



BHARAT HEAVY ELECTRICALS LIMITED
HEEP HARIDWAR INDIA-PIN 249403
FAX NO: 0091 1334 226462
PHONE NO: 0091 1334 284593

Enq. No. : L/6455/2016/2324Y/2

M/s.....

Sub: BHEL-HEEP/OPEN-TENDER (TL) / 2016

Dear Sir,

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators and so on.

Sealed tenders with the **Tender No.** and **opening date** clearly super scribed on the cover are invited from the manufacturers (registered as well as unregistered) for the supply of the following items :-

TENDER NO. : L/6455/2016/2324Y/2			
TENDER OPENING DATE : 01.06.17			
MATERIAL CODE	MATERIAL DESCRIPTION	QTY. (No.)	DELIVERY SCHEDULE
AAA780530233	FIXTURE FOR FREQUENCY CHECKING OF LP BLADE (VERTICAL) DRG.NO. : R7805-3023 REV.01	1	31.07.2017

SPECIAL INSTRUCTIONS:

1. VENDOR HAS TO INSTALL AND COMMISSION THE WHOLE SYSTEM AT BHEL HARDWAR.
2. FINAL ACCEPTANCE WILL BE GIVEN ONLY AFTER COMMISSIONING & PROVE OUT BY VENDOR IN BHEL HARDWAR. (AS PER POINT NO. 9, 10 & 12 OF NOTE OF DRG R7805-3023 Rev-01)
3. PRE-DESPATCH INSPECTION TO BE DONE BY BHEL. VENDOR TO INFORM BHEL ONE WEEK IN ADVANCE.
4. PAYMENT SHALL BE RELEASED ONLY AFTER FINAL ACCEPTANCE OF ITEMS AS PER DETAILS AT SL.NO.2.
5. VENDOR TO CONFIRM COMPLIANCE OF EACH AND EVERY POINTS /NOTES /REMARKS OF DRAWING NO. R7805-3023 Rev: 01.
6. THE QUOTATION SHALL BE VALID FOR A MINIMUM PERIOD OF 120 DAYS, EFFECTIVE FROM THE DATE OF TENDER OPENING.
7. VENDOR TO CONFIRM THAT THEIR QUOTED RATES ARE NOT MORE THAN THOSE QUOTED FOR ANY OTHER CUSTOMER INCLUDING OTHER BHEL UNITS.
8. EARLY DELIVERY IS ALSO ACCEPTABLE.
9. VENDOR SHOULD QUOTE BEST POSSIBLE DELIVERY IN OFFER. DELIVERY IS NOT SACROSANCT.
10. THE TOTAL QUANTITY MAY UNDERGO CHANGE AT THE TIME OF ORDERING.

11. 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.

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.

The tender documents can be downloaded from our web site www.bhel.com or www.bhelhwr.co.in or www.tenders.gov.in

After downloading the tender documents from web site, while submitting the tender as detailed in "Instruction to Bidders", intending vendors must submit **Tender Fee of Rs. 2,000/- (Rupees two thousand only)** against each tender along with the requisite **EMD of Rs 2, 00,000/- (Rupees two lakhs only)** in the form of Pay Order / Demand Draft (drawn in favour 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). **However, if no hard copy of any tender document is required from BHEL, no Tender Fee is required to be submitted.**

Please submit separate **drafts** for tender fee and EMD in separate envelopes super-scribed with bold letters "TENDER FEE and EMD" to be submitted with Part-I.

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 and EMD. A certificate issued from competent authority shall be submitted in support of Micro & Small Enterprises (MSEs).

**Tenders will be received in Tender Box kept in Tender Room and should be addressed to:
THE HEAD OF MATERIAL MANAGEMENT,
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited,
HARIDWAR-249403 (Uttarakhand), INDIA.**

The date for opening of tender shall be 01.06.17. Tenders will be received up to 1.45 P.M. on 01.06.17 and opened on the same day at 2.00 P.M. in the Tender Room. **Please note that tender received after due date & time (1.45PM on 01.06.17) will not be REPEAT will not be opened.** BHEL will not be responsible for any type of postal / courier delay.

Bids shall be opened at 2 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company (Manufacturer) for the specific tender no. attending the bid opening.

Amendments/Corrigendum, if any, will be hosted only on the websites mentioned above. Other terms and conditions will be as per tender documents.

Unregistered vendors may please visit our website www.bhel.com for filling Supplier Registration Form (SRF). BHEL will not be responsible for any type of postal delay / incomplete information from vendor.

IN CASE YOU ARE NOT MAKING AN OFFER AGAINST THIS ENQUIRY, THEN PLEASE ARRANGE TO SEND A LETTER OF REGRET.

KINDLY READ "INSTRUCTIONS TO BIDDERS". QUOTATION NOT IN ACCORDANCE WITH THE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED.

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

1. DEFINITION

Registered Vendors - Are those who are registered with BHEL, Haridwar for Megawatt rating/ Size/ Weight of tendered components in respective steel grade or machining of such components.

Un-registered Vendors - Are those who are not registered with BHEL, Haridwar for Megawatt rating/ Size/ Weight of tendered components in respective steel grade or machining of such components.

2. TECHNICAL QUALIFICATION

Enclosed format – **Annexure-3** (Pre-Qualifying Requirements) to be submitted. **It is the mandatory requirement. Offer of Vendors not meeting these requirements may not be considered.**

3. ESSENTIAL INSTRUCTIONS

- 3.1 Un-registered vendors may be approved by BHEL, if found suitable, on the basis of data furnished by them in Supplier Registration Form (SRF) for Foreign Vendors or Indigenous Vendors (as applicable).
- 3.2 BHEL team may visit the vendor(s) works for verification of capability and capacity claimed in tender documents/offer(s).
- 3.3 The tenders shall be submitted in three parts in separate envelopes as described below on or before the due date. Vendor Registration Form shall be submitted by unregistered vendors only.

3.3.1 Part I - Envelope I

A. Tender Fee and EMD enclosed in sub-envelope (a)

Or

Valid certificate/Document towards exemption of Tender fee & EMD (applicable for Micro and small Enterprises)

B. Pre-Qualifying Requirements (PQRs) – Annex. 3 enclosed in sub-envelope (b)

C. Vendor Registration Form (Applicable for those vendors who are not registered with BHEL, Haridwar) – **Copy of Supplier Registration Form filled online on www.bhel.com enclosed in sub-envelope (c)**

D. NDA (Non-Disclosure Agreement) – Annex. 4 enclosed in sub-envelope (d)

3.3.2 Part II - Envelope II - Techno -Commercial Bid – It should be the copy of Price Bid without the price part

3.3.3 Part III - Envelope III - Price Bid

Note: All the individual envelopes should indicate Tender no. and date of opening of Part-I.

All three envelopes [Envelope I (containing sub-envelopes a, b, c & d), Envelope II & Envelope III] to be put in a single covering envelope indicating tender no., due date and the name of vendor (with address, e-mail id & contact details). Offer should be complete in all respect (i.e. Part-I, Part- II & Part-III).

4. Part-I will be opened on the date and time specified in the tender notice in the presence of those vendors who wish to attend.
5. Part-II (Techno-Commercial) bid will be opened of those vendors who successfully qualify the PQRs.
6. Part – III (Price Bids) along with supplementary price bids, if necessary, will be opened at a later date of only those bidders whose techno-commercial bid will be found acceptable.
7. Currency exchange rate will be applicable on the date of opening of Part-I for evaluation purpose.
8. Depending upon the delivery suitability, BHEL reserves the right to split order on more than one vendor.
9. Foreign and Indigenous bidders against open tender will necessarily have to obtain class – III DSCs. Procedure for application available on www.bhel.com.
10. **EMD submitted by L-1 shall be refunded to L-1 vendor after successful PO execution by L1. For rest of vendors, EMD shall be refunded after finalization of PO.**
11. **Please submit your offer only for the above requirement subject to our GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC). Please visit our site www.bhelhwr.co.in 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.**

ANNEXURES

Annexure-1 (Format for CA certificate) - 1 Page

Annexure-2 (PQR) – 1 Page

Annexure-3 (NDA) – 10 Pages

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
(hereinafter referred to as 'company') having its registered office at
..... is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as on
date..... as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost
excluding land and building and the items specified by the Ministry of Small Scale Industries vide its
notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and
furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED
Act, 2006:
Rs.....Lacs

The above investment of Rs.....Lacs is within permissible limit of
Rs.....Lacs forMicro / Small (Strike off which is not applicable)
Category under MSMED Act 2006.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant



Pre-Qualifying Requirements for Frequency checking Fixture Indent no :- 20162324	
1.0	QUALIFYING CRITERIA FOR MANUFACTURING & COMMISSIONING OF FIXTURE
1.1	The Vendors, who have experience of manufacturing and installation (at customer works) of fixtures having precision hydraulic clamping system should participate. Period of experience in this field and details of such fixtures manufactured in past, to be informed. (Authorised channel partner of above OEMs may also quote & in such case valid Authorization certificate from Original Equipment Manufacturer to be furnished with the offer). Vendor to confirm & inform
1.2	The vendors must submit the list of the customers with name of company, contact details and type of fixture with its application for whom they have manufactured and supplied the referred fixtures. Vendor to submit
1.3	BHEL reserves the right to verify the information and performance of referred fixtures as provided by vendor. In case the information provided by vendor is found to be false/ incorrect or performance is not found to be satisfactory, the offer shall be rejected. Vendor to accept & confirm

 (HARSHIT, E1/TR)
 (ANURAG MEHTA, E1/JTE)
 (AGM TTX, TR & JTE)

NON-DISCLOSURE AND PROPRIETARY INFORMATION AGREEMENT

BETWEEN

_____(Name of the Vendor), having its registered offices in _____(Address of Vendor), registered under the no. _____ of the Companies' register of _____(Name of Place and Country), capital stock of _____(Value), with a place of business in _____(Name of Place and Country) (hereinafter referred to as "_____(Name of Vendor)");

AND

Bharat Heavy Electricals Ltd a company incorporated under the Indian Companies Act 1956 having its registered offices at BHEL House, Siri Fort, New Delhi -110 049 and having one of its works at Heavy Electrical Equipment Plant, Ranipur, Haridwar-249403 (Uttarakhand), India registered under the No. 4281 of 1964-65 of the companies register of Delhi, capital stock of Rs 4895.2 million with a place of registered office in New Delhi (hereinafter referred to as “BHEL”) hereinafter also referred to individually as “the Party” or collectively as “the Parties”.

BACKGROUND

This Agreement sets forth the rights and obligations of the Parties with respect to the use, handling, protection and safeguarding of Proprietary Information that is disclosed by and between the Parties.

WHEREAS

A) the Parties wish to pursue exploratory discussions concerning a possible collaboration between them in relation to the Program defined in Exhibit 1;

B) during the ensuing discussions and negotiations it may occur that either Party discloses to the other technical, financial or business information of a proprietary or confidential nature, which the Parties intend to protect against, making it available, by any means to any third person, and other unauthorized use and/or further disclosure by the recipient, in accordance with the terms and conditions set forth herein;

NOW, THEREFORE, the Parties have agreed as follows:

1. The term “Proprietary Information” shall mean any information or data of whatsoever kind of a confidential or proprietary nature, including but not limited to, commercial information, know how and technical information in the form of designs, drawings, concepts, requirements, specifications, software, interfaces, components, processes, or the like, that have been or will be disclosed by either Party to the other pursuant to this Agreement, either in writing, orally or other form, which is designated as “Proprietary” or “Confidential” by the disclosing Party by means of formal declaration or an appropriate stamp, legend or any other written or orally notice .
2. Proprietary Information may be conveyed, without limitation, through any written or printed documents, samples, models, electronic form on disk, tape, other storage media or any other means of disclosing such Proprietary Information that either Party may elect to use during the life of this Agreement, but if an originating Party originally discloses information orally or visually, the receiving Party will protect such information as Proprietary Information to the extent that the originating Party :
 - identifies the Information as Proprietary at the time of original disclosure,
 - summarizes the Proprietary Information in writing .

Information stored in electronic form on disk, tape, other storage media will be adequately marked if a proprietary legend displays when the information originally runs on a computer system and when the information is printed from its data file.

Proprietary Information also includes any information which can be obtained by examination, testing or analysis of any hardware or material substance or any component part of such hardware or material substance provided by the Disclosing Party even though the requirements in Clause 1 for marking and designation have not been fulfilled.

3. Each Party, to the extent of its rights to do so, shall disclose to the other only the Proprietary Information which the disclosing Party deems appropriate to fulfil the objectives of this Agreement. The Parties hereby represent that the disclosure of Proprietary Information by and between themselves shall be made in compliance with, and subject to the laws and regulations of the Disclosing Party's country.
4. The receiving Party hereby agrees and covenants that, from the effective date of this Agreement until the expiry date as per article 11 and the following period as per article 12, the Proprietary Information that either Party receives from the other shall:
 - a) be protected and kept in strict confidence by the receiving Party which must use the same degree of care it uses to protect its own confidential information and in no case less than a reasonable care;
 - b) be only disclosed to and used by those persons within the receiving Party's organization or that of its parent or controlled companies who have a need to know and solely for the purposes specified in this Agreement, and be treated by such persons or entities with the same degree of care and subject to the same restrictions;
 - c) to procure that each third party to whom Proprietary Information is disclosed under this Agreement is made aware of the provisions of this Agreement prior to such disclosure to it and that each such third party is

bound by obligations of confidentiality which are no less onerous than those contained in this Agreement;

- d) neither be disclosed nor caused to be disclosed or made available, either directly or indirectly, to any third Party or persons other than those mentioned in subparagraph b) above or other persons upon which both of the contractual Parties shall agree in an amendment to this Agreement;
- e) not to copy, reproduce or reduce to writing any part of such Proprietary Information except as may be reasonably necessary for the purpose referred to in the Recitals of this Agreement

PROVIDED THAT the Receiving Party shall be entitled to make any disclosure required by court order or government or regulatory requirement of the Disclosing Party's Proprietary Information subject to notifying the Disclosing Party as soon as possible of such requirement

- 5. Any Proprietary Information and copies thereof disclosed by either Party to the other shall remain the property of the disclosing Party and shall be immediately returned or destroyed by the receiving Party upon request.
- 6. The receiving Party shall have no obligations or restrictions with respect to any Proprietary Information for which the receiving Party can prove that:
 - a) is in or which comes into the public domain otherwise than as a result of a breach of this Agreement by any person to whom a disclosure of Proprietary Information is made as permitted under this Agreement or of any other duty of confidentiality relating to the Proprietary Information of which the Receiving Party has knowledge; or
 - b) it has been in its possession without restriction at the time of the disclosure, as evidenced by written documentation in its files; or
 - c) it has been lawfully received from a third Party without breach of this Agreement; or

- d) it has been or is published without violation of this Agreement; or
- e) it has been independently developed in good faith by employees of the receiving Party who did not have access to the Proprietary Information; or
- f) it has not been properly declared, designated or confirmed as Proprietary or Confidential; or
- g) the protection period has expired according to articles 11 and 12 of this Agreement.

7. With respect to any exchange of Proprietary Information which may occur as a result of this Agreement, it is expressly understood and agreed that the persons listed in Exhibit 2 shall, on behalf of the respective Parties, be the exclusive individuals authorized to receive from and transmit to the other Party Proprietary Information under this Agreement. Each Party may replace at any time its respective authorized individuals identified in such Exhibit 2, within its own organization. Any such new designation by a Party shall be made by written notice to the other at the address indicated in such Exhibit 2.
8. Any Proprietary Information which is identified as "Classified Information", or whose export is subject to an export license, shall be identified as such by the disclosing Party at the time of disclosure and the disclosure, protection, use and handling thereof, shall remain subject to the security procedures and restrictions imposed by the disclosing Party's Government.
9. The disclosure of Proprietary Information under this Agreement by either Party to the other shall not be construed as granting to the receiving Party any right, whether express or implied by licence or otherwise, on the matters, inventions or discoveries to which such information pertains, or as granting any trademark, patents, copyrights, trade secret right or other form of intellectual property right.

10. Nothing in this Agreement may be construed as an obligation of either Party to disclose any Proprietary Information to the other, or to enter into any subsequent contractual relationship with such other Party.
11. This Agreement covers the exchange of Proprietary Information which may be made by either Party to the other until ten years from signing of the agreement or any extension thereto which may be agreed upon by the Parties in writing. Proprietary information relevant to the Program detailed in Exhibit 1, already made available to the other contractual Party before the effective date, shall also be protected under this Agreement.

It is understood by the parties that, prior to disclosure, the Disclosing Party shall have obtained any government authorisation needed for the export of the Proprietary Information

12. The expiry of the period contemplated in Article 11 of this Agreement shall not relieve the receiving Party from complying with the obligations imposed by Article 4 here above with respect to the use and protection of the Proprietary Information, received prior the date of such expiry, for a period of ten (10) years after such expiry.
13. The Parties are independent contractors. Each will bear all costs and expenses in connection with this Agreement. This Agreement is intended to facilitate only the exchange of Proprietary Information and is not intended to be, and shall not be construed to create a teaming agreement, joint venture, association, partnership, or other business organisation or agency arrangement and no Party shall have the authority to bind the other without the other Party's separate prior written agreement .
14. This Agreement shall be governed by and shall be interpreted in accordance with the substantive Indian laws. Irrespective of the foregoing each Party shall remain

bound by the provisions of its own national laws and regulations with respect to the transfer or use of Classified Information or information whose export is subject to an export license.

15. All disputes among the Parties, in connection with or arising out of the existence, validity, construction, performance and termination of this Agreement (or any terms thereof), which the Parties are unable to resolve among themselves, shall be finally settled by an Arbitration. The Arbitration shall be held in Haridwar (India), in English language, in accordance with the rules laid down in the arbitration and reconciliation act of India.
16. The foregoing constitutes the entire Agreement among the Parties with respect to the subject matter hereof and supersedes and cancels all prior representations, negotiations, commitments, undertakings, communications, either oral or written, acceptances, understandings and agreements among the Parties with respect to or in connection with any of the matters to which such Agreement applies or refers.
17. Notices to _____ **(Name of Vendor)** shall be made at the following address:

(Complete Address of Vendor)

Attention: Mr. _____ **(Name of the Authorised Person of Vendor)**

Notices to BHEL shall be made at the following address:

BHARAT HEAVY ELECTRICALS LIMITED,
HEAVY ELECTRICAL EQUIPMENT PLANT,
Ranipur, Haridwar-249403 (Uttarakhand), India

Attention: _____ **(Name of the PPX Incharge)**

18. The effective date of this Agreement shall be the date of the last signature appearing herein.

IN WITNESS WHEREOF, each of the Parties has caused this Agreement, to be executed by its duly authorized officer.

Date :

Signed for and on behalf of

Signed for and on behalf of

(Name of Vendor)

BHEL

By:

By:

Title:

Title:

Signature:

Signature:

EXHIBIT 1

to the

NON-DISCLOSURE AGREEMENT

between

_____(**Name of Vendor**)

and

BHARAT HEAVY ELECTRICALS LIMITED

dated:

The Non Disclosure Agreement covers the exchange of Proprietary Information which may occur during the discussions and negotiations in view of a possible cooperation between the Parties in the following programs:

-Description of Material or Services for which the order is placed

_____(**Name of Vendor**) list of products that require an exchange of Proprietary Information which may be occur during the discussions and negotiations in view of a possible cooperation for the above programs :

EXHIBIT 2

to the

NON-DISCLOSURE AGREEMENT

between

_____**(Name of Vendor)**

and

Bharat Heavy Electricals Ltd.

dated:

Personnel of the Parties authorized to receive and/or transmit Proprietary Information under this Agreement:

For **(Name of Vendor)**

(Name of Person)

Tel.

Fax

Address.

For Bharat Heavy Electricals Ltd.

Mr.

Tel. 01334

Fax 01334

Address. Main Administration Building

BHEL, HEEP, Haridwar

India

Mr.

Tel. 01334

Fax 01334

Address. Main Administration Building

BHEL, HEEP, Haridwar

India

Tel.

Fax

Address.

Copyright and Confidential
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 interest of the company

8705-3023

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PROJECTION

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NOTES.

1-THE FIXTURE IS USED FOR MEASUREMENT OF STATIC FREQUENCY OF STEAM TURBINE BLADE HAVING FIRTREE ROOT IN VERTICAL CONDITION AS PER BHEL STANDARD HWO990019

2-VENDOR MAY VISIT BHEL HARIDWAR AND DISCUSS WITH CONCERNED TECHNICAL TEAM FOR ANY CLARIFICATION AND SEE OTHER AVAILABLE INSTALLATION FOR FREQUENCY MEASUREMENT OPERATION.

3-SUITABLE ISOLATION TO BE INCORPORATED IN FOUNDATION OF FIXTURE BY BHEL TO ISOLATE FROM ANY EXTERNAL SHOCK / HANDLING OF HYDRAULIC FORCES APPLIED ON THE SYSTEM FOR ACCURATE MEASURMENT OF FREQUENCY

4-VENDOR HAS TO DEVELOP THE COMPLETE HYDRAULIC SYSTEM (ALL VALVES,PRESSURE GAUGE,ASPIRATOR,PUMP,MOTOR,POWERPACK ETC)OF THE FIXTURE AS PER THE HYDRAULIC CIRCUIT DIAGRAM DRG NO R7805-3023/020,COMPLETE HYDRAULIC SYSTEM ARRANGED IN A RACK & KEPT AT SHOP FLOOR LEVEL.

5-VENDOR HAS TO DEVELOP THE COMPLETE PNEUMATIC SYSTEM AS PER THE PNEUMATIC CIRCUIT DIAGRAM DRG NO R7805-3023/030

6-COMPLETE EQUIPMENT SHOULD HAVE ALL NECESSARY SAFETY FEATURES. DETAILS OF SAME SHOULD BE SUBMITTED WITH OFFER.

7-VENDOR MUST SUBMIT LIST OF STANDARD/BOUGHT OUT PARTS THEIR SOURCE, CATALOGUE ETC ALONG WITH FIXTURE

8-THE WHOLE FIXTURE TO BE MOUNTED INSIDE PIT (BELOW SHOP FLOOR LEVEL) ON INFLATED AIR BAGS (ITEM NO. 23) AT 5 BAR PRESSURE TO ISOLATE FROM THE EXTERNAL VIBRATIONS & MATERIAL. COMPLETE FOUNDATION & TOP COVERING SHEET WORK REQUIREMENT / DESIGN SHALL BE IN SCOPE OF BHEL.

9-VENDOR HAS TO INSTALL AND COMMISSION THE WHOLE SYSTEM AT BHEL HARDWAR.

10-PRE DISPATCH INSPECTION WILL BE DONE BY BHEL AT VENDOR WORKS AND FINAL ACCEPTANCE WILL BE GIVEN ONLY AFTER COMMISSIONING & PROVE OUT BY VENDOR IN BHEL HARDWAR.

11-VENDOR SHOULD PROVIDE A WARRANTY OF 2YEARS ON WHOLE SYSTEM FOR ITS ESTABLISHED PERFORMANCE & FUNCTIONING

12-PROVEOUT OF SYSTEM,DURING COMMISSIONING BY VENDOR SHALL INCLUDE FOLLOWING:-

a.MEASUREMENT OF FREQUENCY OF BLADES DRG NO. 01030756002, 01030756001, 01030758001, 01030758002 & 01030741003.

b.DEMONSTRATION OF STABILITY OF RIGID CLAMPING OF BLADE IN THE FIXTURE.

c.DEMONSTRATION OF COMPLETE FUNCTIONALITY & MAINTENANCE OF SYSTEM IN COMPLIANCE WITH DRAWING REQUIREMENTS

d.AFTER CLAMPING OF BLADE ,GAP TO BE CHECKED AT CONTACT FLANKS AS MARKED IN DRAWING WITH FILLER GAUGES

13-DURING COMMISSIONING TRAINING SHALL BE PROVIDED BY VENDOR TO BHEL PERSONNEL IN THE FIELD OF OPRATION,MECHANICAL/HYDRAULIC/PNEUMATIC MAINTENANCE,ELECTRICAL/ELECTRONIC MAINTENANCE.

14-OTHER REQUIRED ACCESSORIES NOT SHOWN IN DRG R7805-3023 SHALL BE PROVIDED BY BHEL DURING COMMISSIONING.

15-3 SETS OF OPERATIONAL & MAINTENANCE MANUALS ,HYDRAULIC CIRCUIT DIGRAMS, AND ASSEMBLY, LIST/SOURCE/SPECIFICATIONS OF ALL BOUGHT OUT ITEMS, ETC SHALL BE PROVIDED BY VENDOR

16-AMC FOR ONE YEAR ,SUBSEQUENT TO WARRANTY PERIOD SHALL BE OFFERED BY VENDOR HOWEVER BHEL MAY OR MAY NOT OPT FOR IT.

17-VENDOR SHALL ALSO OFFER ALL TYPE OF SPARES/CONSUMABLES WITH LIST OF ITEMS & REQUIRED QUANTITY.

18-HYDRAULIC & CLAMPING FORCE ON THE BLADE ROOT SHOULD NOT DEFORM OR DAMAGE ROOT OR DEVELOP ANY TYPE OF CRACKS IN BLADE.

FUNCTIONAL REQUIREMENTS

1-THE BLADE TO BE CLAMPED VERTICALLY IN CONTROL SEGMENT (TWO PARTS) SUCH THAT IT IS PUSHED FROM BOTTOM BY HYDRAULIC CYLINDERS IN SUCH A MANNER THAT CONTROL SEGMENT MOVES IN UPWARD DIRECTION ALONG THE TAPER AND FIRMLY HOLD THE BLADE PERFECTLY AGAINST ITS CONTACT FLANKS (ONLY UPPER CONTACT FLANK & 2nd NON CONTACT FLANK OF FITREE ROOT PROFILE)

2-MOVEMENT OF CONTROL SEGMENT IS GUIDED BY T-TYPE KEYS ALONG THE TAPER SURFACE

3-AFTER CLAMPING OF BLADE THE WHOLE SYSTEM SHOULD WORK AS SINGLE UNIT AGAINST THE EXTERNAL VIBRATIONS

4-COMPLETE SYSTEM SHOULD ENSURE THAT BLADE REMAINS IN VERTICAL POSITION WHILE CLAMPED & MAINTAINS REPEATABILITY IN RESPECT TO PERFECTION OF CONTACT WITH CONTROL SEGMENT & ALSO VERTICALITY OF ITS AXIS

5-VENDOR MUST DISCUSS WITH BHEL IF THERE IS ANY AMBIGUITY REGARDING DESIGN & MANUFACTURABILITY OF FIXTURE, PRIOR TO MANUFACTURE.

VAR.00

REMARKS

naga
Emaak
ITEM NO.

ivavarNa
DESCRIPTION

saM#yaa/DRAWING NO.

saamaga'l KUT/MAT.CODE
VAR.

saamaga'l Iva/MAT. SPEC

UNIT WEIGHT
maa~a /QTY.

sa*baI*Aao*ema*/C.B.O.M.

STATUS OF DRG.
U

%Paad ka p'kar
TYPE OF PRODUCT

COMP.DRG.No.

W/O No.

M/c No.

REF.DRG.No.

GRADE OF UNTOL. DIM

M/CG.-AA0230208 V/C/M/F

WELDING-CLASS 'B' OF AA0621104

GAS CUTTING-TABLE 3 OF AA0621101

naama/NAME

hataxar/SIGN

idnaMak/DATE

naama/NAME

hataxar/SIGN

idnaMak/DATE

naama/NAME

hataxar/SIGN

idnaMak/DATE

saM#yaa/INVENTORY NO.

saM#yaa/REV.

DATE

ALTERED BY

saM#yaa/REV.

DATE

ALTERED BY

ivabaaga'jaga eva Tula
DEPTT. AIBa*

KUT/CODE 209

Anaupat/SCALE

Baar ik*ga'a
WEIGHT (KG)

REFER TO ASSLY. DRG.

naga
Emaak
ITEM NO.

nagaalo
ki
saM#yaa
NO.-OF
ITEMS

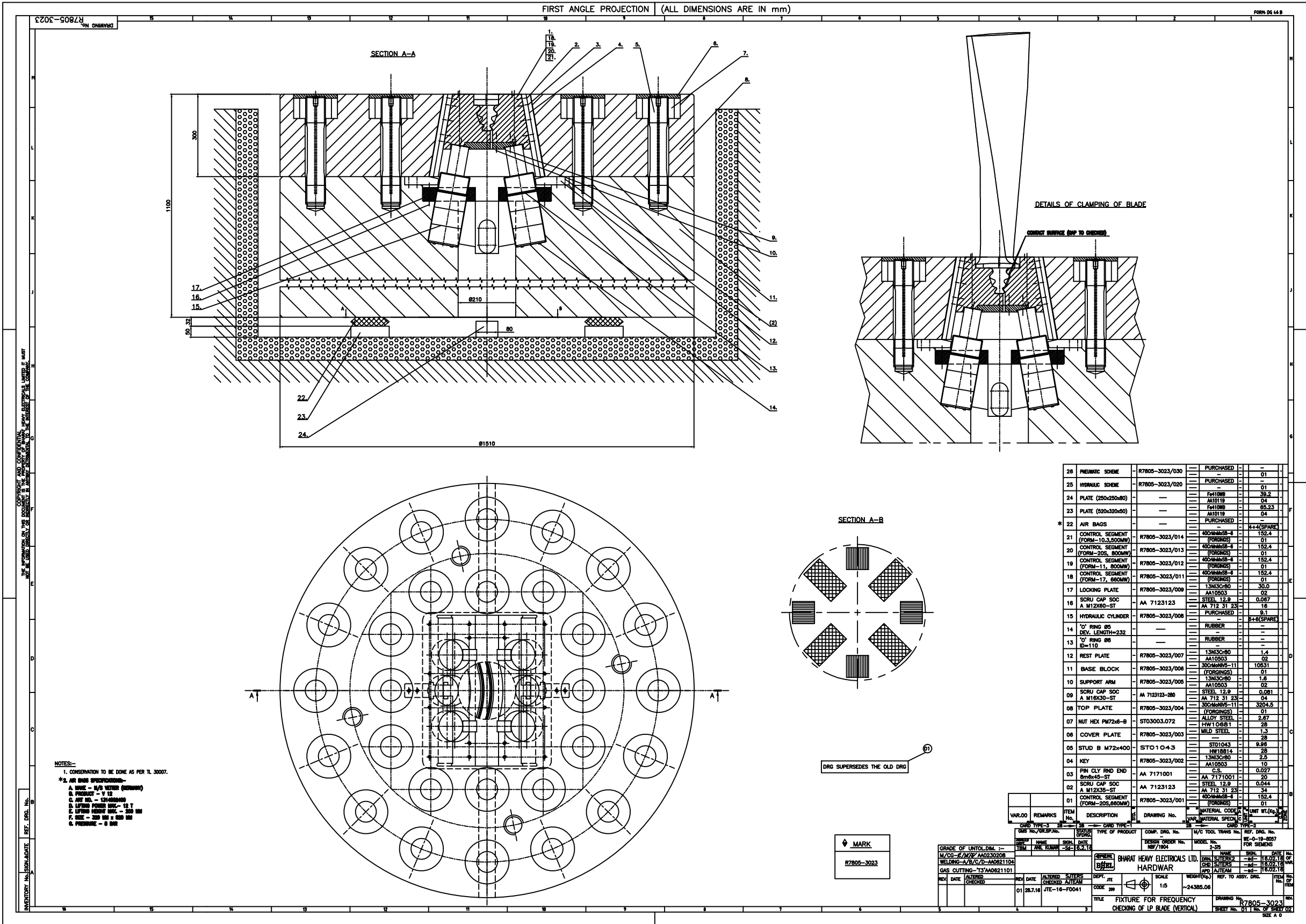
SalYa-k/TITLE
FREQUENCY CHECKING

kaD-AiBaklp saM#yaa/DRAWING NO.
KUT
CARD
CODE

7 R7805-3023

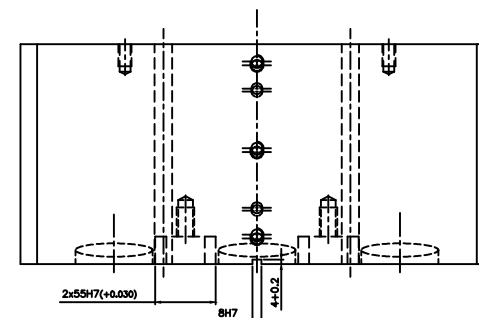
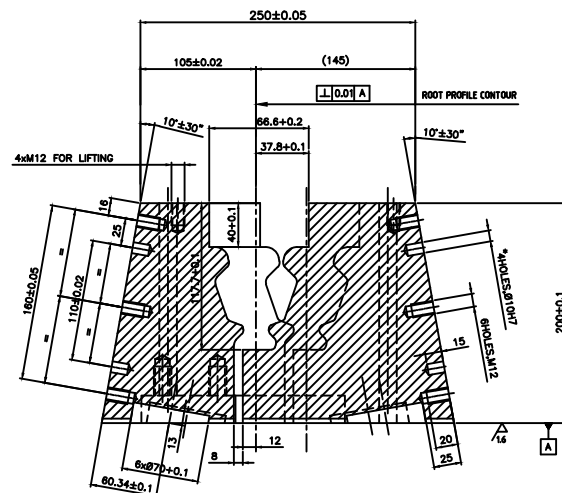
22 23 24
p'rtz saM#yaa/Sheets No.22 p'rtzsaM ki saM#yaa/No. of
Sheets

A2 saajja,/A2 SIZE

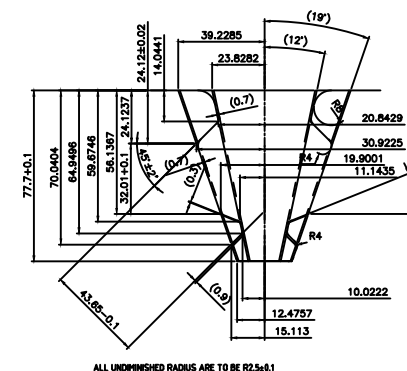


DRAWING No. R7805-3023/014

3.2/ THE REST

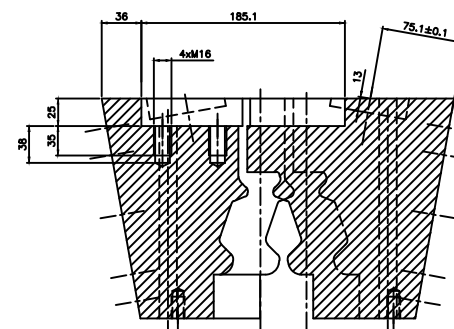


GROOVE PROFILE
(SCALE 1:1)



ALL UNFINISHED RADII ARE TO BE R2.5±0.

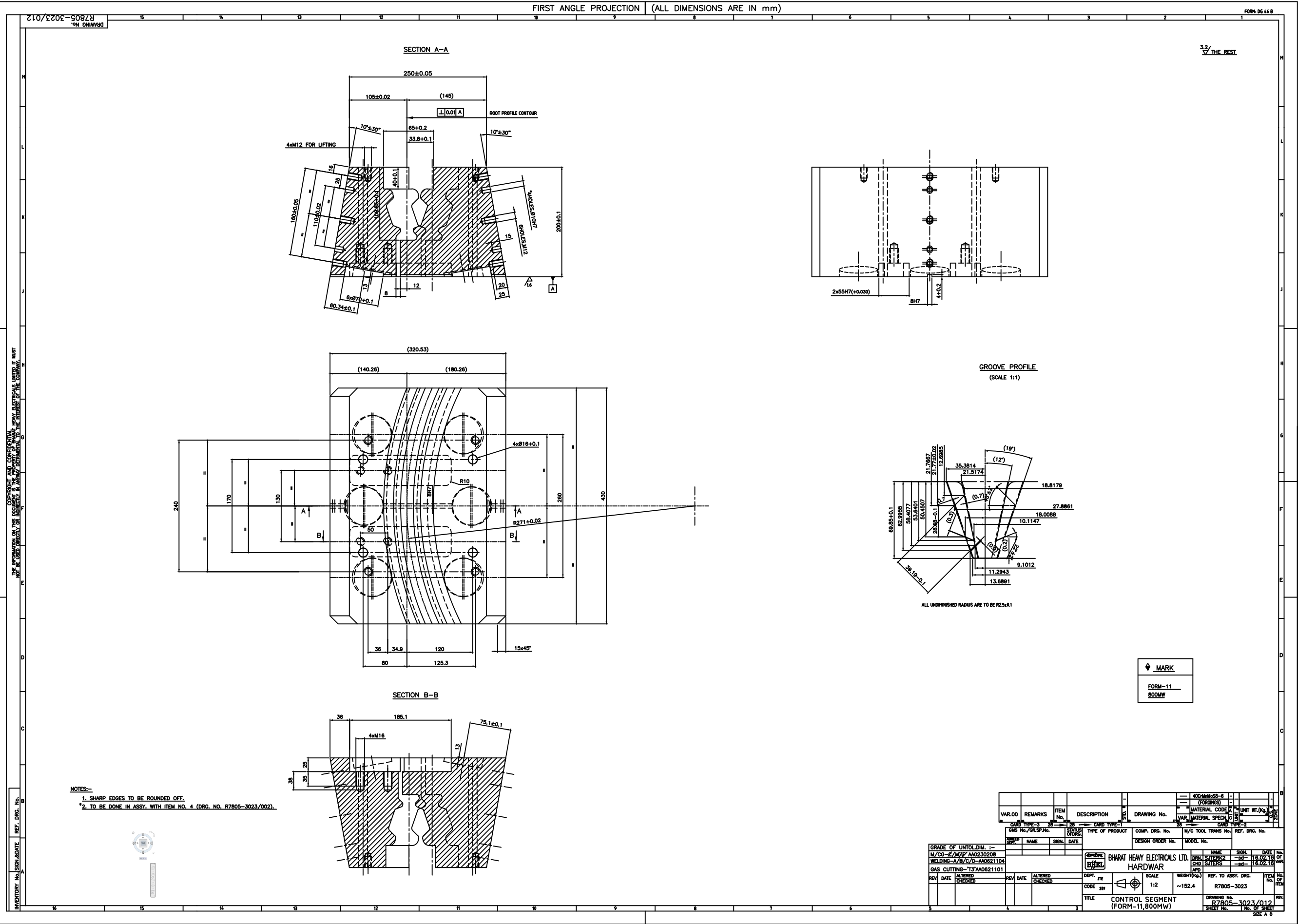
SECTION B-B



NOTES:-

1. SHARP EDGES TO BE ROUNDED OFF.
- * 2. TO BE DONE IN ASSY. WITH ITEM NO. 4 (DRG. NO. R7805-3023/002).

VAR.00		REMARKS	ITEM No.	DESCRIPTION	REV. 1	DRAWING No.	400mmx10x8-B (FORNINGS) MATERIAL CODE A UNIT WT.(Kg) 1.0 MATERIAL SPEC. C VAR. TYPE-2	
CARD TYPE-3 28		28		CARD TYPE-1		28		CARD TYPE-2
DMS No. 063839 No.				TYPE OF PRODUCT		COMP. DRG. No.		M/C TOOL TRANS No.
REQUIS. REPT.		NAME	SIGN.	DATE	DESIGN ORDER No.		MODEL No.	
GRADE OF INTOL.DIM. 1- M/C/E-E/NE AQ230208 WELDING-A/B/C/D-A0621104 GAS CUTTING-T3-A0621101				 BHARAT HEAVY ELECTRICALS LTD. HARDWAR		NAME DRG. INTERDRG. -Bd- CRD. SITES -Bd- APP. 18.02.79		DATE 18.02.79
REV	DATE	ALTERED CHECKED		REV	DATE	ALTERED CHECKED		ITEM No.
5				3		1		2
A				B		C		D
TITLE				CONTROL SEGMENT (FORM-10.3 500MMx1)				DRAWING No. R7805-3023/014 SCALE No. 1



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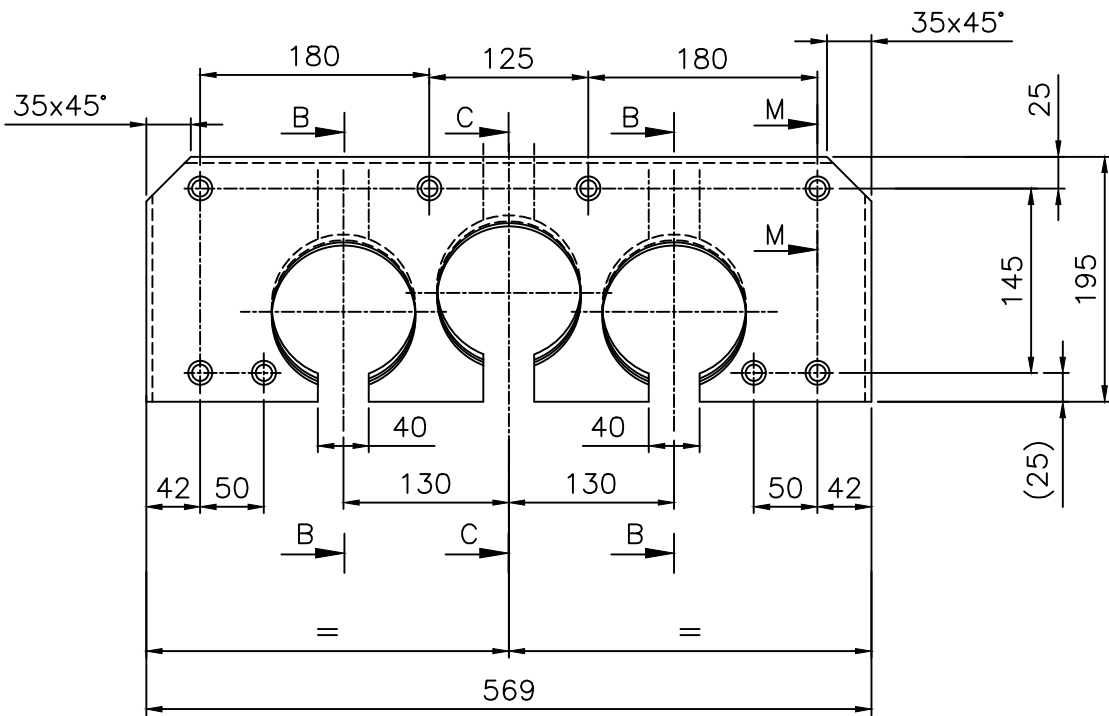
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

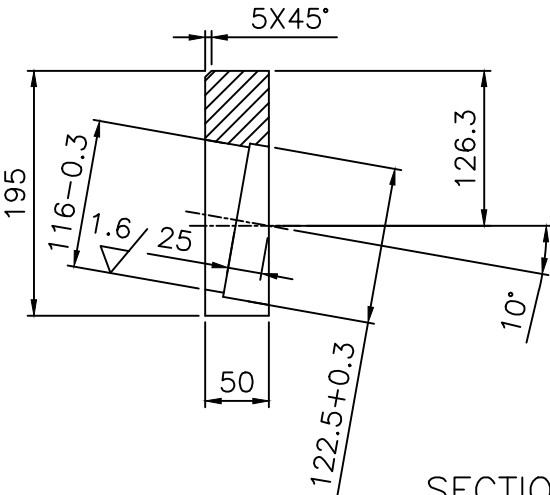
FORM DG38(B)

DRAWING No.
R7805-3023/009

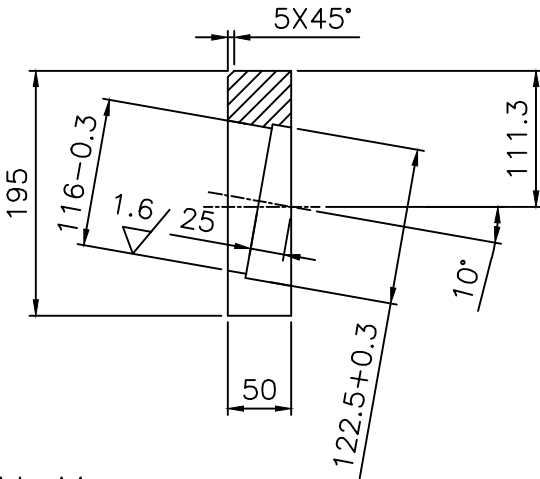
3.2/
THE REST



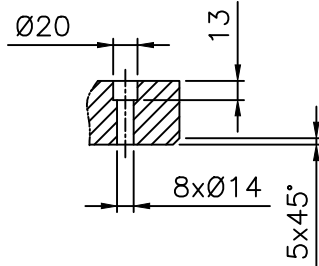
SECTION B-B



SECTION C-C



SECTION M-M



NOTE:-

1. SHARP EDGES TO BE ROUNDED OFF.
2. TO BE CARBURISED & HARDENED HRc 55-60 AS PER P.S.0912.002.

VAR.00	REMARKS	ITEM No.	DESCRIPTION	STD	DRAWING No.	13Ni3Cr80 AA10503	A	UNIT	UNIT WEIGHT	QTY.
						MATERIAL SPECN.	C			

GMS No./GR.SP.No.				STATUS OF DRG		TYPE OF PRODUCT		COMP. DRG. No.		M/C TOOL TRANS No.		REF. DRG. No.	
AGREED DEPT.				NAME		SIGN.		DATE		DESIGN ORDER No.		M/C MODEL No.	
GRADE OF UNTOL. DIM.:-													
M/CG- C /M/F AA0230208													
WELDING-A/B/C/D AA0621104													
GAS CUTTING-'T3' AA0621101													
REV DATE ALTERED				REV DATE		ALTERED		DEPT. JTE		WEIGHT(Kg)		REF.TO ASSY. DRG.	
						CHECKED		CODE 209		~30.0		R7805-3023	
								TITLE				DRAWING No.	
												R7805-3023/009	
												SHEET No. 01	
												No. OF SHEETS 01	

LOCKING PLATE

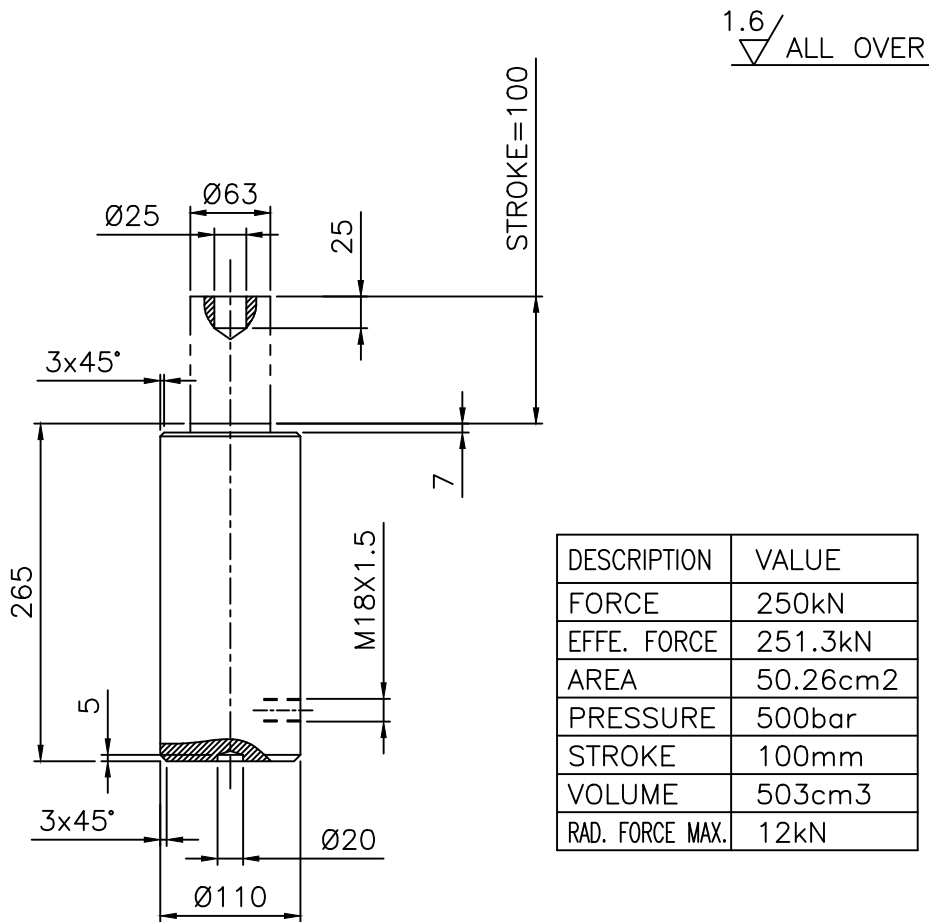
SIZE A 3

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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm) FORM DG39(B)

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	GMSNo./GR.SP.No.			STATUS OF DRG.
R7805-3023/008						AGREED DEPT.	NAME	SIGN.	DATE
GRADE OF UNTOL. DIM.M/CG- L /M/F/-AA0230208						WELDING A/B/C/D AA0621104			GASCUTTING-T3'AA0621101



NOTE:-

1. SHARP EDGES TO BE ROUNDED OFF.

DRG FOR REFERENCE ONLY



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

NAME	SIGN	DATE	No. OF VAR
SJTERK2	-SD-	16.02.16	
SJTERS	-SD-	16.02.16	
APD			

DEPT	JTE	SCALE	1:5	WEIGHT(Kg)	~9.1	REF. TO ASSY. DRG.	ITEM No.	No. OF ITEM
CODE	209					R7805-3023		
TITLE						DRAWING No.	REV	
HYDRAULIC CYLINDER						R7805-3023/008		
						SHEET No. 01	No. OF SHEETS	01

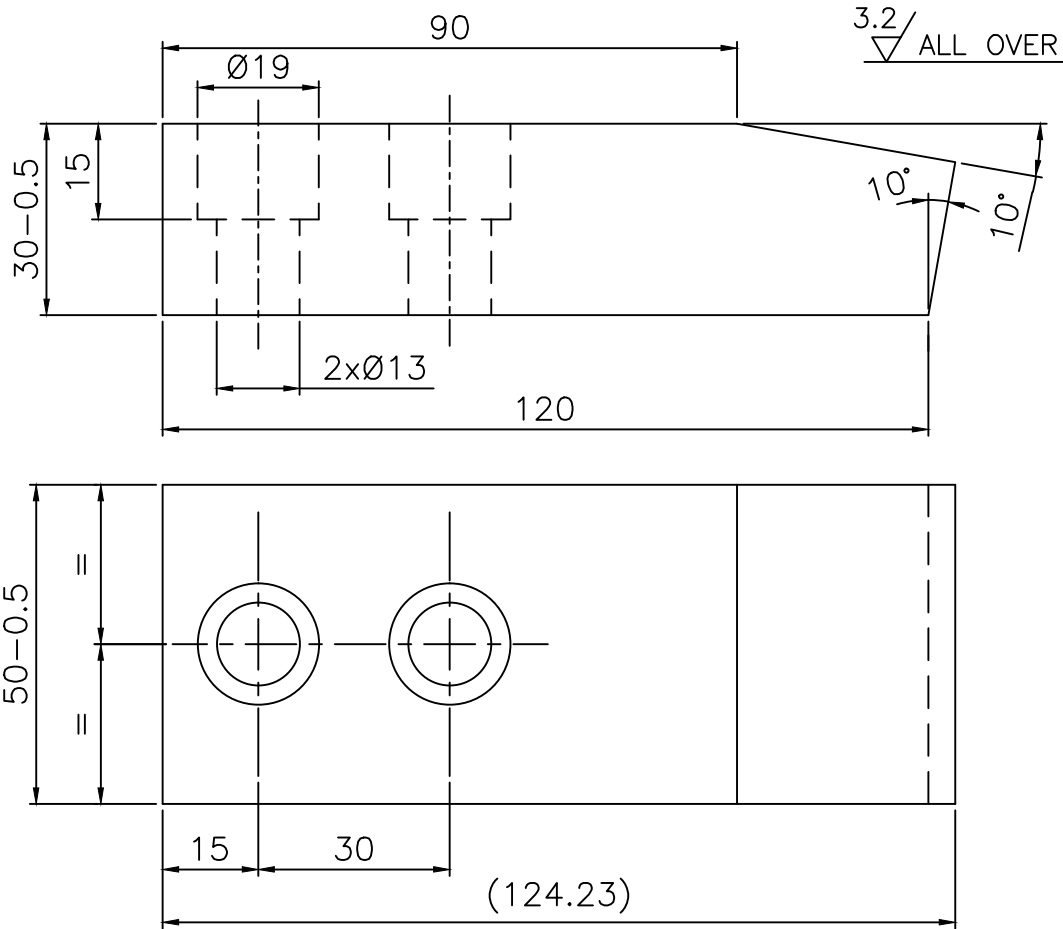
SIZE A4

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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm) FORM DG39(B)

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	GMSNo./GR.SP.No.		STATUS OF DRG.	
R7805-3023/007						AGREED DEPT.	NAME	SIGN.	DATE
GRADE OF UNTOL. DIM.M/CG- L /M/ F /--AA0230208			WELDING A/B/C/D AA0621104			GASCUTTING-'T3'AA0621101			



NOTE:-

1. SHARP EDGES TO BE ROUNDED OFF.
2. TO BE CARBURISE & HARDEN TO
HRC 55-60 AS PER P.S. 0912.002.

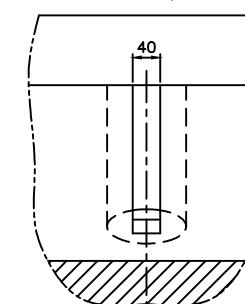
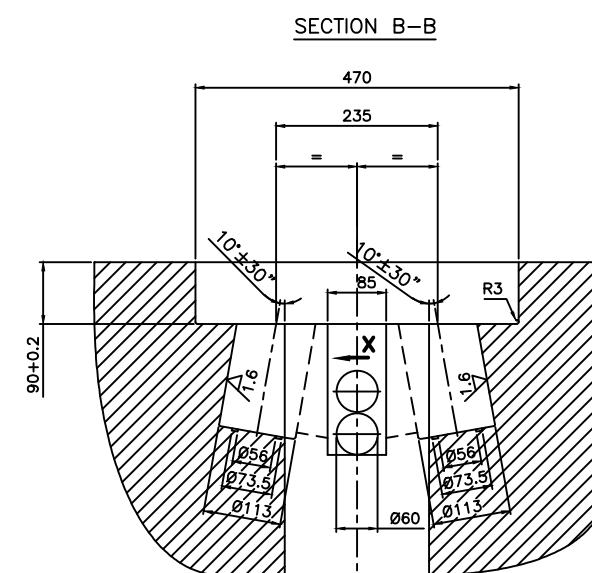
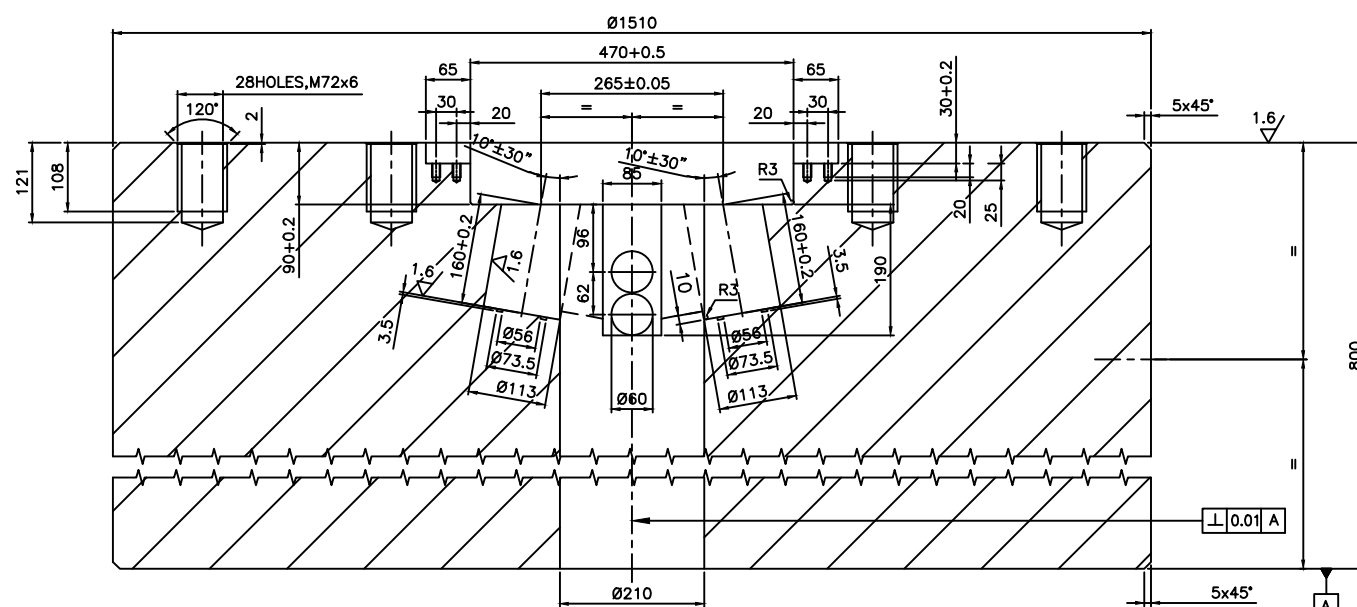
	13Ni3Cr80		
	AA10503		
	MATERIAL CODE		
	MATERIAL SPEC.		

बी.एच.ई.एल. BHEL		BHARAT HEAVY ELECTRICALS LTD. HARDWAR		NAME		SIGN	DATE	No.	
				DRN	SJTERK2	—SD—	16.02.16	OF	
				CHD	SJTERS	—SD—	16.02.16	VAR	
				APD					
DEPT	JTE		SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.			ITEM No.	No. OF ITEM
CODE	209		1:1	~ 1.4	R7805—3023				
TITLE					DRAWING No.				REV
REST PLATE					R7805—3023/007				
					SHEET No. 01		No. OF SHEETS		01

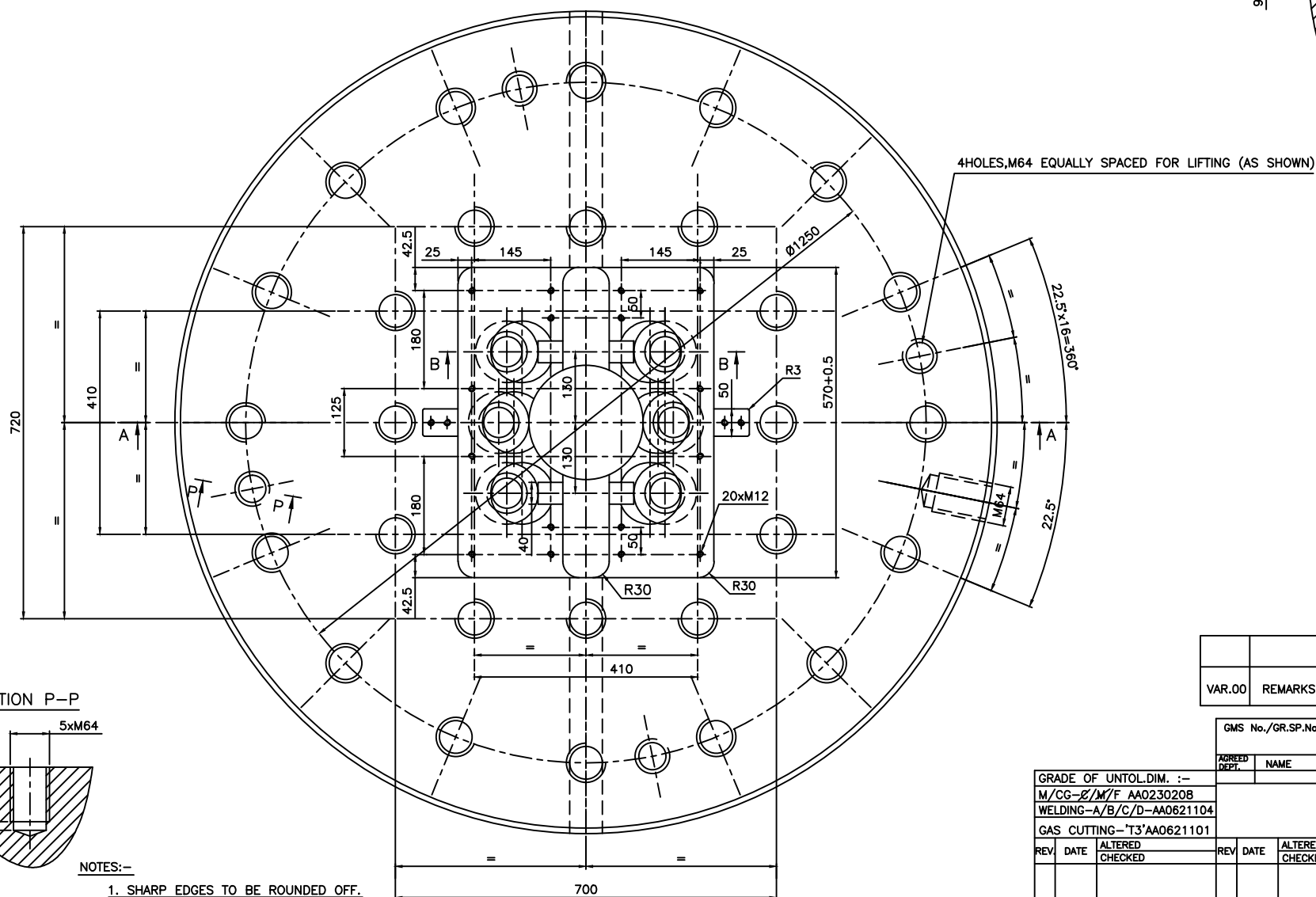
SIZE A4

DRAWING No. R7805-3023/006

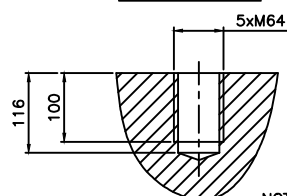
3.2/ THE REST



VIEW-X



SECTION P-P



NOTES:-

1. SHARP EDGES TO BE ROUNDED OFF.

[illegible]

GMS No./GR.SP.No.			STATUS OF DRG.	TYPE OF PRODUCT	COMP. DRG. No.	M/C TOOL TRANS No.	REF. DRG. No.
AGREED	NAME	SIGN			DATE	DESIGN ORDER No.	

GRADE OF UNTOL.DIM. :-	DEPT.	NAME	SIGN.	DATE	DESIGN ORDER NO.	MODEL NO.	
M/CG-E/M/F AA0230208					BHARAT HEAVY ELECTRICALS LTD. HARDWAR	DRN.	NAME
WELDING-A/B/C/D-AA0621104						SJTERK2	SIGN.
CAS. CUTTING-T3-AA0621101						CHD	DATE
						SJTERS	-SD-
						4DP	16.02.16

GAS CUTTING - 13A0021101						HARDWARE			APD					
REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	DEPT.	JTE		SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.	ITEM No.		
									1:1	210531				

[illegible]

No. OF SHEET
SIZE A 1

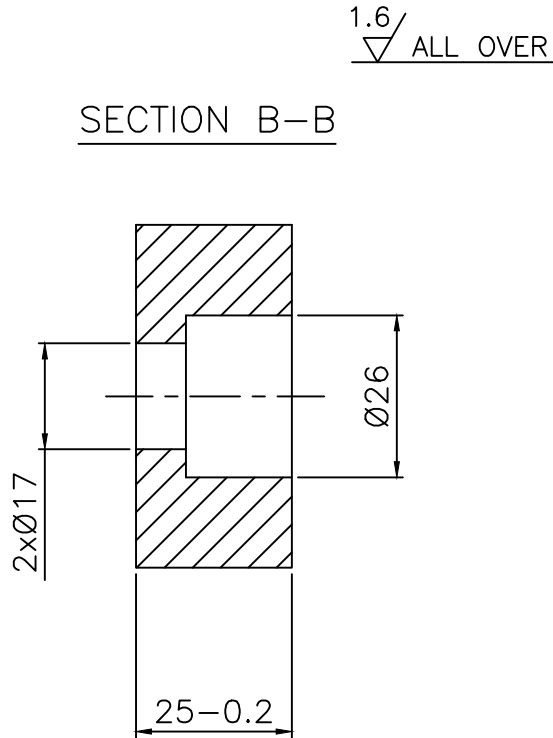
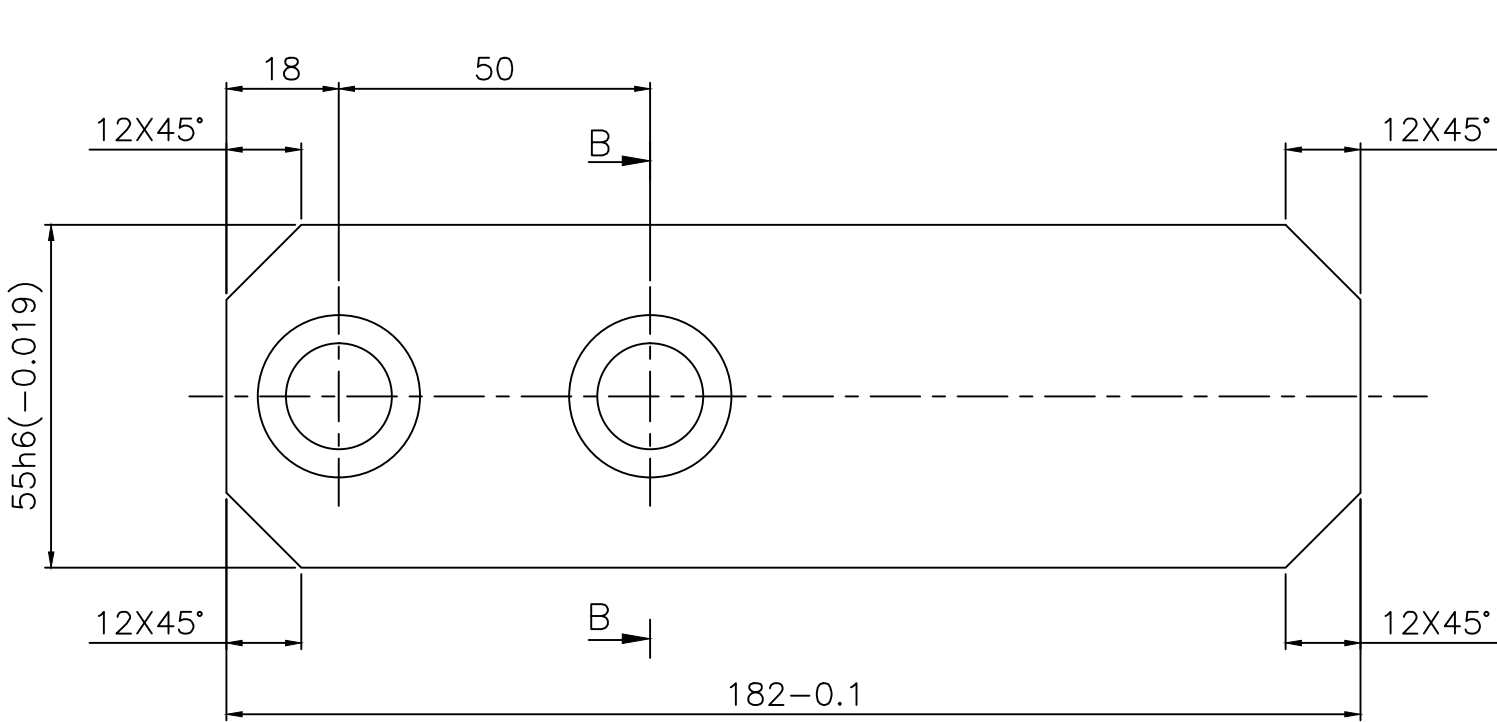
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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG38(B)

DRAWING No.
R7805-3023/005



NOTE:-

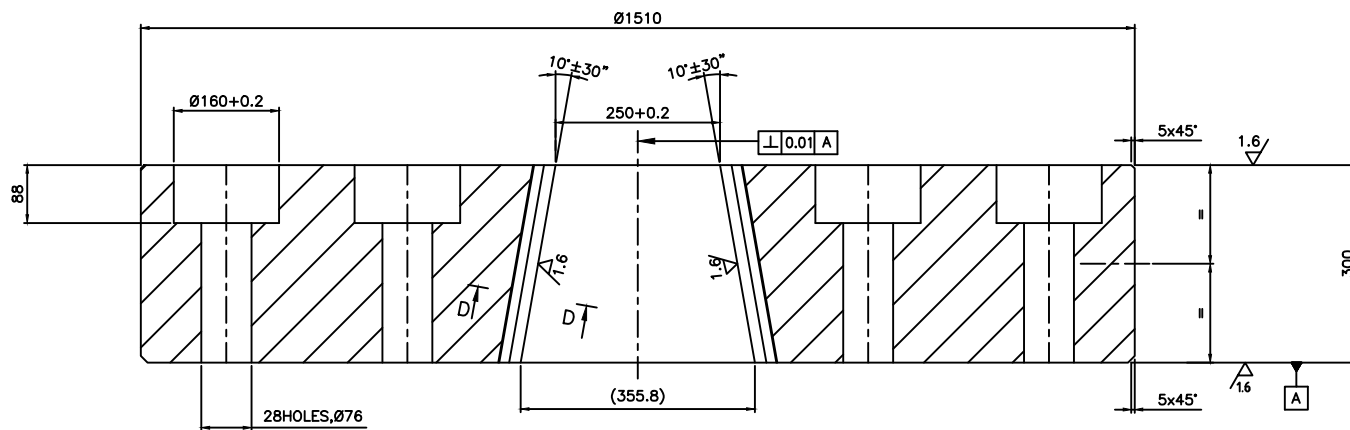
1. SHARP EDGES TO BE ROUNDED OFF.
2. TO BE CARBURISE & HARDEN TO
HRC 55-60 AS PER P.S. 0912.002.

						13Ni3Cr80			
						AA10503			
VAR.00	REMARKS	ITEM No.	DESCRIPTION	STD	DRAWING No.	MATERIAL CODE	A	UNIT	UNIT WEIGHT
						VAR. MATERIAL SPECN.	C		QTY.

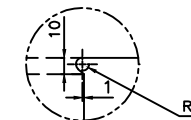
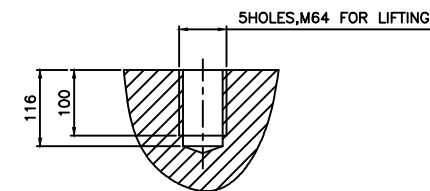
GMS No./GR.SP.No.				STATUS OF DRG.	TYPE OF PRODUCT	COMP. DRG. No.		M/C TOOL TRANS No.		REF. DRG. No.		
AGREED DEPT.	NAME	SIGN.	DATE			DESIGN ORDER No.		M/C MODEL No.				
					बी.एच.ई.एल. BHEL	BHARAT HEAVY ELECTRICALS LTD. HARDWAR		DRN	NAME	SIGN.	DATE	No. OF VAR.
								CHD	SJTERK2	—SD—	16.02.16	
								APD	SJTERS	—SD—	16.02.16	
REV	DATE	ALTERED		DEPT. JTE		SCALE	WEIGHT(Kg)	REF.TO ASSY. DRG.		ITEM	No. OF ITEMS	
		CHECKED		CODE 209		1:1	~1.6	R7805—3023		No.		
					TITLE SUPPORT ARM			DRAWING No.			REV.	
								R7805—3023/005				
								SHEET No. 01		No. OF SHEETS 01		

SIZE A 3

SECTION A-A

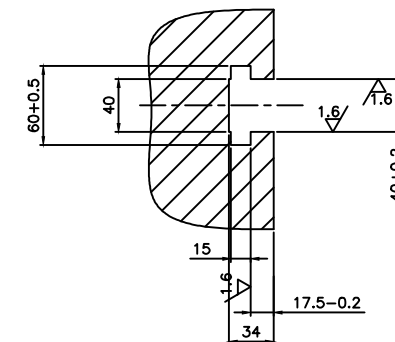


SECTION P-P



DETAIL-M
(SCALE 1:2)

SECTION D-D
(SCALE 1:2.5)



NOTES:-

1. SHARP EDGES TO BE ROUNDED OFF.
2. CARBURISED & HARDEN TO HRC 50-55 AS PER PS NO. 0912002.

GRADE OF UNTOL. DIM. :-
M/CG-B/M/F AA0230208
WELDING-A/B/C/D-AA0621104
GAS CUTTING-T3'AA0621101

REV. DATE ALTERED CHECKED

VAR.00	REMARKS	ITEM No.	DESCRIPTION	STD.	DRAWING No.	30CrMoNiV5-11 (FORGINGS)	MATERIAL CODE	UNIT WEIGHT	QTY.	UNIT	QTY.

GMS No./GR.SP.No.	STATUS OF DRG.	TYPE OF PRODUCT	COMP. DRG. No.	M/C TOOL TRANS No.	REF. DRG. No.

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DEPT.	JTE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.	ITEM No.	No. OF ITEM
CODE	209	1:5	~3204.5	R7805-3023		

TITLE	DRAWING No.	REV.
TOP PLATE	R7805-3023/004	
	SHEET No. 01	No. OF SHEET 01

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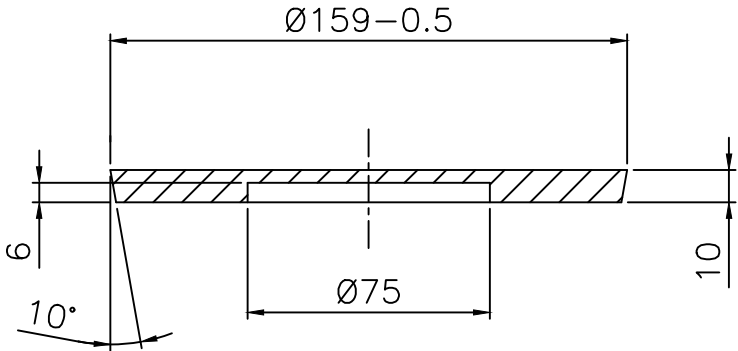
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm) FORM DG39(B)

REV	DATE	ALTERED	REV	DATE	ALTERED	GMSNo./GR.SP.No.			STATUS OF DRG.
		CHECKED			CHECKED				
R7805-3023/003						AGREED DEPT.	NAME	SIGN.	DATE
GRADE OF UNTOL. DIM.M/CG- 2 /M/F/-AA0230208						WELDING A/B/C/D AA0621104		GASCUTTING-'T3'AA0621101	

GRADE OF UNTOL. DIM.M/CG-~~L~~/M/~~F~~/-AA0230208 WELDING A/B/C/D AA0621104 GASCUTTING-'T3'AA0621101

3.2/
▽ ALL OVER



NOTE:-

1. SHARP EDGES TO BE ROUNDED OFF.

	MILD STEEL			
	—			
	MATERIAL CODE			
	MATERIAL SPEC.			



BHARAT HEAVY ELECTRICALS LTD.
HARDWAR

	NAME	SIGN	DATE	No. OF VAR
DRN	SJTERK2	-SD-	16.02.16	
CHD	SJTERS	-SD-	16.02.16	
APD				

DEPT	JTE		SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM No.	No. OF ITEM
CODE	209		1:2	~1.3	R7805-3023		
TITLE					DRAWING No.	REV	
COVER PLATE					R7805-3023/003		
					SHEET No. 01	No. OF SHEETS	01

SIZE A4

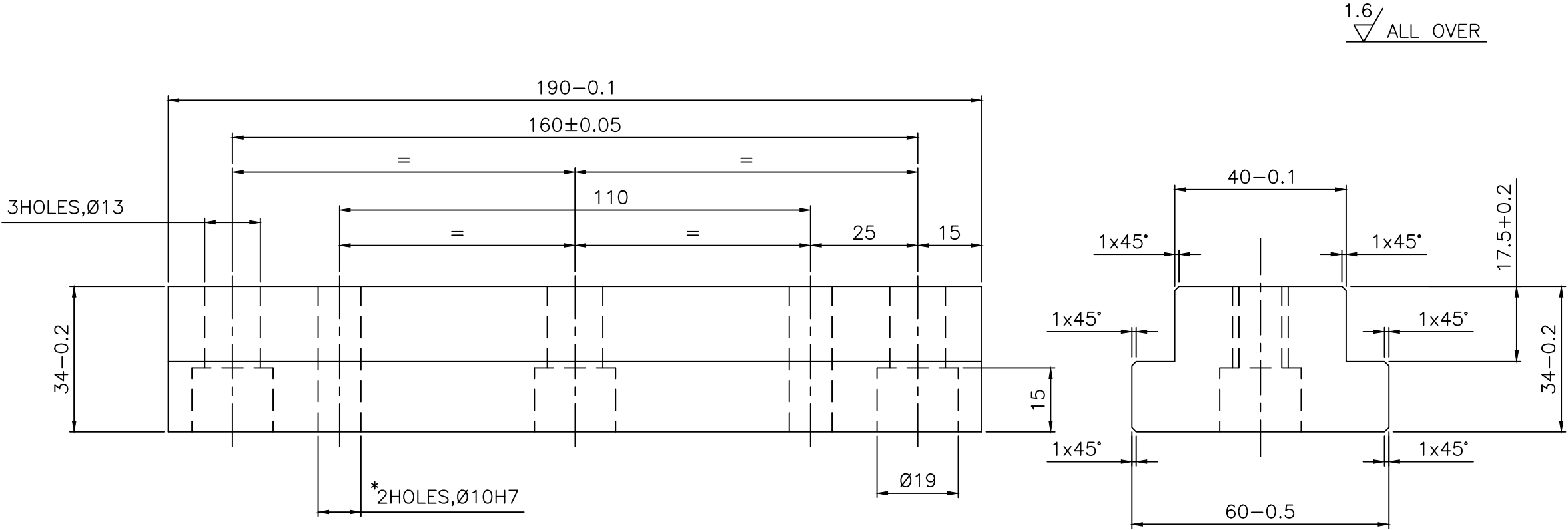
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OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF COMPANY.

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG38(B)

DRAWING No.
R7805-3023/002



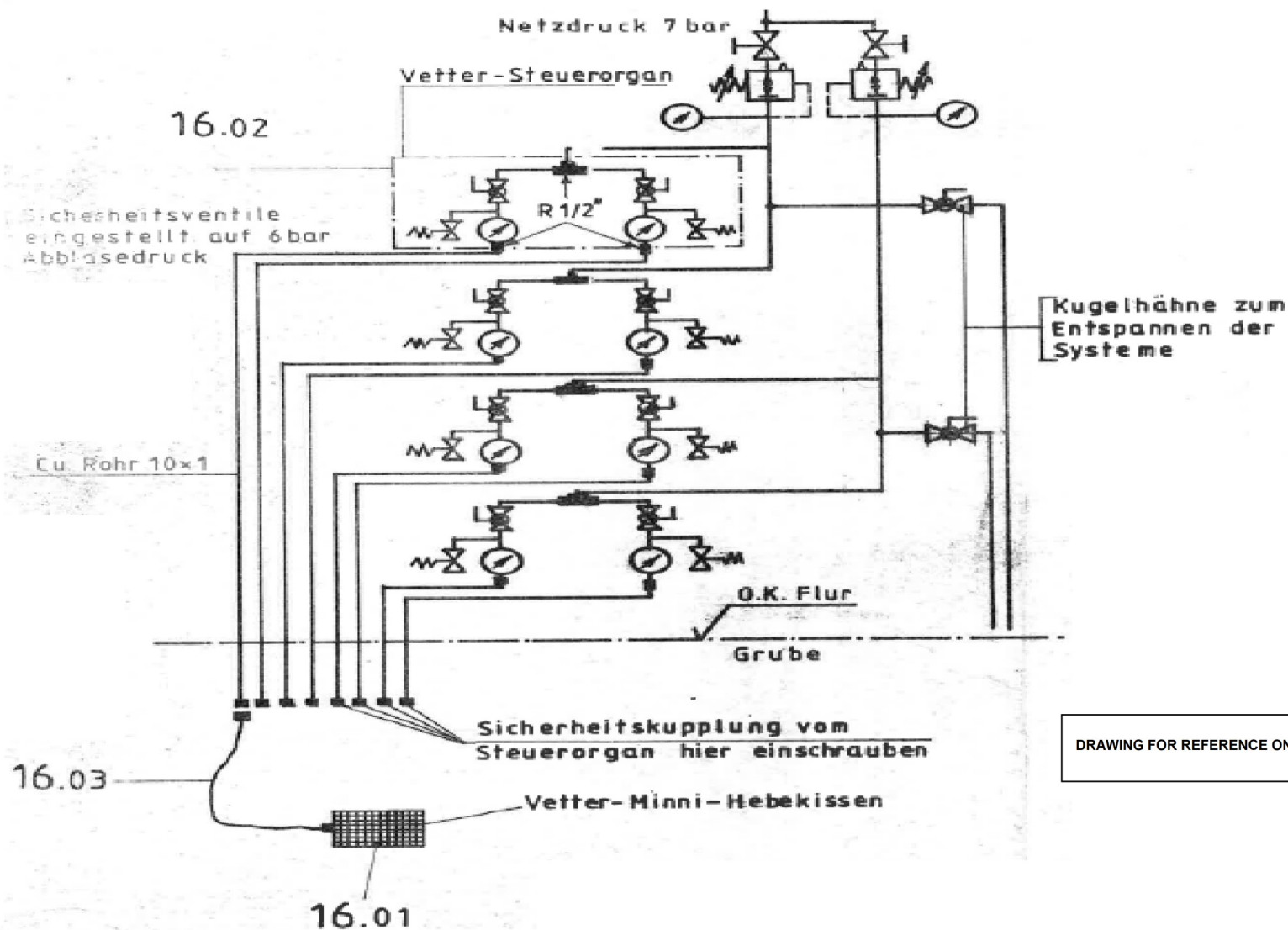
NOTE:-

1. SHARP EDGES TO BE ROUNDED OFF.
2. TO BE CARBURISE & HARDENED TO HR_c 50-55 AS PER P.S.0912.002.
- *3. TO BE DONE IN ASSY. WITH CONTROL SEGMENT.

				I			13Ni3Cr80			
							AA10503			
VAR.00	REMARKS	ITEM No.	DESCRIPTION	STD	DRAWING No.		MATERIAL CODE	A	UNIT	UNIT WEIGHT
						VAR.	MATERIAL SPECN.	c		QTY.

GMS No./GR.SP.No.				STATUS OF DRG.	TYPE OF PRODUCT	COMP. DRG. No.		M/C TOOL TRANS No.		REF. DRG. No.			
AGREED DEPT.	NAME	SIGN.	DATE			DESIGN ORDER No.		M/C MODEL No.					
					बी.एच.ई.एल. BHEL	BHARAT HEAVY ELECTRICALS LTD. HARDWAR			NAME	SIGN.	DATE	No. OF VAR.	
								DRN	SJTERK2	—SD—	16.02.16		
								CHD	SJTERS	—SD—	16.02.16		
								APD					
REV.	DATE	ALTERED			DEPT. JTE		SCALE	WEIGHT(Kg)	REF.TO ASSY. DRG.		ITEM	No. OF ITEMS	
		CHECKED			CODE 209		1:1	~2.5	R7805—3023		No		
					TITLE				DRAWING No.		REV.		
					KEY				R7805—3023/002				
									SHEET No. 01		No. OF SHEETS 01		

SIZE A 3

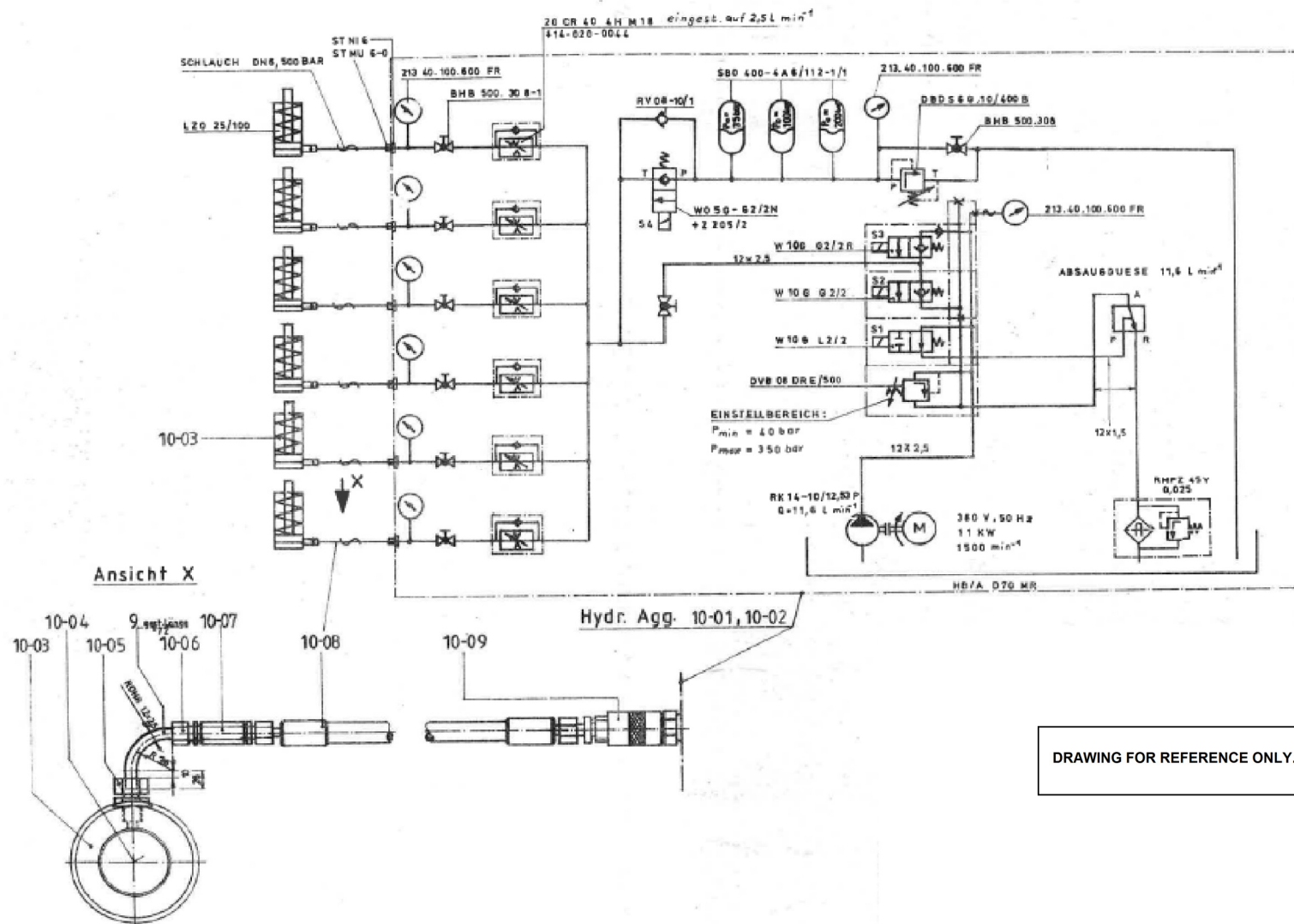


DRAWING FOR REFERENCE ONLY.

NOTE:-

THIS CIRCUIT DIAGRAM IS FOR TWO PARALLEL FREQUENCY RIGS HAVING 08 AIR BAGS (04 AIR BAGS FOR EACH RIG).
VENDOR MAY MODIFY THIS DIAGRAM ACCORDING TO 04 AIR BAGS.

[illegible]



DRAWING FOR REFERENCE ONLY.

[illegible]