignment to the Purchaser within 07 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of seller to inform dispatch particulars will make him liable to pay for any transit damages / losses suffered by the Purchaser.
- b) If Quoted Prices are inclusive of transit insurance, no weightage shall be given while evaluating the bids for Cost of Insurance, being in BHEL Scope.

18. RISK PURCHASE.

In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law.

19. FORCE MAJEURE CLAUSE.

Notwithstanding any other thing contained anywhere else in the contract or PO (Purchase Order), In case the discharge of obligation under the contract by either party is impeded or made unreasonably onerous, neither party shall be considered in breach of the contract to the extent that performance of their respective obligation is prevented by an event of Force Majeure that arises after the effective date (PO date).

In the above clause, Force Majeure means an event beyond the control of the parties to the contract which prevents a party from complying with any obligation of the contract including but not limited to:

- Act of God (Such as but not limited to earthquake, drought, tidal waves, floods etc.).
- War (whether war be declared or not), Hostilities Invasion, Act of foreign enemy etc.
- Rebellion, revolution, insurrection, civil war etc.
- Contamination of Radio Activity from any nuclear fuel or from any other nuclear waste or any other hazardous materials.
- Riots, commotions, strike unless restricted to the employees of supplier.
- Acts of terrorism.



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- g) Other unforeseeable circumstances beyond the control of the parties and which the affected party cannot avoid even by using its best efforts.
- h) Cancellation of contract by customer.
- i) Change in law / government. Regulation making the performance impossible.
- j) Pandemic or Epidemic.

The party claiming to be affected by force majeure shall notify the other party in writing immediately without delay on the intervention and on the cessation of such circumstances.

Irrespective of any extension of time, if an event of force majeure occurs and its effect continues for more than 180 days the affected party shall have right to cancel the contract.

As soon as reasonably practicable following the date of commencement of a Force Majeure Event, and within a reasonable time following the date of termination of a Force Majeure Event, either Party invoking it shall submit to the other Party reasonable proof of the nature of the Force Majeure Event and of its effect upon the performance of the Party's obligations under this Agreement.

The party shall, and shall ensure that its Subcontractors shall, at all times take all reasonable steps within their respective powers and consistent with Good Operating Practices (but without incurring unreasonable additional costs) to:

- a) Prevent Force Majeure Events affecting the performance of the party's obligations under this Agreement.
- b) mitigate the effect of any Force Majeure Event and
- c) Comply with its obligations under this Agreement.

If the war like situation has developed in a country where a seller's works is located in this P.O. or there is political instability and Indian Embassy located in that country forbids or advises for not having any business dealing with the sellers located in such zone / region/ country, then BHEL reserves the right to cancel the order.

20. NON-DISCLOSURE AGREEMENT.

All Drawing and Technical Documents relating to the product or it's manufacture submitted by one party to the other, prior or

subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others or to gain a commercial advantage. BHEL reserves the right to claim damages from the bidder, or take appropriate action as deemed fit against the bidder, for any infringement of the provisions contained herein as available under law or equity.

21. SETTLEMENT OF DISPUTES / ARBITRATION.

In case of any dispute arising out of as in connection with this contract, the same shall be referred to arbitration under Arbitration & Conciliation Act 1996 of a sole arbitrator who shall be appointed by mutual consent of the parties. The seat & venue of arbitration shall be Haridwar.

The proceedings shall be conducted in English. The Governing law of contract shall be the substantive law of India.

22. WHARFAGE / DEMURRAGE RESPONSIBILITY.

In the event of delay in receipt of documents by Manager (Stores-Shipping) BHEL-Haridwar and in case where dispatches are made through Unapproved Transporter the sole responsibility for wharfage / demurrage for such delay shall be that of supplier.

23. CONDITIONS FOR AVAILING MICRO & SMALL ENTERPRISES (MSE'S) BENEFITS.

- a) "MSE Suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (**five years** from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate



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(Format enclosed at annexure-1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two-part bid) or vendor has to give Udyog Adhar Memorandum (UAM). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is found or the requisite documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above require document are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. **UAM need not required to be notarized or attested.**

b) Any new supplier will be eligible for registration with BHEL as MSE supplier provided at least any one of the following documents are submitted along with application for registration: -

1. Udyog Adhar Memorandum (UAM).
2. Valid National Small Industries Commission (NSIC) Certificate.
3. Entrepreneurs Memorandum part II (EM II) certificate (valid based on deemed validity of 5 years) or
4. EM II certificate along with attested copy of CA Certificate (as per prescribed format at annexure-A) applicable for the relevant financial year (latest audited), where the deemed validity of EM II is over.
5. However, credentials of all MSE suppliers will be verified before advancing the intended benefits.
6. MSE bidders claiming SC/ST status will have to submit SC/ST certificate of the Proprietor from competent authority. Attested (notarized or attested by Gazetted officer) copy to be submitted along with the offer.
7. In case techno-commercial accepted bidders include MSE source and their prices (based on landed cost – considering quoted prices) are within the price band of 15% w.r.t. L-1 bidder, then BHEL can offer **25%** of quantity of respective item (rounded off to nearest number) to MSE bidders at L-1 price and in case, more than one MSE bidder is in 15 % band and the same is accepted by more than one MSE bidders then **25%** quantities of respective items will be considered for ordering on proportionate basis amongst MSE bidders.
8. There will be minimum of **3%** reservation for women owned MSEs within the above mentioned 25% reservation.
9. The reservation for MSEs owned by SC/ST will be **6.25%** { 25% out of target of 25% - refer para 4 of Public Procurement Policy for the Micro and Small Enterprises(MSEs)}.
10. The definition of MSEs owned by Women Entrepreneurs is clarified as under:
 - a) In case of proprietary MSE, proprietor shall be Woman.
 - b) In case of partnership MSE, the Woman partners shall be holding at least 51% of share in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by Women promoters.
11. The definition of MSEs owned by SC/ST is clarified as under:
 - a) In case of proprietary MSE, proprietor(s) shall be SC/ST.
 - b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% of shares in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by SC/ST promoters.
12. While distributing the **25%** quantity amongst MSE bidders the decimal points in quantity shall be ignored for all the bidders except the L-1 amongst MSE bidders. Balance quantity after allocating the quantity to other MSE bidders ignoring the quantities in decimal, shall be given to L-1 (amongst MSE) bidder. However, if there are more than one MSE bidder at the same price level than preference for additional quantities due to ignoring off the decimal (as mentioned above) shall be given to the bidder offering favorable terms to BHEL and if the conditions offered are also same then preference will be given to the bidder having high SPR rating.
13. In case there are more than one MSE bidders (with different landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given to the MSE bidder with lowest landed cost.
14. In case there are more than one MSE bidders (with same landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given first, based on the favorable terms in the bid and in case terms are also same, the bidder with high SPR rating shall be given preference.
15. If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.

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16. Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.

17. "As per the OM No. F.No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), "Traders and agents should not be allowed to avail the benefits extended under the PP Policy."

In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc. for the items offered but not manufactured by themselves."

24. INFORMATION TO THE BIDDERS.

a) Purchase related information is available at our Business-to-Business (B2B) Portal available on our website <https://hwr.bhel.com>. The user ID & password can be obtained by sending a request to concerned purchase executives.

b) Intimate your change in mail address or communication address or changes, if any, by email to AGM (SDX/MM) giving your bidder Code.

c) Please resolve your rejections and unexecuted overdue purchase order immediately which are posted at our B2B Portal, which can be visited through our site <https://hwr.bhel.com>

d) Copy of this Tender Enquiry is being sent through the post.

e) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

f) Supplier must upload digitally signed e-Invoice on B2B portal for processing of Bills.

In other cases, inked signed hard copy of Invoice to be submitted for processing of Bills.

25. MAKE IN INDIA (GOVT-NOTIFICATION).

A. This tender enquiry shall be governed by notification no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 of government of INDIA and subsequent circulars issued afterwards. Accordingly, the minimum local content, the margin of purchase preference and the procedure for preference to make in INDIA shall be adhered.

B. The margin of purchase preference shall be 20%.

- 'Class-I local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this order.
- 'Class-II local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this order.
- 'Non- local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this order.

C. Vendor to specifically confirm if they are Class-I or Class-II local supplier or not as per above mentioned notification. Accordingly, the 'Class-I local supplier' / 'Class-II local Supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' / 'Class-II local Supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

D. In cases of Procurement for a Value in Excess of Rs. 10 Crores, the 'Class-I local supplier' / 'Class-II local Supplier' shall be required to provide a Certificate from the Statutory Auditor or Cost Auditor of the Company (in the case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies) giving the percentage of Local Content.



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E. Requirement of Purchase Preference:

Purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified hereunder -

a. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are divisible in nature, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among All qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local supplier, then such balance quantity may also be ordered on the L1 bidder".

b. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling

within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.

- iii. In case such lowest eligible 'Class-I local supplier', fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 prices, the contract may be awarded to the L1 bidder.

c. 'Class-II local supplier' will not get purchase preference in any procurement, undertaken by procuring entities.

F. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

G. Procurements where estimated value to be procured is less than Rs. 5 lakhs shall be exempted from GOI order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020.

H. For procurement of Goods & Services which are divisible in nature, following shall be operated for **MSE bidders** under Public procurement Policy for the Micro and Small Enterprises (MSEs) Amendment Order, 2019, Ref. No. AA:SSP: MSE: Amndt, dtd. 30.11.2018, Circular No. 44 of 2018-19;-

a. If L1 bid is not from "Class-I local Supplier" and price quoted by MSE bidder falls within the margin of Purchase preference (L1+15% for MSEs), then 25 % of total order quantity of respective item (rounded off to nearest number) shall be awarded to MSE bidder, subject to MSE bidder matching the L1 Price. Out of Remaining 75% quantity, distribution shall be operated as per below sub-clause (2) –

b. If "Class- I Local Supplier" (Next to L1, other than MSE) quoted price falling within the Margin of Purchase Preference, and "Class-I local supplier" matches the L1 price,



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then 50% of remaining Quantity (after allocation of 25% to MSE) i.e. 37.5% shall be awarded to local supplier and 37.5% shall be awarded to foreign bidder.

Note: L1 Price refers to lowest evaluated / landed cost to Company.

For Further details, please refer GOI order no. P-45021 / 2 / 2017 - PP (BE-II) dated 04.06.2020.

26. RESTRICTIONS UNDER RULE 144(XI) OF THE GENERAL FINANCIAL RULES (GFRs), 2017

All provisions of Order No. F.No.6/18/2019-PPD of Department of Expenditure (DoE) shall be applicable for this tender enquiry (Order copy is available at <https://doe.gov.in/procurement-policy-divisions>). Accordingly, any bidder from a country which shares a land border with India (except the countries to which the Govt. of India has extended lines of credit or in which the Govt. of India is engaged in development projects for which list is available at <https://www.mea.gov.in/>) will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as specified in Annex I of the said Order of DoE.

Updated list of the countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

For the purpose of this order, definition of Bidder from a country which shares a land border with India shall be same as defined in the Annex III of the said order.

Registration with the competent authority as stipulated in the said order is responsibility of bidder. Bidder has to submit a certificate certifying following along with offer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that bidder (.... Name of Bidder) is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that bidder (.....Name of bidder) fulfils all requirements in this regard and is eligible to be considered"

If the bidder is from such country which shares a land border with India evidence of valid registration by the Competent Authority shall also be attached along with offer."

27. NOTE.

- a) Special conditions of enquiry, if enclosed by BHEL, will supersede the respective standard / general terms of enquiry.
- b) Any other Standard terms and Conditions of the bidder attached / referred against the tender enquiry will be treated as null and void ab initio.
- c) In order to protect the commercial interests of BHEL, it becomes necessary to take action against suppliers / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business / money / reputation, indulged in malpractices, cheating, bribery, fraud or any other misconducts or formation of cartel so as to influence the bidding process or influence the price etc. Guide- lines for Suspension of Business Dealings with Suppliers / Contractors shall prevail over which is available at BHEL website <http://www.bhel.com>
- d) The bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL-Management about any fraud or suspected fraud as soon as it comes to their notice.
- e) "BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below;
 1. **Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
 2. **Accident:** Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious

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occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ **offices and precincts** thereof , project execution , erection and commissioning, services, repairs and maintenance, trouble shooting, serving , overhaul, renovation and retrofitting , trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ project sites.

3. Compensation in respect of each of the victims:

- (i) In the event of death or **permanent disability** resulting from **Loss of both limbs**: Rs. 10,00,000/- (Rs. Ten Lakh).
- (ii) In the event of **other permanent disability**: Rs. 7,00,000/- (Rs. Seven Lakh).

4. Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to Section 2(l) of the Employees Compensation Act, 1923.”

f) The bidder shall be in compliance with applicable laws, rules and regulations throughout the terms of the contract for conducting its business generally and to perform its obligations under this contract.