



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT/ MATERIALS MANAGEMENT

### ENQUIRY

### NOTICE INVITING TENDER

Phone: +91 431 257 7771  
Fax : +91 431 252 0719  
Email : rpmuthu@bheltry.co.in  
Web : [www.bhel.com](http://www.bhel.com)

#### TWO PART BID

Tender to be submitted in two parts.

Enquiry  
Number:

**2631100015**

Enquiry  
Date:

**01.08.2011**

Due date for submission  
of quotation:

**31.08.2011**

You are requested to quote the Enquiry number, date and due date in all your correspondences. This is only a request for quotation and not an order.

Please note that under any circumstances both **delayed offer** and **late offers** will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity	Delivery (Item required at BHEL on)
10	<b>10 T ROLLER SUPPORT DRIVERS</b> as per the technical specification, BHEL commercial terms & conditions applicable (to be downloaded from web site <a href="http://www.bhel.com">www.bhel.com</a> or <a href="http://tenders.gov.in">http://tenders.gov.in</a> )	<b>7 Nos.</b>	<b>30.01.2012</b>

#### Important points to be taken care during submission of offer

1. Checklist to be duly filled and enclosed along with your offer, failing which the offer will not be considered for evaluation.
2. Subsequent to the hosting of this Enquiry, any corrigendum to the Enquiry that may be hosted in the BHEL Web-site as well as Government Tenders-portal shall be viewed by the vendors regularly to know the details of corrigendum. In case if any vendor without seeing the corrigendum quoted as per original Enquiry and intimate that they have wrongly quoted will not be considered and rejected. However as per the appropriate Policy of BHEL action will be taken on them in this regard.

BHEL's General guidelines / instructions including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units) Bharat Heavy Electricals Limited page) under Enquiry reference "**2631100015**".

Tenders should reach us before 14:00 hours on the due date  
Tenders will be opened at 14:30 hours on the due date  
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,  
For BHARAT HEAVY ELECTRICALS LIMITED

Dy.Manager / MM / Capital Equipment



# BHARAT HEAVY ELECTRICALS LIMITED

**ENQUIRY**  
(INDIGENOUS)

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

PHONE : 2577771  
GRAMS : BHARATELEC  
FAX NO: 2520719  
E-mail :  
Web :

429-002/A

<b>OFFICE COPY</b>	<b>Collective No.</b>	<b>Enquiry Date</b>	<b>Due Date For Quotation</b>
	2631100015	01.08.2011	31.08.2011
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	10 Ton Roller Support DRIVER with 2-axis adjustment facility (Specification Enclosed) DRIVE-Roller Support 10T (2-axis adjust)	NO	7.000	7.00	31.01.12

**General Note:**

**COMMERCIAL TERMS AND CONDITIONS**

Bhel commercial terms & conditions with Price Bid and Bank Guarantee formats along with technical specifications can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units>Bharat Heavy Electricals limited page) under Enquiry reference "2631100015".

**1., QUOTATIONS**

The Bidders shall submit the offer in TWO INNER ENVELOPES as indicated below which shall be sealed in one outer envelope.

Envelope I This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked "Part I - Technical and commercial bid", indicating Enquiry No., Due Date and Address & Reference of the Bidder.

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

Both the envelopes ( Part I & II) shall be put in one cover, duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder.

The above offer should reach this office on or before the due date by 14.00 Hrs (IST).Late offers will not be considered.

**2. POINT TO POINT CONFIRMATION TO BHEL'S SPECIFICATION AND COMMERCIAL TERMS AND CONDITIONS SHOULD BE PROVIDED IN THE ENCLOSED SHEET.**

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

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

*[Signature]*  
MANAGER / PURCHASE  
(FOSSIL BOILERS)



# BHARAT HEAVY ELECTRICALS LIMITED

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

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2631100015 / 01.08.2011

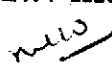
3. DETAILED CATALOGUE AND DRAWINGS SHOULD BE SENT ALONG WITH YOUR TECHNICAL OFFER.

Enclosures:

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

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

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

  
MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,

**BHARAT HEAVY ELECTRICALS LIMITED.  
MAINTENANCE AND SERVICES  
TIRUCHIRAPALLI -14**

**SUB :Specification for the procurement of Welding positioner**

**Scope of supply:**

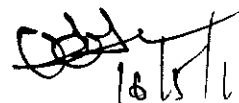
The supplier has to manufacture and supply the items as per the following assembly and its sub drawings.

MAIN ASSEMBLY DRG.NO. 2M-10B38-04921,

**SUB DRAWINGS NOs:**

a) 2M 10B 38 04921, b) 2M 10B 38 04922, c) 2M 10B 38 04923, d) 3M 10B 38 13792, e) 3M 10B 38 13794, f) 3M 10B 38 13795, g) 3M 10B 38 13796, h) 3M 10B 38 13801, i) 4M 10B 38 28863, j) 4M 10B 38 28864, k) 4M 10B 38 28865, l) 4M 10B 38 28866, m) 4M 10B 38 28867, n) 4M 10B 38 28869, o) 4M 10B 38 28875, p) 4M 10B 38 28876, q) 4M 10B 38 28881, r) 4M 10B 38 28882

1. The WELDING POSITIONERS are designed to withstand 10 TONS OF LOAD.
2. The WELDING POSITIONERS are designed for accommodating the job dia between 300mm ( min) and 800mm ( max).
3. The WELDING POSITIONERS are designed for positioning of the headers by the rotational movement of the Roller drive assembly both in forward and reverse direction.
4. The fabrication procedure should as per industrial standard.
5. The manufactured component should confirm to the material, finish and tolerances as per the BHEL drawing.
6. All fasteners should be of unbrako / TVS make or equivalent make acceptable to BHEL.
7. All the antifriction bearings should of SKF / NTN / FAG or equivalent make acceptable to BHEL.
8. Sample materials in assembled condition should be offered for inspection by BHEL at the suppliers works and the balance qty. has to be manufactured after acceptance by BHEL.
9. Greasing / Lubrication points shall be included in the manufacture of the components that requires lubrication for smooth functioning.
10. Two coats of red oxide paint and two coats of apple green RAL 6011(Poly urethane).
11. All materials should be delivered in assembled condition within 3 months from the P.O date.
12. The supplier may contact the indentor for familiarization of the product in case it is needed.

  
18/5/11

## **PART A**

### **10 TON ROLLER SUPPORT DRIVERS**

#### **SECTION –I: QUALIFYING CRITERIA**

The Bidder has to compulsorily meet the following requirements to get qualified for considering the technical offer:

<b>SL. No.</b>	<b>REQUIREMENTS</b>	<b>VENDOR'S RESPONSE</b>
1	Only those vendors , who have Experience of minimum 5 years in manufacturing of similar item and such equipment is presently working satisfactorily for more than one year after installation (from the date of opening of tender ) should quote. However, if such equipment had already been supplied to BHEL, then that machine should be presently working satisfactorily for more than six month after it's installation and acceptance (from the date of opening of tender)	
2	Along with the technical offer, the vendor should submit one performance certificate from the customer for the satisfactory performance of the equipment supplied to them. For obtaining the performance certificate, a suggestive format is provided in Section –II	
3	The BIDDER / VENDOR to furnish Reference List of customers, with full address, details of contact person, where similar item have been supplied in the past.	
4	Details of Similar item supplied to other BHEL units, if any.	
5	Any additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	
6	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1.Technical offer & commercial offer 2. Price Bid	
7	The Technical offer shall contain a point to point confirmation for the given specification. Detailed confirmation shall be given instead of just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' in the technical statement where specific details are required.	
8	The Technical offer shall be supported by Product Catalogues and also technical details of Bought-Out-Items with copies of product catalogue to the extent possible.	
9	The commercial offer (given with the technical offer) shall contain the scope of supply and the un-priced part of the Price-Bid, for confirmation.	

**SECTION –II:**

The Performance certificate should be produced on customer’s Letter Head.

**PERFORMANCE CERTIFICATE**

1.Supplier of the Equipment	
2.Make & Model of the Equipment	
3. Month & year of Installation	
4.Application for which M/C is used	
5.Performence of the Equipment (Strike off whichever is not applicable )	Satisfactory / Good / Average / Not Satisfactory
6.After sales service (Strike off whichever is not applicable )	Satisfactory / Good / Average / Not Satisfactory
7. Any other remarks	
Date:	Signature & seal of the Authority Issuing the Performance Certificate

**MM:CAPITAL EQUIPMENT**

**Bharat Heavy Electricals Limited, Tiruchirapalli – 620 014**

(To be filled and submitted along with offer)

**BHEL Enquiry No.**

**Date:**

<b>BHEL Commercial Terms and Conditions for INDIGENOUS SUPPLIES</b>	<b>Vendor's Confirmation / Comments ( To be furnished along with offer copy ( or ) Technical Bid Copy ( Part No - I )</b>
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	
<b>Prices</b> shall be <b>quoted item wise</b> only as per the model format enclosed.	
Prices shall be quoted on " <b>FIRM PRICE</b> " basis only. Vendors should quote for delivery on FOR BHEL, Tiruchy basis only. However, price break-up details like Ex-Works price, P&F charges, freight charges, insurance charges, taxes & duties etc., should be indicated in the offer clearly.	
<b>Validity of offer</b> shall be for a minimum period of 120 days from the date of Tender opening	
<b>Delivery period</b> from the date of Letter of Intent shall be clearly mentioned in the offer.	----- Weeks
<b>Liquidated damages</b> @ ½% per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
<b>Following Risk Purchase clause</b> shall be applicable: The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
<b>Contract Execution Bank Guarantee:</b> The successful vendor shall have to furnish a Contract Execution Bank Guarantee (CEBG) from any one of the ' Consortium Banks' of BHEL for 5% of the Purchase Order Value in the BHEL format covering the agreed delivery period ( FOR Works delivery / LWB date) with additional 2 months as claim period.  The CEBG shall be furnished within 30 days from the date of Purchase Order. BHEL reserves the right to cancel the Purchase Order if the vendor fails to submit the CEBG within 30 days from Purchase Order date.  Offers from vendors not accepting to submit the CEBG will be rejected.	
<b>Submission of Performance Bank Guarantee (PBG):</b> Vendor should provide a performance bank guarantee(PBG) for 10% of the total Purchase order value valid for a period of 12 months from the date of commissioning (or) 18 months from the date of dispatch whichever is later with an additional claim period of 2 months. This PBG shall form one of the documents for effecting payment. The PBG shall be submitted in non-judicial stamp paper value of not less than Rs.80/- issued by any one of the following banks who is a member bank in our consortium of banks. <b>1) State Bank of India, 2) State Bank of Hyderabad, 3) State Bank of Travancore, 4) State Bank of Mysore, 5) Canara bank, 6) Bank of Baroda, 7) Punjab National bank, 8) Deutsche Bank, 9) HDFC Bank, 10) Standard Chartered Bank, 11) Citi Bank, 12) Standard Chartered Grindlays Bank 13) Bank of America and 14) Any one of the Nationalised banks.</b>	

<p><b>Payment terms for supply portion:</b></p> <ul style="list-style-type: none"> <li>• <b>100%</b> payment will be made within 45 to 90 days after receipt and acceptance / commissioning of goods at BHEL against submission of PBG for 10% of Order value with required validity. <b>(or)</b></li> <li>• <b>80%</b> value of the goods will be paid against receipt of material within 45 days. Balance 20% will be paid within 45 to 90 days from the date of commissioning / acceptance of goods against submission of supplementary invoice and also against submission of PBG for 10% of Order value with required validity.</li> </ul> <p><b>NOTE:</b></p> <p>All direct Payment of more than one lakh will be made through <b><u>E-mode Payment</u></b>. As per BHEL e-mode Format, which will be given at time of ordering along with order copy. (Original filled <b><u>E-mode payment format</u></b> is to be get it signed by the both vendor's authorized signatory and their banker's along with a copy of <b>cheque leaf / cancelled cheque</b> leaf for the respective account number and forward the original hard copy to BHEL/Trichy to process invoices for making payment, after supplies are made).</p>	
<p><b>Erection / commissioning:</b> Erection / commissioning shall be done at free of cost.</p>	
<p>The equipment shall be guaranteed for a period of 12 months from the date of commissioning.</p>	
<p>Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHEL,Trichy.</p>	
<p>The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost.</p>	
<p>Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.</p>	
<p><b>Offers</b> should be submitted only in <b>sealed cover super-scribing clearly the Enquiry reference and due date.</b></p>	

**NOTE:-**

- a) It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- b) Your specific acceptance to the BHEL Payment terms, LD, Risk Purchase Clause & Submission of PBG for 10% of the order value are essential for consideration of your offer. Other wise your offer is liable for rejection.

Signature & Office Seal of the vendor



# **MM : CAPITAL EQUIPMENT**

**Bharat Heavy Electricals Limited, Tiruchirapalli – 620 014**

**(To be filled and submitted along with Offer)**

**BHEL Enquiry No.**

**Date:**

<b>BHEL Commercial Terms and Conditions for IMPORT SUPPLIES</b>	<b>Vendor's Confirmation / Comments</b>
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	To be furnished along with offer (or) Technical Bid – Part No. I
<b>Prices</b> shall be <b>quoted item wise</b> only as per the model format enclosed.	
<b>Delivery terms:</b> Vendors should quote for delivery on <b>CFR Chennai Sea Port /Air port</b> as the case may be based on Incoterms 2000. However, price break-up details like FOB price, ocean freight/air freight etc., should be indicated in the offer. The transfer of title of the goods supplied by the vendor takes place in line with the Incoterms 2000.	
<b>Validity of offer</b> shall be for a minimum period of 120 days from the date of Tender opening	
<b>Delivery period</b> from the date of Letter of Intent shall be clearly mentioned in the offer.	
<b>Liquidated damages</b> @ ½% per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
<b>Following Risk Purchase clause</b> shall be applicable: The Purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available , the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
<b>Payment terms for Foreign vendor (Principal):</b> 80% value of the goods will be paid through an irrevocable Letter of Credit established by our bankers. Balance 20% will be paid against acceptance / commissioning of goods for which supplementary invoice and PBG for 10% of total Purchase order value shall be submitted. <b>All bank charges outside India are to vendor's account only.</b>	
<b>Payment terms for Indian Agent:</b> Indian Agency commission, if any, shall be clearly specified in the offer and the same will be paid in Indian Rupees against acceptance / commissioning of the equipment.	
<b>Erection / commissioning:</b> Erection / commissioning shall be done at free of cost.	
<b>Contract Execution Bank Guarantee:</b> The successful vendor shall have to furnish a Contract Execution Bank Guarantee (CEBG) from any one of the ' Consortium Banks' of BHEL for 5% of the Purchase Order Value in the BHEL format covering the agreed delivery period ( FOR Works delivery / LWB date) with additional 2 months as claim period.  The CEBG shall be furnished within 30 days from the date of Purchase Order. BHEL reserves the right to cancel the Purchase Order if the vendor fails to submit the CEBG within 30 days from Purchase Order date.  Offers from vendors not accepting to submit the CEBG will be rejected.	

<p><b>Submission of Performance Bank Guarantee (PBG):</b> Vendor should provide a performance bank guarantee(PBG) for 10% of the total Purchase order value valid for a period of 12 months from the date of commissioning (or) 18 months from the date of dispatch <b>whichever is later</b> with an additional claim period of 2 months. This PBG shall form part one of the documents for effecting the balance 20% payment.</p>	
Part Shipment or Transshipment is not permissible	
In case of any short shipment in the main equipment / spares, where separate rates are not available in the contract, the customs duty levied on such supplies , shall be borne by the supplier / Indian agent.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHEL,Trichy.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost.	
<b>Offers</b> should be submitted only in <b>sealed cover super-scribing clearly the Enquiry reference and due date.</b>	

**NOTE:-**

- a) **It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.**
- b) **Your specific acceptance to BHEL Payment terms, LD, Risk Purchase Clause & Submission of PBG for 10% of the order value are essential for consideration of your offer. Other wise your offer is liable for rejection.**

Signature & Office Seal of the vendor

BHEL Enquiry No. & Date		Vendor's Offer Ref No. & Date			
<b>MODEL PRICE BID FORMAT FOR IMPORT VENDORS</b>					
Sl No.	Description	Unit	Qty	Rate Currency	Value Currency
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
	Total Ex-works Value in currency				
	Add Packing & Forwarding Charges if extra				
	Approximate Freight Charges in Currency				
	Approximate Transit Insurance Charges in Currency				
	CFR Chennai Airport/ Seaport Value in Currency				
	Installation / Commissioning Charges in Currency				
	<b>(If extra applicable )</b>				
	<b>% Service Tax (if extra applicable )</b>				
	<b>Consignment Package Details</b>				
	Approximate Net / Gross Weight in Kgs				
	Dimension of Consignment				
		<b>Signature &amp; Seal of Vendor</b>			
	<b>NOTE:</b>				
	The Price Bid should be submitted strictly in line with the above <b>FORMAT</b>				

## GENERAL TERMS AND CONDITIONS OF RA

- Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING ON INTERNET.
- For the proposed RA, technically and commercially acceptable bidders only shall be eligible to participate.
- In case of RA, BHEL will engage the services of a service provider for conduct of the RA who will provide all necessary training and assistance to the bidders before commencement of on line bidding on internet.
- Business rules governing the RA will be communicated to the bidders through service provider for compliance.
- Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of RA. Without the compliance, the vendor will not be eligible to participate in the event.
- BHEL will provide a sample calculation sheet (in EXCEL format) which would help the bidders to arrive at “Net Cash outflow to BHEL” considering various price / cost elements like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) etc. for each of the bidders to enable them to arrive at “Net Cash outflow to BHEL” which is the amount the bidder would be bidding during the RA.
- RA will be conducted on scheduled date & time and at the end of event, the lowest bidder value will be known on the network.
- The lowest bidder has to Fax the duly signed “Price Break-up” in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
- Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct further business with BHEL, as per the prevailing procedure.
- BHEL reserves the right to negotiate if need be, with the “L1” vendor of the Reverse Auction

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT AND THE EXPIRY DATE OF BG MUST BE AFTER 60 DAYS FROM THE DATE OF COMPLETION OF WARRANTY PERIOD)

## PERFORMANCE BANK GUARANTEE

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at "BHEL House", SIRI Fort, New Delhi 110 049) through its High Pressure Boiler Plant Division located at Tiruverumbur, Tiruchirapalli- 620 014 (hereinafter called 'the Company') having entered into a contract with .....hereinafter called ' the said contractor ' which term includes 'suppliers' for the purpose of this Bond and under the terms and conditions of the contract No..... Dt ..... Between BHEL, Trichy and as per the contract, the contractor / supplier is to furnish a performance Bank guarantee for Rs. .... for the due performance of the equipment to be supplied under the above referred contract and for the fulfillment of all the terms and conditions of the contract, We .....(indicate the name of the bank) (herein after referred to as the bank) at the request of ..... (Contractor(s) ) do here by undertake to pay the company an amount not exceeding Rs.....against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said contractor (s) of any of the terms and conditions contained in the said agreement.

2. We .....(indicate the name of the bank with full address), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by the reason of the contractor(s) 'failure to perform' the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.\_\_\_\_\_.

3. We undertake to pay unconditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority relating thereto our liability under this present being absolute and unequivocal. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority. The payment so made by us under this Bond shall be a valid discharge of liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We.....( indicate the name of Bank), further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till \_\_\_\_\_ Office / Department/ Division of the Company certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. (I) Unless a demand or claim under this guarantee is made on us in writing on or before the \_\_\_\_\_ we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date.

(ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL dispatched by Registered Post with Ack.Due or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank shall be deemed to be the claim / demand in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the bank personally.

6. We .....(indicate the name of Bank), further agree with the company that the Company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the company or any indulgence by the company to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating would, but for this provision, have effect of not so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

8. It shall not be necessary for the company to proceed against the contractor before proceeding against the guarantor-bank and the guarantee herein contained shall be enforceable against them notwithstanding any security, which the company may have obtained or obtain from the Contractor shall, at the time when proceedings are taken against the guarantor hereunder be outstanding or unrealised.

9. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirapalli.

10. The guarantor hereby declare that it has power to execute this guarantee and the executant has full powers to do so on its behalf under the proper authorities granted to him/them by the guarantor.

11. We .....(indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing.

In witness whereof we....., (indicate the name of Bank) have hereunto setout Bank Seal the \_\_\_\_\_ day \_\_\_\_\_ month 200

BANK E-MAIL ID:

BANK PHONE NO.

BANK FAX NO:

## **MM : CAPITAL EQUIPMENT**

### **COMMERCIAL TERMS AND CONDITIONS**

#### **1.0 QUOTATIONS**

The Bidders shall submit the offer in **TWO INNER ENVELOPES** as indicated below which shall be sealed in one outer envelope.

**Envelope I** This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked **“Part I - Technical and commercial bid”**, indicating Enquiry No., Due Date and Address & Reference of the Bidder.

**Envelope II** This sealed envelope should contain **Price Details**. This envelope should be clearly marked **“Part II - Price Bid”**, indicating Enquiry No., Due Date and Address & Reference of the Bidder.

Both the envelopes ( Part I & II) shall be put in one cover, duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder.

The above offer should reach this office on or before the due date by 14.00 Hrs (IST). Late offers will not be considered.

Tender should not be addressed to any Individual's name but only by designation to:

**DY. MANAGER / MM /CAPITAL EQUIPMENT  
BHARAT HEAVY ELECTRICALS LIMITED  
HIGH PRESSURE BOILER PLANT  
TIRUCHIRAPALLI - 620 014  
TAMIL NADU, INDIA**

Contd 2/-

: 2 :

Tenders should be free from **CORRECTION AND ERASURES**, Corrections if any, must be attested. All amount shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in **ENGLISH** and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in **ENGLISH** or otherwise, the offers will not be considered.

## **2.0 PART I (TECHNICAL & COMMERCIAL BID)**

### **2.1 Technical**

This part shall include / indicate the following :

- 2.1.1. Offer should contain complete scope of supply with all technical details, specifications, delivery and other commercial terms and conditions.
- 2.1.2. Point by point confirmation for the Technical Specification enclosed to be provided. if there are any deviation, the same should be clearly specified. Offers received without confirmation to our specification will be rejected.
- 2.1.3. List of customers to whom same or similar equipment have been supplied along with performance certificates to be enclosed.
- 2.1.4. Relevant catalogues to be attached
- 2.1.5. List of spares parts (with part numbers) for two years operation and maintenance should be attached.
- 2.1.6. Information on shipping weight and cubage (length, width & height) to be provided.
- 2.1.7. Incase of foreign bidder offer, the Principal's technical offer should be enclosed.

### **2.2 Commercial**

This part shall include / indicate the following :

- 2.2.1. Port of shipment / Station of despatch
- 2.2.2. Terms of payment
- 2.2.3. Taxes & duties applicable.
- 2.2.4. Delivery Schedule

Contd 3/-

: 3 :

- 2.2.5. Offer validity
- 2.2.6. Country of origin
- 2.2.7. Percentage of agency commission if any along with a copy of Agency agreement.
- 2.2.8. A copy of “Un-Priced Part II” i.e., a copy of the Price Bid **without the price details** to be enclosed.

### **3.0 PART II (PRICE- BID)**

This part should contain the schedule of price particulars and to be co-related to the technical details provided in Part I.

### **4.0 OPENING OF TENDERS**

The Part I - Technical & commercial bid alone would be opened on the Tender opening date. The Part II - Price bid of Technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the tender opening date. Clarifications if any required by BHEL for Technical evaluation would be sought from Bidders before opening of Part II - price bid.

### **5.0 GENERAL**

- 5.1. Incomplete offers will not be considered.
- 5.2. **Fixed Price:** Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. A bid submitted with an adjustable price will be treated as non - responsive and rejected. Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regard to total price.
- 5.3. **Bid Currency:** Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their home currency.
- 5.4. **Terms of Delivery:** Bidders are required to quote their best delivery period. Foreign Bidders should submit their offer for net **CFR Chennai Sea / Air Port**. Indian Bidders should submit their offer for **FOR BHEL Trichy -14**.

Contd 4/-

: 4 :

5.5. **Taxes and Duties** : All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & VAT / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties.

5.6. **Validity** : The offers for main equipment and spares shall be kept open for acceptance for **120 days (one hundred and twenty days)** from the date of opening of the tender (Part I).

5.7. **Terms of Payment** :

5.7.1. **Indian Bidders**

5.7.1.1. The preferred payment terms are indicated below :

5.7.1.2. 100% payment, within 45 to 90 days, after receipt / acceptance / commissioning of equipment at BHEL, Tiruchi, against submission of 10% Performance Bank Guarantee on total order value.

or

5.7.1.3. 80% payment against receipt within 45 to 90 days, (after pre-despatch inspection) and balance 20% payment after acceptance / commissioning of the equipment 45 to 90 days, 45 to 90 days against submission of 10% Performance Bank Guarantee on total order value.

5.7.2. **Foreign Bidders**

An Irrevocable Letter of Credit shall be established for 80% of the value of the goods. Balance 20% shall be paid on receipt / acceptance / commissioning of the goods at BHEL against submission of Performance Bank Guarantee for 10% on total order value. All bank charges outside India are to Vendor's account.

5.8. **Performance Bank Guarantee (PBG)**: The Bidder, in the event of an order, should furnish a bank Guarantee from an Indian Bank approved by BHEL, at no extra cost in a proforma prescribed by BHEL, along with the order, for an amount equivalent to **10% (Ten Percent)** of the value of the contract. The PBG shall be valid for period of **18 months** from the date of dispatch or **12 months** from the date of receipt / acceptance / commissioning of the equipment at BHEL, Tiruchi which ever is later with additional claim period of 2 months.

Contd 5/-

The Performance Bank Guarantee shall be obtained from any one of the following banks who is a member bank in our consortium of banks.

- 1) State Bank of India, 2) State Bank of Hyderabad, 3) State Bank of Travancore, 4) State Bank of Mysore, 5) Canara Bank, 6) Bank of Baroda, 7) Punjab National Bank, 8) Deutsche Bank, 9) HDFC Bank, 10) Standard Chartered Bank, 11) Citi Bank, 12) Standard Chartered Grindlays Bank, & 13) Bank of America or any other Nationalised Bank

- 5.9. **Liquidated damages** : It is clearly understood among the parties to the contract the “ **Time is the essence of the contract** ”. Therefore, the delivery of the goods specified in the purchase order should be made within the time prescribed. Where the seller supplies or despatches the goods, beyond the delivery period specified the purchaser will have no obligation to accept the goods. If accepted liquidated damages at the rate of 1/2% of the value of goods delayed for each week of delay subject to a maximum of 15% of the order value will be levied.
- 5.10. **Risk Purchase** : Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.
- 5.11. **Indian Agency Commission** : In case of Foreign Bidders, agency commission if any, payable to their Indian Agents, shall shown separately in the Offer. This will be paid by us in India, in Indian Rupees, on satisfactory completion of the Contract. Copies of current Agency Agreement / Authorization Letter in respect of Agency Commission shall be furnished alongwith offer. For calculation of Rupee equivalent of Agency Commission, exchange rate as prevailing on the date of offer will be taken.

**NOTE:-**

To curb possible manipulation by agents, it is desirable that as far as possible BHEL discourage in dealing with **agents** of OEMs. (**Original Equipment Manufacture**s).

**: 6:**

i) When it is not possible to directly deal with OEMs and the involvement of agents become unavoidable, BHEL is made it clear to OEMs that while appointing Indian agents, it is responsibility to ensure that the agents are not representing other OEMs in the same tender.

ii) OEMs should also ensure that banned agents / employees of banded agents are not engaged by them in any capacity. An undertaking to this effect should be taken by OEMs and provided for each tender. It is also made it clear that if at any stage it is found that the OEM has appointed an agent who

- a. is banned by BHEL or
- b. is an employee of a banned agent or
- c. is found to be representing more that one OEM in the same tender the OEM (s) shall be disqualified

5.12. **Test Certificates / Operating and Maintenance Manuals** : The Bidders shall clearly mention in their offer, that Test Certificates and Operating Maintenance Manuals, etc., as called for in the Technical Specification, in the required number of copies will be provided at no extra cost.

5.13. **Modvat Credit** : (for Indian Bidders only) If any Excise Duty is payable, the chapter head / sub-head reference and the rate of the duty should be quoted. If the tender is availing **MODVAT** credit for his input materials, the effect of proforma credit should be passed on to the purchaser.

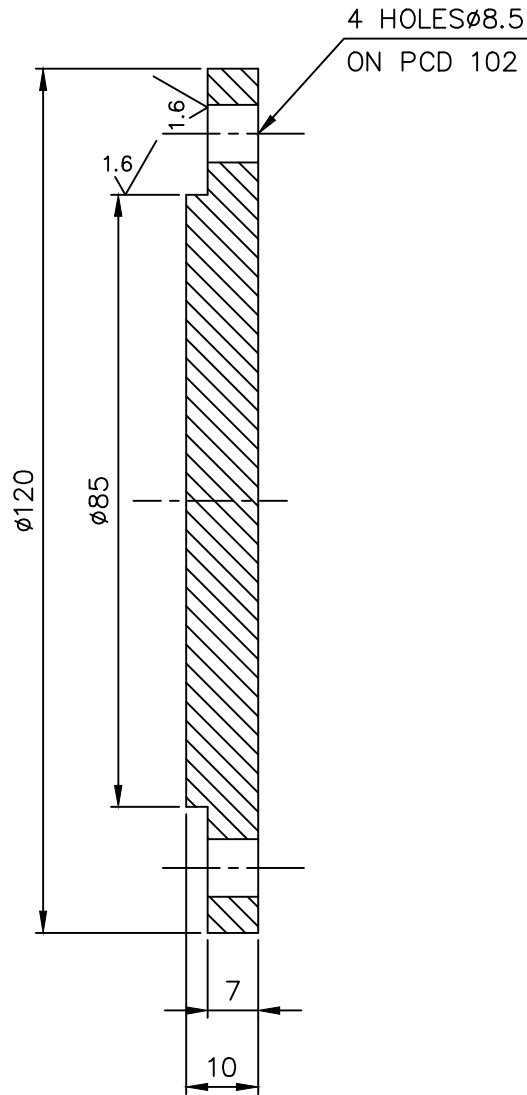
5.14. **Packing and Marking** : The Supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.

5.15. BHEL shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL.

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ALL DIMENSIONS ARE IN MM

3.2 / 1.6



NOTE: -

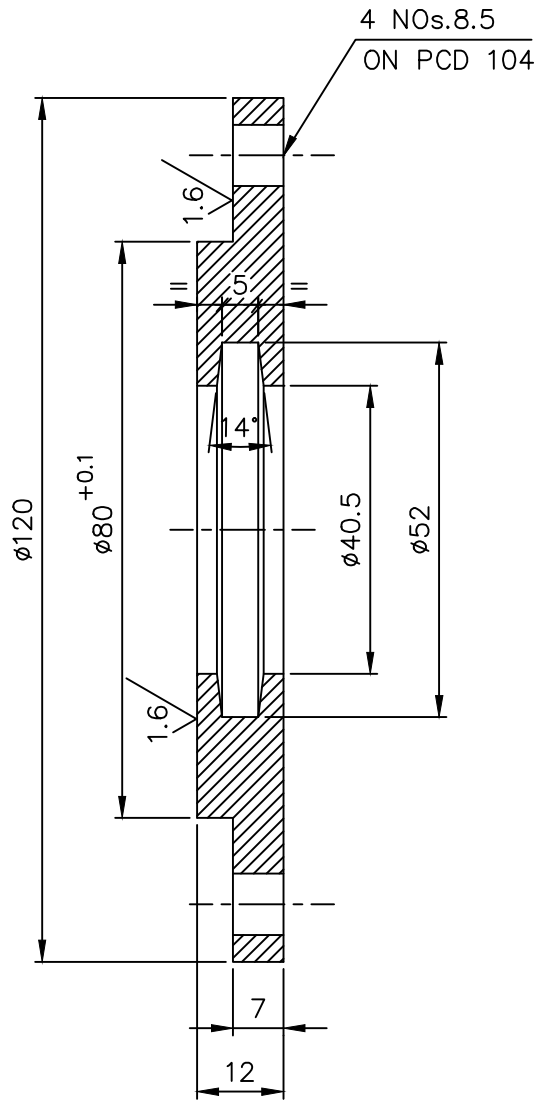
AVOID SHARP CORNERS

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SCALE		DRAWN		P.A.ROSS			
1:1		CHECKED					
		APPROVED					
DATE		05-03-11					
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T				
TITLE:			DRAWING No:				
 <b>END COVER</b> ø12x10t (WORM GEAR BOX.)			4M10B3828882				
			Sheet No:		No. of Sheets:		

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ALL DIMENSIONS ARE IN MM

3.2/1.6



NOTE: - AVOID SHARP CORNERS

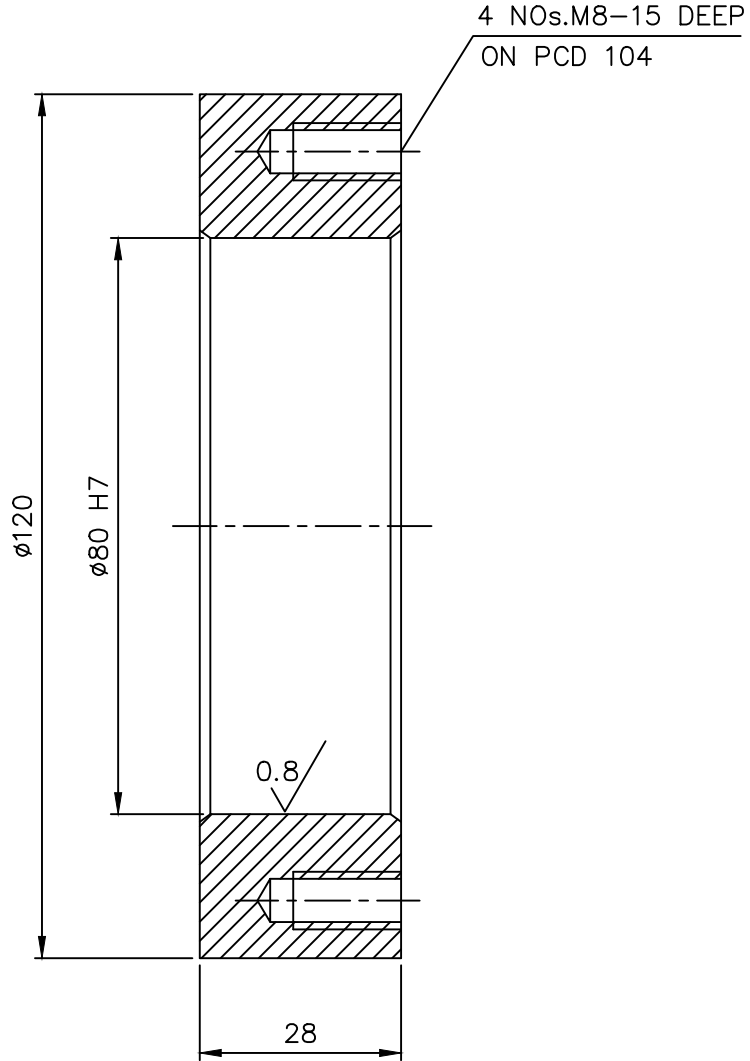
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	APPROVED						
	DATE	04-03-11					
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TITLE: <b>END COVER</b> ID.40.5xOD.120x12t (WORM GEAR BOX.)			DRAWING No:		<b>4M10B3828881</b>		
			Sheet No:		No. of Sheets:		

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CAUTION:

ALL DIMENSIONS ARE IN MM

ø80 H7	+0.035	3.2 / 0.8
	+0.000	



NOTE: - CHAMFER CORNERS FOR 2/45°

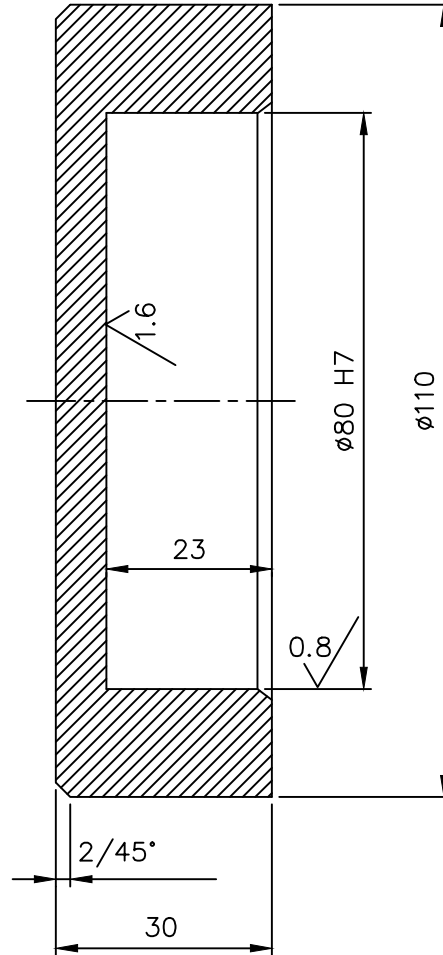
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	1:1								
DATE		01-03-11		MACHINE: WELDING POSITIONER		TYPE: BHEL-10T			
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Sheet No:				No. of Sheets:					

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ALL DIMENSIONS ARE IN MM

ø35H7	+0.030
	+0.000

3.2//0.8//1.6



NOTE: - CHAMFER CORNERS FOR 2/45°

No. of Pieces	DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.		
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	CHECKED								
1:1	APPROVED								
	DATE		01-03-11						
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T						
TITLE:			DRAWING No:						
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Sheet No:			No. of Sheets:						

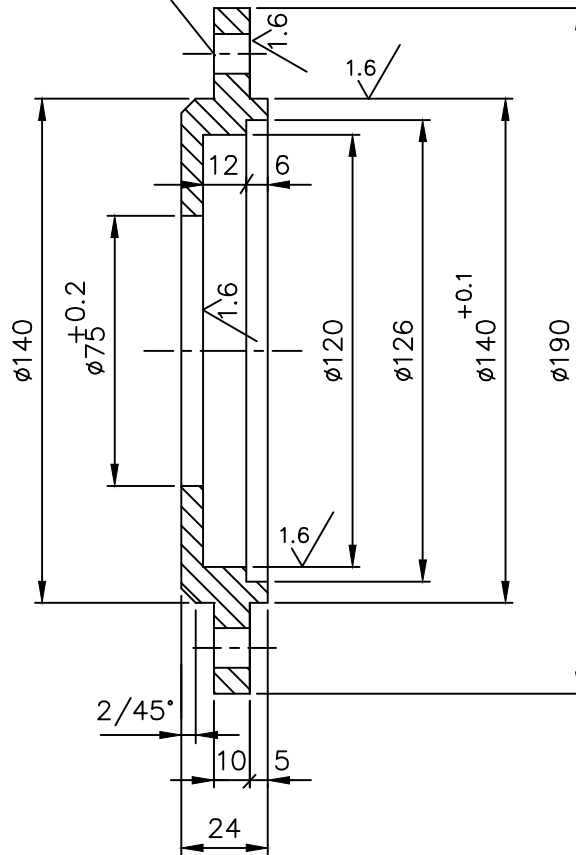
3.2/1.6/

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CAUTION:




ALL DIMENSIONS ARE IN MM

4 HOLES  $\phi 11$  ON PCD 165



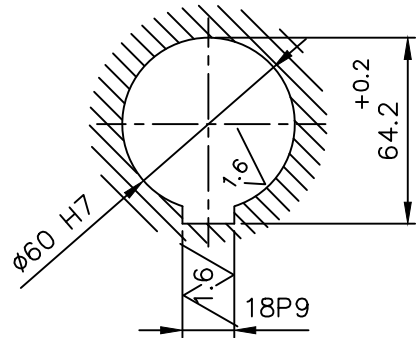
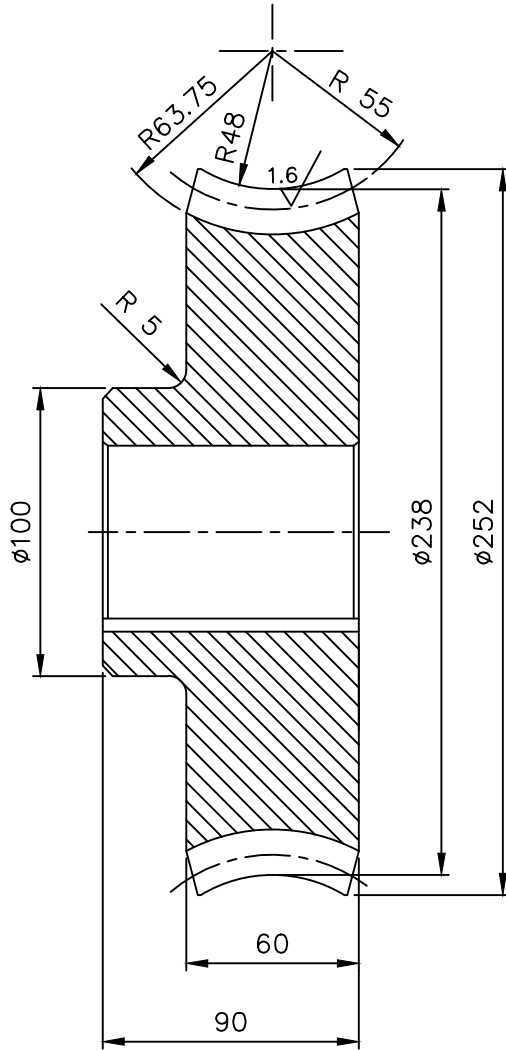
NOTE: -

AVOID SHARP CORNERS

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SCALE	DRAWN	P.A.ROSS					
1:2	CHECKED						
	APPROVED						
	DATE	26-02-11					
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T				
			TITLE:		DRAWING No:		
END COVER OD.190x24t			(WORM GEAR BOX.)		4M10B3828869		
			Sheet No:		No. of Sheets:		

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ALL DIMENSIONS ARE IN MM



ø60H7	+0.030
	+0.000
22P9	-0.022
	-0.074

3.2 / 1.6

NOTE: -  
CHAMFER CORNERS FOR 2/45°

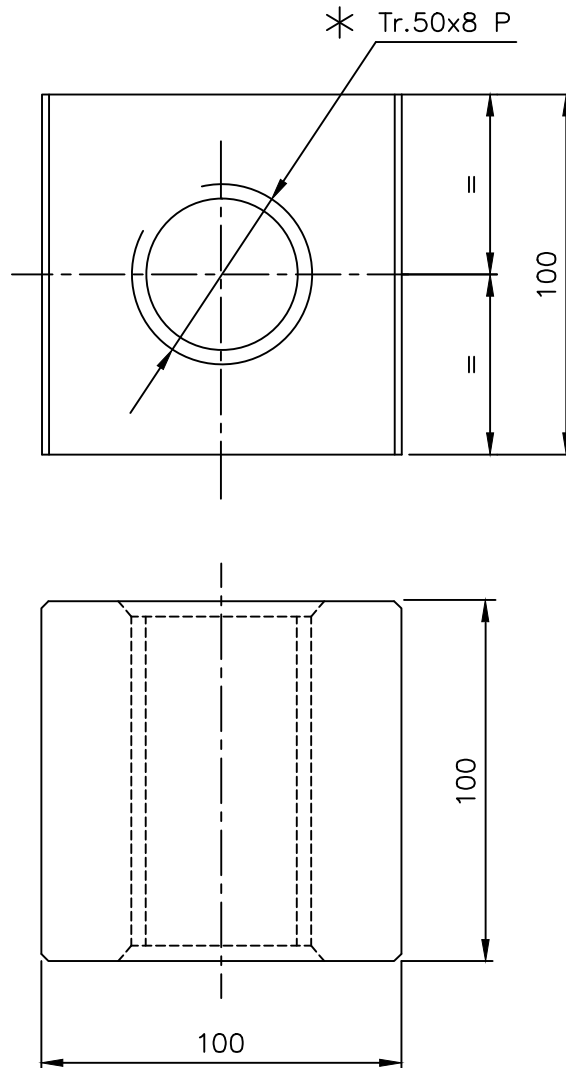
NO.OF TEETH	32
MODULE	7
PRESSURE ANGLE	20°
HELEX ANGLE	3°38'28"
AXIAL PITCH	21.99
HAND OF HELIX	RH
MATING GEAR No.OF STARTS	SINGLE
MATING GEAR DRG.No.	3M10B3813794
CENTRE DISTANCE	174

P Cu.Sn.7		IS: 28	22.00	2M10B3804922	03	
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SCALE	DRAWN	P.A.ROSS				
1:2	CHECKED					
	APPROVED					
	DATE	22-02-11				
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T			
	TITLE:		DRAWING No:			
WORM WHEEL <sub>32Txø252</sub>		4M10B3828867				
(WORM GEAR BOX.)		Sheet No:		No.of Sheets:		

3.2/√

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ALL DIMENSIONS ARE IN MM



NOTE: -

CHAMFER CORNERS FOR 2/45°

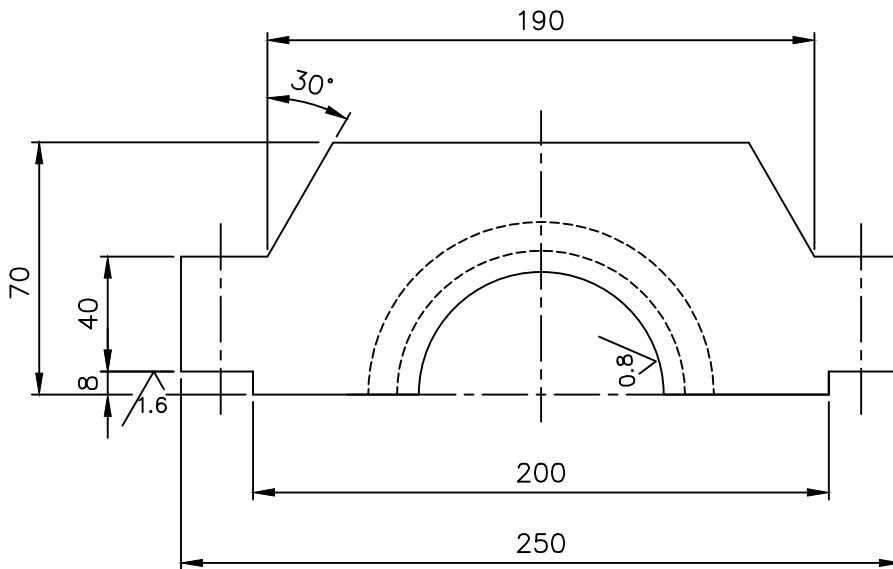
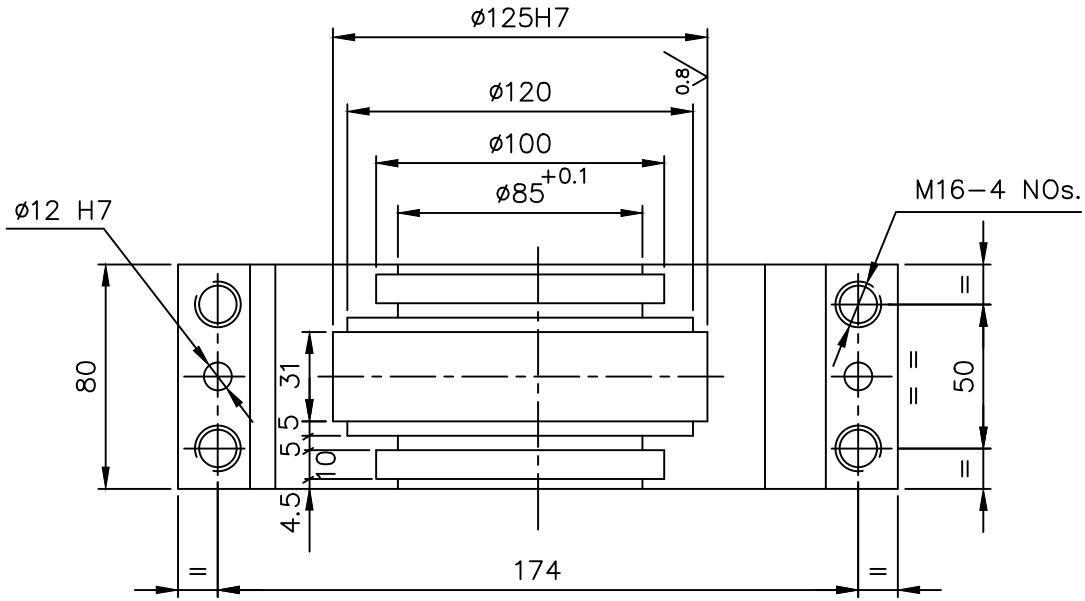
\*ONE SHOWN AS RH THD. AND ANOTHER ONE IS LH THD.

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	REFERENCE:			ALTERATIONS:	DCN REF	DATE	SIGN.	INDEX
SCALE 1:2	DRAWN	P.A.ROSS						
	CHECKED							
	APPROVED							
	DATE	24-02-11						
	MACHINE: WELDING POSITIONER			TYPE: BHEL-10T				
	TITLE: BOX NUT Tr.50x8Px100L (WORM GEAR BOX.)			DRAWING No:				
	Sheet No:		4M10B3828866					

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ALL DIMENSIONS ARE IN MM

ø125H7	+0.035	3.2//1.6//08
	+0.000	

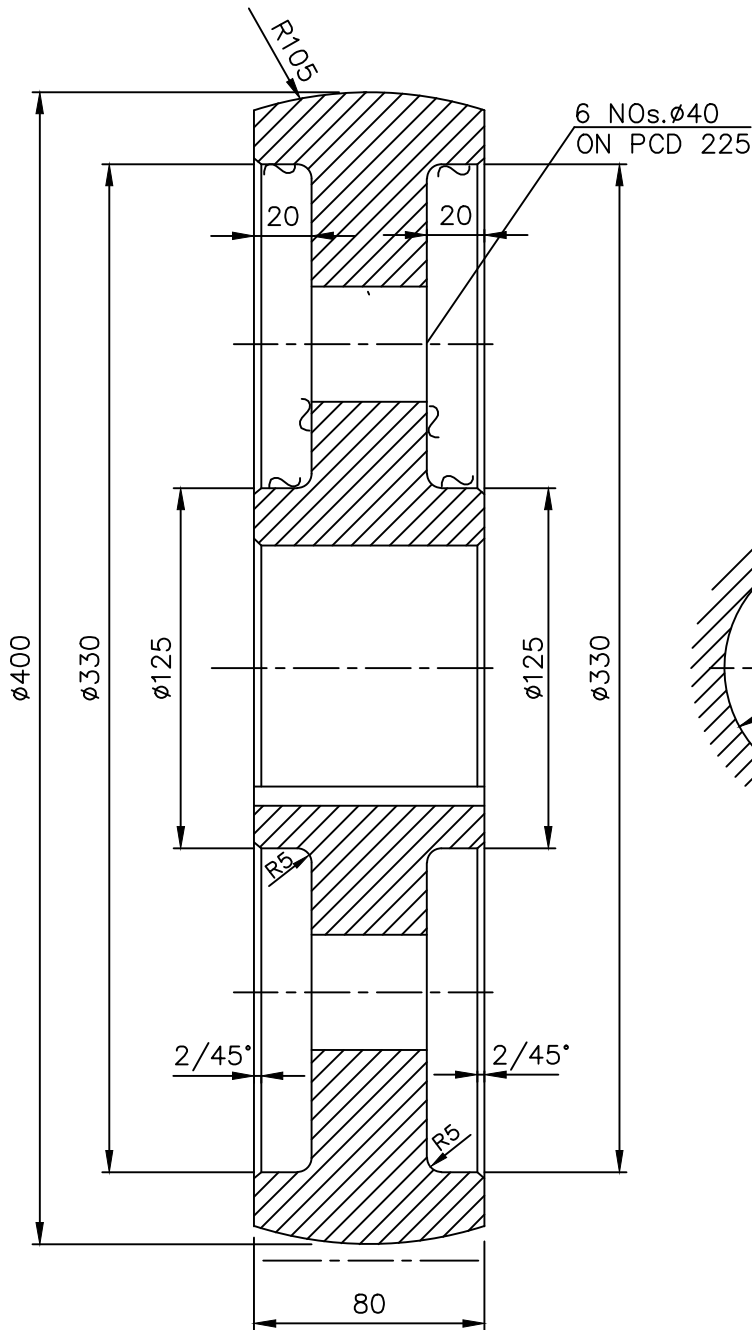


NOTE: -  
CHAMFER CORNERS FOR 2/45°

No. of Pieces	PL.80x70x250	Fe.410 WB	IS:2062	6.00	2M10B3804922	08
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REFERENCE:	ALTERATIONS:	DCN REF	DATE	SIGN.	INDEX	
SCALE	DRAWN	P.A.ROSS				
	CHECKED					
	APPROVED					
	DATE	25-02-11				
	MACHINE: WELDING POSITIONER	TYPE: BHEL-10T				
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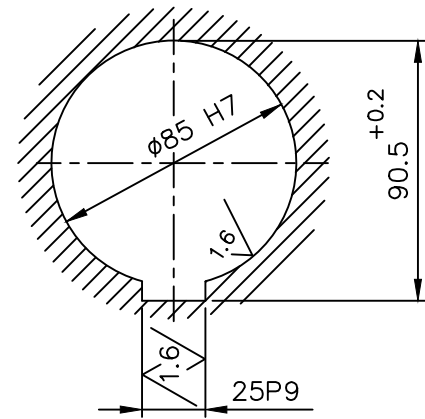
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ALL DIMENSIONS ARE IN MM



ø85H7	+0.035 +0.000
25P9	-0.022 -0.074

3.2/1.6



NOTE: -

CHAMFER CORNERS FOR 2/45°

--- HARDENED TO 300 TO 350 BHN

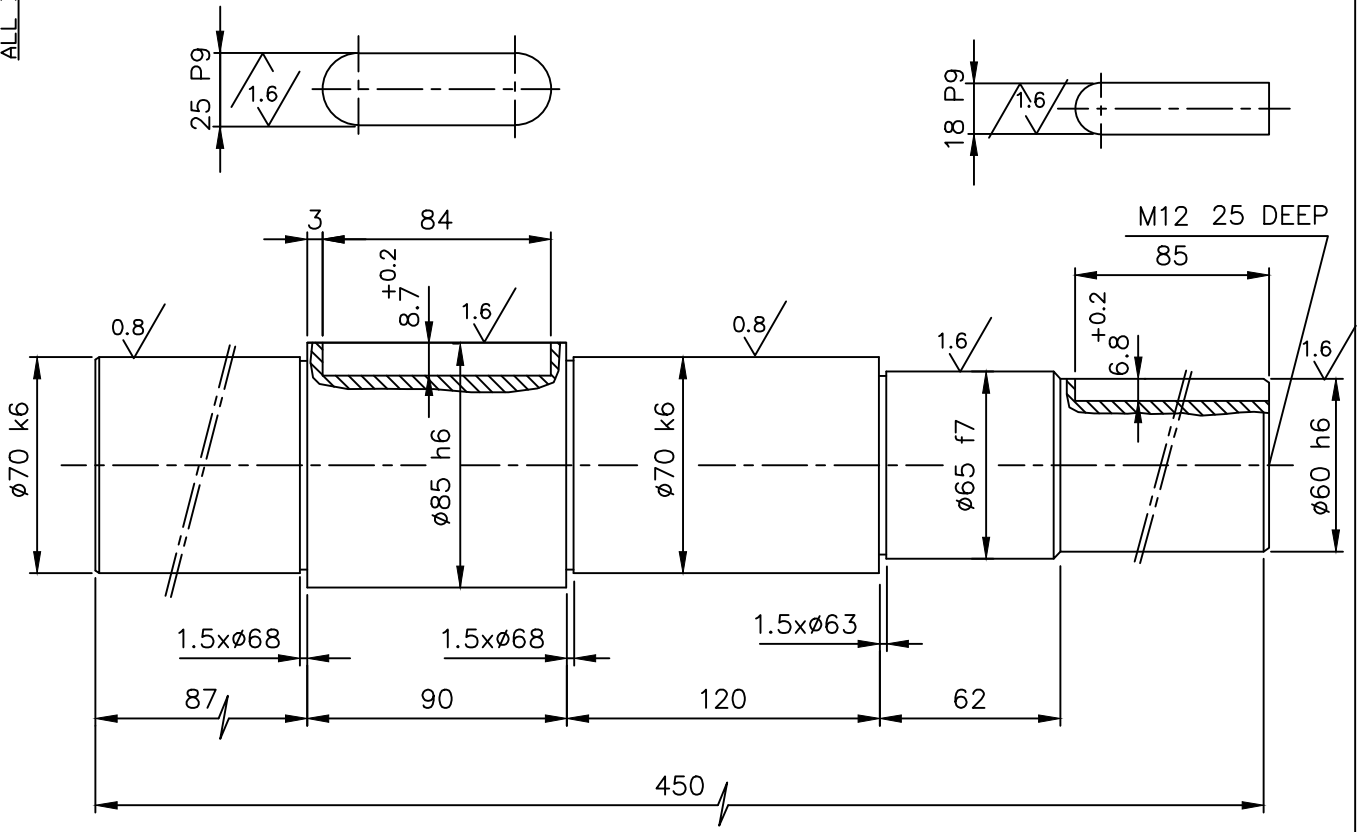
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SCALE	DRAWN	P.A.ROSS				
	CHECKED					
	APPROVED					
	DATE	25-02-11				
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	TITLE:	ROLLER ø400x80 L (WORM GEAR BOX.)		DRAWING No:		
				4M10B3828864		
		Sheet No:		No. of Sheets:		

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ALL DIMENSIONS ARE IN MM

ø60h6	-0.000 -0.019	ø85h6	-0.000 -0.022
25P9	-0.022 -0.074	ø70k6	+0.021 +0.002
18P9	-0.018 -0.061	ø65f7	-0.030 -0.060

3.2 // 1.6 // 0.8



NOTE: -  
CHAMFER CORNERS FOR 2/45°

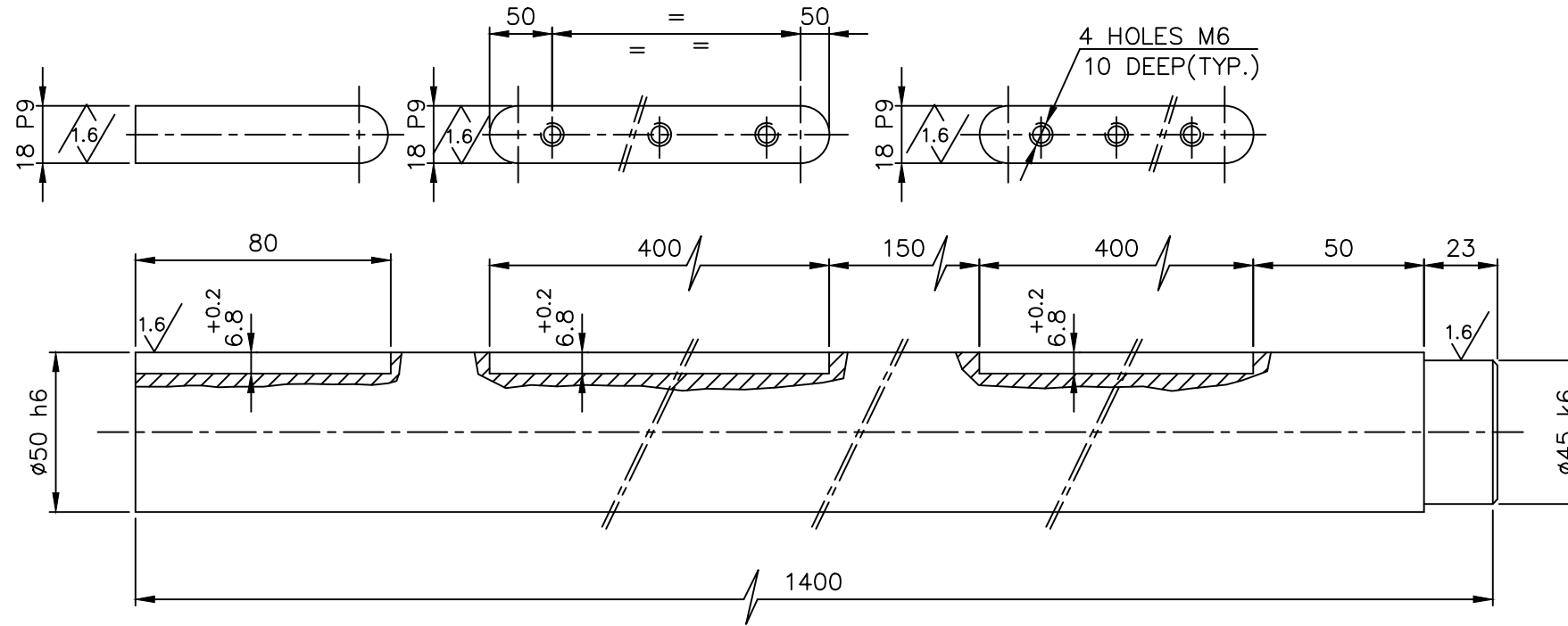
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	REFERENCE:	ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	P.A.ROSS				
1:2	CHECKED					
	APPROVED					
	DATE	25-02-11				
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	TITLE: SHAFT ø85x450 L (WORM GEAR BOX.)		DRAWING No:			
			4M10B3828863			
		Sheet No:		No. of Sheets:		

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ALL DIMENSIONS ARE IN MM

18P9	-0.018	ø50h6	-0.000
	-0.061		-0.019
		ø45k6	+0.018
			+0.002

3.2/1.6/



NOTE: -  
AVOID SHARP CORNERS

X		ø50x1400 L	45 C8	IS: 7283	21.28	2M10B3804921	04
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SCALE	DRAWN	P.A.ROSS					
	CHECKED						
1:2	APPROVED						
	DATE	25-02-11					
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T				
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Sheet No:			3M10B3813801		No. of Sheets:		

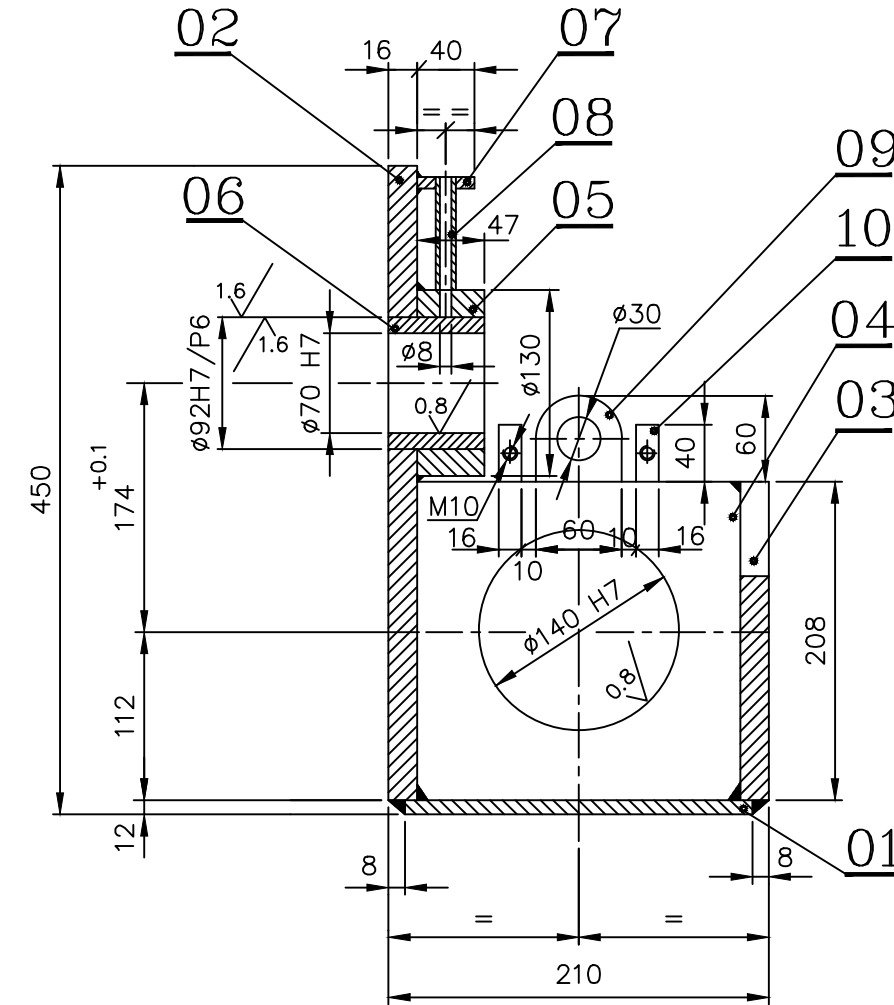
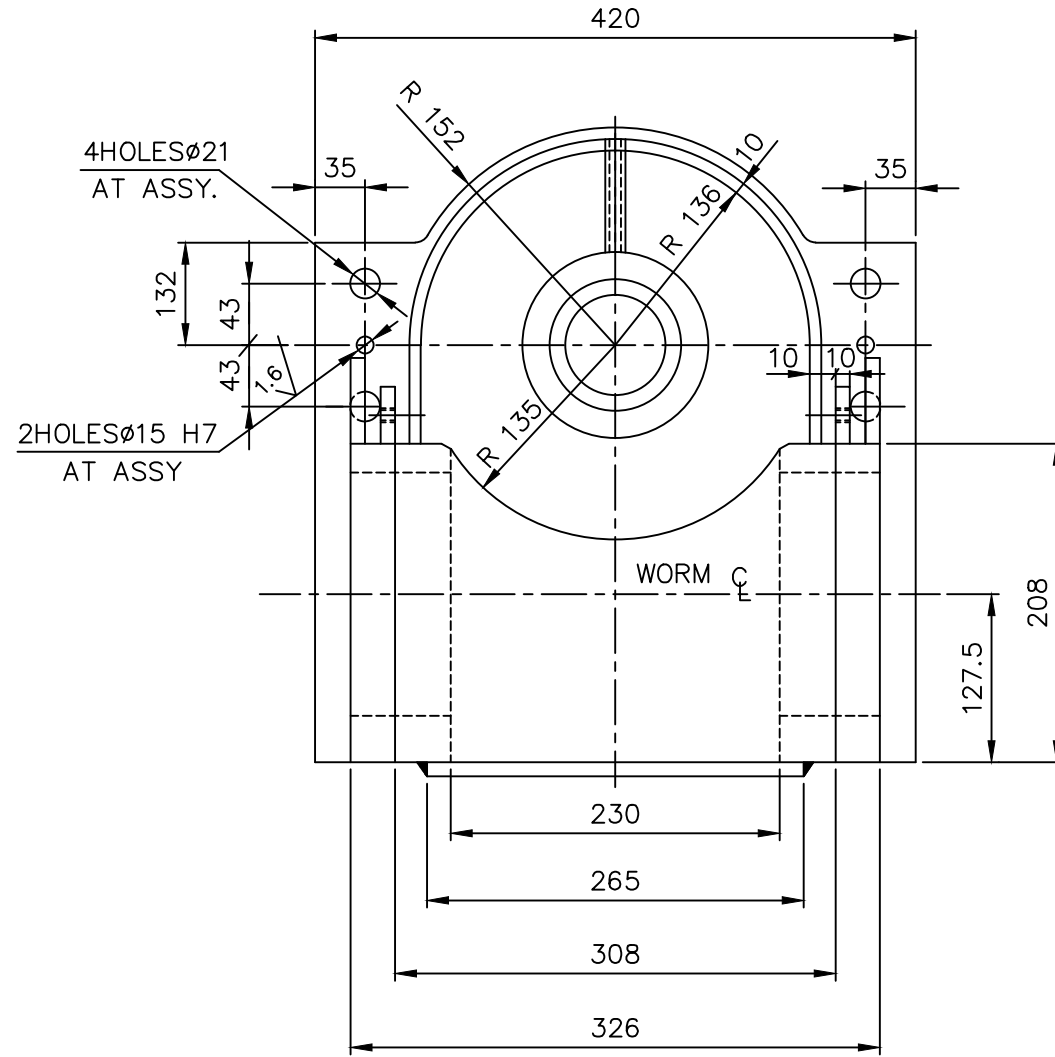


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ALL DIMENSIONS ARE IN MM

ø92H7	+0.035 +0.000	ø70H7	+0.030 +0.000	ø92p6	+0.052 +0.032	ø140H7	+0.040 +0.000
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3.2/1.6/0.8/



NOTE: -  
ALL WELDED CONSTRUCTION

8	PL.8tx20x40	Fe..410 WA	IS: 2062	0.64		10
2	PL.10x60x60	Fe..410 WA	IS: 2062	0.75		09
1	TUBEø14x2.9x88 L	TP 304H	SA 213	0.12		08
1	PL.10tx70x79	Fe..410 WA	IS: 2062	0.43		07
1	BUSH ID.70xOD92x63t	P Cu.Sn.7	IS: 28	1.40		06
1	PL.47xID.70xOD.130	Fe..410 WA	IS: 2062	3.44		05

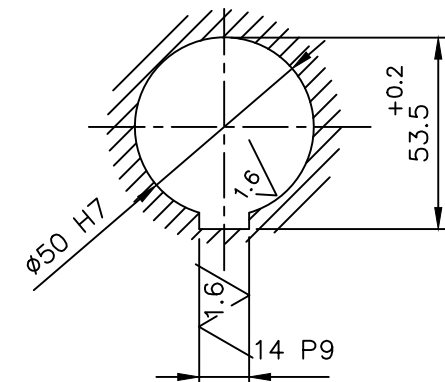
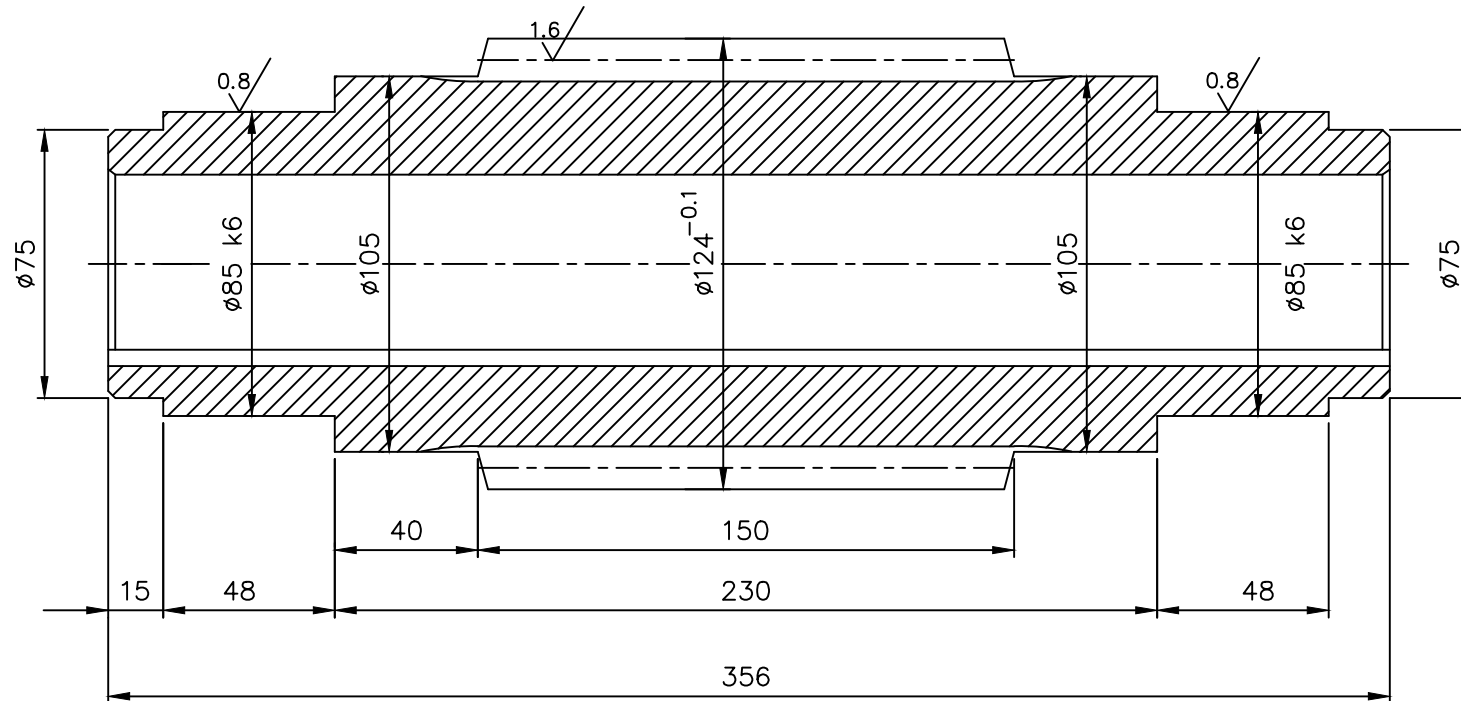
2	PL.70t207x207	Fe..410 WB	IS: 2062	29.48		04
1	PL.16tx222x380	Fe..410 WA	IS: 2062	10.49		03
1	PL.16tx420x431	Fe..410 WA	IS: 2062	20.78		02
1	PL.12tx244x265	Fe..410 WA	IS: 2062	6.09		01
				73.72	2M10B3804922	01
No.of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
	REFERENCE:	ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	P.A.ROSS				
1:2	CHECKED					
	APPROVED					
	DATE	25-02-11				
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T			
TITLE: WORM GEAR BOX			DRAWING No:		REV.	
(WORM GEAR BOX.)			3M10B3813795			
Sheet No:			No.of Sheets:			

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ALL DIMENSIONS ARE IN MM

22P9	-0.018	Ø85k6	+0.025
	-0.061		+0.003
		Ø50H7	+0.030
			+0.000

3.2/1.6/0.8/



NO.OF STARTS	SINGLE
MODULE	7
PRESSURE ANGLE	20°
LEAD ANGLE	3°38'28"
AXIAL PITCH	21.99
HAND OF HELIX	RH
MATING GEAR No.OF TTEETH	32
MATING GEAR DRG.No.	4M10B3828867
CENTRE DISTANCE	174

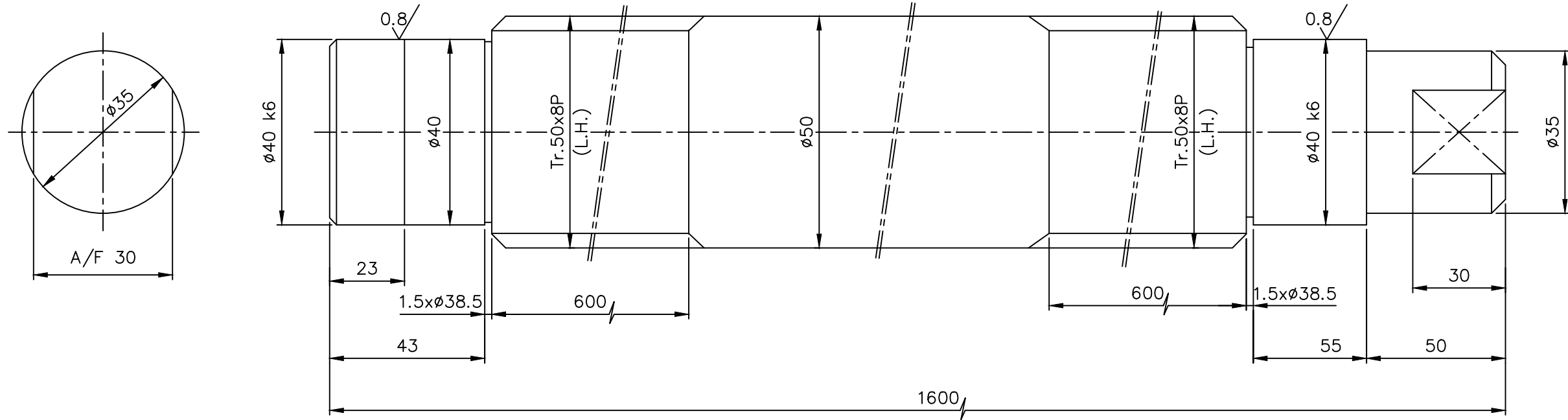
NOTE: -  
CHAMFER CORNERS FOR 2/45°

		Ø125x460 L	45 C8	IS: 7283	15.70	2M10B3804922	02
No.of Pieces	DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
	REFERENCE:		ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	P.A.ROSS					
	CHECKED						
1:2	APPROVED						
	DATE	25-02-11					
MACHINE: WELDING POSITIONER			TYPE: BHEL-10T				
TITLE:			DRAWING No:				REV.
			<b>WORM SHAFT (1 St.Ø124)</b> (WORM GEAR BOX.)				<b>3M10B3813794</b>
Sheet No:			No.of Sheets:				


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ALL DIMENSIONS ARE IN MM

ø40k6	+0.018	3.2/0.8/
	+0.002	

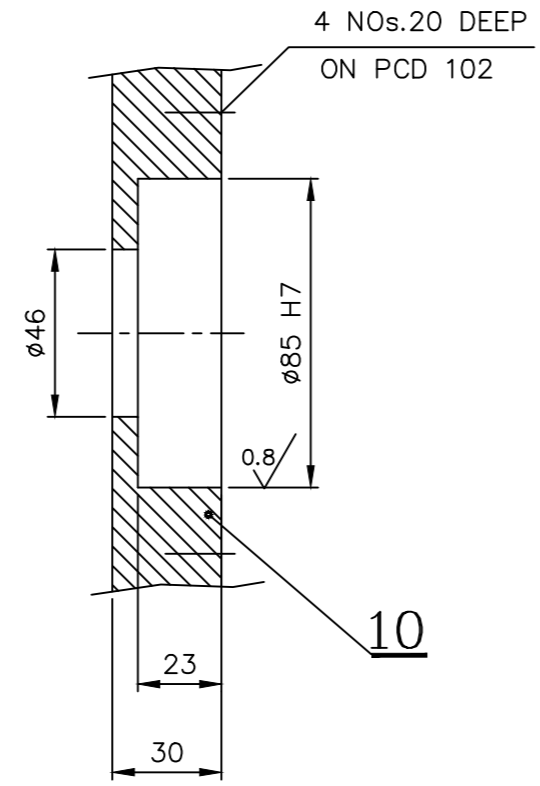


NOTE: -  
CHAMFER CORNERS FOR 1/45°

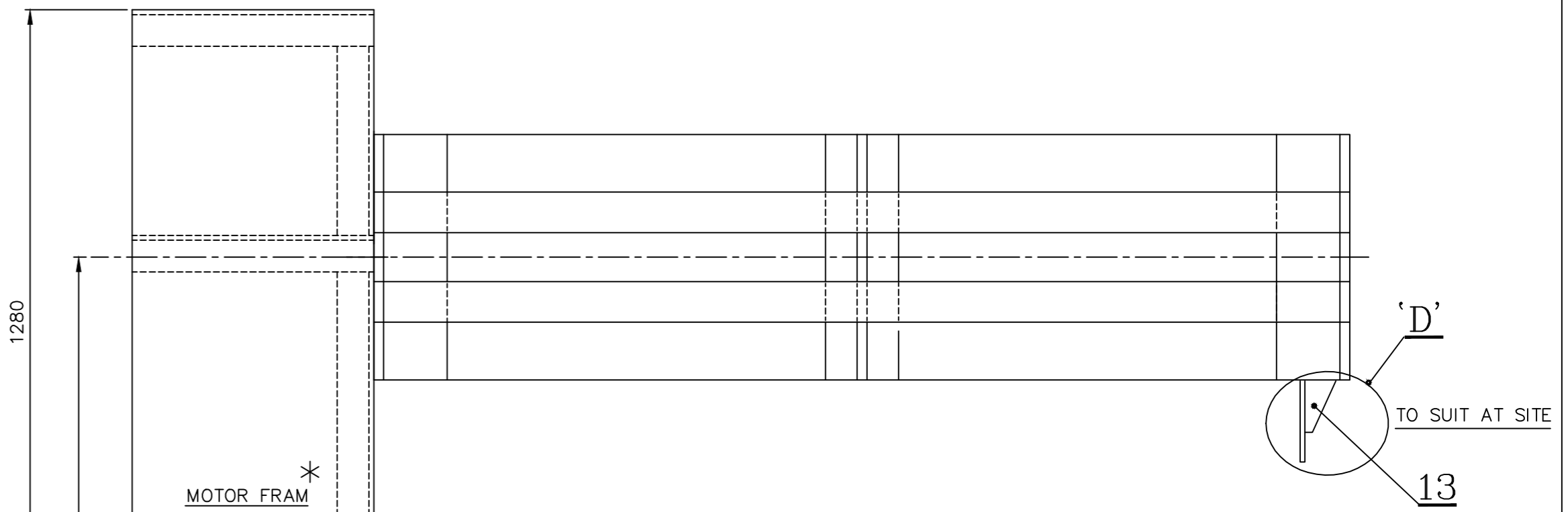
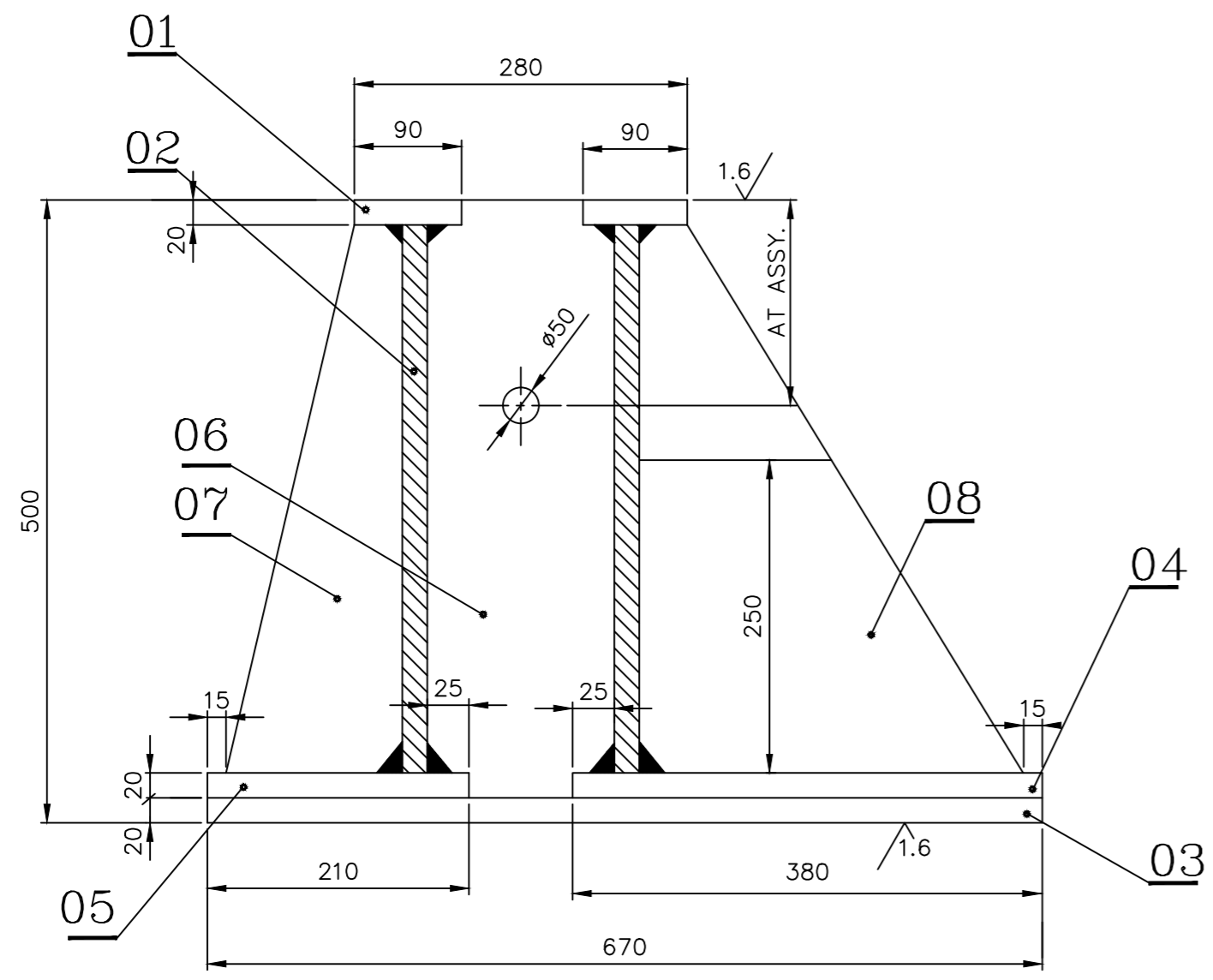
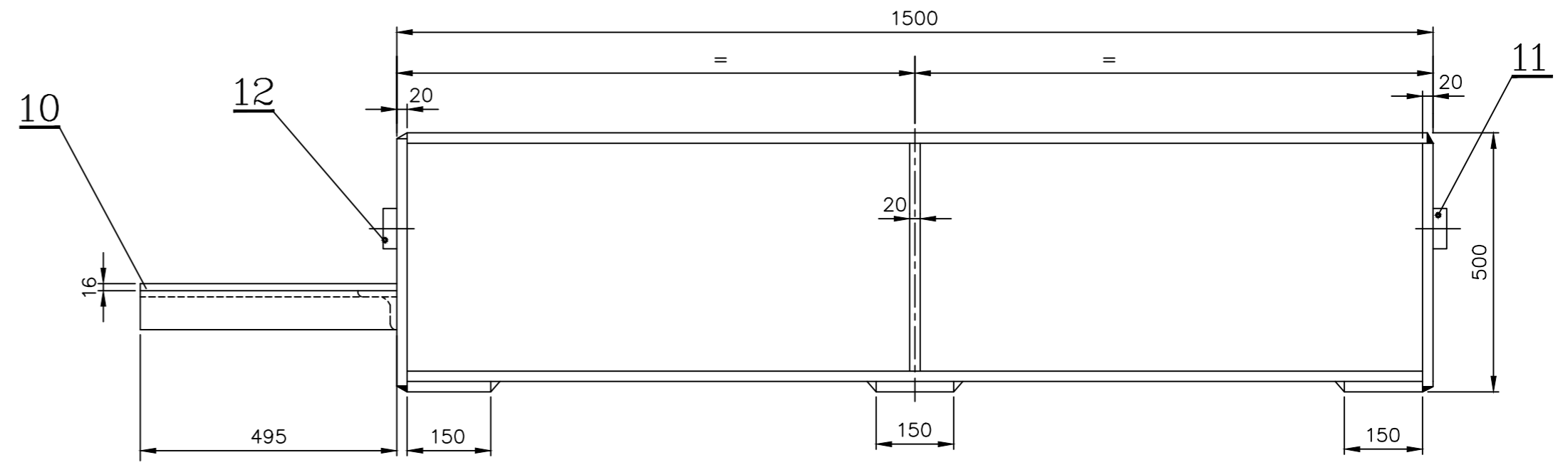
	ø50-1600 L	45 C8	IS: 7283	21.50	2M10B3804921	03
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
	REFERENCE:	ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	P.A.ROSS				
1:2	CHECKED					
	APPROVED					
	DATE	24-02-11				
	MACHINE: WELDING POSITIONER		TYPE: BHEL-10T			
	TITLE:		DRAWING No:			
SCREW ROD		3M10B3813792				
Tr.50x8P(RH & LH)-1600 L		Sheet No:				
(WORM GEAR BOX.)		No. of Sheets:				

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ALL DIMENSIONS ARE IN MM



DETAIL-D



NOTE: -  
 01. ALL WELDED CONSTRUCTION  
 \* 02. MOTOR FRAM TO BE WELDED WITH DRIVE FRAME AT ASSY.

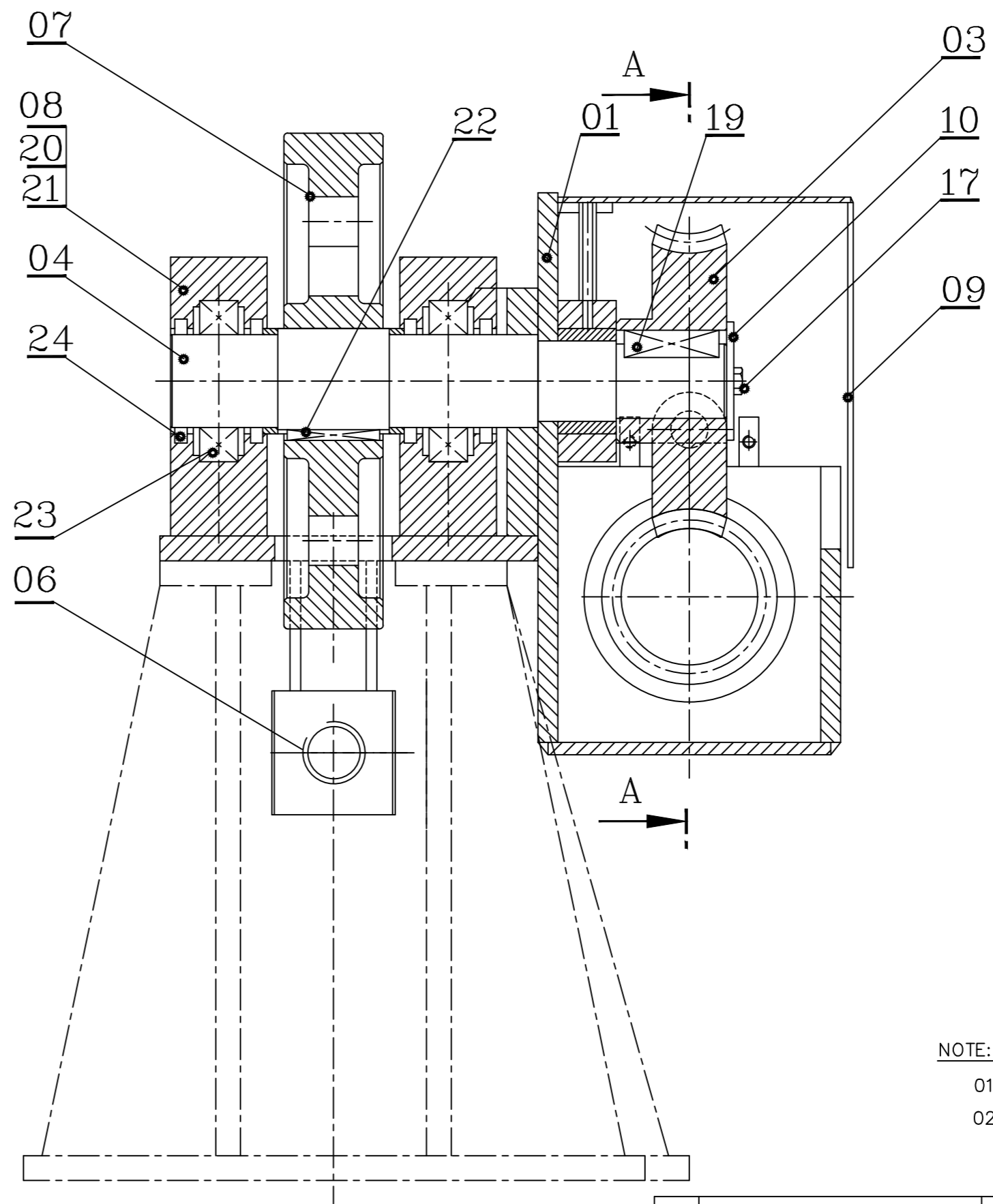
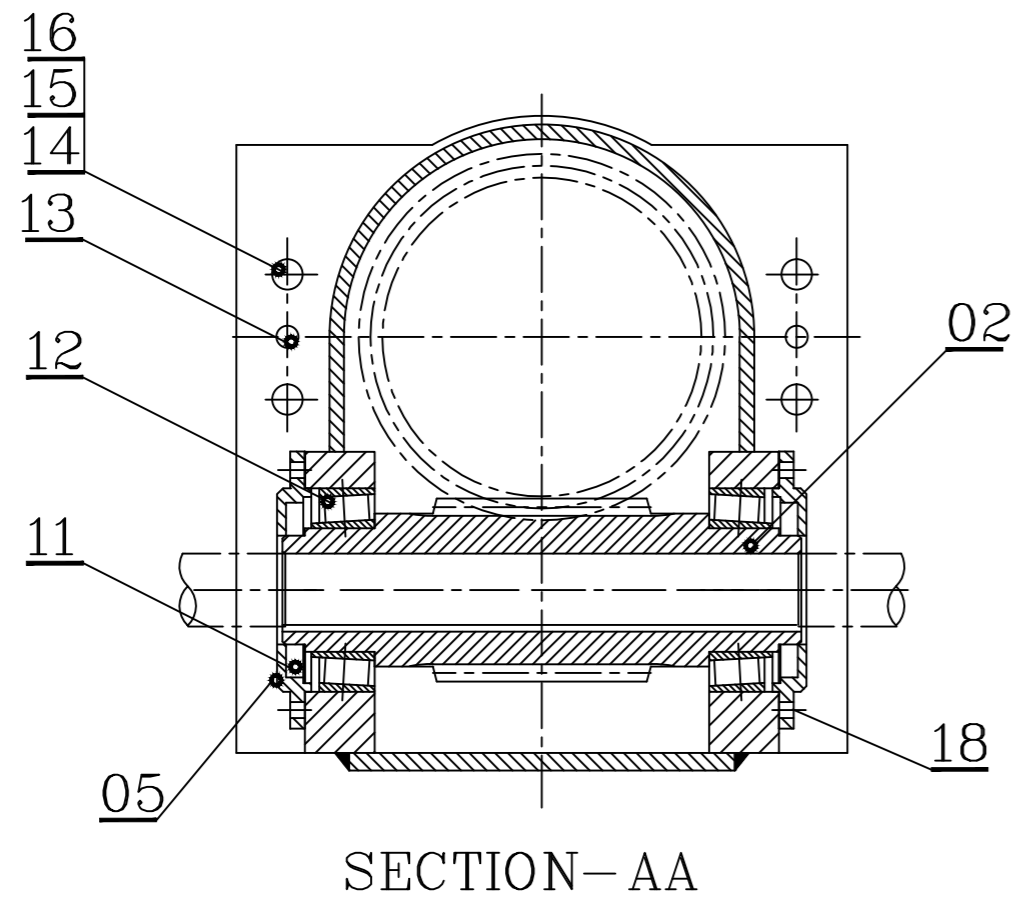
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT. IN KGS.	DRAWING No.	ITEM No.
1	PL.20tx150x440	Fe.410WA	IS: 2062	15.54		07
2	PL.20tx460x640	Fe.410WA	IS: 2062	92.44		06
3	PL.20tx150x210	Fe.410WA	IS: 2062	14.84		05
3	PL.20tx150x380 L	Fe.410WA	IS: 2062	26.85		04
3	PL.20tx150x670 L	Fe.410WA	IS: 2062	47.34		03
2	PL.20tx440x1460 L	Fe.410WA	IS: 2062	201.70		02
2	PL.20tx90x1500 L	Fe.410WA	IS: 2062	42.39		01
				488.29	2M10B3804921	01

1	PL.10tx100x100	Fe.410WA	IS: 2062	0.78		13
1	BRG.COVER	Fe.410WB	IS: 2062	1.70	4M10B3828875	12
1	BRG.COVER	Fe.410WB	IS: 2062	0.65	4M10B3828876	11
1	PL.30tx125x200	Fe.410WB	IS: 2062	4.72		10
1	ISA 75x75x2550(RM)	Fe.410WA	IS: 2062	17.34		09
3	PL.20tx250x320	Fe.410WA	IS: 2062	22.00		08

SCALE	DRAWN	P.A.ROSS	DATE	18-02-11	MACHINE: WELDING POSITIONER	TYPE: BHEL-10T	REV.
1:10	CHECKED				TITLE: DRIVE FRAME	DRAWING No: 2M10B3804923	
	APPROVED					Sheet No:	
						No. of Sheets:	

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ALL DIMENSIONS ARE IN MM

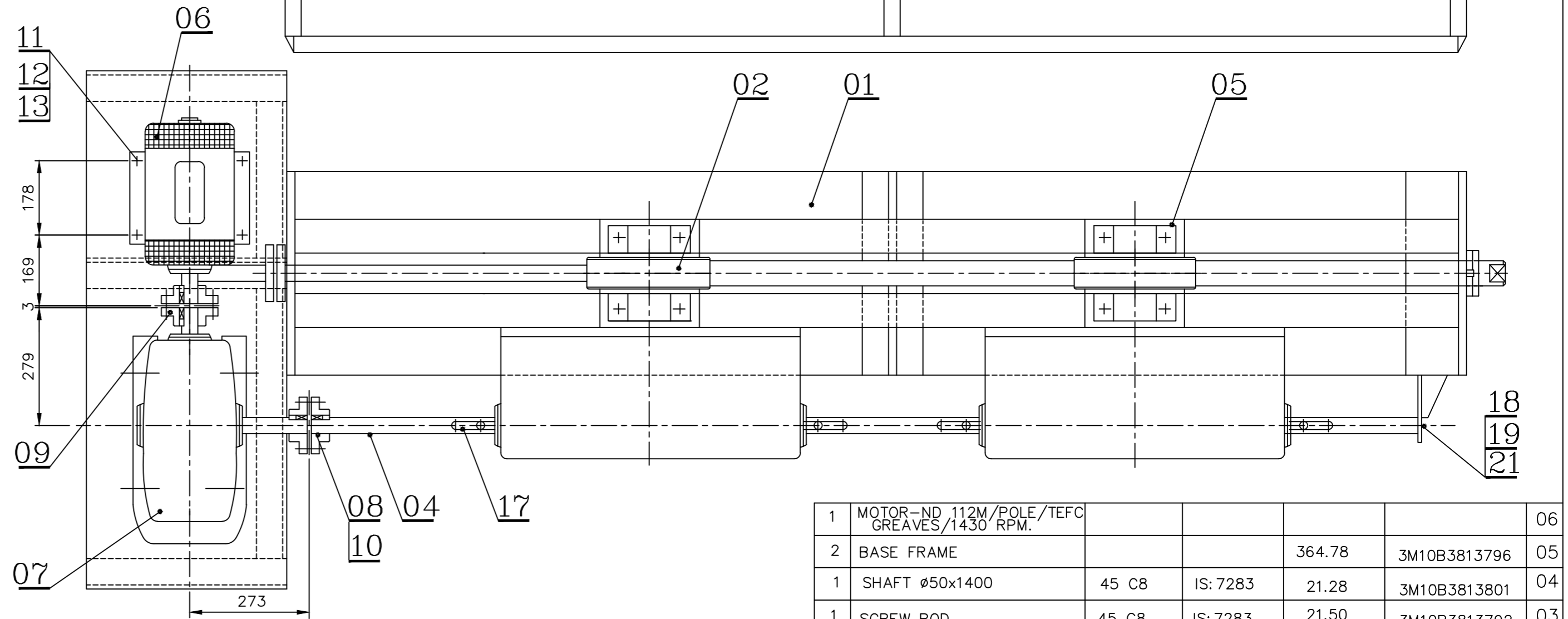
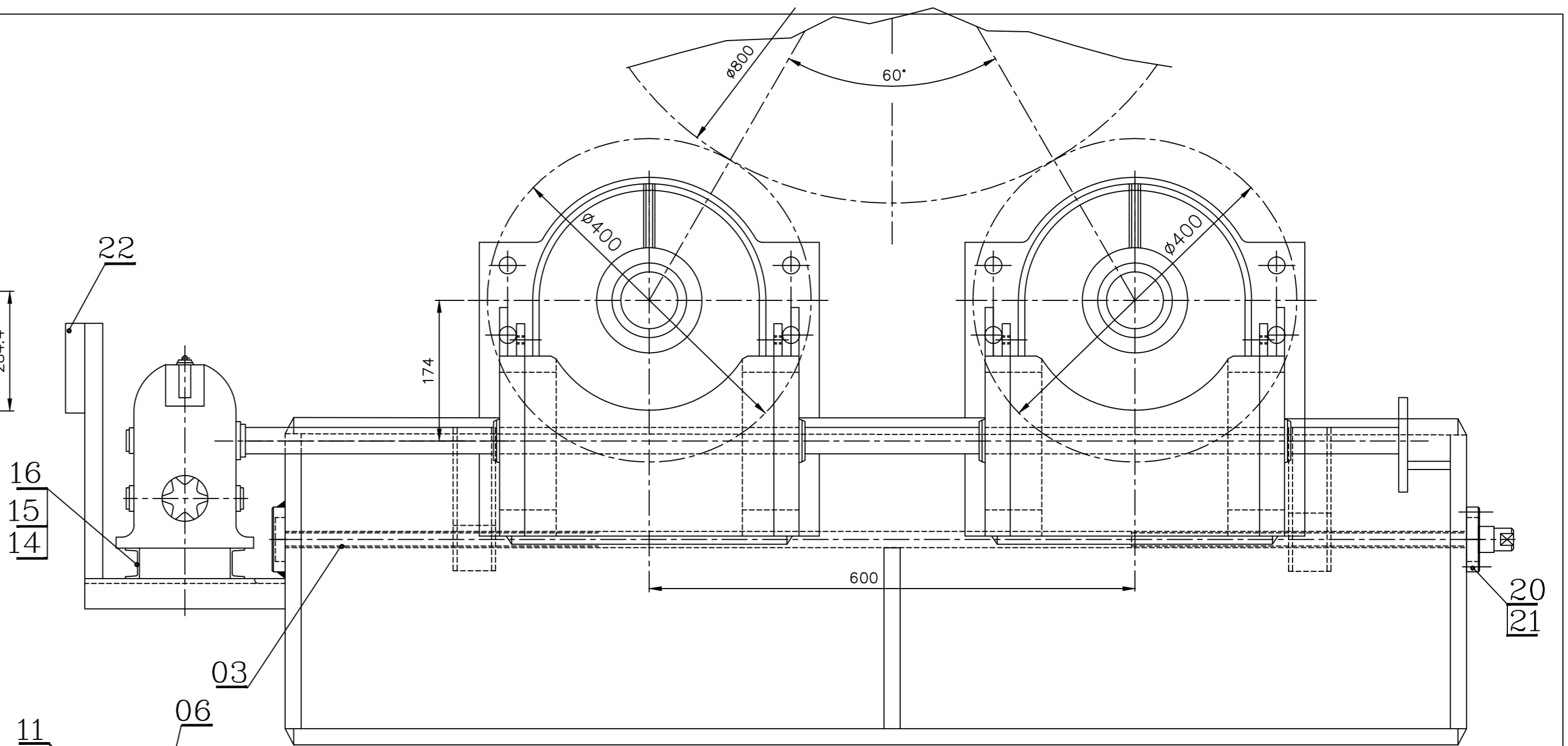
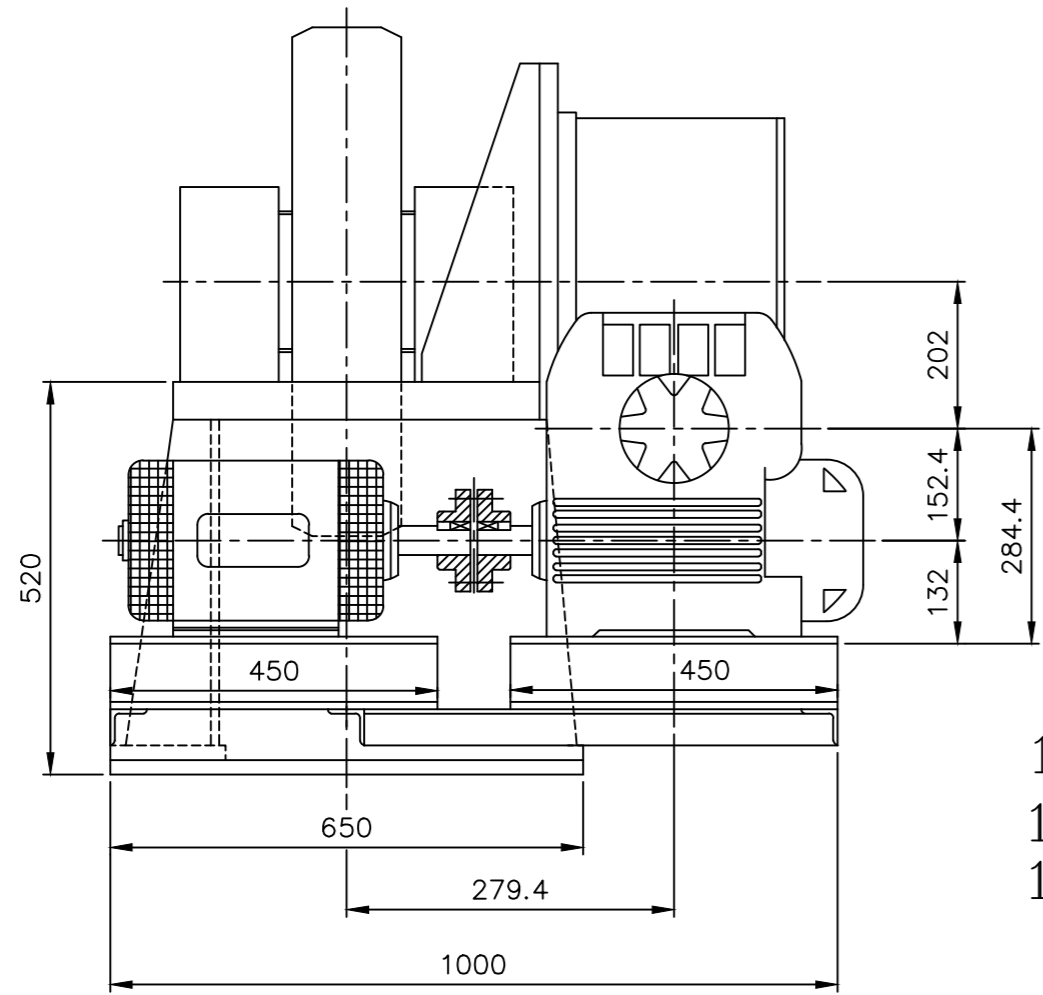


NOTE: -  
 01. STRESS RELIEVE BEFORE MACHINING  
 02. ONE No. AS SHOWN ANOTHER ONE AS OPP. HAND

4	SPRING LOADED OIL SEAL ID.70xOD.100x10t				24	2	BRG.COVER-TOP	Fe..410 WB	IS: 2062	12.00	4M10B3828865	08																																																							
2	SPHERICAL ROLLER BRG. ø70x125x31t		22 SKF22214E		23	1	ROLLERø400x80 L	340-570W	IS: 10.30	48.27	4M10B3828864	07																																																							
1	KEY 25x14x84				22	2	BOX NUT Tr50x8Px100L	P Cu.Sn.7	IS: 28	12.60	4M10B3828866	06																																																							
4	CYL.PIN ø15x50 L (HARDENED)	IS: 6639			21	2	END COVER	Fe..410 WB	IS: 2062	2.80	4M10B3828869	05																																																							
8	HEX.BOLT M16-60 L	IS: 1363 PART-1			20	1	SHAFT ø85x450 L	45 C8	IS: 7283	13.45	4M10B3828863	04																																																							
1	KEY 18x11x85 L				19	1	WORM WHEEL 32Txø252	P Cu.Sn.7	IS: 28	22.00	4M10B3828867	03																																																							
8	HEX.SCREW M10x35 L	IS: 1363 PART-2			18	1	WORM SHAFT (1 Stxø124)	45 C8	IS: 7283	15.70	3M10B3813794	02																																																							
1	HEX.SCREW M12x30 L	IS: 1363 PART-2			17	1	WORM GEAR BOX			73.72	3M10B3813795	01																																																							
12	WASHER	IS: 3063			16	1	ASSY.			200.54	2M10B3804921	02																																																							
4	HEX.NUT M20	IS: 1363 PART-2			15	<table border="1"> <thead> <tr> <th>No. of Pieces</th> <th>DESCRIPTION</th> <th>MATERIAL</th> <th>STANDARD</th> <th>NET.WT.IN KGS.</th> <th>DRAWING No.</th> <th>ITEM No.</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>REFERENCE:</td> <td></td> <td></td> <td></td> <td>COMPONENT CODE:</td> <td>EQUIPMENT CODE:</td> </tr> <tr> <td>14</td> <td>SCALE</td> <td>DRAWN/TCD</td> <td>P.A.ROSS</td> <td></td> <td>ALTERATIONS:</td> <td>DCN REF</td> </tr> <tr> <td>13</td> <td>1:5</td> <td>CHECKED</td> <td></td> <td></td> <td>DATE</td> <td>DATE</td> </tr> <tr> <td>12</td> <td></td> <td>APPROVED</td> <td></td> <td></td> <td>26-02-11</td> <td></td> </tr> <tr> <td>11</td> <td></td> <td></td> <td></td> <td></td> <td>MACHINE: WELDING POSITIONER</td> <td>TYPE: BHEL-10T</td> </tr> <tr> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td>TITLE: ROLLER DRIVE ASSY. (DRIVE ASSY)</td> <td>DRAWING No: 2M10B3804922</td> </tr> <tr> <td>09</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>No. of Sheets: Sheet No:</td> </tr> </tbody> </table>						No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.	15	REFERENCE:				COMPONENT CODE:	EQUIPMENT CODE:	14	SCALE	DRAWN/TCD	P.A.ROSS		ALTERATIONS:	DCN REF	13	1:5	CHECKED			DATE	DATE	12		APPROVED			26-02-11		11					MACHINE: WELDING POSITIONER	TYPE: BHEL-10T	10					TITLE: ROLLER DRIVE ASSY. (DRIVE ASSY)	DRAWING No: 2M10B3804922	09						No. of Sheets: Sheet No:
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13	1:5	CHECKED			DATE	DATE																																																													
12		APPROVED			26-02-11																																																														
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09						No. of Sheets: Sheet No:																																																													
4	HEX.BOLT M20-75L	IS: 1363 PART-2			14																																																														
2	CYL.PIN ø15x50 L (HARDENED)	IS: 6639			13																																																														
2	TAPER ROLLER BRG. ø85x180x60t		SKF33117		12																																																														
2	SPRING LOADED OIL SEAL ID.75xOD.1140x41t				11																																																														
1	LOCLK PLATE ø75x6t				10																																																														
1	GEAR BOX COVER	Fe..410 WA	IS: 2062		09																																																														

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ALL DIMENSIONS ARE IN MM



2	KEY 18x11x400 L			IS: 2048		17
4	HEX.NUT-M12			IS: 1363 PART-3		16
4	HEX.BOLT-M12x50 L			IS: 1363 PART-3		15
4	WASHER-PINCHED-A12			IS: 2016-A		14
4	HEX.NUT-M20			IS: 1363 PART-3		13
4	HEX.SCREW-M20x70 L			IS: 1364 PART-2		12
4	WASHER-13			IS: 2016-A		11
2	KEY 3/8"x1/4"x75 L			IS: 2048		10
1	CHAIN COUPLINNG					09
1	CHAIN COUPLINNG					08
1	WORM REDUCTION GEAR BOX (RATIO=1:60) RADICON-SIZE-500 UNIT					07

1	MOTOR-ND 112M/POLE/TEFC GREAVES/1430 RPM.					06
2	BASE FRAME			364.78	3M10B3813796	05
1	SHAFT Ø50x1400	45 C8	IS: 7283	21.28	3M10B3813801	04
1	SCREW ROD	45 C8	IS: 7283	21.50	3M10B3813792	03
2	ROLLER DRIVE ASSY			401.08	2M10B3804922	02
1	DRIVE FRAME			488.29	2M10B3804923	01
14	ASSY.			1299.78		

13	REFERENCE:					
12	SCALE	DRAWN	P.A.ROSS			
11		CHECKED				
10		APPROVED				
		DATE	24-02-11			
09	MACHINE: WELDING POSITIONER	TYPE: BHEL-10T				
08	TITLE: WELDING POSITIONER (DRIVE ASSY)	DRAWING No:				
07			2M10B3804921			
		No. of Sheets:			Sheet No:	

1	FORWARD & REVERSE SWITCH					22
8	HEX.SCREW M8x20 L		IS: 1364 PART-3			21
1	END COVER	Fe..410 WA	IS: 2062	0.65	4M10B3828881	20
1	SPERICAL ROLLER BRG. Ø45xØ85x23t		SKF 22209E			19
4	END COVER Ø120x10t	Fe..410 WA	IS: 2062	2.20	4M10B3828882	18