



ALIMCO

Artificial Limbs Manufacturing Corporation of India
(A GOVERNMENT OF INDIA UNDERTAKING)
G.T. ROAD, KANPUR-U.P. 209217

TENDER NO.PT/OT/.../.... DATE – XX.XX.2022

TENDER DOCUMENTS

FOR

“Supply, Installation & Commissioning of Automated Anodizing Plant”
(On Turnkey Basis)

1. Online tenders are invited for “**Supply, Installation & Commissioning of Automated Anodizing Plant**” (On Turnkey Basis) to the following destination conforming strictly to ALIMCO Specifications enclosed at Annexure-A, against Purchase Orders to be placed on the successful Tenderer, within specified period as mentioned in tender document. The specific conditions of supply are enclosed at Annexure-D. **Manual bids shall not be accepted.**

ALIMCO Auxiliary Production Center (AAPC) Plot No. 16/2, Qty. 01set
Post – Manpura, Dewas Road, UJJAIN (M.P.) – 456 010

2. The specification of “**Supply, Installation & Commissioning of “Anodizing Plant” (On Turnkey Basis)** and a tentative quantity likely to be covered by Purchase Order is indicated in the **ANNEXURE- ‘A’**. The whole plant would be required to be supplied as per the delivery schedule specified in our Purchase Order or as indicated in the tender.

Sl. No.	Description	Qty.	Estimated Cost (in Rs.)	EMD (in Rs.)
1.	“ Supply, Installation & Commissioning of Automated Anodizing Plant ” (On Turn Key Basis)	As per Annexure A	3.57 Cr (Including GST)	8,94,000/-

3. Tender documents may be downloaded from ALIMCO website www.alimco.in (for reference only) and CPPP website <https://eprocure.gov.in/eprocure/app> as per the schedule as given in CRITICAL DATE SHEET as under.

CRITICAL DATE SHEET

Published Date	--.--.2022 (10:00 AM)
Pre-Bid meeting date and time	--.--.2022 (11.30 AM)
Bid Document Download Start Date	--.--.2022 (10:00 AM)
Query Start Date	From date of uploading
Query End Date	10 days before bid submission
Bid Submission Start Date	--.--.2022 (10:00 AM)
Bid Submission End Date	--.--.2022 (02:00 PM)
Technical Bid Opening Date	--.--.2022 (3:30 PM)

Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>.

Tenderer/Contractors are advised to follow the instructions provided in the ‘Instructions to the Contractors/Tenderer for the e-submission of the bids online through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app>.

Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

Part I ('TC' BID):

The tenderers are requested to submit the scan copy of following details/documents in their 'TC'-Bid.

Mandatory / Pre-Qualification Criteria :-

- i) All tenderers are required to submit Rs. 600/- (Including GST), towards cost of Tender documents, if down- loaded from the website of the Corporation/CPMP. (All SSI units/ MSE Vendors are exempted from Tender Cost on submission of valid Udyog Aadhaar memorandum (UAM)/ Udyam Registration against tender for the items/nature of business/ type of services specified there in the UAM). The cost of Tender documents for Rs. 600/- (Including GST) can be submitted **only through online payment gateway available at www.alimco.in and submit scan copy of the e-receipt of the same along with TC bid.**
- ii) **Earnest Money Deposit (EMD):-** All tenderer are required to submit EMD for Rs. 8,94,000.00 in favor of ALIMCO, (as Earnest Money Deposit along with 'TC' BID). (All SSI units/ MSE Vendors are exempted from Tender Cost on submission of valid Udyog Aadhaar memorandum (UAM)/ Udyam Registration against tender for the items/nature of business/ type of services specified there in the UAM). **The EMD for Rs. 8,94,000.00 can be submitted only through online payment gateway available at www.alimco.in and submit scan copy of the e receipt of the same along with TC bid.**
- iii) The person signing the bid should be duly authorized representative of the firm/company whose signature should be verified and certificate of authority should be submitted. The poser or authorization or any other document consisting of adequate proof of the ability of the signatory to bind the firm/company should be annexed to the bid.
- iv) Tender documents with proper seal and signature of authorized person on each page of the bid must be submitted.
- v) The Complete specifications, Make/Model/Brand consisting of whole plant & its accessories/mechanical & Electrical and MHE offered on parameters specified as per Annexure-A, must be mentioned. The details with values for individual specifications/parameters desired must be indicated at Annexure 'B2' to this tender document.
- vi) Copy of GST Registration Certificate, duly signed & stamped.
- vii) The tenderer should have an average annual turnover of not less than 30% of estimated value during the latest three financial years. In order to authenticate, **a certificate regarding average turnover from a qualified Chartered Accountant mentioning UDIN is required to be furnished along with 'TC-Bid'.**
- viii) Copy of income tax return for the latest three financial years duly signed & stamped.
- ix) Only OEMs/OEM Authorized vendor (duly authorized for this specific tender) with relevant expertise are allowed to bid for the whole system (on turn-key basis) mentioned in the tender document. The declaration/ certificate is required from bidder.
- x) The tenderer must have completed one at least 01 (one) machine/item/equipment/system/plant having same or higher parameters as mentioned below:
 1. Internal tank size: Min. 1000 W x 1800 Lx 1200 H (in mm)
 2. Having capacity of Minimum 11 nos. tank process in Govt. Sector/ Private Sector in the last 7 years, reckoned from date of opening of this tender. (PO copies and Commission /Completion Certificates to be furnished by bidder).

Satisfactory Performance Certificate from atleast 1 users issued within last 1 years from date of opening of this tender stating that the machine/equipment/system/plant is working satisfactorily for at least one year to be enclosed. (in the letter head of issuing user mentioning PO no, date of installation and commissioning and name of supplier with full address)

- xi) Undertaking stating that “The delivery, installation, commissioning and training of the machine/equipment/system/plant (on turn-key Basis) must be completed within the stipulated period as indicated in the tender or specified at Annexure- A, from the date of placement of PO/work contract” **in the format enclosed at Appendix-1.**
- xii) The tenderer should submit an undertaking that his/her firm has not been debarred/blacklisted/terminated/banned to participate in the tender by any Govt. Institution, PSUs, and State Govt. or Central Govt. Deptt. **in the format enclosed at Appendix-2.**
- xiii) The tenderer should submit an undertaking that his/her Offer is valid for acceptance for 120 days from the date of opening of TC Bids **in the format enclosed at Appendix-3.**
- xiv) Undertaking to the effect that all the tender terms & conditions are acceptable to the bidder **in the format enclosed at Appendix-4.**
- xv) Undertaking to the effect that a Warranty Performance Bank Guarantee (PBG) of 3% of the order value, valid for warranty/defect liability period & claim submission date will be submitted after the commissioning of the plant (on turn-key basis). The security deposit shall be released on receipt of 3% PBG valid for warranty period **in the format enclosed at Appendix-5.**
- xvi) In case firm wishes to avail Advance of 10% of cost of machine, they have to submit an undertaking to the effect that an Advance Bank Guarantee (BG) of 110% of the advance value subject to maximum up to 100 Lakhs, valid for successful installation, commissioning & Prove out of whole plant & it's accessories & can be submitted within 1 months from the date of releasing the PO/Work Order of the plant (on turn-key basis) **in the format enclosed at Appendix-6.** The recovery of the advance will be done as adjustment @25% of advance value from the running bill. The Advance Bank Guarantee (BG) for advance shall only be released after successful installation, commissioning & Prove-out of whole plant/system & it's accessories and full recovery of the advance.
- xvii) The tenderer should submit an undertaking that his/her firm shall provide Security Deposit within 14 days of releasing PO **in the format enclosed at Appendix-7.**
- xviii) The tenderer should submit an undertaking that his/her firm shall provide the complete training regarding operation & maintenance of the Whole Plant (On turn-key Basis) & its accessories **in the format enclosed at Appendix-8.**
- xix) The tenderer should submit an undertaking for unconditional acceptance to replace the supplies if rejected at the destination **in the format enclosed at Appendix-9.**
- xx) Undertaking to be submitted by the tenderer that “payment terms mentioned at Para No-16 of this tender document (i.e., Terms of Payment) is acceptable” **in the format enclosed at Appendix-10.**
- xxi) The tenderer should submit an undertaking that his firm shall attach the proof regarding prior Experience of supplying such systems, as specified in the Tender Document. Vendor to provide details of such customers along with contact number for verification) **in the format enclosed at Appendix-11.**
- xxii) Tenderers are required to submit “**Tender Acceptance Letter**” in the format enclosed at **Appendix-12.**
- xxiii) Tenderers are required to submit “**Undertaking**” regarding availment of GST and matching of Input credit **in the format enclosed at Appendix-13.**
- xxiv) Tenderers are required to submit “**Undertaking**” regarding the material delivers in multi-stages and the payment of the same will be done on the basis of completion of stage wise work as given **in the format enclosed in Appendix-14.**
- xxv) Undertaking to be submitted by the tendered that “They should undertake that they will execute comprehensive AMC including spares and labour for the period of 03 years after the expiry of 2 years warranty/defect liability period as per the requirement of ALIMCO and

the comprehensive AMC shall not exceed 2%, 3% & 4% of basic value of the machine/plant during 3rd, 4th & 5th year respectively from the date of successful installation & commissioning of the machine/plant/item/equipment” in the format enclosed at **Appendix-15 and 15/1**.

- xxvi) Tenderers are required to submit duly filled **Annexure ‘B1 & B2’**, enclosed herewith.
- xxvii) An affidavit to be sought from all party regarding, the party has not been debarred/blacklisted/terminated/banned by any Govt. Institution, PSUs, and State Govt. or Central Govt. Deptt.
- xxviii) The party has not supplied the same Machine /System/ Plant at a cost lower than the cost offered to ALIMCO to any government / semi-government /reputed private organization in India.
- xxix) Latest Government of India guidelines on “Purchase Preference to Make in India” placed at Appendix 16.
- a. Self certification that the items offered meets the local content requirement for ‘Class-I local supplier/ ‘Class-II local supplier, as the case may be as per **Clause 1 of Appendix 16**. – Bidder to confirm
 - b. Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of supplies other than companies) giving the percentage of local content as per **Clause 1 of Appendix 16** – Bidder to furnish.
 - c. Details of location at which local value addition is made – Bidder to confirm.
- xxx) Latest Government of India guidelines on “PUBLIC PROCUREMENT POLICY FOR GOODS PRODUCED AND SERVICES RENDERED BY MICRO AND SMALL ENTERPRISES (MSES):” placed at **Appendix 17**.
- xxxi) Latest Government of India guidelines “Mandatory Conditions to be satisfied by any bidder from a country which shares a land border with India” placed at **Appendix 18**.
- a. Self attested copy of **Appendix 18** mandatory conditions to be satisfied by any bidder from a country which shares a land border with India. – Bidder to confirm
 - b. Certificate of compliance of clauses of **Appendix 18, clause A VII**. – Bidder to confirm
 - c. Certification as per last paragraph of **Appendix 18** mandatory conditions to be satisfied by any bidder from a country which shares a land border with India. – Bidder to confirm.
 - d. The **Appendix 18** must be signed and stamp and submitted/uploaded by Bidder along with the bid. To be read in conjunction with Order (Public Procurement No. 2) F.No.6/18/2019-PDD dated 23rd July 2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division. – Bidder to Confirm
- xxxii) QAP and PERT chart shall be submitted by successful bidder within 15 days of issue of LOA/Order for Approval.
- xxxiii) L-1 Bidder to submit the billing breakup (BBU) for approval of ALIMCO.
- xxxiv) Any other documents as mentioned in Tender.

(All these documents/ details/ conformation should necessarily be submitted specifically & in the same order.)

NOTE: Price bids of only those tenderers, who are assessed as technically qualified by the Corporation shall be opened & only Such parties shall be communicated regarding date & time of Price Bid opening requesting them to attend the Tender opening, if interested.

Part II (‘P’ BID): shall consist of complete price details as under: -

P Bid offer shall be uploaded online. Rate should be quoted in Rupee per unit **as per format at Annexure-C (P-bid)**. Rate should be quoted for all inclusive Price at destination as indicated in Para 1 & should be without any price escalation clause. The

following data shall be invariably furnished :-

- a) GSTIN No., HSN Code, GST in % & Rs.
- b) Packing & Forwarding charges, Installation charges, if any, in % & Rs.
- c) Freight charges in % & Rs..... (Destination as indicated in para-1).
- d) Charges for installation and commissioning (if any) may please be clearly indicated. Alternatively, rates quoted shall be considered to be inclusive of installation & commissioning charges.

THIS BREAKUP IS ESSENTIAL TO ENABLE PLACEMENT OF THE PURCHASE ORDERS AND PAYMENTS BY H.Q./AAPC's AS THE CASE MAY BE AND KEEPING IN VIEW APPLICABILITY OF GST BY THE GOVERNMENT w.e.f. 1st July 2017

The L1 offer will be decided based on all inclusive price and excluding GST only (destination as indicated in para-1).

NOTE: ALIMCO GST Registration details are given below.

	ALIMCO UJJAIN
GST Regd. No.	23AABCA8899F1ZG

Variation Clause: - Any change (Increase / Decrease) in Govt. Duties / Levies / Taxes GST as amended made applicable by Govt. (State / Central) from time to time at the rate as will be applicable over & above the basic price/rate quoted by parties in their offer during the currency of Purchase Order/Contract shall be considered by the Corporation for amendment on party's request along with necessary documents in support of their claim/amendment.

4. **SITE INSPECTION** : The tenderers shall be deemed to have inspected and examined the site and its Surrounding and information available in connection therewith and to have satisfied himself, so far as is practicable, before submitting his tender, to the extent and nature of work and materials necessary for completion of works, availability of such materials, the means of access to the site and the accommodation that he may require and, in general, shall be deemed to have obtained all necessary information.
5. All the bids so received against the tender shall be scrutinized and assessed for the Plant suitability offered by you. Offers of only those tenderers whose bids are found conforming to laid-down specifications and qualifying our requirements shall be considered. Quotes with any variation in the specifications affecting functions of the Plant as specified are liable for outright rejection. Tenderers are therefore requested not to quote for nonconforming specifications Plants as an alternative one or two otherwise, for which tenders are liable for rejection. Each value in Part II (P-Bid) as specified is to be mentioned in tenders and words "as specified" or "same" shall not be considered valid at all.
6. No change in specifications by tenderers shall be permissible after submission of Technical Bids.
7. **EARNEST MONEY DEPOSIT & SECURITY DEPOSIT:**
All tenderer are required to submit EMD for Rs. 8,94,000.00 in favor of ALIMCO, (as Earnest Money Deposit along with 'TC' BID). All SSI units / Micro & Small Enterprises (MSE) will be issued Tender Documents free of cost & Exemption to submit Earnest Money Deposit (EMD) on submission of valid Udyog Aadhar Memorandum (UAM) against Tender for the items/nature of business/ type of services specified therein in the UAM. No interest shall be claimed/ payable on the bid- security/ EMD furnished to the Corporation. The EMD for Rs. 8,94,000.00 can be submitted only through online payment gateway available at www.alimco.in and submit scan copy of the e receipt of the same along with TC bid.

The EMD shall be released within 30 days of finalization of the purchase orders to the unsuccessful tenderer. No interest will be payable on the EMD.

The earnest money shall be forfeited if the tenderer withdraws his tender before the

period of validity of the tender (i.e. minimum 120 days) and / or tenderers fails to furnish requisite security deposit within the specified period after the award of order/contract wherever applicable.

Subsequent to placement of Order / Contract, the successful tenderer will be required to deposit a sum equal to 3% of the Order/ Contract value subject to a maximum of Rs. 100.00 lakhs, within 14 days from the date of purchase order as **Security Deposit (SD)** in the form of 'Demand Draft' or 'Pay Order' or 'Bankers Cheque' or 'Irrevocable Bank Guarantee' from any of Nationalized Bank in the prescribed format enclosed at **Annexure-E** only in favour of **ALIMCO** payable at **Kanpur** for due discharge of the Purchase Order released on the basis of this tender. This will be retained till the expiry of warranty Period for the plant supplied. No interest will be payable on the Security Deposit.

The Security deposit may be refunded/returned on submission of irrevocable, unconditional & acceptable Bank guarantee as performance guarantee of 3% of purchase Order/Contract value by the party to cover its obligations to offer free of cost replacement under the warranty period from any nationalized bank. The corporation may also consider, at its discretion, acceptance of Corporate Guarantee given by Foreign Principal In lieu of Bank Guarantee in case of imported goods.

Security deposit shall be furnished within the time limit provided for in the Contract. Non submission of Security deposit within the time specified for the purpose shall amount to the breach of essential conditions of the Contract and shall render the Contract liable to cancellation & the contractor shall be liable for all consequence thereof or caused there by.

After Satisfactory installation, commissioning & Training of the plant/machine and on receipt of Warranty Performance Bank Guarantee equal to 3% of the PO/work contract Value, valid for the warranty / defect liability period, the Security deposit amount shall be released by ALIMCO.

The Corporation reserves the right to forfeit the security money deposit in case the supplier fails to make good losses on supplies, unable to replace supplies found unacceptable as well as losses on account of exceptional delays in supplies.

8. Submission of Tender

The tender shall be submitted online in two part, viz., technical bid and price bid

Technical Bid (TC Bid)

The following documents are to be furnished by the tenderer along with **Technical Bid** as per the tender document

- 1) Scanned copy of e receipt against tender document cost / Exemption Certificate.
- 2) Scanned copy of all relevant documents as per Tender.

Please note that no indication of the rates/amounts be made in any of the documents submitted with the TC-BID

PRICE BID (P Bid)

- (a) Schedule of price bid in the form of Annexure-C.

9. Virtual Pre-Bid Meeting

- a) The tenderer may submit their queries on the tender document if any by email on the email id: dgm_spc@alimco.in or sm_pt@alimco.in Only the queries submitted by the tenderers, who have either purchased or deposited the cost of tender documents after downloading the tender document from ALIMCO website up to the due date of submission of queries, would be discussed in the pre bid meeting.
- b) During the course of Virtual Pre-Bid Conference, the Bidder will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall endeavor to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Selection process.
- c) Clarifications will be uploaded on ALIMCO website as per the schedule date fixed for submission. Any modification to tender document, which may become necessary as a result of pre bid meeting, shall be made through issuance of an Amendment/Corrigendum.

10. OPENING & EVALUATION OF TENDER:

- a) The tenders shall be opened online at <https://eprocure.gov.in/eprocure/appat> at **15.30** hours on due date in presence of representatives of tenderers who may like to be present. Bidder can view live bid opening at their remote end also. Bids will be opened as per date/time as mentioned in the Tender Critical Date Sheet.
- b) Only the 'TC-Bid' (Part I) of the tender will be opened online on ---.2021 at **15.30 Hrs.** by the Tender Opening Committee of ALIMCO in the presence of representatives of tenderers who may like to be present. **Tenders received late will not be considered. If the due date happens to be a holiday the same stands extended to the date of next working day with time remaining the same. However, the Corporation has the right to alter the date & time of Tender closing & opening. The same shall be notified only on the website of the Corporation.** The procedure will be as follows:
- c) Subsequent to opening of 'TC-BID' of all tenderers correspondence / discussion with regard to the conditions and other technical aspects may be held by the Committee nominated by ALIMCO, if needed
- d) In case any tenderer submit only 'TC-BID' his tender shall not be considered and shall be treated as incomplete tender. Similarly, if any tenderer submit only 'P-BID', the same shall also be not considered.
- e) The technical bids will be evaluated to shortlist the eligible bidders. The technical bids of only the eligible bidders shall be considered for further processing (financial evaluation). Preliminary scrutiny of the proposal will be made to determine whether they are complete, required processing tender fee have been furnished whether the documents have been properly signed, and whether the bids are generally in order. Proposals not conforming to such preliminary requirements will be prima facie rejected.
- f) The ALIMCO has a right to seek clarification/ documents from the tenderer relating to TC-Bid of tenderers if such information is essential for evaluation of tender.
- g) Bidder whose technical bids found to be acceptable and meeting the Mandatory/Pre-qualification criteria as specified in this tender will only be informed about the date and time of the opening of the commercial bid (P-Bid).
- h) ALIMCO will open commercial bids of only the technically shortlisted bids, in the presence of the bidder or their-authorized representative who choose to attend the bid opening, at the time and date to be informed later.
- i) Commercial bids of only those Tenderers will be opened who are found to be technically qualified & acceptable and the work shall be awarded to commercially lowest bidder, in conjunction with other conditions/government guidelines as mentioned in the tender document for evaluation of commercial bid. Commercial bids shall be evaluated on the basis of all-inclusive price including basic price, packing & forwarding, freight, insurance, loading, unloading, training, installation & commissioning charges, etc and excluding GST only.

11. REJECTION OF TENDER:

- a) Tenders received without cost of tender document are liable to be rejected as also indicated at Para 3(i).
- b) Conditional and unsigned tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions, drawings/specifications etc. are liable to be rejected.
- c) Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the party who resort to canvassing are liable to be rejected.

- d) The acceptance of tender will rest with ALIMCO which does not bind itself to accept the lowest tender or any tender and reserves full rights for the rejection of any or all tenders without assigning any reasons whatsoever.

12. VALIDITY OF TENDER:

- a) The tenders shall remain open for acceptance for a minimum period validity of 120 days from, the date of opening of tenders or till such period up to which the extension of validity is agreed to mutually. This may please be stipulated clearly in the Quotation.
- b) If notified within this period that the tender has been accepted, the tenderer shall be bound by the terms of the offer along with the terms that have been agreed mutually.
- c) All the tenders without PROPER SPECIFICATION / MAKE / BRAND / BROCHURE /CATALOUGE/ LEAFLET & TEST CERTIFICATES wherever required, are liable to be rejected. It shall be in the interest of the tenderer that complete offer is made for our consideration. It will be in the interest of the tenderer to submit details/values against each individual parameters mentioned at Annexure 'B2' and sample wherever possible along with the offer.

13. QUANTITY DISCOUNT:

In order to submit the most competitive offer, the Tenderer may indicate the quantity discounts as applicable on the price. However, the buyer reserves the right to accept the quantity discounts for lower quantities as well. The quantities indicated in the Annexure 'A' are liable to revision either upwards or downwards.

14. DELIVERY:

- a) The delivery, installation, commissioning & training of the whole plant and its accessories must be completed within the stipulated period specified at Annexure-A, from the date of placement/acceptance of PO/ work contract.
- b) The delivery of the plant shall be made strictly as per delivery schedule as stipulated in our Purchase Order/Work Contract or modified time to time by ALIMCO. In case of Failure to supply, install & commission/execution of work within the stipulated period will make the tenderers liable to an unconditional penalty. The penalty/Liquidated damages shall be levied at the rate of point five percent (i.e. 1/2 % or 0.5%) per week (or fraction of a week) subject to the maximum of 10% of the purchase order / work contract value.

15. INSPECTION:

- a) Inspection will be carried out at the Destination (refer Para 1) and unacceptable/rejected Item will be returned to the supplier through bank at the supplier's risk and cost by road, only after receipt and acceptance of replacement supplies provided by the suppliers free of cost. Alternatively, all the tenderer will have to furnish their Banker's Name, Address including Code No. along with a declaration/undertaking to guarantee collection of the returned supplies documents negotiated through their bank within 07 days of its presentation.
- b) In case of local supplier, rejected Item shall be lifted from our stores within 15 days of our rejection advice after refunding the payment, if already made to them before collecting the supply. In case of failure to lift the rejected Item, we may dispose-off the rejected Item as deemed fit and no claim whatsoever shall be entertained in this respect and the tenderer shall be liable to pay amount paid by ALIMCO, if any.

16. TERMS OF PAYMENT:

ALIMCO is a Schedule 'C' Mini Ratna Category II Central Public Sector Enterprises, registered under Section 8 (Not for Profit motive) of the Companies Act, 2013, (corresponding to Section 25 of the Companies Act, 1956). The terms of payment shall be as follows:

- a) Part payment will be done in accordance to Billing Breakup (BBU) submitted by the L-1

- Bidder and subsequent approval of ALIMCO.
- b) 60% material cost of invoice (exclude GST) on receipt of material at ALIMCO site.
 - c) 30% material cost of invoice plus installation (exclude GST) total 90%, after completion of erection work of each item (exclude GST).
 - d) Balance 10% (exclude GST) of work will be released after successful prove out and receipt of bank guarantee from a nationalized bank equal to 3% of PO/WO value.
 - e) GST portion shall be paid on availment and matching of Input Credit.
 - f) Supplier's Bank Charges/Draft making charges will have to be borne by the party only.
 - g) The tenderer will be required to submit their RTGS details duly certified by the Bank along with a crossed/cancelled Cheque in support of the details, as all payments/refunds are preferably be made through RTGS.

17. RIGHT OF ACCEPTANCE:

ALIMCO reserves the right to reject any or all the tenders in part or full without assigning any reasons thereof. The Corporation also reserves the right to negotiate the rates and terms and conditions of supply with any or all the tenderers at its sole discretion as deemed fit without assigning any reasons thereof.

ARBITRATION

In case of any dispute, arising during the operation of the contract, efforts shall be made to resolve it by mutual discussions failing which the matter shall be referred to the Chairman & Managing Director of ALIMCO G.T. Road, Kanpur-209217 or his nominee whose decision shall be final and binding on both the parties. Arbitration proceedings shall be held at Kanpur as per provisions of the Arbitration & Conciliation Act 1996 & as amended from time to time and the Kanpur City Court shall have the jurisdiction in the matter.

Thanking you,

Yours faithfully,
For Artificial Limbs Mfg. Corporation of India

Dy. General Manager (SP&C)

Encl: As Above

SPECIFICATIONS: “Supply, Installation & Commissioning of Automated Anodizing Plant”-On Turn-key basis Qty. – 01Set.

Scope: Supply, Installation & Commissioning of Automated Anodizing Plant on turnkey basis.

Purpose: To perform Anodizing on different parts used in mobility aids e.g. Axilla, Walking stick, Tri-pod, Tetra Pod, etc.

S.No.	Description of requirement	Required		
1	Components	Aluminum Parts of Walking Aids like Axilla, Walking stick, Tri-pod, Tetra Pod, etc.		
2	Dimensions of largest component	As per attached drawing, (Max. length of 1300 mm approx.)		
3	Surface Area of Largest component (axilla: side tube)	As per attached drawings		
4	Output Desired	As per list attached (Table 1)		
5	Tank Section (in mm) (Internal dimension/working area)	Min. 1000Wx 1800 Lx 1200 H		
6	Available Floor Space	Max. 23m x 6m		
7	Method of Handling	Component jugged on Titanium Fixtures, suspended on Carrier Bar which are carried with help of motorized, push button operated Transporter Wagon.		
8	Process Sequence	Process sequence	Temp. (in °C)	Tank MOC
		Load / Unload	-	Steel channel/angles
		Hot soak Degreasing	70-80	2 layers of SS 316 (thickness: inner 3 mm; outer 2 mm) with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer; inner PVC lining and external FRP lining
		Single Water Rinse	RT	PP Thickness: 15 mm (min.)
		Etching	RT	2 layers of SS 316 thickness: inner 3 mm; outer 2mm) with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer; inner PVC lining and external FRP lining
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)
		De-oxidation	RT	PP Thickness: 15 mm(min.)
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)

		Anodizing	12-18°C	2 layers of SS 316 (thickness: inner 3 mm; outer 2mm) with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer; inner PVDF lining and external FRP lining
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)
		Nickel Acetate sealing	85-90°C	2 layers of SS 316 (thickness: inner 3 mm; outer 2 mm); inner PVDF lining and external FRP lining
		Boiling Water Sealing	95-105°C	2 layers of SS 316 with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer; inner PVDF lining and external FRP lining
		Hot air drying	95-105°C	SS 304 (thickness: inner 3mm; outer 2mm); with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer
9	Load / Unload stand with 'V' location saddles	Min.1 set (on each tank)		
10	Process tanks made of MS, SS, and PP complete with essential fittings such as thermal insulation, water inlet, drain outlet, overflow/scum chamber/ lip type exhaust ducting, 'V' location saddles, anode/cathode support bars, air agitation coils, heaters, thermocouple.	1 Lot		
10.1	Reinforcement to avoid bulging of tank:- (i) PP Tank:- suitable reinforcement (min.50X 25 mm thick support rib at a distance of maximum 450mm) (ii) MS & SS Tank:- suitable reinforcement (min. 50 X 50 X 5 mm thick support rib at a distance of maximum 450mm)	Confirm		
11	COOLING SYSTEM			
11.1	Min.15 TR capacity chilling unit (for cooling and maintaining the temperature of anodizing bath.) The compressor unit shall have 02 years warranty plus 03 years minimum extended warranty. A. Both Heat Exchange pump (Min. 2 H.P.) is made up of acid resistant material specifically SS316L . B. Piping for all connections from tank outlet to chiller unit is made up of PVC/SS316L.	1 Set		
12	Rectifiers: Preferred Make: Kraft Powercon/ Munk Rectifier/ Italtecno/Jindal	Confirm		

12.1	IGBT solid state rectifier with digital type ammeter, voltmeter & Amp-Min / Amp-Hr. meter, PLC communication air cooled design with AC cooling and remote operated pendant, with PLC hook up facility and voltage ramping profile programmer.	Min. 1 Set (Capacity Min. 50Volts / 750Amps.)
13	FILTRATION	
13.1	Filtration: PP body, plate type filtration units of desired capacity with seal-less magnetic Pump, complete with inlet/outlet hoses, pressure gauge, pressure switch for auto cut-off, PP ball valves and PP strainer etc.	Min. 1 Set Capacity (Min: 6000 LPH)
14	FUME EXTRACTION SYSTEM	
14.1	Fume Extraction unit fitted with Lip Duct, V belt Driven by 7.5 HP,3 phase dynamically balanced impeller complete standard unit of capacity for 1000CFM (min) preferred makes: Crompton/ Bharat Bijlee/ Siemens / Hindustan PP/FRP water washed Fume Scrubber complete with water spray nozzles, circulation pump, pall Rings, mist eliminator and centrifugal seal-less pump. The chimney height should be 15 meter form the ground	1 Set
15	MATERIAL HANDLING SYSTEM	
15.1	Single Work Carrier Bar to design at rated DC current with Cu Alloy, 'V' block and lifting arms suitable to operate with transport wagon on fully automatic operations.	6 Nos.
15.2	Transport Wagon having 2 Motors for traverse and hoisting movement together with DC brake coil, complete with limit switches, pendant box with push buttons, proximity switches lifting belts, polyurethane coated wheels with safety interlocks, suitable to operate with frequency drive for smooth start and stop of transport wagons in automatic mode. (Material load carrying capacity: Min. 350 kg).	2 No.
15.3	Transport Structure independent floor mounted type structure made from tubular/steel rolled sections, to support transport wagon tracks, complete with overhead track and tank mounting beams and level pads.	1 Lot
15.4	Centralized Control Panel to monitor and control accessories, such as heaters, digital temperature controllers, complete with overload contactors relay, indicating lamps, ON/OFF switch, starters etc for all items of supply.	1 No.
15.5	PLC Automation hardware & Control Panel (for Transport Wagon) to be used for automation of metal finishing process and material handling of components through transport wagons on fully Automated programmed sequence.	1 Lot

15.6	SCADA (Supervisory control and data acquisition) Program	confirm
15.7	FRP grating (min. 25 mm thick) with side railing should be provided with suitable support structure.	1 Lot
16	Anode / Cathode (Insoluble)	
	200 x 1000 x 5mm Lead Cathodes with copper hooks	As per design process or required (minimum 48 Nos.)
17	OTHER REQUIREMENTS	
17.1	Electrical system to be designed for Following	
17.1.1	Electrical System: 415 V, 3Phase, 50 Hz Supply	Confirm
17.1.2	Protection level: IP 54 or better	Confirm
17.1.3	Complete system to be tropicalized for Indian conditions (up to 50oC and RH 100%)	Confirm
17.2	DM Plant complete with mixedbed-2500litre per change, TDS less than 1 Conductivity less than 10 µS.	Confirm
17.3	Foundation, details and drawings will be required from tenderer within 15 days from the release of POWO	Confirm
17.4	ALIMCO will provide power supply till mains panel in the work center, rest all work will be in the scope of tenderer (including panels and cabling for all processes)	Confirm
17.5	Chemicals and consumables required for all processes: for initial make-up and three months maintenance. Chemical's preferred makes: CMP Pvt. Ltd./ Atotech/ Coventya (India)/ Grauer & Weil (I) Ltd./Artek/chemetall Rai	Confirm
17.6	Vendor to provide detail of power & air Requirement	Confirm
18	ACCESSORIES	
18.1	Turbine Blower (Min. 5 HP, 3 Phase, energy efficient) (For supply of dust & oil free air for agitation in all tanks).	1 Set
18.2	Oil Skimmer (for removal of oil/skim from Degreasing Bath).	Min.1 Set
18.3	Pneumatically operated top cover Lids for Sealing & Drying Tanks.	Min.3 Set
18.4	Hot Air Blower / Radiator (3 Phase, energy efficient) for Drying Tank	Min. 1 Set
18.5	Titanium Jigs (for various components to be anodized).	Min. 40 Nos.
19	SERVICES LINE	
19.1	PP/PVC piping for plain water supply.	1 Lot
19.2	PP/PVC piping for DM water supply.	1 Lot
19.3	PP/PVC piping for chilled water circulation.	1 Lot
19.4	PP/PVC piping for air supply.	1 Lot
19.5	PP/PVC piping for drains & overflows.(min 50 each connecting to 150 mm final drain pipe)	1 Lot
19.6	Cabling from PLC panel to transport wagon with cable track / trolley, cam track & cam station	1 Lot

19.7	AC field cabling/wiring from control panel to all electrical machines of supply. (with cable tray & support structure)	1 Lot
19.8	Conductive Copper bus bar or cable connections between rectifiers & process tanks with support structure.	1 Lot
19.9	PP/FRP connecting ducts from lip ducts on tanks to Scrubber to Exhaust fans (with support structure).	1 Lot
19.10	PP/FRP chimney with weather cowl (with support structure) 3 mtrs. Above factory Shed	1 Lot
19.11	Erection & assembly of plant at site.	1 Lot
19.12	Chemical Commissioning with approved sample trials for 7 days of Plant operation.	Confirm
19.13	Vendor has to successfully prove out 5 cycles of Anodizing plating at ALIMCO premises during prove- out. Same shall be verified by ALIMCO.	Confirm
19.14	Air Quality Index (AQI) in working area after installation and commissioning of the plant to be as per government norms, issued by Central Pollution Control Board for AQI quality "Good"	Confirm
20	For Commissioning of the Plant (preparation of chemical baths & process trials), Vendor shall depute expert chemist to guide operators for min. 2 weeks.	Confirm
21	Operation and Maintenance training at site, after successful installation and commissioning of plant	Min. 15 days
22	Chemicals / Consumables (for Initial Makeup & 3 Months Maintenance)	Confirm
23	List of Spares to be provided	
24	Service	
24.1	The authorized Service Partner (Name & Address) must Be certified by manufacturer and shown in the bid.	Confirm
25	Vendor to include all items even if not mentioned above for necessary successful operation of plant on turnkey basis as per design.	Confirm.
26	Drawing of component (maximum size) is attached with the tender document. To get clarity on variety of components to be plated, tenderer to visit ALIMCO Kanpur site and obtain acknowledgement certificate /slip for same, from competent authority.	Confirm.
27	Drawing Design with complete layout and all electrical diagram/drawing (03 sets) to be provided by the party	confirm
28	UPS with backup of 30 min for SCADA system to be provided.	confirm
29	UPS with backup of 15 min for uninterrupted power supply of transport wagon if required	confirm

DELIVERY PERIOD INCLUDING INSTALLATION, COMMISSIONING & TRAINING:

The delivery period including installation & commissioning and training of anodizing plant at the destination mentioned in Para 1 on page no. 02 of the tender documents will be 5 months from the date of placement of Purchase Order/work contract.

WARRANTY:

The entire plant inclusive of all system/accessories should be covered under comprehensive warranty for a period of 24 months from the date of commissioning. The compressor unit for chilling unit shall have 02 years warranty plus 03 years minimum extended warranty.

Note:

1. Plant/Item shall be supplied with 3 sets of comprehensive operation and maintenance manual.
2. Breakdown calls to be attended within 48 hrs.
3. Supply to be done on Turnkey Basis. ALIMCO shall provide electrical supply at, air supply and water supply near to the place of installation at one point, necessary fittings, cablings, CB, Switchgears, is in vendor scope.
4. Civil foundation details and drawings with specifications to be provided by the tenderer.
5. Successful tenderer has to arrange unloading and material handling at site, by their own.
6. Total power consumption (in kW) to be provided by the tenderer.
7. Layout drawing should be provided in CAD format.
8. Visual control board to be provided for monitoring with alarm signals.
9. ALIMCO may at its discretion decide to visit & verify the facility and validate in case of discrepancy the vendor may be technically disqualified.
10. All necessary Details as asked in Annexure-A will be duly full-filled failing which bid may get rejected.
11. Vendor to arrange any foundation work/grouting of anti-vibration pads or foundation bolts for the installation of machine.
12. All the required Jigs along with manufacturing drawing shall be supplied by the Vendor.
13. Vendor shall take full responsibility for the adequate stability and safety of all site operation and installation and commissioning as per the latest safety manual published by Indian standard institution.
14. Statutory rules regulations and provision of order condition etc. and in case of default vendor shall solely be responsible and indemnify the corporation for any loss or damage caused to the ALIMCO for any violation of concern law.

Abbreviations:

RT- Room temperature

MOC - Material of construction

MS-Mild steel

SS-Stainless steel

PVC-Polyvinylchloride

PP –Polypropylene

FRP-Fibre reinforced plastic

MS -Mild steel

SS -Stainless steel

PVC -Polyvinylchloride

PP- Polypropylene

FRP -Fibre reinforced plastic

(On Letter Head of the Tenderer)

APPENDIX-1

UNDERTAKING

We hereby undertake that the delivery, installation, commissioning & training of the whole machine/equipment/system/plant & it's accessories (on turn Key Basis) will be completed within the stipulated period as indicated in the tender or specified at Annexure-A, from the date of placement of PO/work contract".

Dated:

Authorised Signatory:

Name: -

Designation: -

Seal: -

(On Letter Head of the Tenderer)

APPENDIX -2

UNDERTAKING

We hereby undertake that our Firm has not been debarred/blacklisted/terminated/banned to participate in the Tender by any Govt. Institution, PSU, State Govt. or Central Govt. Deptt.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -3

UNDERTAKING

We hereby undertake that our Offer is valid for acceptance for 120 days from the date of opening of Techno-Commercial Bid (TC-Bid).

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -4

UNDERTAKING

We hereby undertake that all the tender terms & conditions are acceptable to us.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -5

UNDERTAKING

We hereby undertake that a Performance Bank Guarantee (PBG) of 3% of the order value, valid for warranty period & claim submission date, will be submitted within 3 months from the date of expiry of SD Bank Guarantee period after the successful commissioning & Prove-out of the machine/equipment/system/plant (on turn-key basis).

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -6

UNDERTAKING

We hereby undertake to the effect that an Advance Bank Guarantee (BG) of 110% of the advance value subject to maximum upto 100 Lakhs, valid for successful installation, commissioning & prove out of whole plant & its accessories can be submitted within 1 months from the date of releasing the PO/Work Order of the machine/equipment/system/plant (on turn-key basis).

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -7

UNDERTAKING

We hereby undertake that our firm shall submit the security deposit as per tender terms within 14 days of releasing PO/Work Order of the machine/equipment/system/plant (on turn-key basis).

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -8

UNDERTAKING

We hereby undertake that our firm shall provide the complete training regarding operation & maintenance of the Whole machine/equipment/system/plant (On turn-key Basis) & its accessories.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -9

UNDERTAKING

We hereby undertake that we will unconditionally accept to replace the supplies if rejected at the destination.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -10

UNDERTAKING

We hereby undertake that payment terms mentioned at Para No-16 of this tender document (i.e. Terms of Payment) is acceptable to us.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -11

UNDERTAKING

We hereby undertake that our firm shall attach the proof regarding prior experience of supplying such systems as mentioned in **Mandatory / Pre-Qualification Criteria** of the Tender Document. Vendor to provide valid details of such customer along with contact number for verification.

Sl. No.	_____	_____	_____	_____

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX-12

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. ___ to _____ (including all documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organization to have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)

(On Letter Head of the Tenderer)

APPENDIX -13

UNDERTAKING

We hereby confirm that the GST portion shall be claimed only after submission of GST Return and Input credit appearing in corporation's GST portal, filed online by the tenderer clearly (duly highlighted) showing invoice/ bill number and amount to ALIMCO so as to enable the Corporation to avail GST input credit after matching of the GST return and Invoice submitted in the Corporation. No claim against the Corporation shall be made for non- matching of GST and the amount shall be credited back by us.

Dated:

Authorised Signatory:

Name:-

Designation:

Seal:

(On Letter Head of the Tenderer)

APPENDIX -14

UNDERTAKING

We hereby undertake that as follows:

- a) Part payment will be done in accordance to Billing Breakup (BBU) submitted by the L-1 Bidder and subsequent approval of ALIMCO.
- b) 60% material cost of invoice (exclude GST) on receipt of material at ALIMCO site without damage.
- c) 30% material cost of invoice plus installation (exclude GST) total 90%, after completion of erection work of each item (exclude GST).
- d) Balance 10% (exclude GST) of work will be released after successful prove out and receipt of bank guarantee from a nationalized bank equal to 3% of POWO value.
- e) GST portion shall be paid on availment and matching of Input Credit.
- f) Supplier's Bank Charges/Draft making charges will have to be borne by the party only.
- g) The tenderer will be required to submit their RTGS details duly certified by the Bank along with a crossed/cancelled Cheque in support of the details, as all payments/refunds are preferably be made through RTGS.
- h) If desired Advance up Rs. 100 lacs against submission of Undertaking to the effect that an Advance Bank Guarantee (BG) of 110% of the advance value. The recovery of the advance will be done as adjustment @25% of advance value from the running bill. The Advance Bank Guarantee (BG) for advance shall only be released after successful installation, commissioning & Prove-out of whole plant & it's accessories and full recovery of the advance.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

(On Letter Head of the Tenderer)

APPENDIX -15

UNDERTAKING

We hereby undertake that we will execute comprehensive AMC for the period of 03 years after the expiry of warranty/defect liability period as per the requirement of ALIMCO and the comprehensive AMC shall not exceed 2%, 3% & 4% of basic value of the machine/equipment/system/plant during 3rd, 4th & 5th year respectively from the date of successful installation & commissioning of the machine/equipment/system/plant.

Dated:

Authorised Signatory :

Name :-

Designation :-

Seal :-

Comprehensive ANNUAL MAINTENANCE CONTRACT (AMC)

1. Responsibilities of the Firm

Comprehensive maintenance, including calibration, shall be conducted through mutual agreement with the nominated ALIMCO site official. The preventive maintenance regime offered must be aimed at achieving minimum 98% uptime of the System including the System down time for preventive maintenance schedules.

2. The tenderer shall ensure that in case a failure is reported, the system is restored to the complete working status within 48 hours. This period of upto 48 hours after the failure report shall be treated as grace period, which will not count towards System down time for up to one failure per quarter and a maximum of 4 failures per annum. In case the number of failures exceeds one during any quarter or four during any year of AMC, grace period of only 24 hours will be permissible for such additional failures.

3. The successful Tenderer should submit a list of authorized persons for carrying out the comprehensive AMC of the System. The Tenderer shall be solely responsible for the safety of all the men and equipment of the Tenderer. The authorized person shall observe all safety and security rules prevailing at the place of work. ALIMCO shall not be responsible for any mishap resulting out of non-observance of prevailing safety and security rules.

4. All costs involved in hiring, deployment etc. for the Tenderer's personnel should be borne by the Tenderer.

5. The Tenderer should ensure that there is no damage to the ALIMCO property/material.

6. Payments

Normally quarterly payment under comprehensive AMC will be made to the tenderer within 30 days from the end of the quarter subject to submission of following documents by the tenderer to the paying authority assigned by the consignee:

- i. Detailed quarterly bill by the Tenderer and accepted by the consignee
- ii. Consignee's Certificate for Quarterly Work Done Under comprehensive AMC
- iii. Details of system malfunction calls logged.
- iv. Certification from the nominated official of ALIMCO for the functioning of sites in his jurisdiction.
- v. Attested photocopy of comprehensive AMC BG. comprehensive AMC BG for an amount of 03% of the total comprehensive AMC cost for 3rd, 4th and 5th year shall be submitted by Bidder before expiry of warranty period and before commencement of comprehensive AMC period, failing which PBG will be fortified.

7. Any spare part or material necessary to restore the plant to proper working order will be arranged by the tenderer as a part of comprehensive AMC.

8. **Penalty Clause:** Penalty shall be levied on the Tenderer for maintaining the System uptime below the limit of 98% (on quarterly basis), after discounting for grace period. Penalty shall be calculated as % age of quarterly payment and will be deducted from the respective quarterly payments. Penalty calculation will be done over quarterly payment period.

S.No	Availability Slab	Applicable Penalty
1.	98% to 90%	0.5% for every 1 % (or part thereof) reduction in availability below 98%.
2.	Below 90%	1% for every 1% (or part thereof) reduction in availability below 90%.

9. In case the tender fails to provide comprehensive AMC services successfully, the comprehensive AMC BG will be forfeited. This will be in addition to penalty as per clause above. System up time of less than 60% for two consecutive quarters will constitute complete failure of Tenderer to provide comprehensive AMC services successfully.
10. Necessary records for comprehensive AMC will be maintained online by the Tenderer or reference of both the parties.
11. In the event of failure of Tenderer to provide comprehensive AMC services as per the comprehensive AMC agreement, the comprehensive AMC contract shall be terminated in following way:

Notice in writing by Client, ALIMCO giving 3 months' clear notice period. Dues, if any, will be settled in accordance with the conditions of the agreement.

PURCHASE PREFERENCE TO MAKE IN INDIA

1. Purchase Preference to Make in India

In order to give effect to the policy of Government of India to encourage 'Make in India', price preference shall be accorded to Local Supplier/Bidder in accordance with Order No.P- 45021/2/2017-PP (BE-II) dated 04.06.2020 & 16.09.2020 on Public Procurement (Preference to Make in India) Order 2017 as per latest amendment of the Department of Industrial Policy and Promotion, Ministry of Commerce and Industry. ALIMCO Ltd being a CPSU adopted the guidelines given in the above-mentioned Order dated 04.06.2020 & 16.09.2020 and the following shall be applicable in this tender:

1.1. Definitions:

'Local Content' means the amount of value added in India which shall be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

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

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

'Non - local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this clause.

'L1' means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjusted in the evaluation process as per the tender or other procurement solicitation.

'Margin of purchase preference' means the maximum extent to which the price quoted by a "Class-I local supplier" may be above the L1 for the purpose of purchase preference.

'Procuring entity' means ALIMCO

'Works' means all works covered in the scope of work in this tender.

1.2. Eligible bidder in this tender: Class-I local supplier

1.3. Purchase Preference

- (a) In the procurements of goods or works which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
 - ii. If L1 bid is not a 'Class-I local supplier'. 50% of the order quantity shall be awarded

to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

- (b) In the procurement of goods or works which are not divisible in nature, and in procurement of services where bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure: - Not applicable as only Class-I local supplier allowed.
- i) Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I Local supplier', the contract will be awarded to L1.- Not applicable as only Class-I local supplier allowed.
 - ii) If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. - Not applicable as only Class-I local supplier allowed.
 - iii) In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder. - Not applicable as only Class-I local supplier allowed.
- (c) "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entity. - Not applicable as only Class-I local supplier allowed.

1.4. Applicability of Purchase preference in this tender as per Para 3(b)

1.5. Type of this Tender/Work: Goods

1.6. Margin of Purchase Preference: The margin of purchase preference shall be 20%.

1.7. The minimum local content for this tender shall be 50% (Minimum Local content will apply on all items of price schedule excluding AMC cost).

1.8. Verification of local content:

- a. The 'Class-I local supplier'/'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

- b. In case of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

PUBLIC PROCUREMENT POLICY FOR GOODS PRODUCED AND SERVICES RENDERED BY MICRO AND SMALL ENTERPRISES (MSES):

a) As per the extant Public Procurement Policy of the Government of India, Micro and Small Enterprises (MSEs) having current and valid registration for the tendered item with any of the below specified agencies are entitled for benefits and preferential treatments specified in Para d below. MSEs who are interested in availing themselves of these benefits must upload with their offer, the proof of their being MSE registered with any of the agencies mentioned in the notification of the Ministry of MSME (Udyog Aadhar Memorandum)/Udyam Registration as indicated below:

- i) District Industries Centers
- ii) Khadi and Village Industries Commission
- iii) Khadi and Village Industries Board
- iv) Coir Board
- v) National Small Industries Corporation
- vi) Directorate of Handicraft and Handloom
- vii) Any other body registered with MSME

Note: Trading enterprises are not covered under the definition of Micro and Small Enterprises.

- b) The MSEs must also indicate the terminal date of validity of their registration.
- c) Non compliance of requirements of para (a) and (b) above, such offers will not be liable for consideration of benefits detailed in para (d) given below.
- d) MSEs registered with any of the agencies mentioned in para (a) are entitled for the following benefits provided they submit a valid Udyog Aadhar Memorandum/Udyam Registration:
- i. MSEs registered with any of the agencies for the item tendered will be exempted from payment of Earnest Money.
 - ii. In tenders, participating MSEs quoting a price within price band of L1 + 15% shall be allowed to supply a portion of the requirement by bringing down their price to L1 price, in a situation where L1 price is from someone other than a MSE and such MSEs can be together ordered up to 25% value out of the net procurement quantity.
 - iii. A minimum of 4% of total procurement, within the 25% earmarked for MSEs will be from MSEs owned by Scheduled Caste/ Scheduled tribe (SC/ST) Entrepreneurs. In the event of failure of such MSEs to participate in the tender process or meet tender requirements and L-1 price, 4% earmarked from MSEs owned by Scheduled Caste/ Scheduled Tribe (SC/ST) Entrepreneurs be met from other MSEs.
 - iv. A minimum of 3% of total procurement, within the 25% earmarked for MSEs will be procured from women owned MSEs.
 - v. In case tendered item is non-splitable or non-dividable, etc. Purchaser may award the full/complete supply of total tendered value to MSE quoting price within price band L1+15%, considering spirit of policy for enhancing the Govt. procurement from MSE.

Traders and agents are not eligible to avail the benefits extended under the Public Procurement Policy for MSEs.

- e) An MSE shall be considered as that owned by SC/ST in following cases:
- i) In case of proprietary MSE, proprietor(s) shall be SC/ST.

- ii) In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit.
 - iii) In case of Private Limited Companies, at least 51% share shall be held by SC/ST promoters.
- f) In case, the tenderer is a Micro or Small Enterprises (MSE), the tenderer shall also furnish the following details in their offer:
 - i) The category of the tenderer:
 - a) Whether vendor is Micro Enterprise or
 - b) Whether vendor is Small Enterprise.
 - ii) Each of the above categories must further mention the sub-classification whether the tenderer is an enterprise -
 - a) Owned by Scheduled Castes (SC)
 - b) Owned by Scheduled Tribes (ST)
 - c) Owned by women entrepreneurs
 - d) Owned by other than the above three categories.
 - iii) Confirm the following:
 - a) Whether documentary proof of being registered with any of the specified agencies indicated in Para (a) above has been submitted with their offer.
 - b) Whether the terminal date of validity of the registration with the specified agencies has been indicated in their offer.
- g) In case, the tendered item is restricted for placement of bulk orders on approved sources, then the criteria for placement of orders on MSEs under the Public Procurement Policy for MSEs will additionally require that the MSE firms are one of the valid approved sources for the tendered item.
- h) The tenderers who are large Scale vendors of Railway Units or who come under consortia of MSEs (as vendors to Railway Units) formed by NSIC, are also required to upload with their offers, the procurement and percentage of sub-contract to be made from MSEs for goods to be supplied against this tender, and also furnish the details as in para 6 above for the portion sub- contracted to MSEs.

Declaration of Udyog Adhar Memorandum (UAM)/ Udyam Registration number by vendor **is mandatory**. Accordingly, the bidders who fail to submit UAM number shall not be avail the benefits available to MSE as contained in Public Procurement Policy for MSEs Order, 2012 or latest issued by MSME, for tenders invited electronically through CPPP.

ANNEXURE VII - MANDATORY CONDITIONS TO BE SATISFIED BY ANY BIDDER FROM A COUNTRY WHICH SHARES A LAND BORDER WITH INDIA

(This annexure is to be signed and stamp and submitted/uploaded by Bidder along with the bid)

- A.** The tender shall be governed by the following terms and conditions:
- I.** Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as specified in Order (Public Procurement No.1) F.No.6/18/2019-PPD Dated 23.07.2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division and as amended from time to time. Such registration should be valid at the time of submission and acceptance of bids.
 - II.** "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
 - III.** "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
 - IV.** The beneficial owner for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation-

 - a) "Controlling ownership interest" means ownership of or entitlement to more than twenty- five percent of shares or capital or profits of the company;
 - b) "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who,

whether acting alone or together, or through one or more juridical person, has ownership or entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.
- VII. Certificate regarding compliance: **A certificate shall be provided by bidders in the tender documents regarding their compliance with these clauses.** If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.
- VIII. Validity of registration: In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.
- B. Notwithstanding above, the terms and conditions mentioned above will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in developing projects.

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Sign of Bidder

Instructions for Online Bid Submission:

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at:
<https://eprocure.gov.in/eprocure/app>.

Registration:

1. Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Online bidder Enrolment" on the CPP Portal which is free of charge
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID/Password and the password of the DSC/e-Token.

Searching For Tender Documents:

7. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
8. Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS/e-mail in case there is any corrigendum issued to the tender document.
9. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

Preparation of Bids:

- a. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- b. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- c. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- d. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents and keep it as a repository.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

Submission of Bids:

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as “offline” to pay the tender fee/EMD as applicable and enter details of the instrument.
4. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/ couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.
6. The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers’ public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

Assistance to Bidders:

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk Nos. 0120-4200462, 0120-4001002.

TENDER NO. PT/OT/ 01/AZ DATE.....

Sr. No.	Mandatory/Pre-Qualification Criteria	Complied / Not Complied	Provide details
i	All tenderers are required to submit Rs. 600/- (Including GST), towards cost of Tender documents, if down- loaded from the website of the Corporation/CPPP. (All SSI units/ MSE Vendors are exempted from Tender Cost on submission of valid Udyog Aadhaar memorandum (UAM)/ Udyam Registration against tender for the items/nature of business/ type of services specified there in the UAM). The cost of Tender documents for Rs. 600/- (Including GST) can be submitted only through online payment gateway available at www.alimco.in and submit scan copy of the e-receipt of the same along with TC bid.		
ii	Earnest Money Deposit (EMD):- All tenderer are required to submit EMD for Rs. 8,94,000.00 in favor of ALIMCO, (as Earnest Money Deposit along with 'TC' BID). (All SSI units/ MSE Vendors are exempted from Tender Cost on submission of valid Udyog Aadhaar memorandum (UAM)/ Udyam Registration against tender for the items/nature of business/ type of services specified there in the UAM). The EMD for Rs. 8,94,000.00 can be submitted only through online payment gateway available at www.alimco.in and submit scan copy of the e receipt of the same along with TC bid.		
iii	The person signing the bid should be duly authorized representative of the firm/company whose signature should be verified and certificate of authority should be submitted. The poser or authorization or any other document consisting of adequate proof of the ability of the signatory to bind the firm/company should be annexed to the bid.		
iv	Tender documents with proper seal and signature of authorized person on each page of the bid must be submitted.		
v	The Complete specifications, Make/Model/Brand consisting of whole plant & its accessories/mechanical & Electrical and MHE offered on parameters specified as per Annexure-A, must be mentioned. The details with values for individual specifications/parameters desired must be indicated at Annexure 'B2' to this tender document.		
vi	Copy of GST Registration Certificate, duly signed & stamped.		
vii	The tenderer should have an average annual turnover of not less than 30% of estimated value during the latest three financial years. In order to authenticate, a certificate regarding average turnover from a qualified Chartered Accountant mentioning UDIN is required to be furnished along with 'TC-Bid'.		
viii	Copy of income tax return for the latest three financial years duly signed & stamped		
ix	Only OEMs/OEM Authorized vendor (duly authorized for this specific tender) with relevant expertise are allowed to bid for the whole system (on turn-key basis) mentioned in the tender document. The declaration/ certificate is required from bidder.		

x	The tenderer must have completed one at least 01 (one) machine/item/equipment/system/plant having same or higher parameters as mentioned below: 1. Internal tank size: Min. 1000 W x 1800 Lx 1200 H (in mm) 2. Having capacity of Minimum 11 nos. tank process. in Govt. Sector/ Private Sector in the last 7 years, reckoned from date of opening of this tender. (PO copies and Commission /Completion Certificates to be furnished by bidder). Satisfactory Performance Certificate from atleast 1 users issued within last 1 years from date of opening of this tender stating that the machine/equipment/system/plant is working satisfactorily for at least one year to be enclosed. (in the letter head of issuing user mentioning PO no, date of installation and commissioning and name of supplier with full address)		
xi	Undertaking stating that "The delivery, installation, commissioning and training of the plant (on turn-key Basis) must be completed within the stipulated period as indicated in the tender or specified at Annexure- A, from the date of placement of PO/work contract" in the format enclosed at Appendix-1.		
xii	The tenderer should submit an undertaking that his/her firm has not been debarred/blacklisted/terminated/banned to participate in the tender by any Govt. Institution, PSUs, and State Govt. or Central Govt. Deptt. in the format enclosed at Appendix-2		
xiii	The tenderer should submit an undertaking that his/her Offer is valid for acceptance for 120 days from the date of opening of TC Bids in the format enclosed at Appendix-3		
xiv	Undertaking to the effect that all the tender terms & conditions are acceptable to the bidder in the format enclosed at Appendix-4.		
xv	Undertaking to the effect that a Warranty Performance Bank Guarantee (PBG) of 3% of the order value, valid for warranty/defect liability period & claim submission date will be submitted after the commissioning of the plant (on turn-key basis). The security deposit shall be released on receipt of 3% PBG valid for warranty period in the format enclosed at Appendix-5.		
xvi	In case firm wishes to avail Advance of 10% of cost of machine, they have to submit an undertaking to the effect that an Advance Bank Guarantee (BG) of 110% of the advance value subject to maximum up to 100 Lakhs, valid for successful installation, commissioning & Prove out of whole plant & it's accessories & can be submitted within 1 months from the date of releasing the PO/Work Order of the plant (on turn-key basis) in the format enclosed at Appendix-6. The recovery of the advance will be done as adjustment @25% of advance value from the running bill. The Advance Bank Guarantee (BG) for advance shall only be released after successful installation, commissioning & Prove-out of whole plant/system & it's accessories and full recovery of the advance.		
xvii	The tenderer should submit an undertaking that his/her firm shall provide Security Deposit within 14 days of releasing PO in the format enclosed at Appendix-7.		
xviii	The tenderer should submit an undertaking that his/her firm shall provide the complete training regarding operation & maintenance of the Whole Plant (On turn-key Basis) & its accessories in the format enclosed at Appendix-8		
xix	The tenderer should submit an undertaking for unconditional acceptance to replace the supplies if rejected at the destination in the format enclosed at Appendix-9		
xx	Undertaking to be submitted by the tenderer that "payment terms mentioned at Para No-16 of this tender document (i.e., Terms of Payment) is acceptable" in the format enclosed at Appendix-10.		

xxi	The tenderer should submit an undertaking that his firm shall attach the proof regarding prior Experience of supplying such systems, as specified in the Tender Document. Vendor to provide details of		
xxii	Tenderers are required to submit " Tender Acceptance Letter " in the format enclosed at Appendix-12 .		
xxiii	Tenderers are required to submit " Undertaking " regarding availment of GST and matching of Input credit in the format enclosed at Appendix-13 .		
xxiv	Tenderers are required to submit " Undertaking " regarding the material delivers in multi-stages and the payment of the same will be done on the basis of completion of stage wise work as given in the format enclosed in Appendix-14 .		
xxv	Undertaking to be submitted by the tendered that "They should undertake that they will execute comprehensive AMC including spares and labour for the period of 03 years after the expiry of 2 years warranty/defect liability period as per the requirement of ALIMCO and the comprehensive AMC shall not exceed 2%, 3% & 4% of basic value of the machine/plant during 3 rd , 4 th & 5 th year respectively from the date of successful installation & commissioning of the machine/plant/item/equipment" in the format enclosed at Appendix-15 and 15/1 .		
xxvi	Tenderers are required to submit duly filled Annexure 'B1 & B2' , enclosed herewith.		
a.	An affidavit to be sought from all party regarding, the party has not been debarred/blacklisted/terminated/banned by any Govt. Institution,		
b.	The party has not supplied the same Machine /System/ Plant at a cost lower than the cost offered to ALIMCO to any government / semi-government /reputed private organization in India.		
xxvii	Latest Government of India guidelines on "Purchase Preference to Make in India" placed at Appendix 16.		
a.	Self certification that the items offered meets the local content requirement for 'Class-I local supplier/ 'Class-II local supplier, as the case may be as per Clause 1 of Appendix 16 . – Bidder to confirm.		
b.	Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of supplies other than companies) giving the percentage of local content as per Clause 1 of Appendix 16 – Bidder to furnish		
c.	Details of location at which local value addition is made – Bidder to confirm		
xxviii	Latest Government of India guidelines on "PUBLIC PROCUREMENT POLICY FOR GOODS PRODUCED AND SERVICES RENDERED BY MICRO AND SMALL ENTERPRISES (MSES):" placed at Appendix 17 .		
xxix	Latest Government of India guidelines "Mandatory Conditions to be satisfied by any bidder from a country which shares a land border with India" placed at Appendix 18 .		
a.	Self-attested copy of Appendix 18 mandatory conditions to be satisfied by any bidder from a country which shares a land border with India. – Bidder to confirm		
b.	Certificate of compliance of clauses of Appendix 18, clause A VII . – Bidder to confirm		

c.	Certification as per last paragraph of Appendix 18 mandatory conditions to be satisfied by any bidder from a country which shares a land border with India. – Bidder to confirm.		
d.	The Appendix 18 must be signed and stamp and submitted/uploaded by Bidder along with the bid. To be read in conjunction with Order (Public Procurement No. 2) F.No.6/18/2019-PDD dated 23rd July 2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division. – Bidder to Confirm		
xxx	QAP and PERT chart shall be submitted by successful bidder within 15 days of issue of LOA/Order for Approval		
xxxi	L-1 Bidder to submit the billing breakup (BBU) for approval of ALIMCO.		
xxxii	Any other documents as mentioned in the tender.		

Annexure-B2

TENDER NO. PT/OT/ .../....
DATE.....

S.No.	Description of requirement	Required			Complied/ Not Complied	Provide Details
1	Components	Aluminum Parts of Walking Aids like Axilla, Walking stick, Tri-pod, Tetra Pod, etc.				
2	Dimensions of largest component	As per attached drawing, (Max. length of 1300 mm approx.)				
3	Surface Area of Largest component (axilla: side tube)	As per attached drawings				
4	Output Desired	As per list attached (Table 1)				
5	Tank Section (in mm) (Internal dimension/working area)	Min. 1000Wx 1800 Lx 1200 H				
6	Available Floor Space	Max. 23m x 6m				
7	Method of Handling	Component jugged on Titanium Fixtures, suspended on Carrier Bar which are carried with help of motorized, push button operated Transporter Wagon.				
8	Process Sequence	Process sequence	Temp. (in °C)	Tank MOC		
		Load / Unload	-	Steel channel/angles		
		Hot soak Degreasing	70-80	2 layers of SS 316 (thickness: inner 3 mm; outer 2 mm) with intermediate 50 mm rock wool (density min. 50 kg/m ³) layer; inner PVC lining and external FRP lining		
		Single Water Rinse	RT	PP Thickness: 15 mm (min.)		

		Etching	RT	2 layers of SS 316 thickness: inner 3 mm; outer 2mm) with intermediate 50 mm rock wool (density min. 50 kg/m3) layer; inner PVC lining and external FRP lining			
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)			
		De-oxidation	RT	PP Thickness: 15 mm(min.)			
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)			
		Anodizing	12-18°C	2 layers of SS 316 (thickness: inner 3 mm; outer 2mm) with intermediate 50 mm rock wool (density min. 50 kg/m3) layer; inner PVDF lining and external FRP lining			
		C.F. Rinse	RT	PP Thickness: 15 mm(min.)			
		Nickel Acetate sealing	85-90°C	2 layers of SS 316 (thickness: inner 3 mm; outer 2 mm); inner PVDF lining and external FRP lining			
		Boiling Water Sealing	95-105°C	2 layers of SS 316 with intermediate 50 mm rock wool (density min. 50 kg/m3) layer; inner PVDF lining and external FRP lining			
		Hot air drying	95-105°C	SS 304 (thickness: inner 3mm; outer 2mm); with intermediate 50 mm rock wool (density min. 50 kg/m3) layer			
9	Load / Unload stand with 'V' location saddles	Min.1 set (on each tank)					

10	Process tanks made of MS, SS, and PP complete with essential fittings such as thermal insulation, water inlet, drain outlet, overflow/scum chamber/ lip type exhaust ducting, 'V' location saddles, anode/cathode support bars, air agitation coils, heaters, thermocouple.	1 Lot		
10.1	Reinforcement to avoid bulging of tank:- (i) PP Tank:- suitable reinforcement (min.50X 25 mm thick support rib at a distance of maximum 450mm) (ii) MS & SS Tank:- suitable reinforcement (min. 50 X 50 X 5 mm thick support rib at a distance of maximum 450mm)	Confirm		
11	COOLING SYSTEM			
11.1	Min.15 TR capacity chilling unit (for cooling and maintaining the temperature of anodizing bath.) The compressor unit shall have 02 years warranty plus 03 years minimum extended warranty. A. Both Heat Exchange pump (Min. 2 H.P.) is made up of acid resistant material specifically SS316L . B. Piping for all connections from tank outlet to chiller unit is made up of PVC/SS316L.	1 Set		
12	Rectifiers: Preferred Make: Kraft Powercon/ Munk Rectifier/ Italteco/Jindal	Confirm		
12.1	IGBT solid state rectifier with digital type ammeter, voltmeter & Amp-Min / Amp-Hr. meter, PLC communication air cooled design with AC cooling and remote operated pendant, with PLC hook up facility and voltage ramping profile programmer.	Min. 1 Set (Capacity Min. 50Volts / 750Amps.)		
13	FILTRATION			

13.1	Filtration: PP body, plate type filtration units of desired capacity with seal-less magnetic Pump, complete with inlet/outlet hoses, pressure gauge, pressure switch for auto cut-off, PP ball valves and PP strainer etc.	Min. 1 Set Capacity (Min: 6000 LPH)		
14	FUME EXTRACTION SYSTEM			
14.1	Fume Extraction unit fitted with Lip Duct, V belt Driven by 7.5 HP,3 phase dynamically balanced impeller complete standard unit of capacity for 1000CFM (min) preferred makes: Crompton/ Bharat Bijlee/ Siemens / Hindustan PP/FRP water washed Fume Scrubber complete with water spray nozzles, circulation pump, pall Rings, mist eliminator and centrifugal seal-less pump. The chimney height should be 15 meter form the ground	1 Set		
15	MATERIAL HANDLING SYSTEM			
15.1	Single Work Carrier Bar to design at rated DC current with Cu Alloy, 'V' block and lifting arms suitable to operate with transport wagon on fully automatic operations.	6 Nos.		
15.2	Transport Wagon having 2 Motors for traverse and hoisting movement together with DC brake coil, complete with limit switches, pendant box with push buttons, proximity switches lifting belts, polyurethane coated wheels with safety interlocks, suitable to operate with frequency drive for smooth start and stop of transport wagons in automatic mode. (Material load carrying capacity: Min. 350 kg).	2 No.		
15.3	Transport Structure independent floor mounted type structure made from tubular/steel rolled sections, to support transport wagon tracks, complete with overhead track and tank mounting beams and level pads.	1 Lot		

15.4	Centralized Control Panel to monitor and control accessories, such as heaters, digital temperature controllers, complete with overload contactors relay, indicating lamps, ON/OFF switch, starters etc for all items of supply.	1 No.		
15.5	PLC Automation hardware & Control Panel (for Transport Wagon) to be used for automation of metal finishing process and material handling of components through transport wagons on fully Automated programmed sequence.	1 Lot		
15.6	SCADA (Supervisory control and data acquisition) Program	confirm		
15.7	FRP grating (min. 25 mm thick) with side railing should be provided with suitable support structure.	1 Lot		
16	Anode / Cathode (Insoluble)			
	200 x 1000 x 5mm Lead Cathodes with copper hooks	As per design process or required (minimum 48 Nos.)		
17	OTHER REQUIREMENTS			
17.1	Electrical system to be designed for following			
17.1.1	Electrical System: 415 V, 3Phase, 50 Hz supply	Confirm		
17.1.2	Protection level: IP 54 or better	Confirm		
17.1.3	Complete system to be tropicalized for Indian conditions (up to 50°C and RH 100%)	Confirm		
17.2	DM Plant complete with mixed-bed-2500litre per change, TDS less than 1 Conductivity less than 10 µS.	Confirm		
17.3	Foundation, details and drawings will be required from tenderer within 15 days from the release of POWO	Confirm		
17.4	ALIMCO will provide power supply till mains panel in the work center, rest all work will be in the scope of tenderer (including panels and cabling for all processes)	Confirm		

17.5	Chemicals and consumables required for all processes: for initial make-up and three months maintenance. Chemical's preferred makes: CMP Pvt. Ltd./ Atotech/ Coventya (India)/ Grauer & Weil (I) Ltd./Artek/chemetall Rai	Confirm		
17.6	Vendor to provide detail of power & air requirement	Confirm		
18	ACCESSORIES			
18.1	Turbine Blower (Min. 5 HP, 3 Phase, energy efficient) (For supply of dust & oil free air for agitation in all tanks).	1 Set		
18.2	Oil Skimmer (for removal of oil/skim from Degreasing Bath).	Min.1 Set		
18.3	Pneumatically operated top cover Lids for Sealing & Drying Tanks.	Min.3 Set		
18.4	Hot Air Blower / Radiator (3 Phase, energy efficient) for Drying Tank	Min. 1 Set		
18.5	Titanium Jigs (for various components to be anodized).	Min. 40 Nos.		
19	SERVICES LINE			
19.1	PP/PVC piping for plain water supply.	1 Lot		
19.2	PP/PVC piping for DM water supply.	1 Lot		
19.3	PP/PVC piping for chilled water circulation.	1 Lot		
19.4	PP/PVC piping for air supply.	1 Lot		
19.5	PP/PVC piping for drains & overflows.(min 50 each connecting to 150 mm final drain pipe)	1 Lot		
19.6	Cabling from PLC panel to transport wagon with cable track / trolley, cam track & cam station	1 Lot		
19.7	AC field cabling/wiring from control panel to all electrical machines of supply. (with cable tray & support structure)	1 Lot		
19.8	Conductive Copper bus bar or cable connections between rectifiers & process tanks with support structure.	1 Lot		

19.9	PP/FRP connecting ducts from lip ducts on tanks to Scrubber to Exhaust fans (with support structure).	1 Lot		
19.10	PP/FRP chimney with weather cowl (with support structure) 3 mtrs. Above factory shed	1 Lot		
19.11	Erection & assembly of plant at site.	1 Lot		
19.12	Chemical Commissioning with approved sample trials for 7 days of Plant operation.	Confirm		
19.13	Vendor has to successfully prove out 5 cycles of Anodizing plating at ALIMCO premises during prove- out. Same shall be verified by ALIMCO.	Confirm		
19.14	Air Quality Index (AQI) in working area after installation and commissioning of the plant to be as per government norms, issued by Central Pollution Control Board for AQI quality "Good"	Confirm		
20	For Commissioning of the Plant (preparation of chemical baths & process trials), Vendor shall depute expert chemist to guide operators for min. 2 weeks.	Confirm		
21	Operation and Maintenance training at site, after successful installation and commissioning of plant	Min. 15 days		
22	Chemicals / Consumables (for Initial Makeup & 3 Months Maintenance)	Confirm		
23	List of Spares to be provided			
24	Service			
24.1	The authorized Service Partner (Name & Address) must Be certified by manufacturer and shown in the bid.	Confirm		
25	Vendor to include all items even if not mentioned above for necessary successful operation of plant on turnkey basis as per design.	Confirm.		

26	Drawing of component (maximum size) is attached with the tender document. To get clarity on variety of components to be plated, tenderer to visit ALIMCO Kanpur site and obtain acknowledgement certificate /slip for same, from competent authority.	Confirm.		
27	Drawing Design with complete layout and all electrical diagram/drawing (03 sets) to be provided by the party	confirm		
28	UPS with backup of 30 min for SCADA system to be provided.	confirm		
29	UPS with backup of 15 min for uninterrupted power supply of transport wagon if required	confirm		
30	DELIVERY PERIOD INCLUDING INSTALLATION, COMMISSIONING& TRAINING: The delivery period including installation & commissioning and training of anodizing plant at the destination mentioned in Para 1 on page no. 02 of the tender documents will be 5 months from the date of placement of Purchase Order/work contract.	confirm		
31	WARRANTY: The entire plant inclusive of all system/accessories should be covered under comprehensive warranty for a period of 24 months from the date of commissioning. The compressor unit for chilling unit shall have 02 years warranty plus 03 years minimum extended warranty.	confirm		
	Note			
1.	Plant/Item shall be supplied with 3 sets of comprehensive operation and maintenance manual.	confirm		
2.	Breakdown calls to be attended within 48 hrs	confirm		

3.	Supply to be done on Turnkey Basis. ALIMCO shall provide electrical supply at, air supply and water supply near to the place of installation at one point, necessary fittings, cablings, CB, Switchgears, is in vendor scope	confirm		
4.	Civil foundation details and drawings with specifications to be provided by the tenderer	confirm		
5.	Successful tenderer has to arrange unloading and material handling at site, by their own	confirm		
6.	Total power consumption (in kW) to be provided by the tenderer	confirm		
7.	Layout drawing should be provided in CAD format.	confirm		
8.	Visual control board to be provided for monitoring with alarm signals.	confirm		
9.	ALIMCO may at its discretion decide to visit & verify the facility and validate in case of discrepancy the vendor may be technically disqualified.	confirm		
10.	All necessary Details as asked in Annexure-A will be duly full-filled failing which bid may get rejected.	confirm		
11.	Vendor to arrange any foundation work/grouting of anti-vibration pads or foundation bolts for the installation of machine.	confirm		
12.	All the required Jigs along with manufacturing drawing shall be supplied by the Vendor.	confirm		
13.	Vendor shall take full responsibility for the adequate stability and safety of all site operation and installation and commissioning as per the latest safety manual published by Indian standard institution.	confirm		
14.	Statutory rules regulations and provision of order condition etc. and in case of default vendor shall solely be responsible and indemnify the corporation for any loss or damage caused to the ALIMCO for any violation	confirm		

Table 1: Output Desired - Anodizing Line

S.No.	Description Of Material	Product (in No.)	Total No. of Component to be plated (In Nos.)	Attached component drawing no.			
1	Axilla	40000	120000	TD 1 N 39 0 00 TD 1 N 39 0 01 TD 1 N 37 0 02			
2	Crutch Elbow	10000	40000	TD 1 N 23 0 00 TD 1 N 23 0 01 TD 1 N 23 0 02	TD 1 N 23 0 03 TD 1 N 23 A 01 TD 1 N 24 0 01	TD 1 N 24 0 02 TD 1 N 24 0 03 TD 1 N 24 A 01	
3	Walking stick	40000	40000	TD 1 N 61 0 00 TD 1 N 61 0 01			
4	Adjustable cane walking	2000	4000	TD 1 N 62 0 00 TD 1 N 62 0 01 TD 1 N 24 0 02			
5	Tripod/Tetra	8000	8000	TD 2 P 02 0 01 TD 2 P 02 0 01			

ANNEXURE-C

Tender Inviting Authority: ALIMCO, Kanpur

Tender No: Tender no PT/OT/--/AY dated ---.---.2022 regarding “Design, Fabrication, Supply, Installation & Commissioning of Automated Anodizing Plant”(On Turn-key basis)

Name of the Firm:

PRICE Bid (P-Bid)

Sl. No.	Item Description	HSN Code	GSTIN No.	Quantity	Units	BASIC RATE In Figures To be entered by the Bidder in Rs. A	Freight Charges		Packing & Forwarding Charges		Sub Total Amount in Rs. D=A+B+C	GST		Billing Price to Alimco (in Rs.) F=D+E
							B	C	E					
							(In %)	(In Rs.)	(In %)	(In Rs.)		(In %)	(In Rs.)	
1	“Supply, Installation & Commissioning of Automated Anodizing Plant” (On Turnkey Basis)” " as per the details enclosed at Annexure-A"			1	Set									
2	Installation & Commissioning Charges including Civil, Electrical work on turnkey basis for satisfactory commissioning of the machine/equipment (if any)			1	Job									
Total (in Rs.) F.O.R ALIMCO, Ujjain														
Total in Words														

Note:

- The rates should be separately quoted for supplies to ALIMCO HQ or to its others units, as the case may be ,
- Giving HSN Code is mandatory and the bills after placement of order should mention the same HSN Code.
- Providing correct HSN Code is the responsibility of the vendor and ALIMCO is no way responsible for any subsequent interpretation/order by the Tax authorities.

SPECIFIC CONDITIONS OF SUPPLY:

The tenderer should clearly indicate the following in their offer:

- 1) Installation/Commissioning – details,
- 2) Whether GeM or any other State/Central Rate Contract exists for the item offered. Please enclose copy.
- 3) Tenders are required to provide address, e-mail, and contact person of local service centre /Nearest Service centre from where service support shall be provided.
- 4) Any other relevant technical details of the offered Plant & its accessories.
- 5) Complete details of infrastructural requirement for the Offered Plant & its accessories i.e. Ambient working atmosphere requirement Power connections.
- 6) Tenderer is required to provide a list of parties with their complete postal address with telephone / e-mail. To whom they have supplied similar Plant over the last 7 years. The list should clearly indicate the quantity and the model of the Plant to such customers.
- 7) Tenderer is required to give complete details of the training facilities, if available, with their organization for training our technicians and engineers on the use and maintenance of the Whole Plant & its accessories. Details of complimentary training should also be indicated in the offer.
- 8) Tenderer is required to clearly indicate the details of infrastructure of after sales service facility with its location together with the anticipated time of attending complaints after their receipt of complaint in their service center.
- 9) Tenderer should clearly indicate the reasons as to why they consider their Plant & it's accessories and their offer to be best for supply to the Corporation. The tenderer should enclose all documentary evidence in support of their claim along with their offer.
- 10) The Plant & it's accessories would be required to be supplied and installed in the company premises as specified in Para 1 of the tender document. As such the tenderers should clearly confirm their acceptance to deliver / install and provide after sales service during the warranty period and afterwards at Corporation premises or as the location as specified in the tender document. They are also required to indicate the nearest service point location with address for providing services in respect of the offered Plant & it's accessories.
- 11) In case the tenderer desires to provide supplies of add on optional accessories for the effective functioning of the system on complimentary / chargeable basis, he should clearly indicate items along with the terms of supply. The value of the complimentary supplies proposed should be clearly indicated in the offer.
- 12) The tenderer should necessarily enclose the complete exhaustive literature / Printed catalogue of their offered Plants & its Accessories indicating full technical details/specifications and special features of their Plants & it's accessories together with their make & model, etc.
- 13) In case of existence of a DGS&D/GeM rate contract or a State/Central Govt. Rate Contract in respect of the supply of the offered Plants & it's accessories, an authenticated copy of the same should also be enclosed along with the offer. The enclosing of a copy of the relevant rate contract would still permit the tenderer to submit a lower competitive offer in which case the corporation would consider only the lower offer for comparison and analysis.
- 14) The tenderers are required to submit exhaustive (anticipated) list of spares likely to be used on chargeable basis during the period of 03 years together with their prices indicating validity period of each spares for our necessary reference and records.
- 15) In case of any problem / trouble / defect after commissioning the local service provider is

required to respond / attend the problem within 48 Hrs.

- 16) The repeat orders may be placed up to 100% of quantity of original order where the original order was placed on the supplier selected on the basis of OT only for ordering additional quantity. The repeat order will be placed on same rates and terms as mentioned in initial order.

FORMAT FOR BANK GUARANTEE TOWARDS SECURITY DEPOSIT/PERFORMANCE GUARANTEE/ADVANCE

(To be executed by any Nationalized Bank in India, on a Rs. 200 non-judicial stamp paper under bank's covering letter mentioning address of the bank)

In consideration of M/s Artificial Limbs Manufacturing Corporation of India, hereinafter referred to as 'ALIMCO', which expression unless repugnant to the context and meaning thereof shall include its successors and assigns having agreed to exempt M/s_____(Name of the vender/supplier/contractor) hereinafter referred to as supplier/contractor which expression unless repugnant to the context and meaning thereof shall include its successors and assigns] from depositing with ALIMCO a sum of Rs._____towards security / performance guarantee in lieu of the said

Supplier/contractor having agreed to furnish a bank guarantee for the said sum of Rs._____ As required under the terms and conditions of contract / work order / purchase order no.

_____Dated_____ [hereinafter referred as the order'] placed by ALIMCO on the said supplier / contractor.

We,_____the bank [hereinafter referred to as 'the bank' which expression shall include its successors and assigns] do hereby undertake to pay ALIMCO an amount not exceeding Rs.

_____on the demand made by ALIMCO on us due to a breach committed by the said supplier / Contractor of the terms and conditions of the order.

We_____the bank hereby undertakes to pay the amount under the guarantee without any demur merely on a demand from ALIMCO stating that there is a breach by the supplier / contractor of any of the terms and conditions contained in the order or by the reasons of the supplier's / contractor's failure to comply with the terms and conditions as stipulated in the order or amendment(s) thereto.

The demand made on the bank shall be conclusive as to the breach of the terms and conditions of the order and as regard to the amount due and payable by the bank under this guarantee, notwithstanding any dispute or disputes raised by the said supplier / contractor regarding the validity of such breach and we agree to pay the amount so demanded by ALIMCO without any demur. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs._____.

We,_____the 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 order and that it shall continue to be enforceable till the dues of ALIMCO under or by virtue of the said order have been fully paid and its claim satisfied or discharged or till ALIMCO certifies that the terms and conditions of the order have been fully and properly carried out by the supplier / contractor and accordingly discharge the guarantee.

We_____the bank, undertake to pay to ALIMCO any money so demanded notwithstanding any dispute or disputes raised by the said supplier / contractor in any suit or proceedings pending before any court or tribunal relating thereto as our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the said supplier / contractor shall have no claim against us for making such payment.

We _____ the bank further agree that ALIMCO shall have full liberty, without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the order or to extend time of performance by the said supplier / contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the ALIMCO against the said supplier / contractor and to forbear or enforce any of the terms and conditions relating to the order and shall not be relieved from our liability by reason of any such variation or extension being granted to the said supplier / contractor or for any forbearance, act or omission on the part of ALIMCO or any indulgence by ALIMCO to the supplier / contractor or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us. Our liability under this guarantee is restricted to Rs. _____ and shall remain in force up to _____ unless demand or claim under this guarantee is made on us in writing within 3 months from the date of expiry viz. _____. We shall be discharged from all liabilities under this guarantee thereafter.

This guarantee will not discharged due to change in the constitution in the bank or the said supplier / contractor.

The bank hereby agrees to address all the future correspondence in regard to this bank guarantee to Chairman & Managing Director, Artificial Limbs Manufacturing Corporation of India.

We, _____ the bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of ALIMCO in writing.

Signed on the _____ day of

Witness

Signature for the Bank

List of Drawings for Anodizing Components

Sr. No.	Part Name	Description	Process
1	PL 1 S 02 000	BUTTON PROSTHETIC WITH HOLE	Anodising
2	PL1W15001	PYLON ADOPTER	Anodising
3	PL1W15008	PYLON TUBE	Anodising
4	PL1W25005	PYLON TUBE	Anodising
5	PL1W25A01	KNEE MECHANICAL UPPER	Anodising
6	PL1W25A05	TIGHTNER PIECE	Anodising
7	PL1W25B01	KNEE MECH. LOWER	Anodising
8	PL3W10C01	PYLON TUBE	Anodising
9	PL3W29A01	SOCKET ATTACHMENT CORE	Anodising
10	PL3W29A02	SOCKET ATTACHMENT OUTER PART	Anodising
11	PL3W27A01	SOCKET ATTACHMENT CORE	Anodising
12	PL3W27A02	SOCKET ATTACHMENT OUTER PART	Anodising
13	PU1A11B01 / PU1A12B01	THUMB RIGHT / LEFT	Anodising
14	PU1A13002	PALMER PLATE (RIGHT)	Anodising
15	PU1A13C01	DORSAL PLATE (RIGHT)	Anodising
16	PU1A15002	PLAMER PLATE (RIGHT)	Anodising
17	PU1A15A01	FINGER 'A'	Anodising
18	PU1A15A02	FINGER 'B'	Anodising
19	PU1A15A03	SPACER	Anodising
20	PU1A15A07	SPACER	Anodising
21	PU1A15B01	BLANK THUMB	Anodising
22	PU1A15B02	BUSH	Anodising
23	PU1A15D01	DORSAL PLATE (RIGHT)	Anodising
24	PU1A16001	PALMER PLATE (LEFT)	Anodising
25	PU1A16A01	FINGER 'A'	Anodising
26	PU1A15A02/PU1 A16A02	FINGER 'B'	Anodising
27	PU1A16B01	THUMB LEFT	Anodising
28	PU1A16C01	DORSAL PLATE ' LEFT'	Anodising
29	PU1A11A04	SPACER	Anodising
30	PU 1C 01/02/03 002	WRIST HOUSING	Anodising
31	PU1C02001/PU1C 01001	RING REAR	Anodising
32	PU1D41B01	BRACKET HOUSING	Anodising
33	PU1D41B05	BASE PLATE	Anodising
34	PU1D42006	CAP WASHER	Anodising
35	PU1D42B08	BASE PLATE,	Anodising
36	PU1D42B09	PAWL HOUSING	Anodising
37	PU1D42B02	BRACKET HOUSING RACHET END	Anodising
38	PU2H11010	CROSS BAR	Anodising
39	RL 1E 10 000	JOINT BAR ANKLE JOINT UNIT SIZE I	Anodising
40	RL 1E 20 000	JOINT BAR ANKLE JOINT UNIT SIZE II	Anodising
42	RL1E30000	JOINT BAR ANKLE JOINT UNIT SIZE III	Anodising
43	RL1E50000	JOINT BAR ANKLE JOINT UNIT SIZE -II	Anodising
44	RL1E95000	BAR LEG SIZE -1 (INSIDE)	Anodising

45	RL1E96000	BARLEG SMALL (OUT SIDE)	Anodising
46	RL1H18000	JOINT BAR KNEE JOINT UNIT UPPER SIZE I	Anodising
47	RL1H19000	JOINT BAR KNEE JOINT UNIT LOWER SIZE I	Anodising
48	RL1H20000	JOINT BAR KNEE JOINT UNIT LOWER SIZE I	Anodising
49	RL1H28000	JOINT BAR KNEE JOINT UNIT UPPER SIZE II	Anodising
50	RL1H29000	JOINT BAR KNEE JOINT UNIT LOWER SIZE II	Anodising
51	RL1H30000	JOINT BAR KNEE JOINT UNIT LOWER SIZE II	Anodising
52	RL1H38000	JOINT BAR KNEE JOINT UNIT UPPER SIZE III	Anodising
53	RL1H39000	JOINT BAR KNEE JOINT UNIT LOWER SIZE III	Anodising
54	RL1H40000	JOINT BAR KNEE JOINT UNIT LOWER SIZE III	Anodising
55	RL1H91000	JOINT BAR KNEE JOINT UNIT UPPER SIZE I	Anodising
56	RL1H92000	JOINT BAR KNEE JOINT UNIT LOWER SIZE I	Anodising
57	RL1H93000	JOINT BAR KNEE JOINT UNIT UPPER SIZE II	Anodising
58	RL1H94000	JOINT BAR KNEE JOINT UNIT LOWER SIZE II	Anodising
59	RL1H96000	JOINT BAR KNEE JOINT UNIT LOWER SIZE III	Anodising
60	RL1J20000	JOINT BAR HIP JOINT UNIT LOWER SIZE II	Anodising
61	RL1J30000	JOINT BAR HIP JOINT UNIT LOWER SIZE III	Anodising
62	RL1J40000	JOINT BAR HIP JOINT UNIT LOWER SIZE III	Anodising
63	TD1N61001	TUBE	Anodising
64	TD1N24002	LEG TUBE	Anodising
65	TD1N24003	HEIGHT ADJ. TUBE	Anodising
66	TD1N24001	ARM TUBE	Anodising
67	TD1N24A01	TUBE CUFF	Anodising
68	TD1N39001	SIDE TUBE	Anodising
69	TD1N37002	EXTENSION TUBE	Anodising
70	TD1N38001	SIDE TUBE	Anodising
71	TD1N23001	ARM TUBE	Anodising
72	TD1N23002	LEG TUBE	Anodising
73	TD1N23003 / TD1N24003	HEIGHT ADJUSTABLE TUBE	Anodising
74	TD1N23A01	TUBE EXTENSION UPPER	Anodising
75	TD2B36001	FRAME CLAMP - LEFT	Anodising
76	TD2B36002	FRAME CLAMP - RIGHT	Anodising
77	TD2B37D03	CASTOR FORK FOR Ø 150 WHEEL	Anodising
78	TD2B36H01	CASTOR FORK	Anodising
79	TD2B36G01	FOOT PLATE TUBE CLAMP	Anodising
80	TD2B36A01	REAR AXLE BLOCK DIE CAST	Anodising
81	TD2B37B03	X BRACE ADJUSTABLE BAR	Anodising
82	TD1P09001	SIDE TUBE	Anodising
83	TD1P09002	EXTENTION TUBE	Anodising
84	TD1P09003	SIDE STIFFENER	Anodising
85	TD1P09004	SLIDER OUTER	Anodising
86	TD1P09005	SLIDER INNER	Anodising
87	TD1P09A03	STIFFNER	Anodising
88	TD2P02001	EXTENSION TUBE	Anodising

01 J 7 002

DATE	29.3.76	DWG. NO. PL 1 S 02.000
APP.	[Signature]	
SCALE	S:1	MACHINED
DIA.	IN MM	
CHD.	NO. 1	
DMN.	P. 1	
DGN.	P. 1	
NOM.	BUTTON PROSTHETIC WITH HOLE	
MTL.	COMMERCIAL QUALITY EXTRUDED	
TOL.	INTEGER ONLY ONE PLACE DECIMAL TWO PLACE DECIMAL 20.000 MM 20.250 MM 20.125 MM	
FIN.		

REMOVE ALL SHARP EDGES

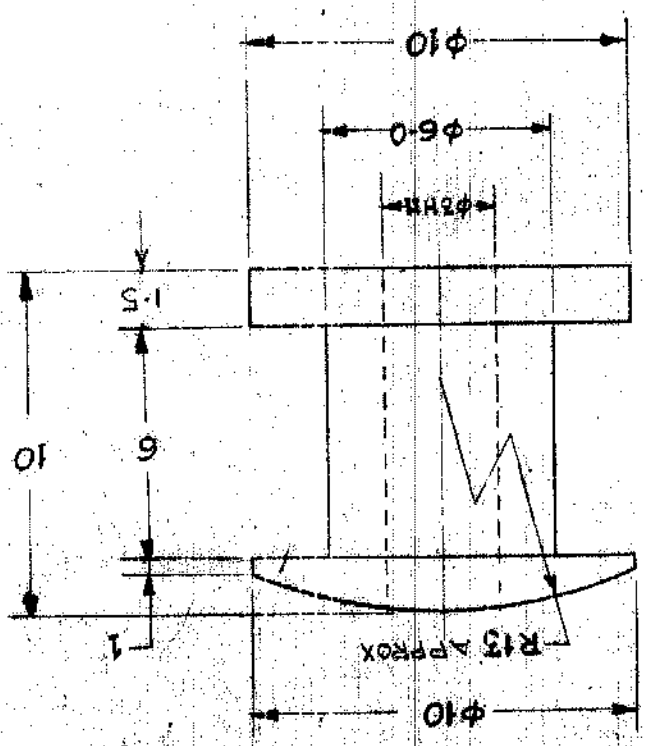
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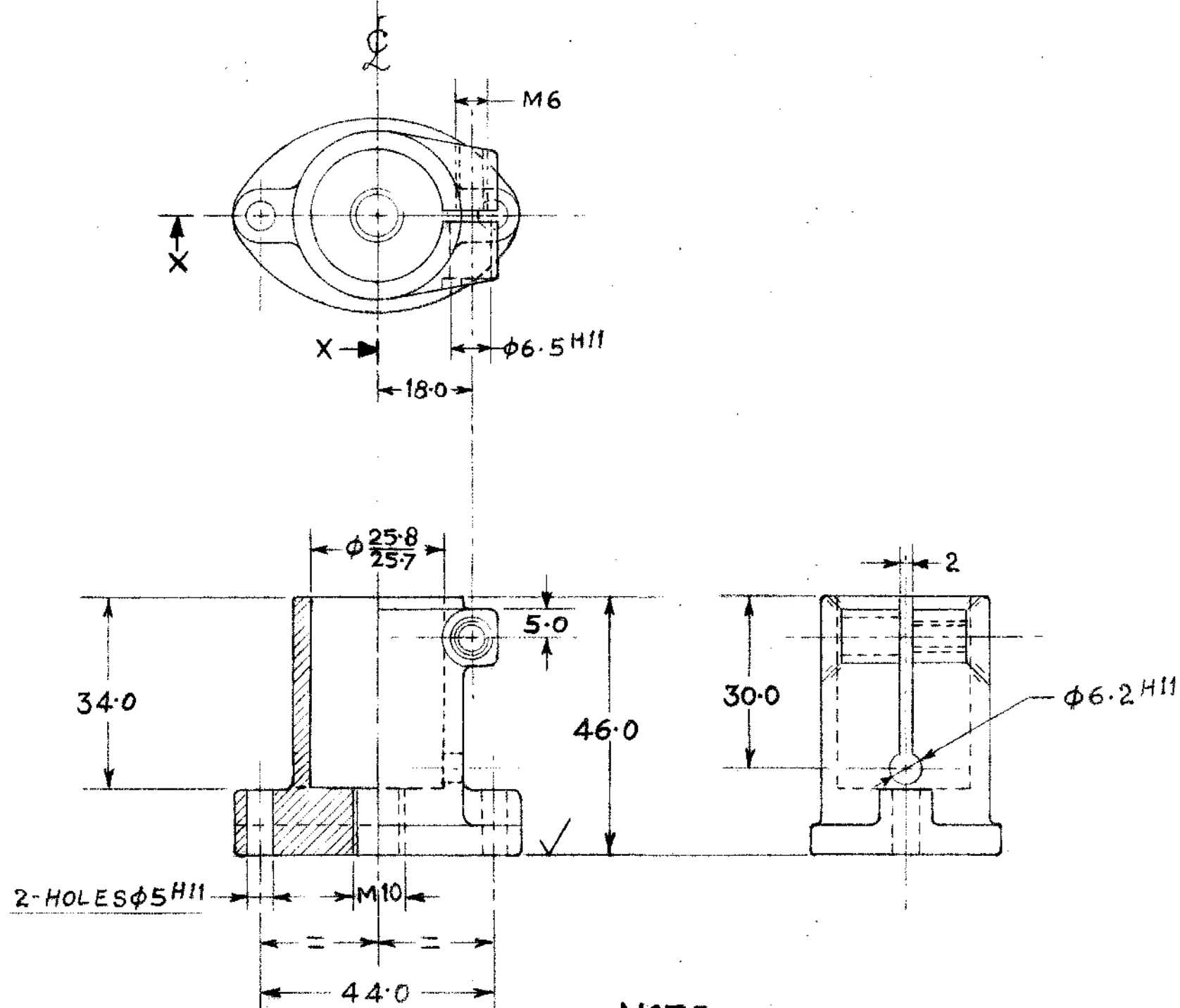
ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR

REVISIONS

S.No.	REGION	REVISION	DATE	SIG.
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ACTUAL SIZE FOR REF.





SECTION-XX

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.
2. UNSPECIFIED RADII 1mm MAX.
- 3 FOR CASTING DRG REFER DRG.No. PL 1 W 15 0 99.

S No.	REGION	REVISION	DATE	SIG.
3	E-7	BORE ϕ 25.8/25.7 WAS ϕ 25.4	13.08.2005	RJK
2	C-6	MACHINING(✓) ADDED	6.9.02	RJK
1	D-8	BORE ϕ 26.4 & DIM.17.0 DELETED	13.07.02	RJK

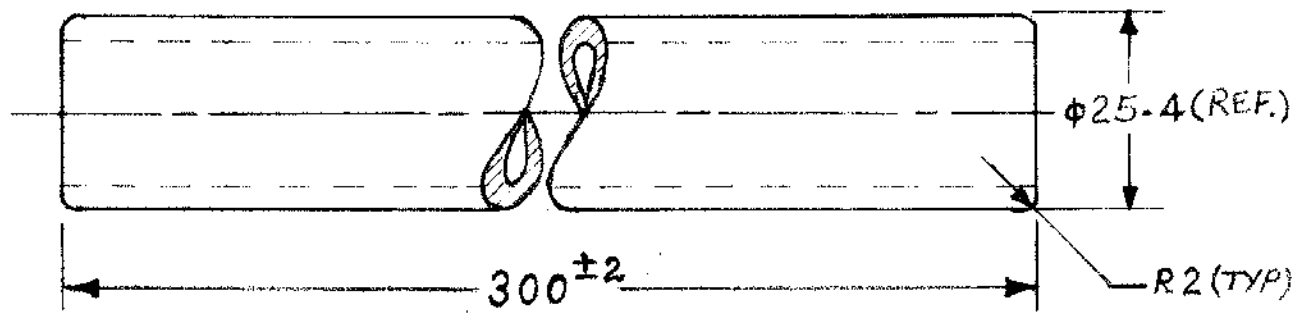
REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN
OF INDIA
KANPUR**

DGN		NOM	PYLON ADAPTER
DRN	<i>RJK</i>	MTL	AL. ALLOY A-6, IS:617 (PRESSURE DIE CASTING)
CHD	<i>RJK</i>	TOL	INTEGER ONLY \pm 0.500 mm ONE PLACE DECIMAL \pm 0.250 mm TWO PLACE DECIMAL \pm 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	BUFF (OUT SIDE ONLY) AND ANODIZE Gd. AC10, IS:186B
SCALE	1:1		
APP	<i>RJK</i>		
DATE	05/02/2005	DRG No.	PL 1 W 15 0 01

SHEET 1 OF 1

01 F3 310

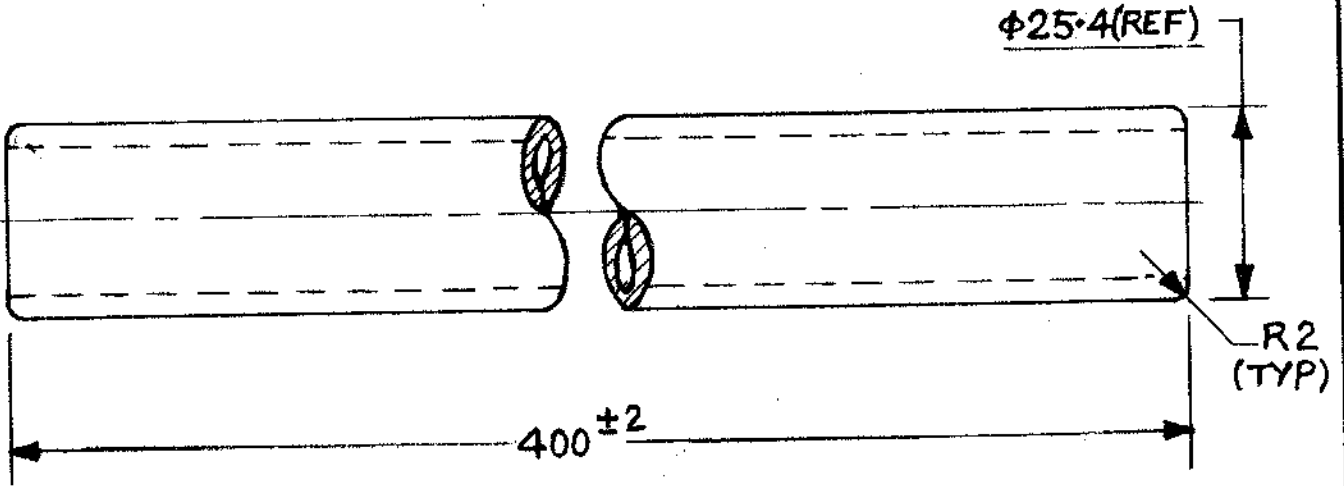


MTL:
EXTRUDED TUBE AL. ALLOY OD 25.4 X 3 mm THICK
HINDALCO SECTION No. TU-158 OR EQUIVALENT (A&44)

NOTE:-
 1. ROUND OFF SHARP EDGES.

S No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN		NOM	PYLON TUBE	
DRN	<i>K. Srinivasan</i>	MTL	INDICATED	
CHD	<i>SK</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.	BUFF & ANODIZE Gd AC 10, IS:1868	
SCALE	1:1			
APP	<i>R. Srinivasan</i>			
DATE	05/02/2001		DRG No. PL 1 W 15 008	
			SHEET 1 OF 1	

01 37 180



MTL: AQ 44:

EXTRUDED TUBE AL. ALLOY OD 25.4 X 3 mm THICK,
HINDALCO SECTION No. TU-158 OR EQUIVALENT.

NOTE:

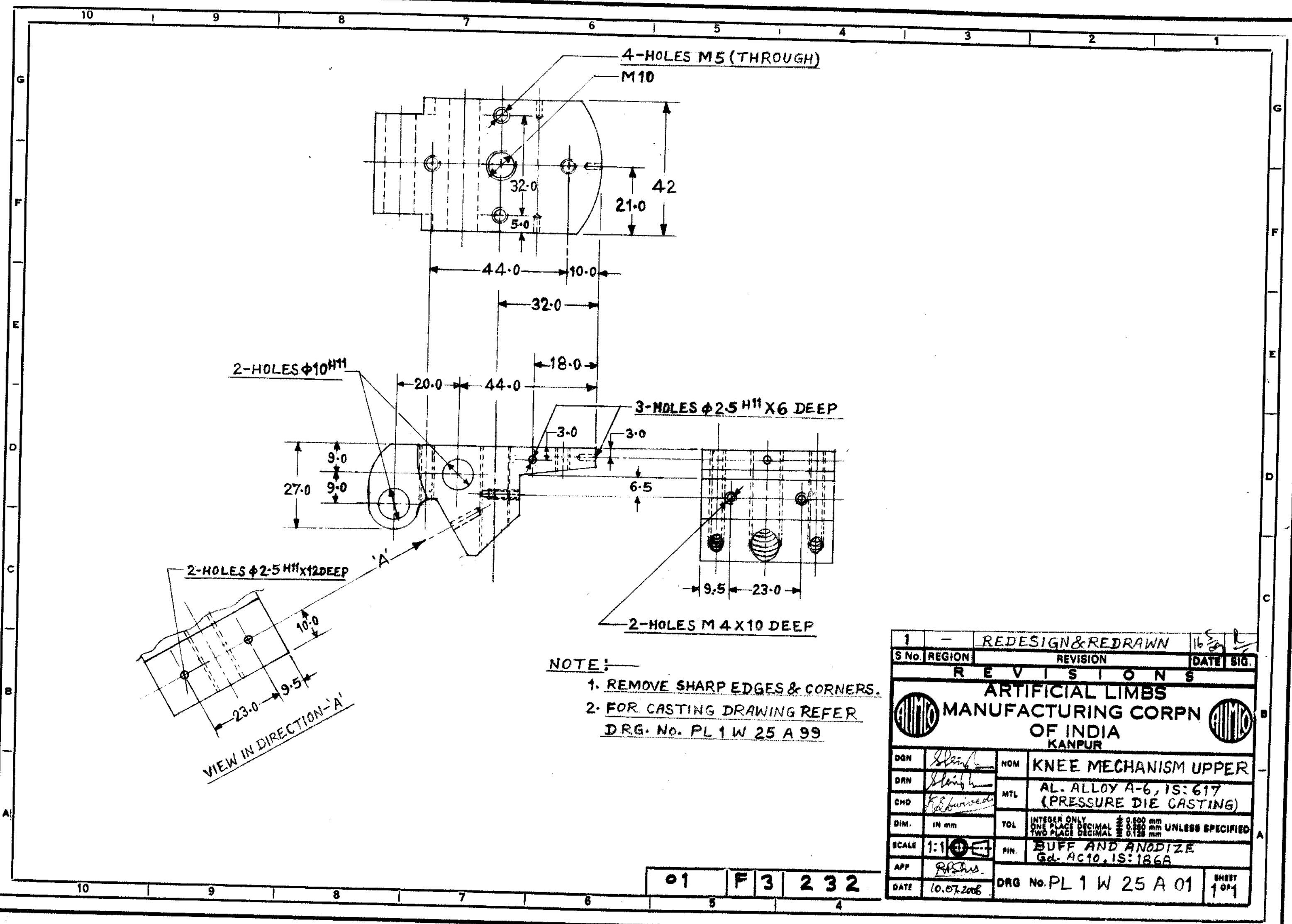
1. REMOVE SHARP EDGES.

S No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN	<i>Shin</i>	NOM	PYLON TUBE	
DRN	<i>G. K. K. K.</i>	MTL	INDICATED	
CHD	<i>K. K. K.</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.	BUFF & ANODIZE Gd AC10, IS:1868	
SCALE	1:1	APP	<i>R. K. S.</i> DRG No. PL 1 W 25 0 05	
DATE	10.07.2006		SHEET 1 OF 1	

01 | J 7 | 222

5

4

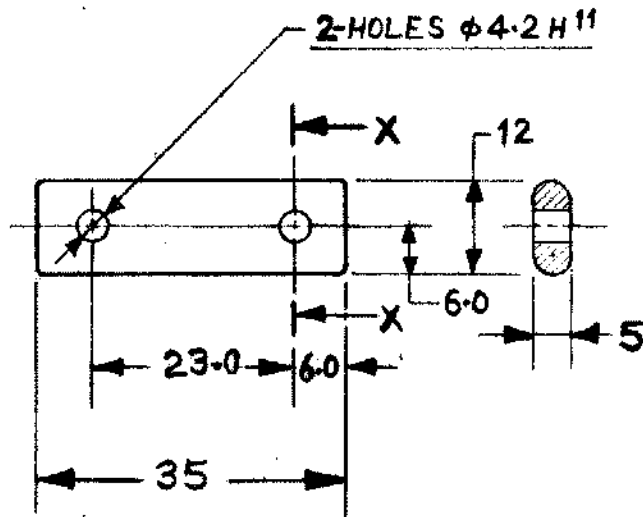


NOTE:

1. REMOVE SHARP EDGES & CORNERS.
2. FOR CASTING DRAWING REFER DRG. No. PL 1 W 25 A 99

1	-	REDESIGN & REDRAWN	16/5/08	
S No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS MANUFACTURING CORPN OF INDIA KANPUR				
DGN	<i>S. Singh</i>	NOM	KNEE MECHANISM UPPER	
DRN	<i>S. Singh</i>	MTL	AL. ALLOY A-6, IS: 617 (PRESSURE DIE CASTING)	
CHD	<i>R. S. Singh</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
DIM.	IN mm	PIN.	BUFF AND ANODIZE Cd. AC10, IS: 186A	
SCALE	1:1	APP	<i>R. S. Singh</i>	
DATE	10.07.2008	DRG No.	PL 1 W 25 A 01	SHEET 1 OF 1

01 F 3 232



MTL:—(AQ07)

EXTRUDED SECTION AL-ALLOY
 12X5mm, 64423WP IS:733,
 (6066-T4 OR EQU).

NOTE:—

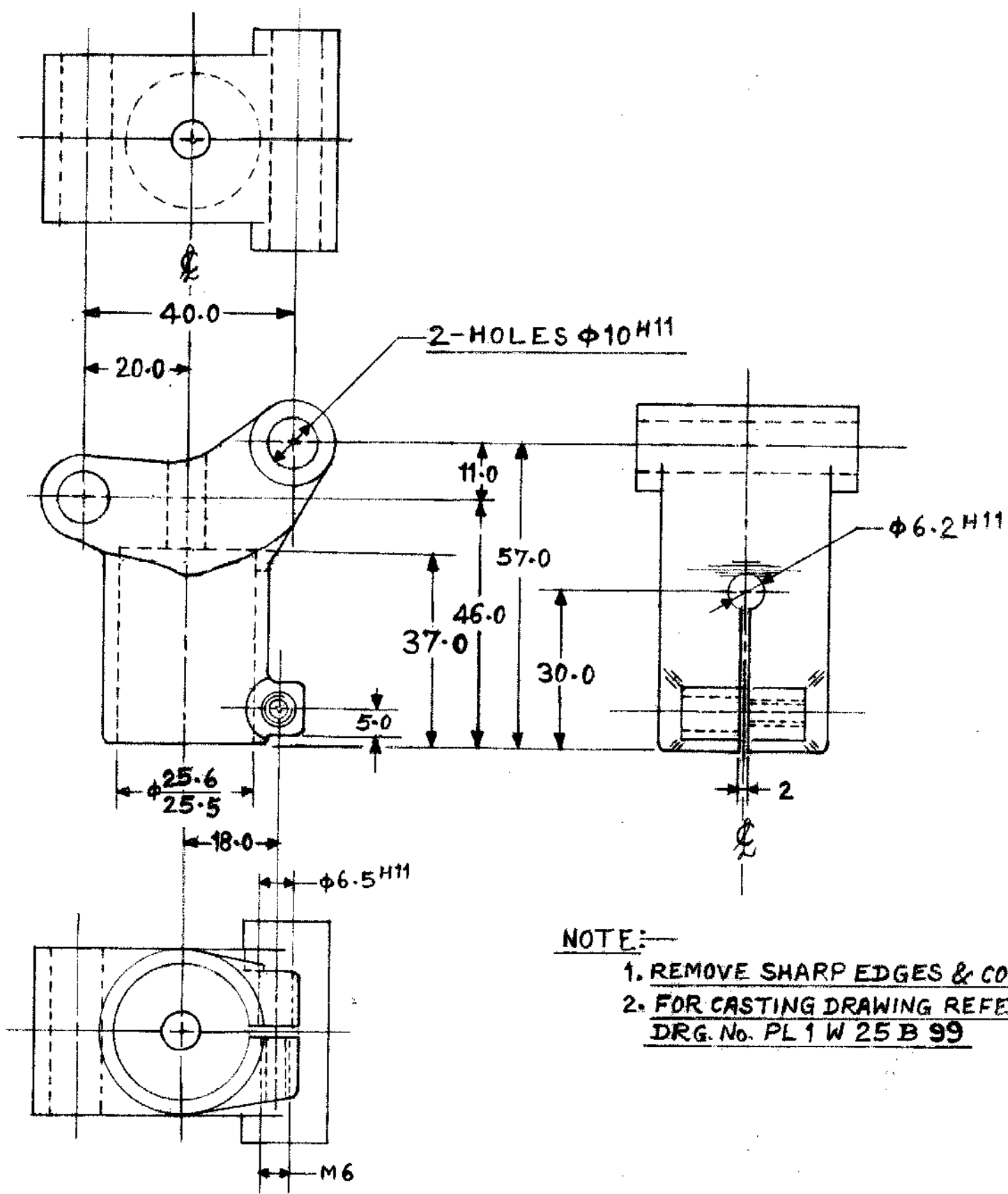
1. REMOVE SHARP EDGES &
 CORNERS.

S No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN	<i>Shankar</i>	NOM	TIGHTENER PIECE	
DRN	<i>Ganesh Kumar</i>	MTL	INDICATED	
CHD	<i>R. S. Sharma</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
SCALE	1:1	FIN.	ANODIZE Gd AC10 IS:186B	
APP	<i>R. S. Sharma</i>	DRG No.	PL 1 W 25 A 05	SHEET 1 OF 1
DATE	10.07.2006			

01 J 7 216

5

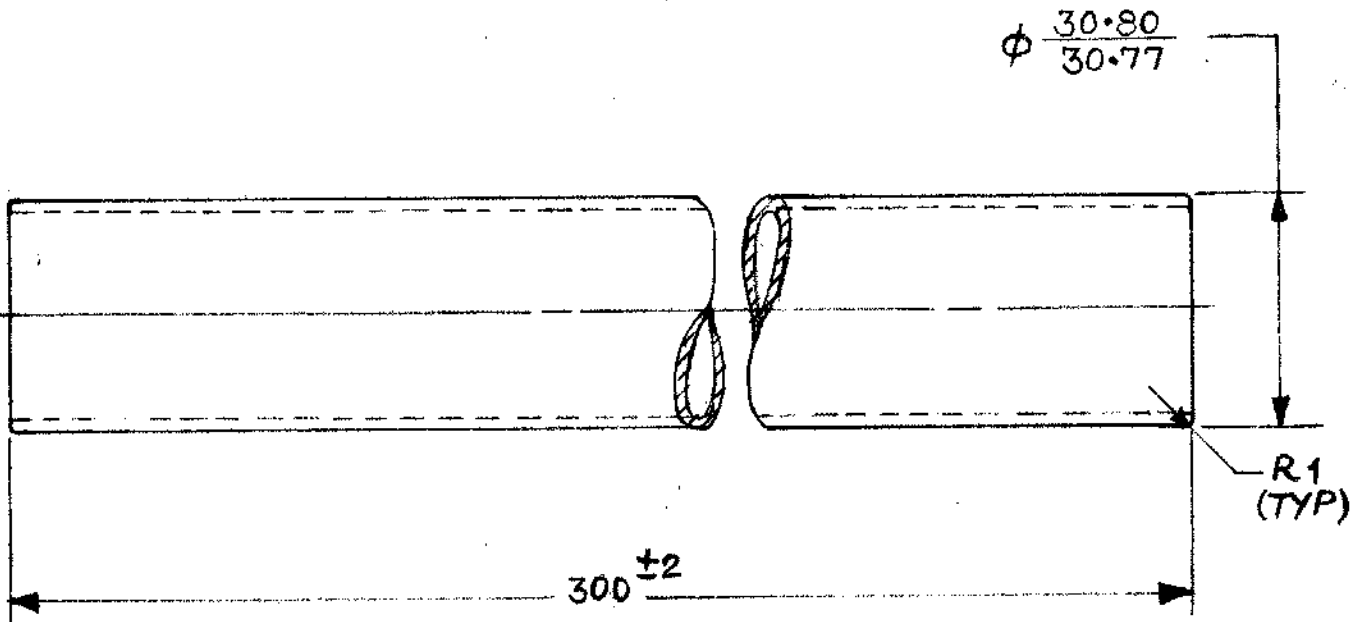
4



NOTE:
 1. REMOVE SHARP EDGES & CORNERS.
 2. FOR CASTING DRAWING REFER DRG. No. PL 1 W 25 B 99

1	D-7	DIM 37.0 & $\phi 25.6/25.5$ WERE	16/5	16/5
	C-8	34.0 & $\phi 25.8/25.7$ RESP.		
S No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPN OF INDIA KANPUR				
DGN	<i>Shankar</i>	NGM	KNEE MECHANISM LOWER	
BRN	<i>Shankar</i>	MTL	AL-ALLOY A-6, IS: 617 (PRESSURE DIE CASTING)	
CHG	<i>Ka. Swinoo</i>	TOL	INTEGER ONLY ± 0.100 MM ONE PLACE DECIMAL ± 0.050 MM TWO PLACE DECIMAL ± 0.025 MM UNLESS SPECIFIED	
DIM.	IN MM	FIN.	BUFF (OUT SIDE ONLY) AND ANODIZE GA. AC 10, IS: 1868	
SCALE	1:1	APP	<i>R. D. S.</i>	
DATE	10.07.2006	DRG No.	PL 1 W 25 B 01	SHEET 1 OF 1

01 F 3 234



MTL:-

EXTRUDED TUBE AL. ALLOY HV 20-T6-65032WP (6061-T6)
 OD 30.8 X 2.5 mm THK. IS: 1285 (FOR TEST PROPERTIES) (AQ 95)

OR

EXTRUDED TUBE AL. ALLOY HV 30-T6-64430WP (6351-T6)
 OD 30.8 X 2.5 mm THK. IS: 1285 (FOR TEST PROPERTIES) (AQ 96)

OR

EXTRUDED TUBE AL. ALLOY HV 9-T6-6063/63400WP OD 30.8 X 2.5 mm THK
 IS: 1285 (FOR TEST PROPERTIES) (AQ 97)

NOTE:

1. REMOVE SHARP EDGES.

3	F-1	MAINTAIN ϕ 30.00/29.95 DELETED.	06.10.2004
2	E-3	DIM 30.5 DELETED. DIM 400 \pm 2 WAS 477 \pm 2	5.10.96
	D-5	MTL: AQ95, AQ96, AQ97 WERE AQ49, AQ98, AQ99	
1	A-2	Gd. AC10, IS: 1868 AT FIN. ADDED	28.5.96

S No.	REGION	REVISION	DATE	SIG.
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**ARTIFICIAL LIMBS
 MANUFACTURING CORPN
 OF INDIA
 KANPUR**

DGN	<i>[Signature]</i>	NOM	PYLON TUBE
DRN	<i>[Signature]</i>	MTL	INDICATED
CHD	<i>[Signature]</i>	TOL	INTEGER ONLY \pm 0.500 mm ONE PLACE DECIMAL \pm 0.250 mm TWO PLACE DECIMAL \pm 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	BUFF & ANODIZE Gd. AC10, IS: 1868
SCALE	1:1	APP	<i>[Signature]</i>
DATE	21.12.95	DRG No.	PL 3 W 10 C 01
		SHEET	1 OF 1

6	F-1	ϕ 30.80/30.77 WAS MAINTAIN ϕ 30.8	18/04	<i>[Signature]</i>
5	F-1	MAINTAIN ϕ 30.8 WAS ϕ 30.8 (REF).	17/05	<i>[Signature]</i>
4	3-E	DIM 300 \pm 2 WAS 400 \pm 2	6.3.2004	<i>[Signature]</i>

01 | J | 7 | 162

5 4 3 2 1

G

G

F

F

E

E

D

D

C

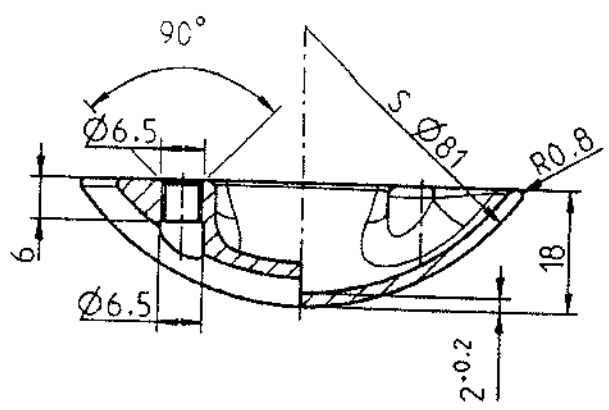
C

B

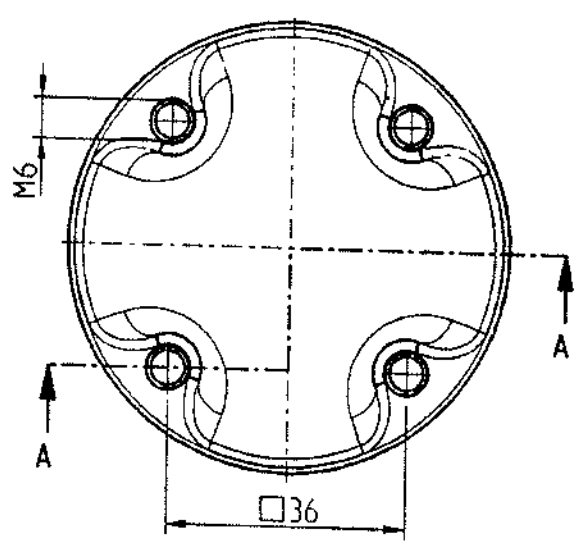
B

A

A



A-A



PROVISIONAL

FREE OF BURRS
VIBRATORY GRINDING

SNo.	REGION	REVISION	DATE	SIGN
R E V I S I O N S				

ARTIFICIAL LIMBS
MANUFACTURING CORPORATION OF
INDIA
KANPUR

DRN	ASHISH	NOM	SOCKET ATTACHMENT CORE
CHD	SHIV PAL	MTL	EN AW-2024 - AlCuMg2
APP	VISHAL	HEAT TREATMENT	_____
DIM	IN mm	SURFACE TREATMENT	_____
SCALE	NTS		
VIEW			
DATE	22.12.2016	DRG No:- PL 3 W 27 A 01	SHEET 10/1

TOLERANCE:--

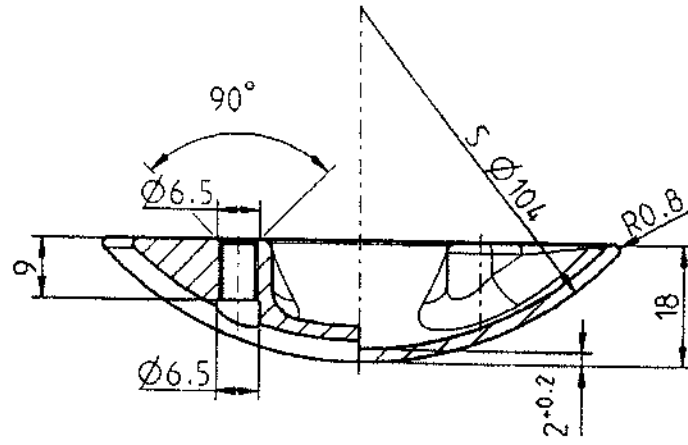
DEVIATION FOR NON TOLERANCED DIMENSIONS

GENERAL TOLERANCE DIN ISO 2768	SURFACE TEXTURE DIN EN ISO 1302
-----------------------------------	------------------------------------

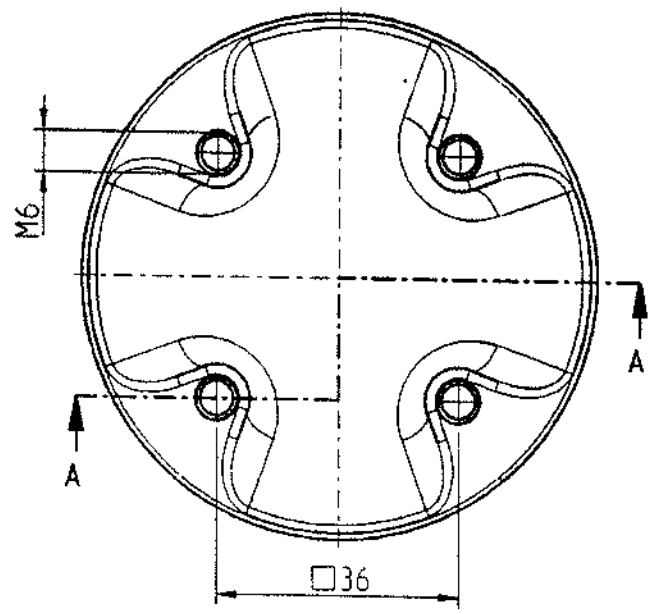
THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

5

4



A-A



PROVISIONAL

FREE OF BURRS
VIBRATORY GRINDING

SNo.	REGION	REVISION	DATE	SIGN
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REVISIONS



ARTIFICIAL LIMBS
MANUFACTURING CORPORATION OF
INDIA
KANPUR



DRN	ASHISH	NOM	SOCKET ATTACHMENT CORE	
CHD	SHIV PAL	MTL	EN AW-2024 - AlCuMg2	
APP	VISHAL	HEAT TREATMENT	_____	
DIM	IN mm	SURFACE TREATMENT	_____	
SCALE	NTS			
VIEW				
DATE	28.12.2016	DRG No:- PL 3 W 29 A 01	SHEET 1 OF 1	

TOLERANCE:--

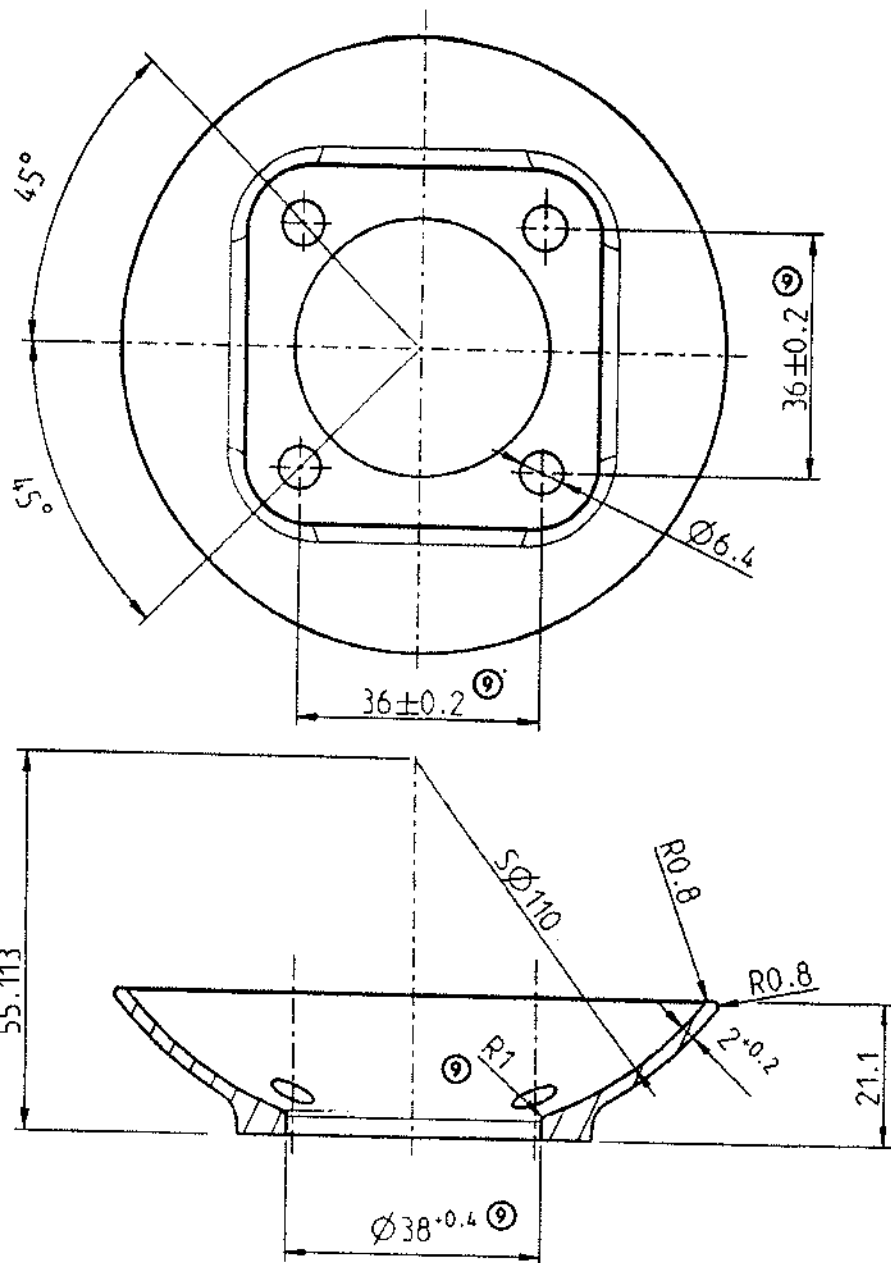
DEVIATION FOR NON TOLERANCED DIMENSIONS

GENERAL TOLERANCE DIN ISO 2768	SURFACE TEXTURE DIN EN ISO 1302
-----------------------------------	------------------------------------

THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE PEPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

5

4



SNo.	REGION	REVISION	DATE	SIGN
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REVISIONS



ARTIFICIAL LIMBS
MANUFACTURING CORPORATION OF
INDIA
KANPUR



TOLERANCE:--

DEVIATION FOR NON TOLERANCED DIMENSIONS

GENERAL TOLERANCE DIN ISO 2768	SURFACE TEXTURE DIN EN ISO 1302
-----------------------------------	------------------------------------

THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

DRN	ASHISH	NOM	SOCKET ATTACHMENT OUTER PART
CHD	SHIV PAL	MTL	EN AW-2024 - AlCuMg2
APP	VISHAL	HEAT TREATMENT	_____
DIM	IN mm	SURFACE TREATMENT	_____
SCALE	NTS		
VIEW			
DATE	28.12.2016	DRG No:- PL 3 W 29 A 02	SHEET 10F1

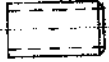
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4

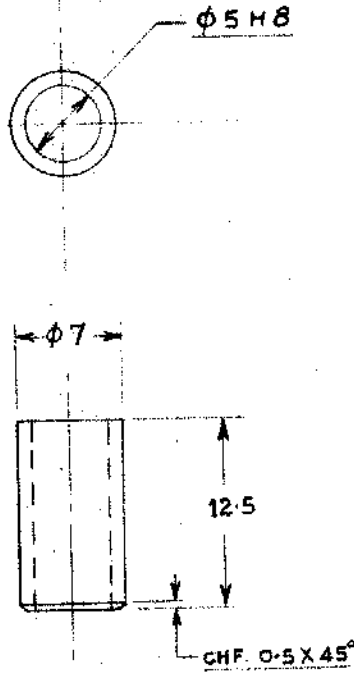
3

2

1






SCALE: 1:1



NOTE:-

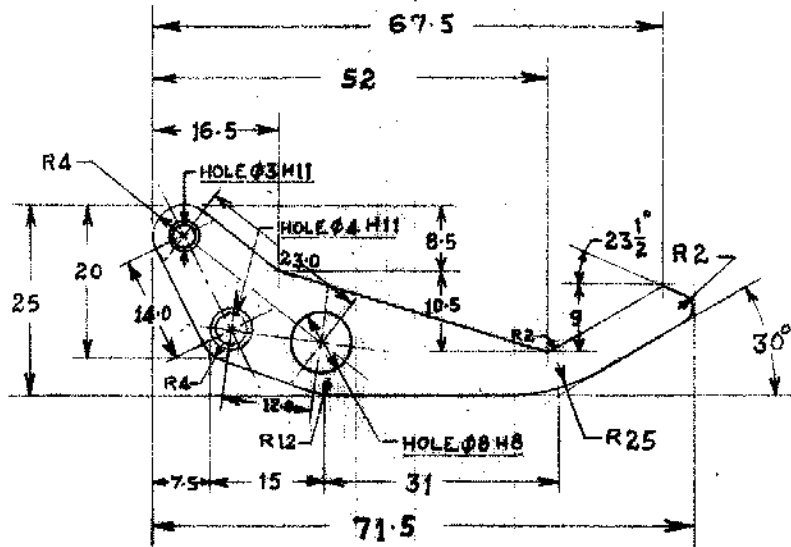
1. REMOVE SHARP EDGES.

S.No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
 ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA  KANPUR				
DGN.	<i>Anandavara</i>	NOM.	SPACER	
DRN.	<i>K. B. Swach</i>	MTL.	ROD AL. ALLOY HE 30 WP $\phi 8$ mm IS: 733 (AP 61)	
CHD.	<i>Anandavara</i>	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.	ANODIZE GRADE AC 10, IS: 1868	
SCALE	2:1 			
APP.	<i>Pellew</i>	DRG. NO. PU 1 A 11 A 04		SHEET 1 OF 1
DATE	26.4.82			

01 J 2 101

5

4



0.5X45° CHF. FOR LEFT

0.5X45° CHF. FOR RIGHT

3.15

0.5X45° CHF. FOR RIGHT

0.5X45° CHF. FOR LEFT

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.
2. BLENDING RADII FOR REF. ONLY.

1	E2, F2/3	DIM. 71.5 WAS 72.5, R25 WAS R10, ANGLE 23 1/2 WAS 15° & R2 WAS R1.5 RESPECTIVELY.	11-2-85	<i>Peeba</i>
S.No.	REGION	REVISION	DATE	SIG.

R E V I S I O N S



**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

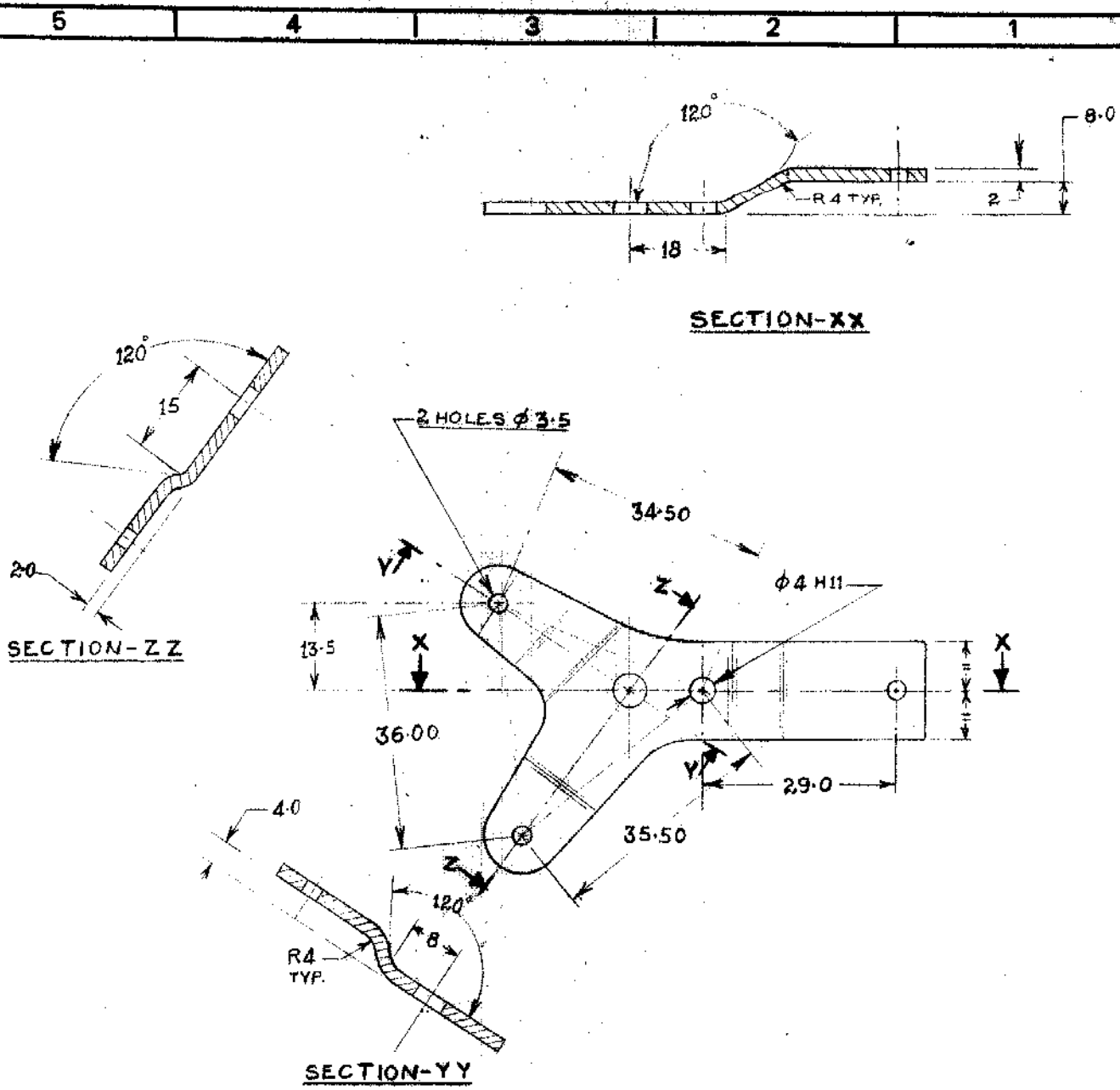


DGN.	<i>Ch. B. Vantass</i>	NOM.	THUMB RIGHT/LEFT
DRN.	<i>M. S. S. S. S.</i>	MTL.	SHEET AL. ALLOY HS 30 WP, IS: 737
CHD.	<i>Ch. B. Vantass</i>		THICK. 3.15 (AP 15)
DRS.	IN DRW	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
SCALE	1:1	FIN.	BUFF & ANODIZED, Gd. AC 10, IS: 1860
APP.	<i>Peeba</i>	DRG. NO.	PU 1 A 11 B 01 PU 1 A 12 B 01
DATE	28.4.82		SHEET 1 OF 1

01 J 2 104

5

4



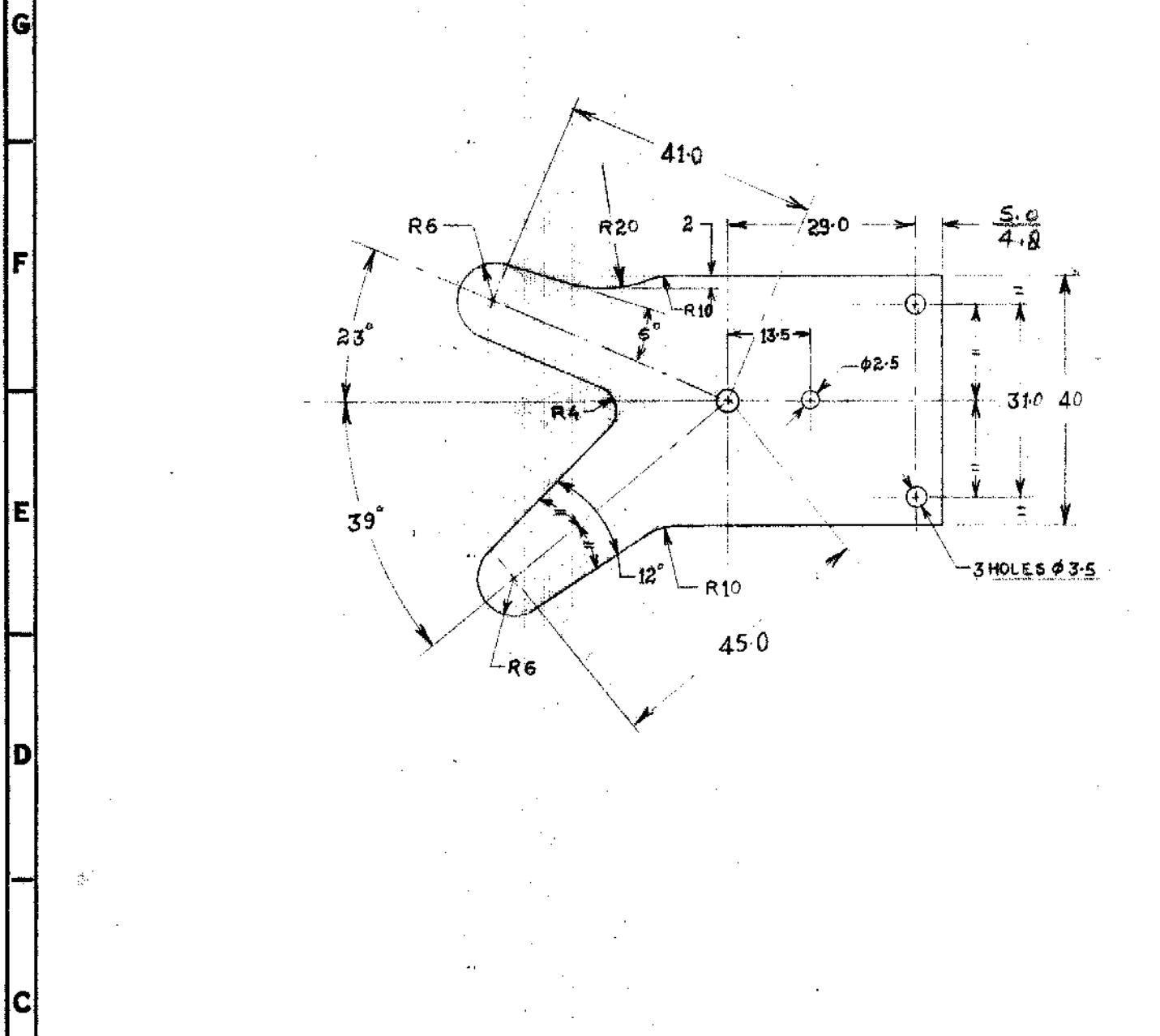
NOTE:-

1. FOR PREFORMING DETAILS REFER SHEET 2.

1	E2	DIM. 29.0 WAS 31.0		20-1-83	<i>Pudh</i>
S.No.	REGION	REVISION		DATE	SIG.
REVISIONS					
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR					
DGN.	<i>Munshi</i>	NOM.	PALMER PLATE (RIGHT)		
DRN.	<i>Prabhu ch.</i>	MTL.	SHEET AL. ALLOY HS 30 WP, IS: 737 THICK. 2 mm. (AP 13)		
CHD.	<i>Munshi</i>	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED		
DIR.	IN mm	FIN.	BUFF AND ANODIZE GRADE AC 10 IS: 1868		
SCALE	1:1	APP.	<i>Pudh</i>		
DATE	5.2.81	ORG. NO.	PU 1 A 13 0 02		SHEET 10/2

01 J 2 084

5 4 3 2 1



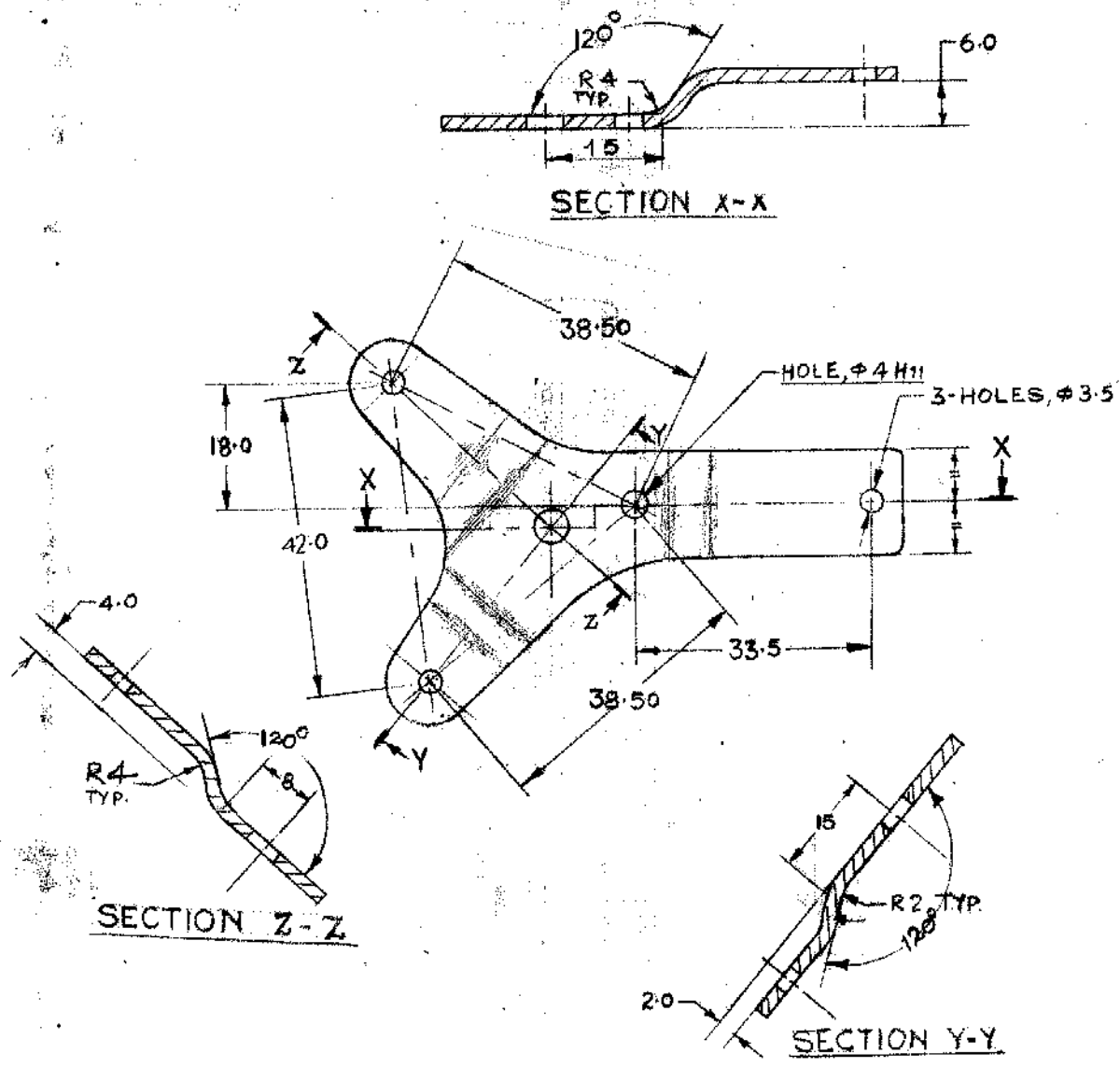
NOTE:-

1. REMOVE SHARP EDGES.
 2. THE DRG. IS FOR REF. ONLY.
- COMPONENT TO BE MADE AS PER
SHEET 1 ← PU 1 A 14 B 01

1	F 2	DIM. 29.0 WAS 31.0	20-1-83	Page
S.No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR				
DGN.	<i>Muskel</i>	NOM.	DORSAL PLATE (RIGHT)	
DRN.	<i>Bohner</i>	MTL.	SHEET AL. ALLOY HS 30 WP, IS:737 THICK. 3.15 mm (AP 15)	
CHD.	<i>Muskel</i>	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.		
SCALE	1:1			
APP.	<i>P. P. P.</i>			
DATE	5.2.81	DRG. NO. PU 1 A 13 C 01		SHEET 2018

01 J 2081

5 4



S.No.	REGION	REVISION	DATE	SIG.
4	E-3	HOLE, $\phi 4$ H11 WAS $\phi 4$	27.4.82	R
3	A-3	BUFF WAS SAND BLAST IN FIN.	27.10.81	B
2	B-5	NOTE NO. 2 DELETED & FIN SAND BLAST ADDED	11.3.80	B
1	SEC X-X SEC Y-Y SEC Z-Z	DIMMS ADDED, DIMMS DELETED 120° WAS 124°, R4 WAS R6, 20° DELETED, 120° ADDED. 120° WAS 105°. R4 WAS R2	29.3.80	B

NOTE:-

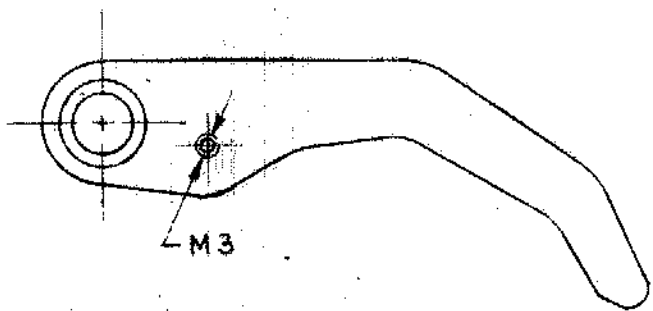
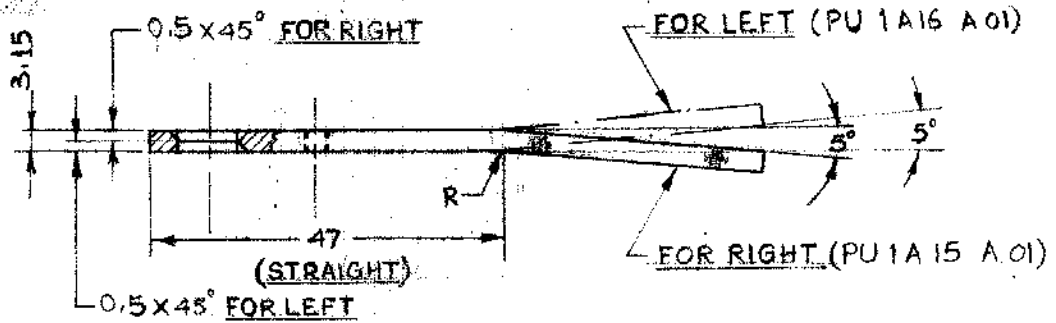
FOR BLANK REFER DRG. NO. PU 1A 15 099

REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN.	<i>Sharma</i>	NOM.	PALMER PLATE (RIGHT)
DRN.	<i>Sharma</i>	MTL.	SHEET AL. ALLOY, HS 30 WP 15:737, TH. 2 mm (A P 13)
CHD.	<i>Sharma</i>	TOL.	INTEGER ONLY 20.000 mm ANG. TOL. 30' UNLESS SPECIFIED ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm
DIR.	IN mm	FIN.	BUFF & ANDISE Gd. AC 10, 15:1868
SCALE	1:1	DRG. NO.	PU 1A 15 002
APP.	<i>Sharma</i>		
DAT.	18.9.79		

01 J 2 057



NOTE:-

1. USE BLANK AS PER DRG. NO. PU1A15 A99

S.No.	REGION	REVISION	DATE	SIG.
2	A-3	BUFF WAS SAND BLAST IN FIN.	27.10.80	R
1	A-3	FIN. SAND BLAST ADDED	11.3.80	B

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN:	<i>Hand</i>	NOM.	FINGER 'A'
DRN:	<i>Krishna</i>	MTL.	SHEET AL. ALLOY HS30 W.P. IS: 737, TH. 3.15 mm (A.P. 15)
CHD:	<i>Hand</i>	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.050 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	BUFF & ANODISE Gd. AC10, IS: 1860
SCALE:	1:1	RIGHT:-	PU 1 A 15 A 01
APP:	<i>Hand</i>	LEFT:-	PU 1 A 16 A 01
DATE:	19.9.79	DRG. NO.	

01 J 2 031

5

4

3

2

1

G

G

F

F

E

E

D

D

C

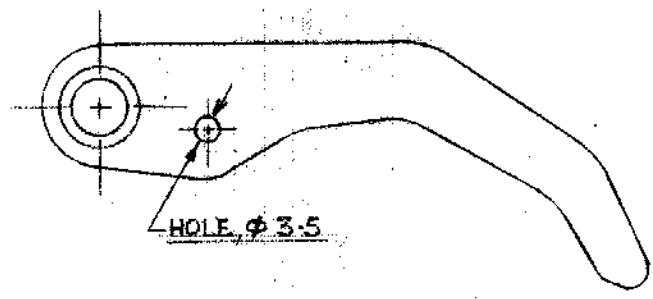
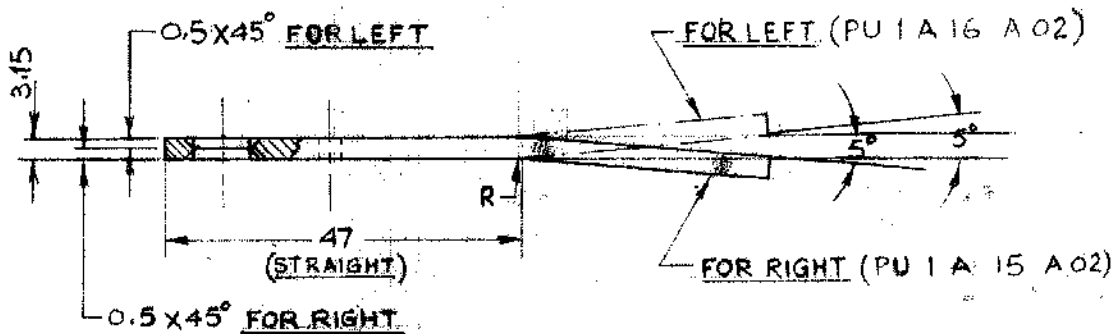
C

B

B

A

A



NOTE:-

1. USE BLANK AS PER DRG. NO. PU1A15 A99

2	A-3	BUFF WAS SAND BLAST IN FIN.	27.10.86	<i>[Signature]</i>
1	A-3	FIN. SAND BLAST ADDED	11.3.86	<i>[Signature]</i>
S.No.	REGION	REVISION	DATE	SIG.

REVISIONS
ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR

DGN.	<i>[Signature]</i>	NOM.	FINGER 'B'
DRN.	<i>[Signature]</i>	MTL.	SHEET AL. ALLOY HS.30 WP IS:737, TH. 3-15 mm. (AP 15)
CHD.	<i>[Signature]</i>	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	BUFF & ANODISE Gd. A C 10 15:1868
SCALE	1:1	RIGHT:-	PU 1 A 15 A 02
APP.	<i>[Signature]</i>	DRG. NO.	PU 1 A 16 A 02
DATE	19.9.79	LEFT:-	PU 1 A 16 A 02

01 J 2 032

5

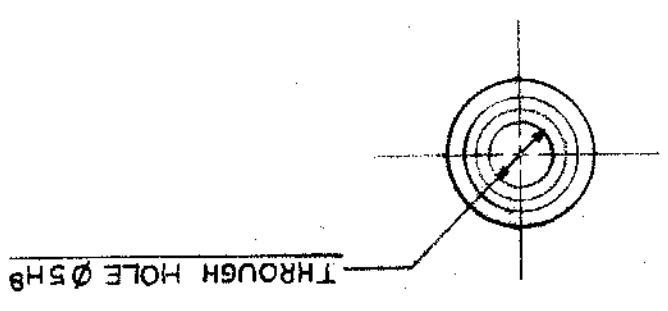
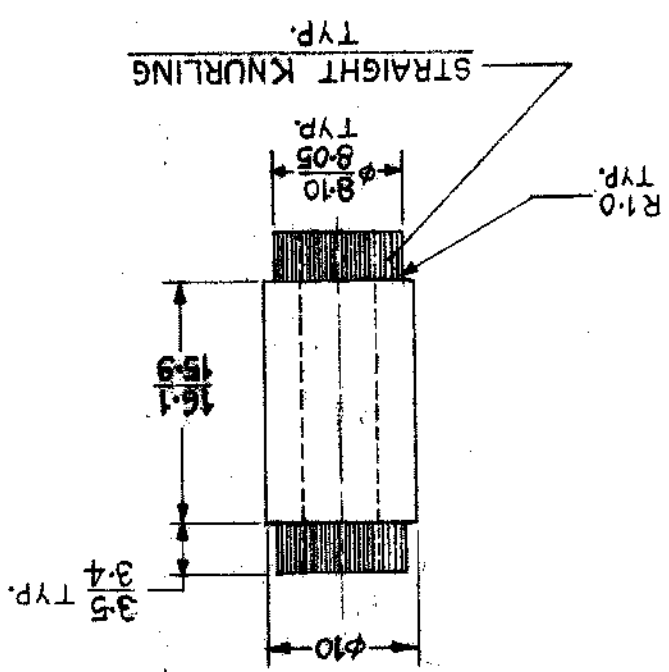
4

01 J 2 033

DATE	24-9-79
DRG No.	PU 1A 15 A 03
APPROVED	<i>[Signature]</i>
SCALE	2:1
DIM. IN MM	
CHD	<i>[Signature]</i>
DWN	<i>[Signature]</i>
OGN	<i>[Signature]</i>
NOM	
MTL	ROD AL ALLOY HE 30 W P 15:733. ϕ 10mm (AP 65)
FIN.	ANODIZE GD. AC10.15:1868

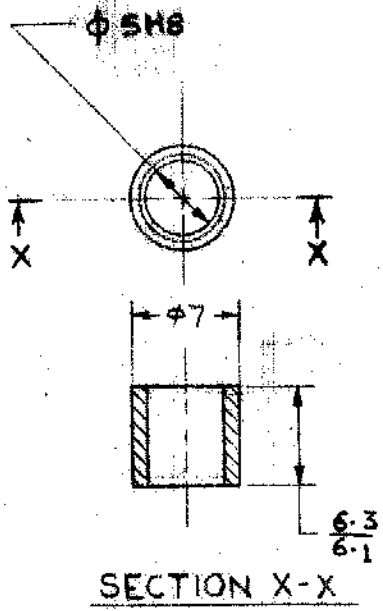
ARTIFICIAL LIMBS MANUFACTURING CORPN OF INDIA KANPUR	
REVISIONS	
S No.	REVISION
4	DRAWING REDRAWN
3	ϕ 5 H8 MAS ϕ 4.5 H11
2	
1	
DATE	SIG.
27.4.82	<i>[Signature]</i>
20.4.80	<i>[Signature]</i>

NOTE: REMOVE SHARP EDGES.



THROUGH HOLE ϕ 5H8

5 4 3 2 1



SECTION X-X

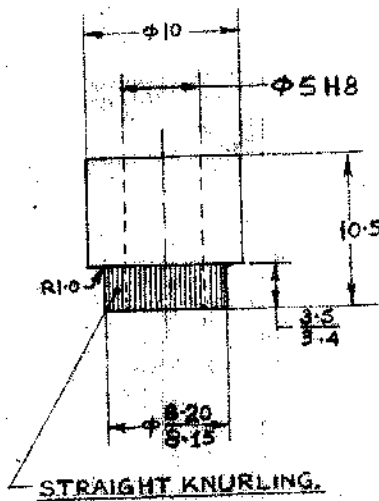
NOTE: -

1. REMOVE SHARP EDGES.

2.	DZ	DIM: 6.3/6.1 WAS 6.6/6.4	23.1.87	<i>File</i>
1	E-F-3	$\phi 5H6$ $\frac{6.6}{6.4}$ WAS $\phi 4.9 H11$ & $\frac{6.00}{5.50}$, $0.5 \times 45^\circ$ DELETED	11.3.80	<i>B</i>
S.No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR				
DGN.	<i>Sharma</i>	NON.	SPACER	
DRW.	<i>Sharma</i>	MTL.	ROD: AL: ALLOY HE 30 WP. $\phi 8$ mm IS: 733 (AP 51)	
CHD.	<i>Sharma</i>	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED	
DIM.	IN MM	FIN.	LAND DIZE GZ: AC 10, IS: 1868	
SCALE	2:1	APP.	<i>Sharma</i>	
DATE	24-9-79	DWG. NO.	PU 1 A 15 A 07	

01 J 2 037




5 4



S.No.	REGION	REVISION	DATE	SIG.
4	E-3	φ 5 H8 WAS φ 4.5 H11	27.4.81	R
3	D-3	φ 8.20/8.15 WAS φ 8.10/8.05	19.11.80	Full
2	E-3	φ 8.20 WAS 8.0, 10.5 WAS 10.0, φ 4.5 H11 WAS φ 5 H8, 0.5 X 45° DEL	18.4.80	B
1	D-3	φ 5 H8 WAS φ 5 H11	11.3.80	B

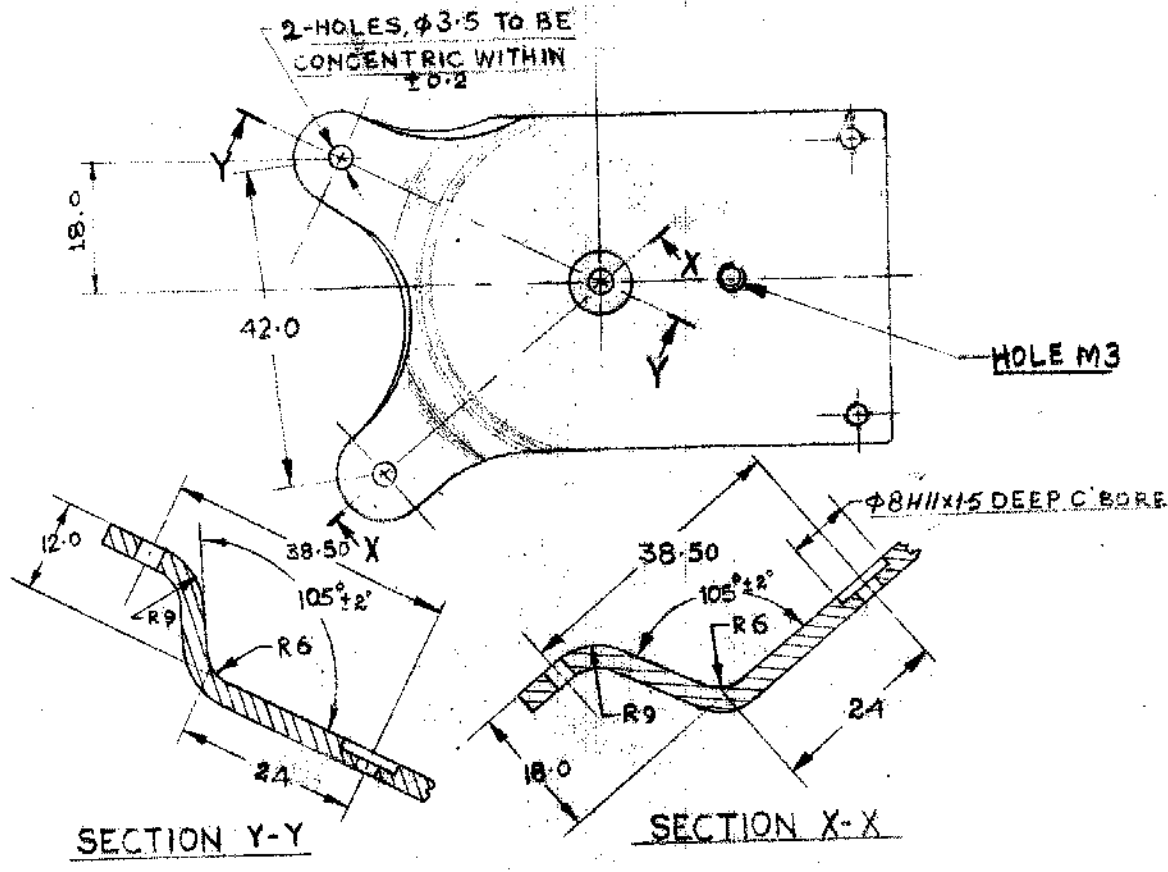
NOTE:-

1. REMOVE SHARP EDGES.

REVISIONS	
 ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR 	
DGN.	<i>Shankar</i> NOM. BUSH
DRN.	<i>Shankar</i> MTL. ROD AL. ALLOY HE 30 W.P. IS:733, φ 10MM (AP 63)
CHK.	<i>Shankar</i> TOL. INTEGER ONLY 2000 mm ONE PLACE DECIMAL 20.00 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.00 mm
DPM.	MM mm
SCALE	2:1 
FIN.	ANODIZE GRADE AC 10, IS:1868
APP.	<i>Shankar</i>
DATE	24-9-79
ORG. NO. PU I A 15 B 02	

01 J 2 042

5 4 3 2 1



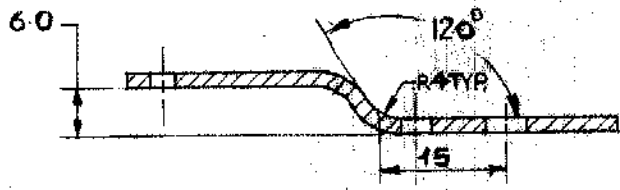
NOTE:-

S.No.	REGION	REVISION	DATE	SIG.
3	A-3	BUFF WAS SAND BLAST IN FIN.	27/10/80	R
2	E-2 & A-3	DIM. φ8 H11x15 DEEP WAS φ8x1.5 DEEP & SAND BLAST ADDED IN FIN.	11.3.80	B
1	F5 F2, F3	DIMN 18.0 ADDED. DIMN 4.0, 20, 36.0 AND 33.5 DELETED	29.2.80	B

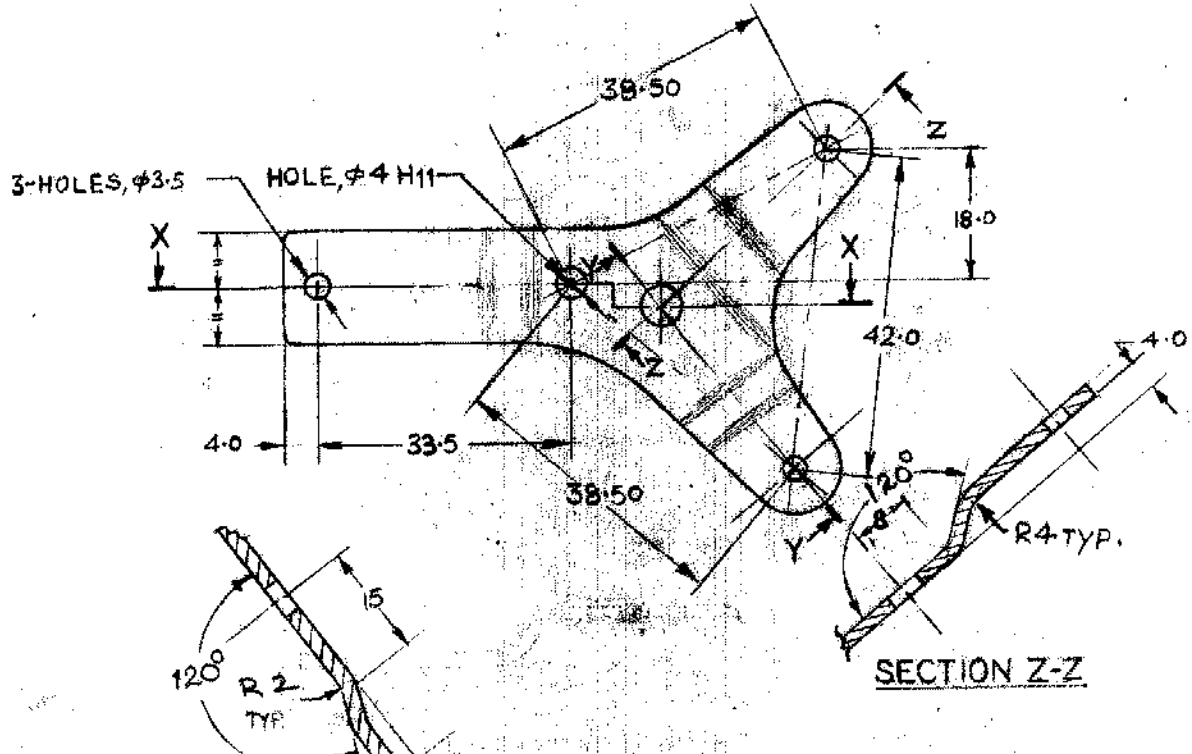
**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN.	<i>Plinn</i>	NOM.	DORSAL PLATE (RIGHT)
DRN.	<i>Krishna</i>	MTL.	SHEET AL. ALLOY HS 30 WP IS: 737, TH. 3.15mm (A P 15)
CHD.	<i>Plinn</i>	TOL.	INTEGER ONLY 20.000 mm ANG: TOL. ± 30 ONE PLACE DECIMAL 20.000 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm
DIM.	IN MM	FIN.	BLUFF & ANODISE GA. PC 10 IS: 1869
SCALE	1:1	APP.	<i>Plinn</i>
DATE	19.3.79	DRG. NO.	PU 1 A 15 D 01

01 J 2 050



SECTION X-X



SECTION Y-Y

SECTION Z-Z

S.N.	REGION	REVISION	DATE	SIG.
4	E-3	HOLE φ4 H11 WAS φ4	27.4.82	B
3	A-3	BUFF WAS SAND BLAST IN FIN.	27.10.80	B
2	B-5	NOTE NO. 2 DELETED & SAND BLAST ADDED	11.3.80	B
1		SEC. Y-Y DIM. IS ADDED 120° WAS 124° R4 WAS R6. DIMS DELETED SEC. Y-Y 20° DELETED. 120° ADDED SEC. Z-Z 120° WAS 105° R4 WAS R2	29.2.80	B

NOTE:-

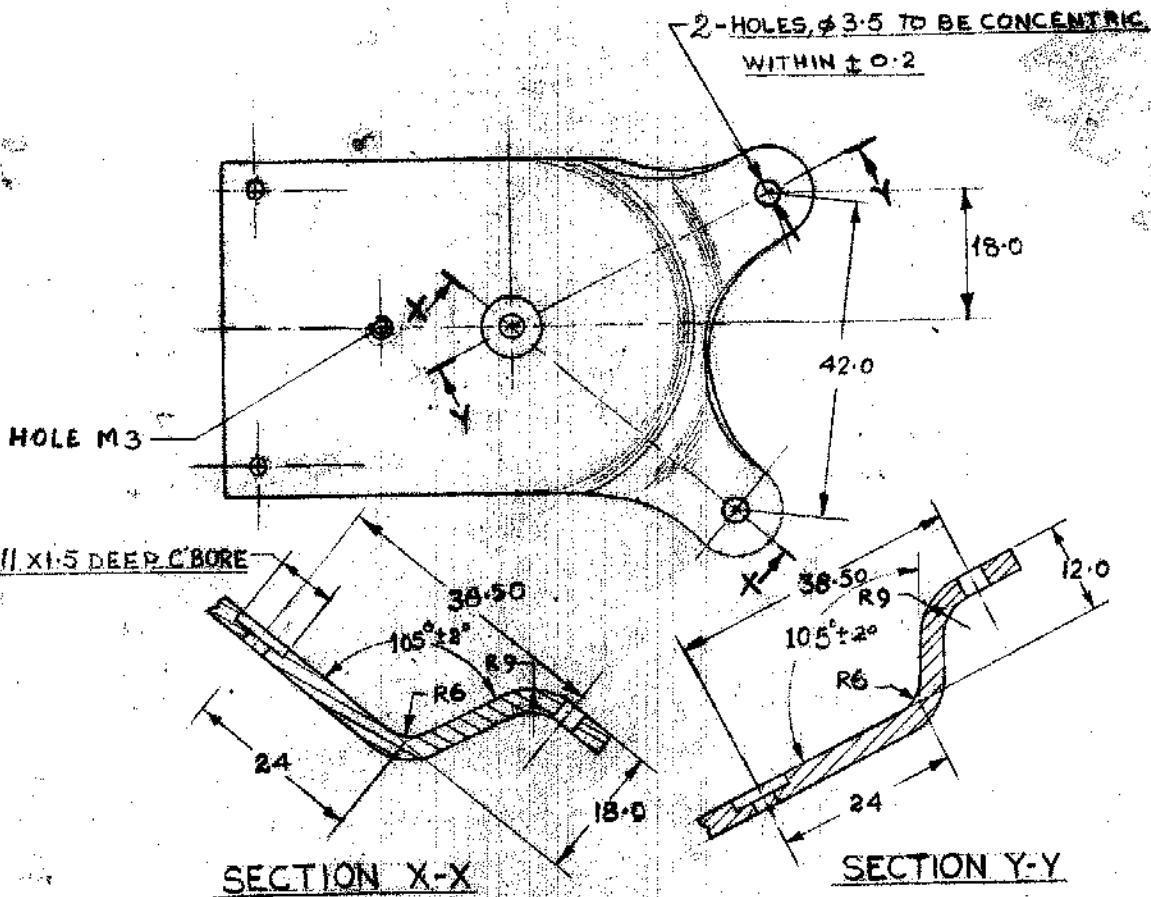
FOR BLANK REFER DRG. NO. PU 1A 15 096

REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN.	<i>Shank</i>	NON.	PALMER PLATE (LEFT)
DRW.	<i>Krishna</i>	MTL.	SHEET AL. ALLOY, HS 30 WP, IS: 737, TH. 2 mm (A.P. 13)
CHD.	<i>Shank</i>	TOL.	INTERIOR ONLY 20.00 mm ANG. TOL. ± 5° ONE PLACE DECIMAL 20.00 mm TWO PLACE DECIMAL 20.00 mm UNLESS SPECIFIED
SCALE	1:1	FIN.	BUFF-2 ANODISE GR. AC 10, IS: 1868
APP.	<i>Shank</i>		
			DRG. NO. PU 1A 16 0 01

OL J 2 066



S.N.	REGION	REVISION	DATE	SIG.
3	A-3	BUFF WAS SAND BLAST IN FIN.	27.10.80	R
2	D-5 A-2	Ø 8H11 X 1.5 DEEP WAS Ø 8 X 1.5 DEEP, SAND BLAST ADDED IN FIN.	11.3.80	R
1	E-2 D-1, E-4	RIMMING ADDED DRAWS, 4.0, 2.0, 36.0 AND 33.5 DELETED	29.2.80	R

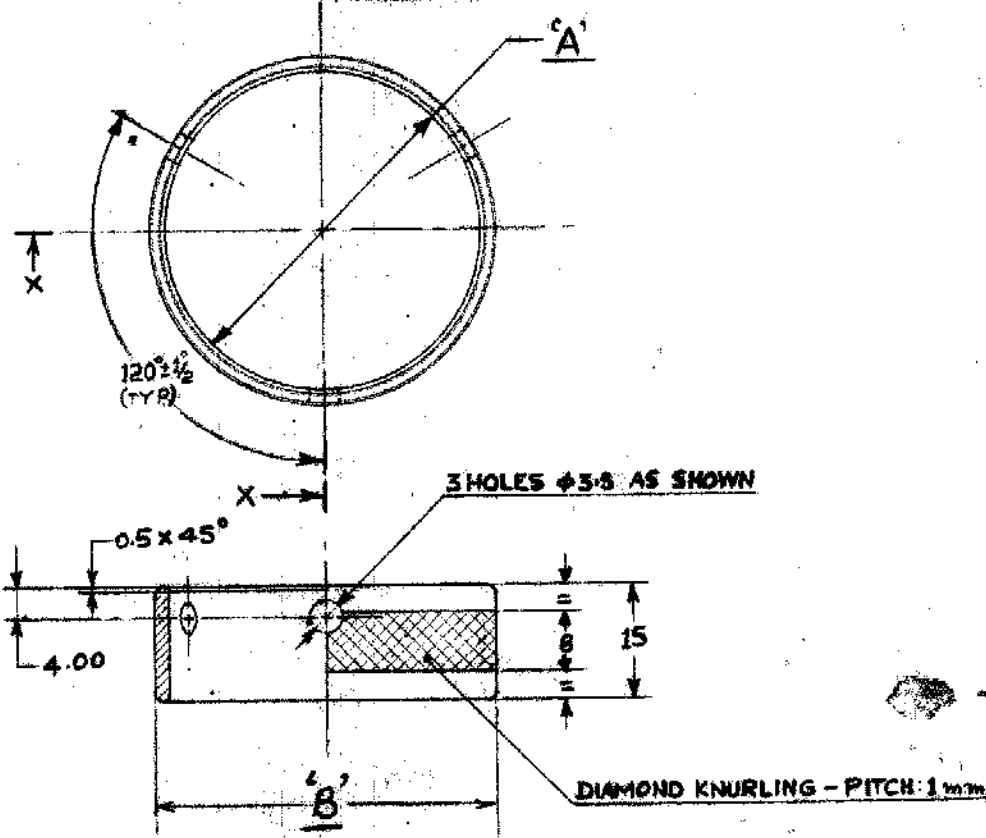
NOTE:-
1. FOR BLANK REFER DRG. NO. PU 1A 15 D 99

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN.	Shankh	NOM.	DORSAL PLATE (LEFT)
DRN.	Shankh	MTL.	SHEET AL. ALLOY, H5.30 WP. IS: 737, TH 3-15 mm (AP 15)
CWD.	Shankh	TOL.	INTEGER ONLY 0.05 mm ONE PLACE DECIMAL 0.02 mm TWO PLACE DECIMAL 0.01 mm UNLESS SPECIFIED
SCALE	1:1	FIN.	BUFF & ANODISE Gal. AC 10 IS: 1868
APP.	[Signature]	DRG. NO.	PU 1 A 16 0 0 1
DATE	19.9.79		

of J 2 065

SIZE	DRG. NO.	Φ A	Φ B	MTL. CODE NO.
I	PUIC 01 0 0 0 1	41.55 41.51	45.0	AP 79
II	PUIC 02 0 0 0 1	45.560 45.510	51.0	AP 80



SECTION-X X

MTL:-
 AP 79) FOR SIZE-I (PUIC 010 01)
 ROD AL. ALLOY HE 30 WP,
 IS: 733, Φ 50 mm
 (AP 80) FOR SIZE-II (PUIC 020 01)
 ROD AL. ALLOY HE 30 WP,
 IS: 733, Φ 56 mm

NOTE:-
 1- ROUND OFF SHARP EDGES &
 CORNERS.

S.No.	REGION	REVISION	DATE	SIG.
4	C.D-4,5	MTL. AP 79 FOR SIZE-I (PUIC 010 01) ADDED	07-12-78	R.P.
3	C-3	DIM. Φ A 45.560 WAS 45.09 45.510 WAS 45.05	3.8.88	Full
2	-	AP 80 WAS AQ 55 IN MTL.	25-1-83	Full
1	-	REDESIGNED & REDRAWN	20-6-78	Full

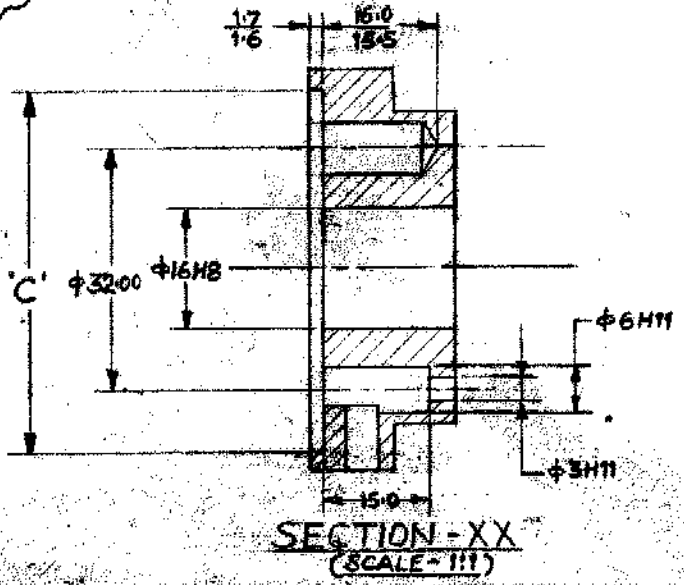
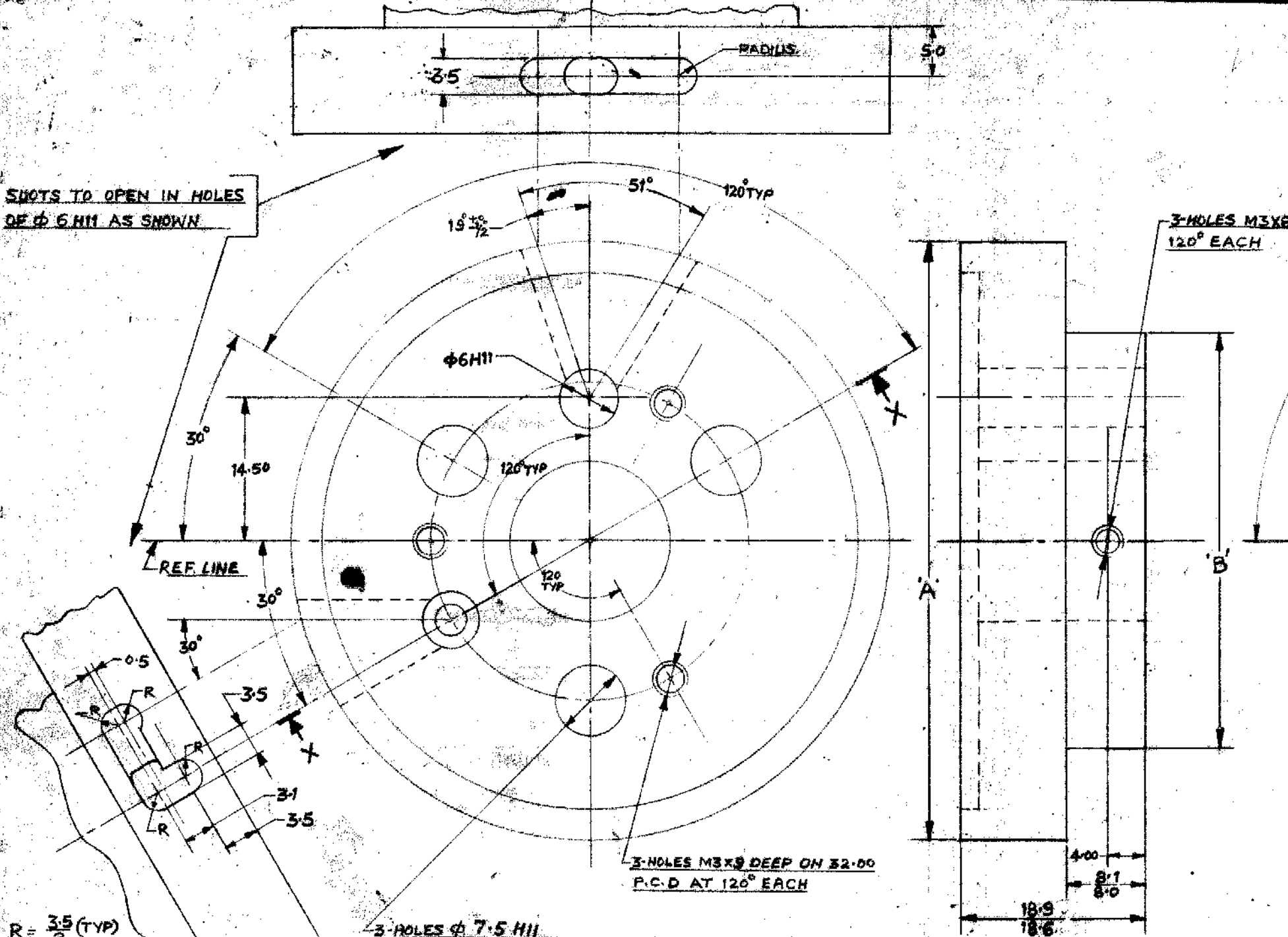
REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

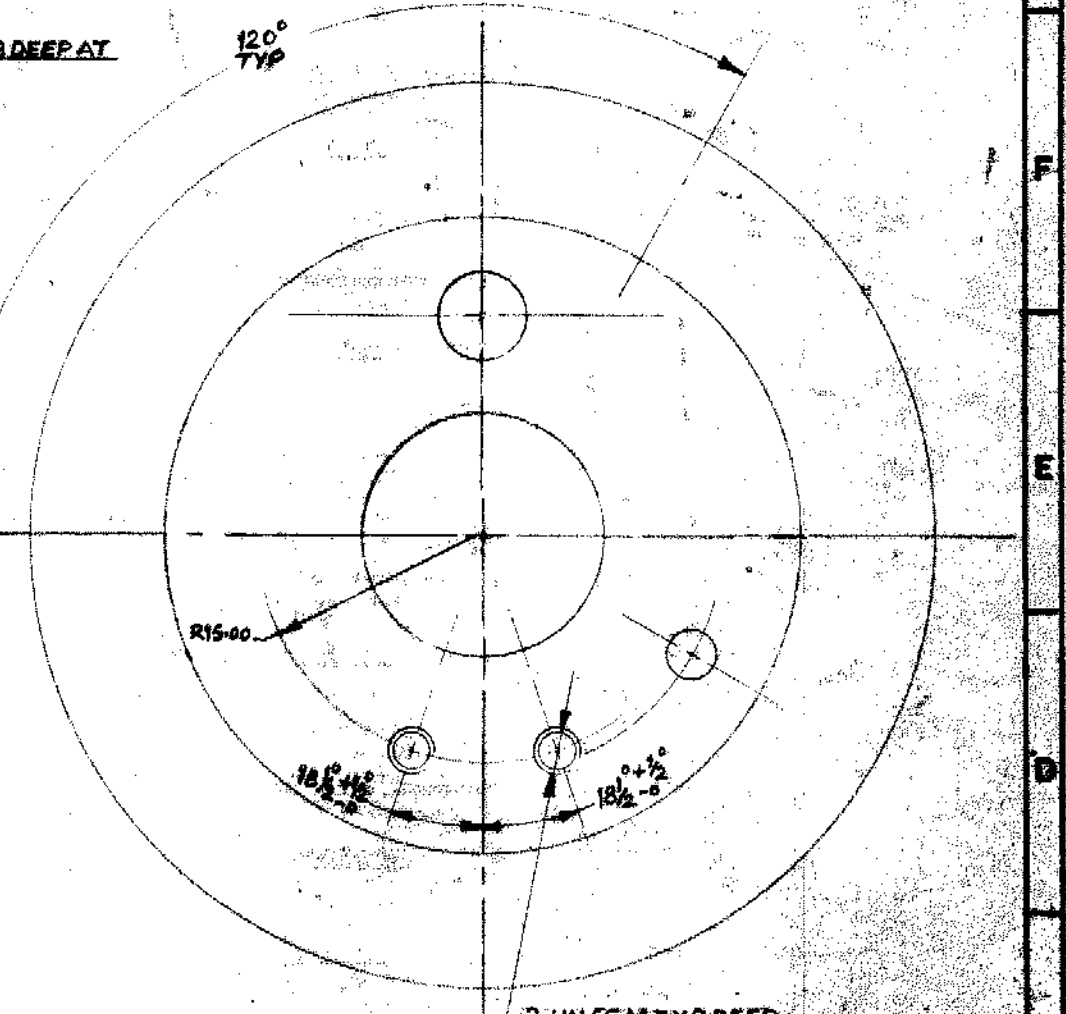
DGN.	<i>Pulcher</i>	NON.	RING REAR
DRN.	<i>Sharma</i>	MTL.	INDICATED
CHD.	<i>Nisha</i>	TOL.	INTEGER ONLY 20.00 mm ANG. TOL 5" ONE PLACE DECIMAL 20.250 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm
DIM.	IN mm	FIN.	ANDDISE GRADE AC 10 15-1968
SCALE	<i>1:1</i>	APP.	<i>Pulcher</i>
DATE	20-6-78	DRG. NO.	SIZE-I PUIC 01 0 0 0 1
			SIZE-II PUIC 02 0 0 0 1

01 J 1 009

10 9 8 7 6 5 4 3 2 1



SIZE	DRG. NO.	A	B	C	MTL. CODE
I	PU 1 C 01 0 0 2	+48.0	+41.50 41.27	+44.75 44.00	AP 79
II	PU 1 C 02 0 0 2	+53.0	+48.50 48.27	+48.75 48.00	AP 80
III	PU 1 C 03 0 0 2	+60.0	+50.00 50.01	+54.75 54.00	AP 85



S.No.	REGION	REVISION	DATE	SIG.
4	C-5, D-4 E-2, E-3	DIMENS 23.0, 2.0/1.8, 7.0/6.5, R4.0 R12.6 & 20.0 DELETED ANGLE 6° ± 1° DELETED, VIEWS MODIFIED	15.1.90	
3	G-2	DN. # B 45.500 WAS 45.04 45.450 WAS 45.01	9.8.88	
2	C-8	HOLES # 7.5mm WAS 9/32 OR LETTER 'K'	3.9.85	
1	-	WRIST HOUSING AND RING FRONT IN ORIGINAL DESIGN MADE INTEGRAL	29.6.82	

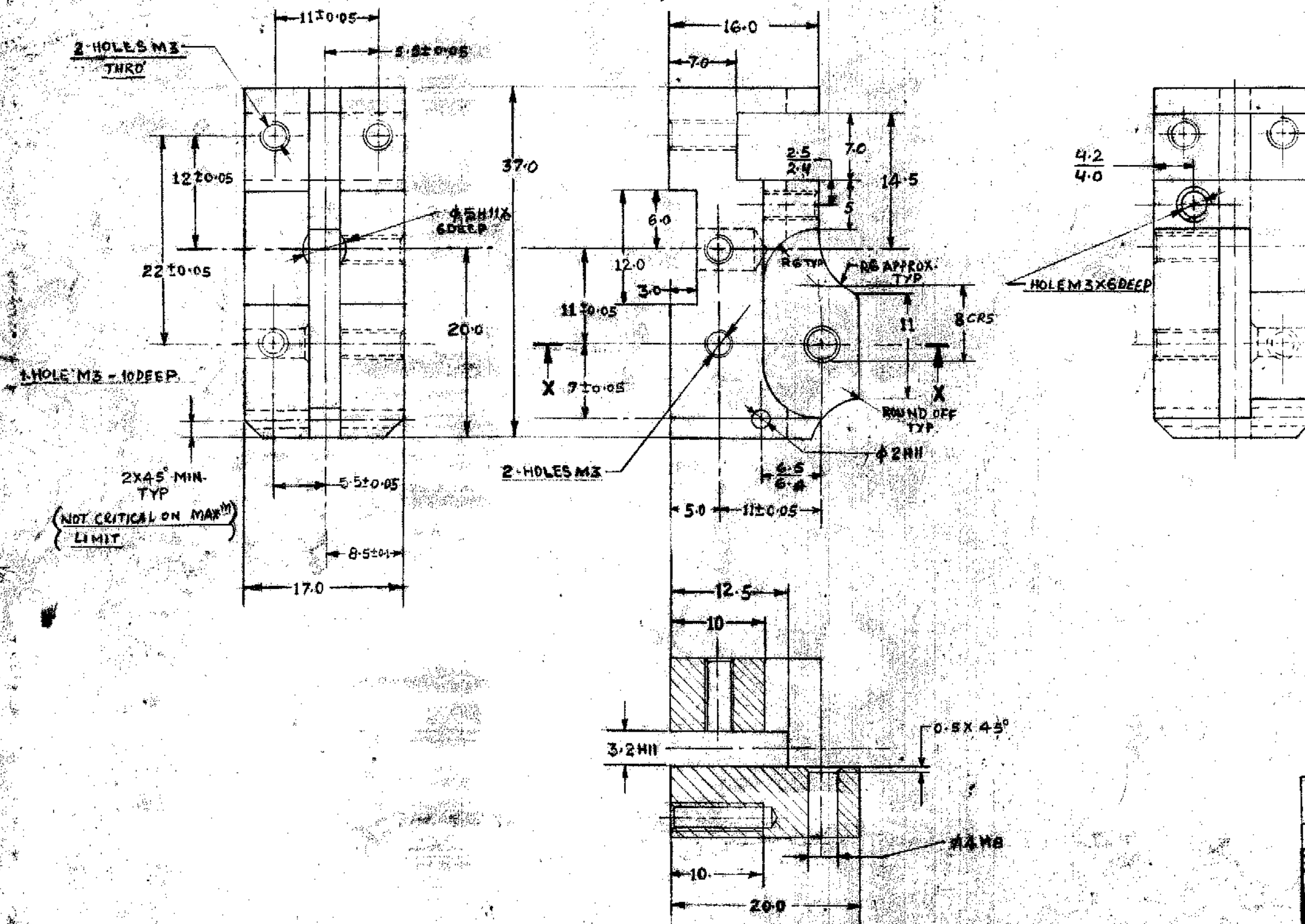
NOTE:-
1. ROUND OF SHARP EDGES & CORNERS

ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR

DGN.	Fuller	NOM.	WRIST HOUSING
DRN.	Fuller	MTL.	ALUMINIUM ALLOY HE-30 WP IS: 735
CND.	Fuller	TOL.	INTEGER ONLY 0.020 mm ONE PLACE DECIMAL 0.050 mm UNLESS SPECIFIED TWO PLACE DECIMAL 0.125 mm
DM.	IN mm	FIN.	ANODIZED GA. AC 10, IS: 1068
SCALE	2:1	APP.	Fuller
DATE	29.6.82	DRG. NO.	PU 1 C 01 0 0 2 PU 1 C 02 0 0 2 PU 1 C 03 0 0 2

01F4085

NOTE: ROUND OFF ALL SHARP EDGES & CORNERS



SECTION-XX

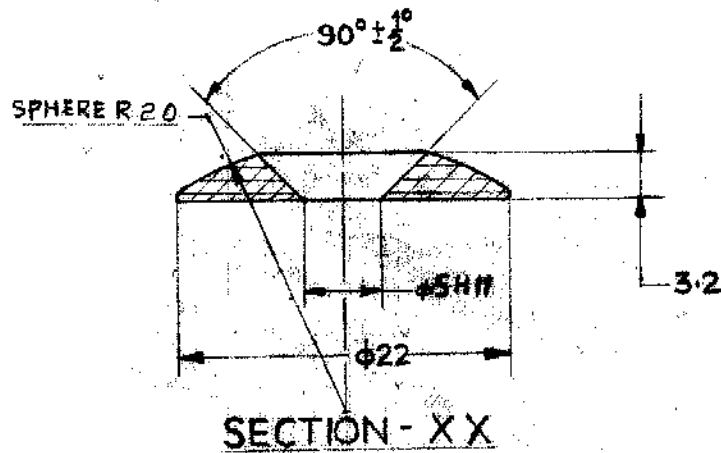
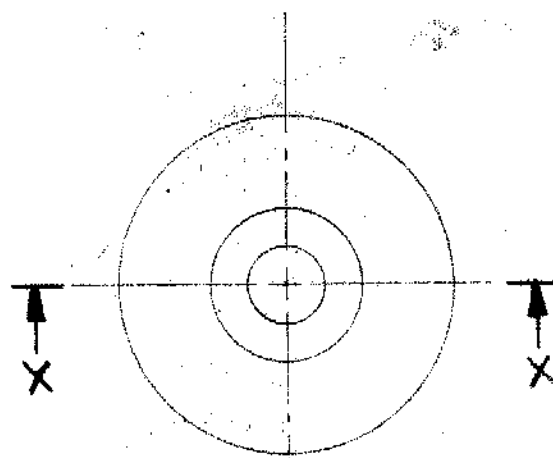
S.No.	REGION	REVISION	DATE	SIG.
2	F-4	DIM. 3, 2, 3 OF MILLING OPERATION DELETED ADDED M3 X 6 DEEP HOLE ON THE DRG.	8-4-88	<i>[Signature]</i>
1	A-2	FINISH DELETED	22-10-87	<i>[Signature]</i>

REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DGN.	<i>Puller</i>	NOM.	BRACKET HOUSING (CAM END)
DRN.	<i>R. Dey</i>	MTL.	FLAT AL. ALLOY HE 30 HPT 15 19.05 X 27.25 (CODE NO. AF 50)
CHK.	<i>[Signature]</i>	TOL.	INTEGER ONLY 20.000 mm FIVE TYP. 1 ONE PLACE DECIMAL 20.100 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm
SCALE	2:1	FIN.	
APP.	<i>Puller</i>	DATE	6-12-79
		ORG. NO.	PU 1 D 41 B 01

01 F4 026



NOTE:-

ROUND OFF SHARP EDGES
& CORNERS

S.No.	REGION	REVISION	DATE	SIG.
4	A-3	MTL. WAS POLYPROPYLENE (AW.96) & FIN. ADDED.	03-01-85	RASH
3	A-3	MATERIAL CHANGED	23-7-84	Full
2	A-3	MATERIAL & FINISH CHANGED	26-8-84	Full
1	03	DIM. 5H11 WAS 5.0	26-10-78	B

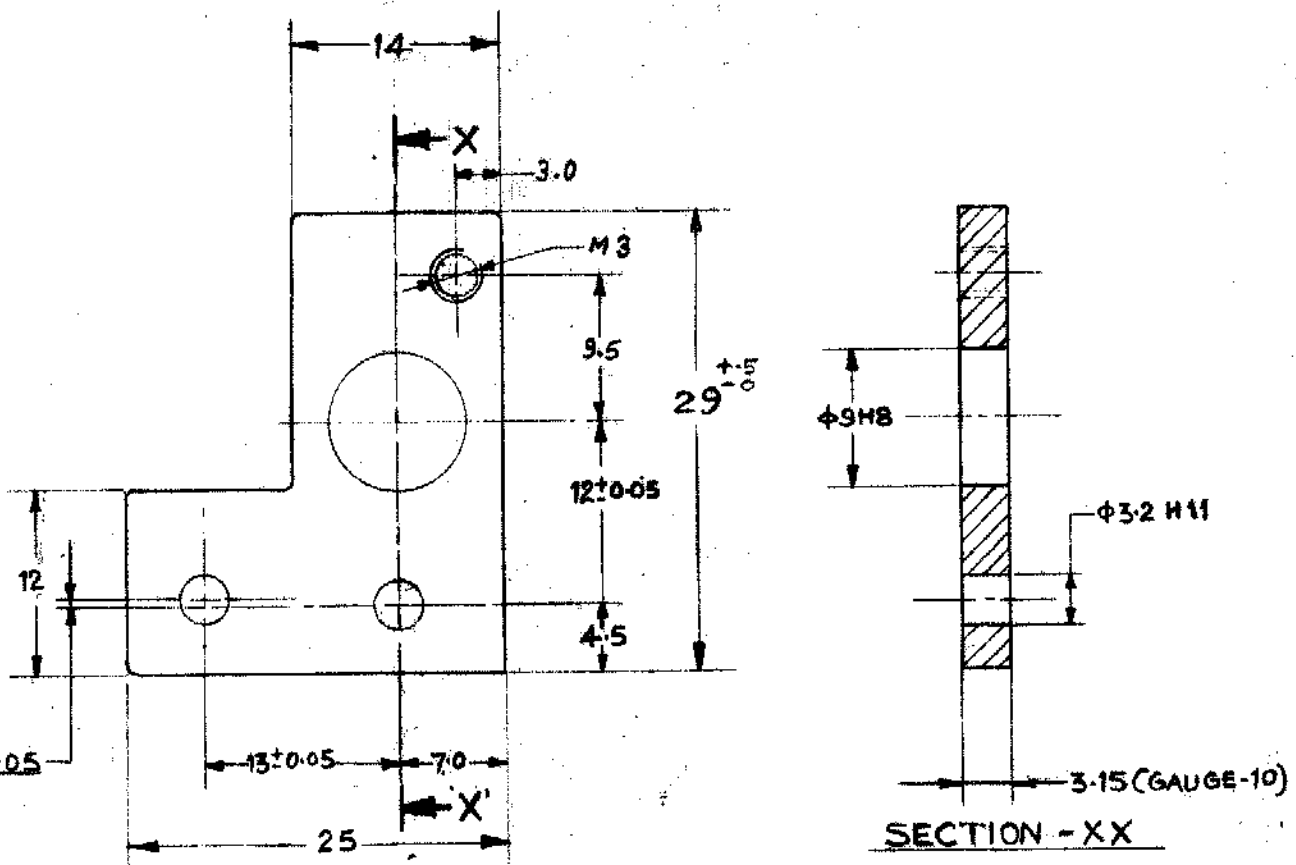
S.No.	REGION	REVISION	DATE	SIG.
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**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DESIGN	DATE	NOV.	CAP WASHER
MTL.	BY	MTL.	ROD AL. ALLOY HE 30 W.R IS:733 φ 22mm. (AF69)
TOL.	BY	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
FIN.	BY	FIN.	ANODIZE Gd. AC10 IS:1868

01 J 1 137

PRG. NO. PUID 42006



NOTE:-

ROUND OFF SHARP EDGES &

CORNERS

5	E-2	C BORE $\phi 6.0 \times 1.5/1.0$ DEEP DELETED	30-9-89	J
4	A-2	FINISH DELETED	22-10-82	Fuller
3	F-3	THREADED HOLE M3, DIM. 9.5 & 3.0 ADDED	12-7-85	Fuller
2	E-3, D-1 F-1	DIMS. 29 \pm 0.05, 1.5/1.0 & 9.5, 2.0/1.5 RESP & D: 5 X AS DELETED	26-10-78	B
1	-	REDESIGNED & REDRAWN	26-10-78	B

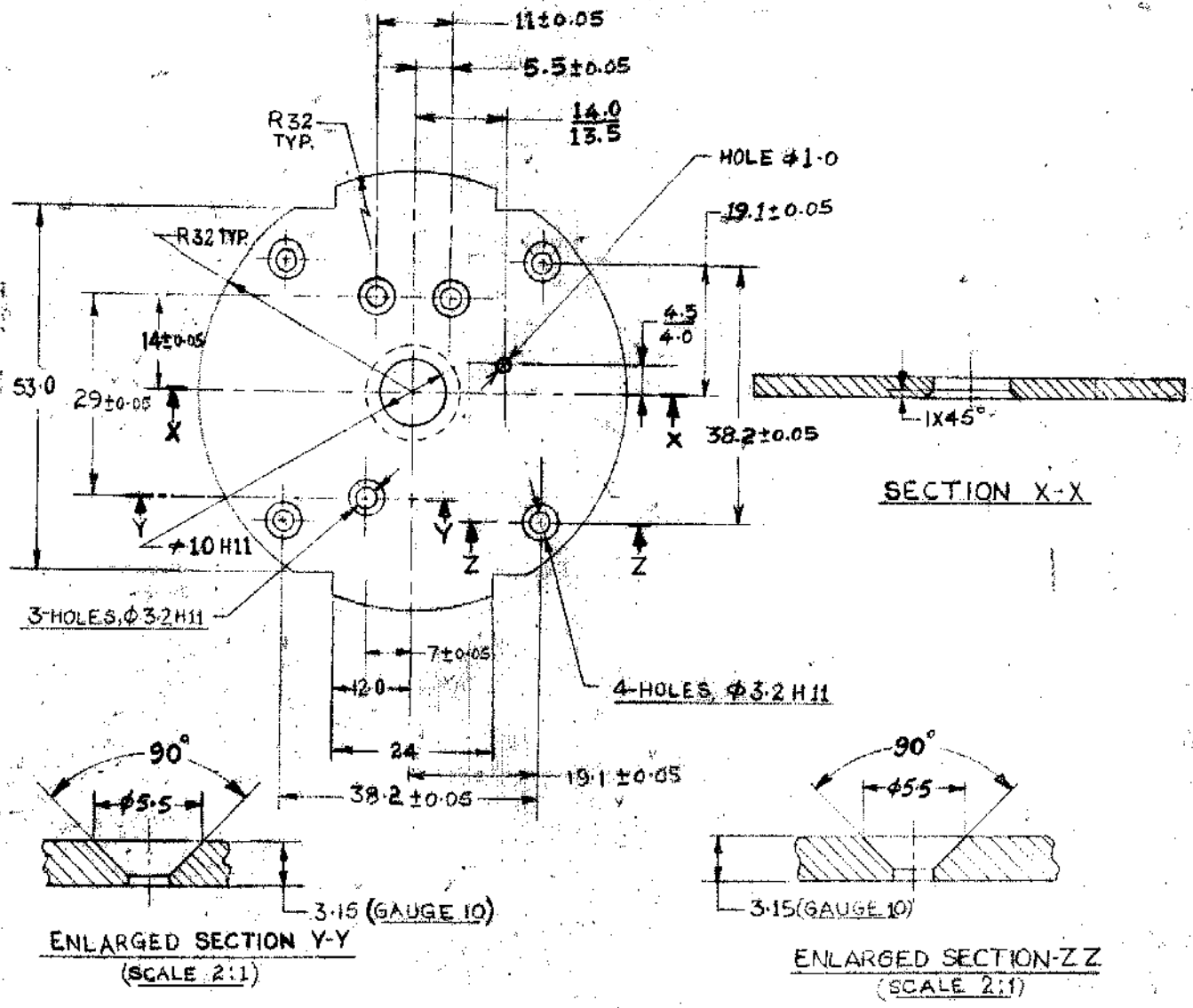
S.No.	REGION	REVISION	DATE	SIG.
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R E V I S I O N S


ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA
 KANPUR
 

DGN.	Fuller	NOM.	BRACKET HOUSING (RATCHET END)
ORN.	Approved	MTL.	SHEET AL ALLOY HS 30-WP 15: 737 (CODE NO. AP 15)
CHD.	Fuller	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
DIM.	IN MM	FIN.	
SCALE	2:1		
APP.	Fuller		
DATE	25.4.77	ORG. NO.	PU 1 D 42 B 02

01 J 1 105



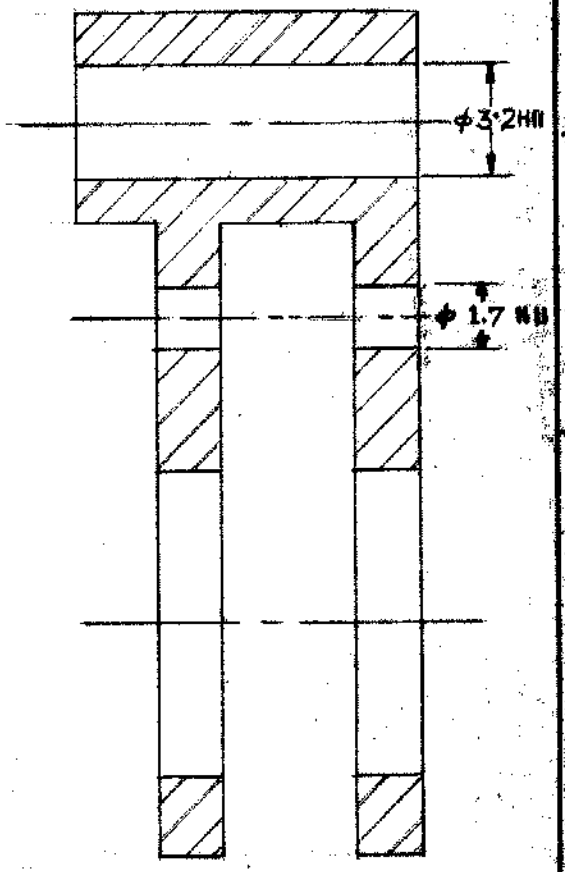
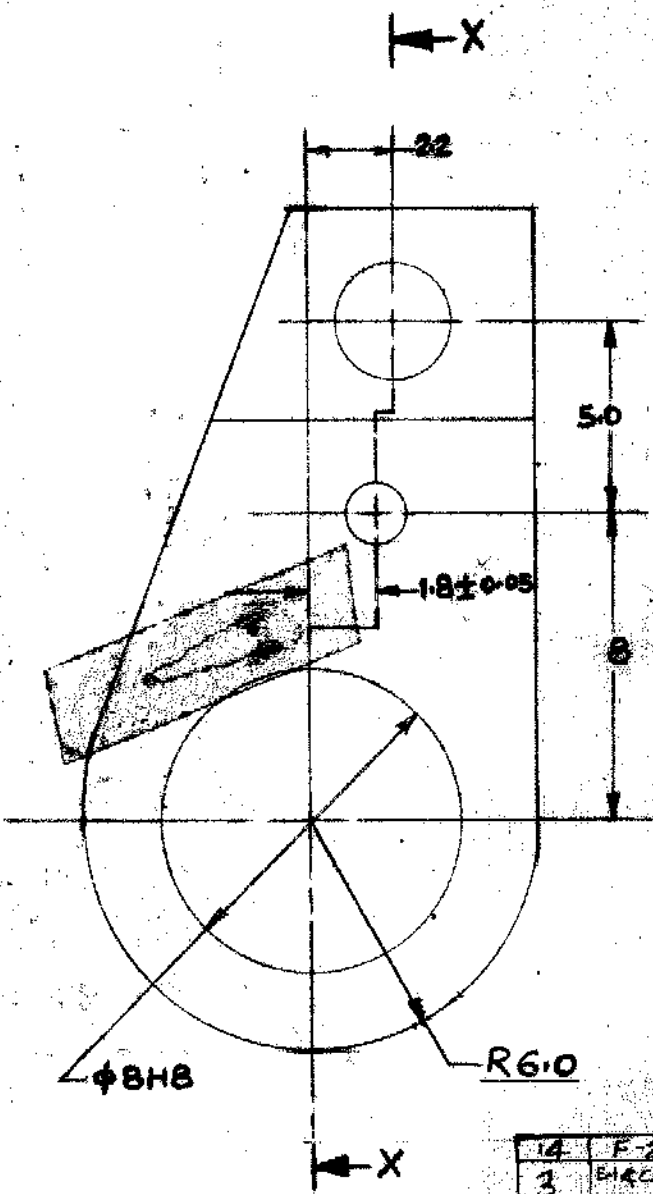
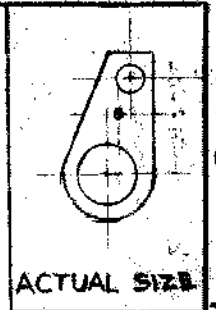
S.No.	REGION	REVISION	DATE	SIG.
6.	F-3, 1	HOLE Ø 4.0 & DIM. 21 DELETED	22-5-76	DW
5	A-2	FINISH DELETED	22-10-76	DW
4.	E-5	DIM. Ø 10 H11 WAS Ø 10.5	17-6-80	P
3	F-3	HOLE Ø 1.0 DIM 14.0 & 4.5 ADDED	4-10-77	PUL
2.	D-5 & D-2	SECTION YY & ZZ Ø 5.5, 90° WAS 2X45°	5-3-79	PUL
1.	E-5	DIM. 10.5 WAS 11.0	26-10-76	P

NOTE:-
1. REMOVE ALL SHARP EDGES & CORNERS.

REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR				
DRN.	<i>Puller</i>	NOM.	BASE PLATE	
DRN.	<i>Shri An</i>	MTL.	SHEET AL. ALLOY HS 30-WP IS: 737	
CND.	<i>N. S. S.</i>	TOL.	INTEGER ONLY 20.00 mm ONE PLACE DECIMAL 20.125 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm ANG TOL ± 1°	
DIM.	IN MM	FIN.		
SCALE				
APP.	<i>Puller</i>	DRG. NO. PU 1 D 42 B 08		
DRN.	25-4-77			

01 J 1 108

S.No.	REGION	REVISION	DATE	SIG.
5	F-1	DRG. SHAPE & DIM. CHANGED AS PER CASTING DRG. NO. PU 1 D 42 B 99 Φ 3.2 H11 WAS Φ 3 H11	18-1-94	<i>[Signature]</i>



SECTION-XX

14	F-2	DIM 9.0/8.5 WRS 9.5/9.0	27-9-89	<i>[Signature]</i>
3	F-4-C-4	Φ 1.7 WAS Φ 1.65 & BOTTOM SHAPE CHANGED	26-10-79	<i>[Signature]</i>
2	F-5-F-2	4.69/2.12 WAS 7.5/3.12 & CASTING DIM. ADDED	20-6-79	<i>[Signature]</i>
1	F-4-E-3	Φ 3.2 WAS Φ 3.0 & Φ 1.7 WAS Φ 1.6	26-7-78	<i>[Signature]</i>

NOTE:-

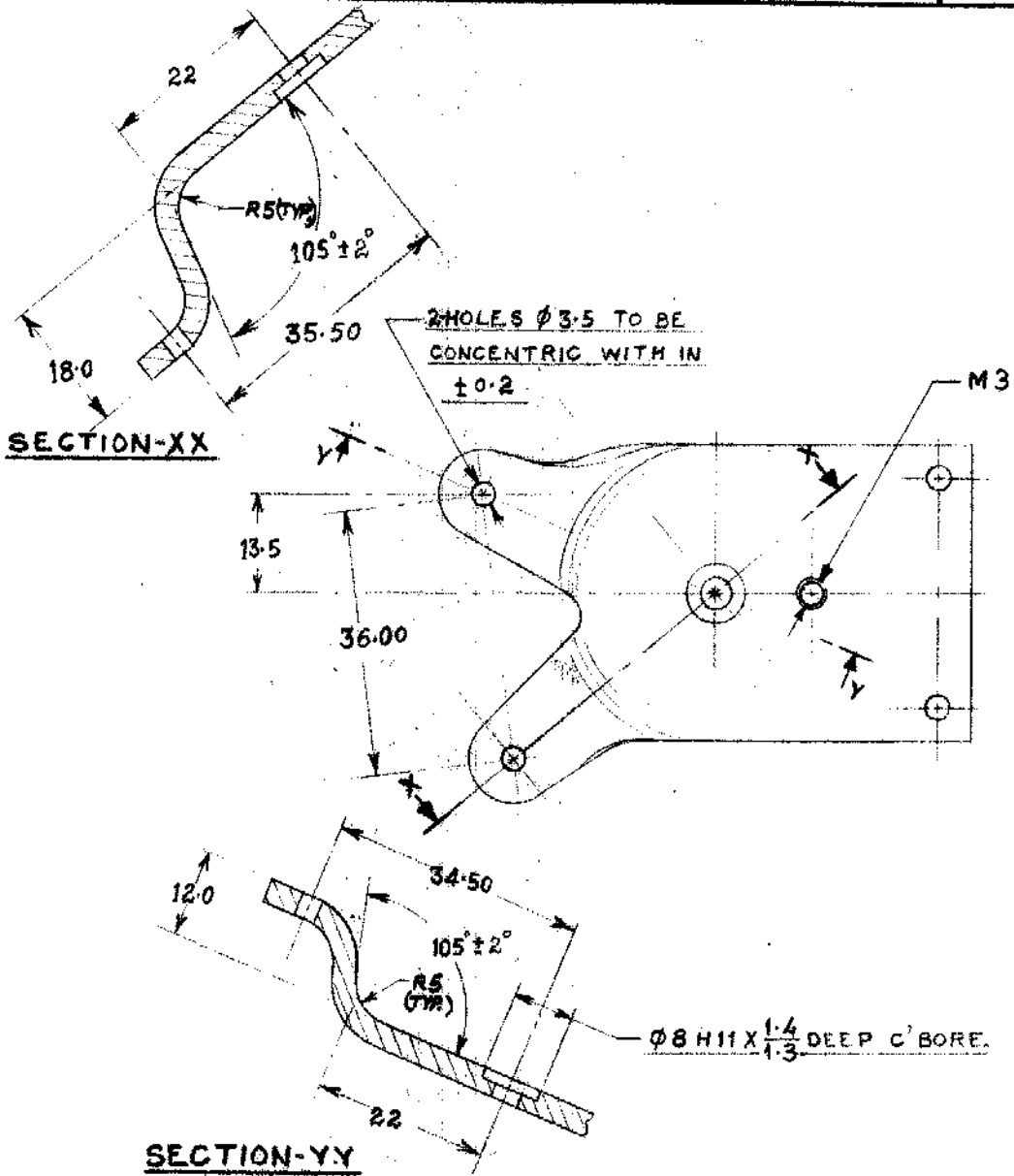
1. REMOVE SHARP EDGES & CORNERS
2. FOR CASTING DRG. REFER DRG. NO. PU 1 D 42 B 99

S.No.	REGION	REVISION	DATE	SIG.
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ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR

DGR.	<i>[Signature]</i>	ROM.	HOUSING PAWL
DNN.	<i>[Signature]</i>	WEL.	
CND.	<i>[Signature]</i>	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.000 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.000 mm
SCALE	5:1		
APP.	<i>[Signature]</i>		
DATE	25-4-77	DRG. NO.	PU 1 D 42 B 09

01 J 1 109



NOTE:-

1. FOR PREFORMING DETAILS REFER SHEET 2.

2	D&G-4	R5(TYP) WAS R6(TYP)	16.8.82	R
1	F-2	TAPPED HOLE M3 ADDED	15.4.81	P. S. Datta

S.No.	REGION	REVISION	DATE	SIG.
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REVISIONS



**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

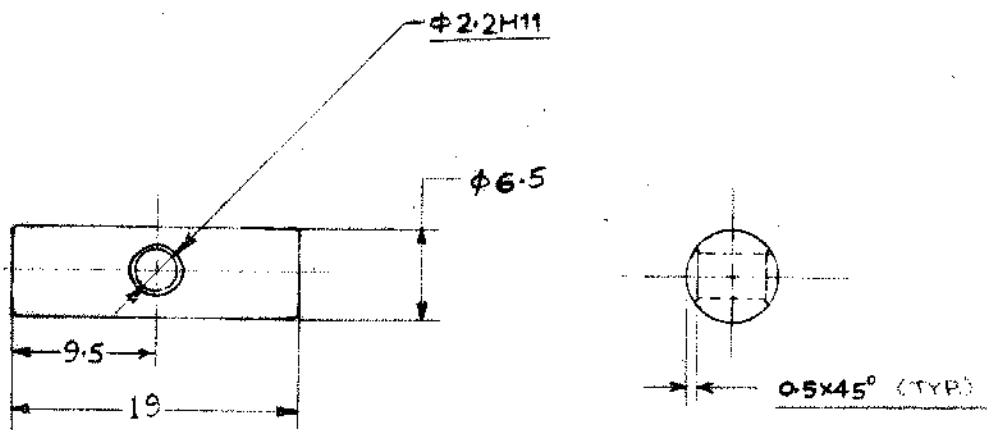


DGN.	<i>Shreehari</i>	NOM.	DORSAL PLATE (RIGHT)	
DRN.	<i>R. S. Datta</i>	MTL.	SHEET AL. ALLOY HS 30 WP, IS: 737 THICK. 3.15 mm (AP 15).	
CHD.	<i>Shreehari</i>	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED	
DIR.	IN mm	FIN.	BUFF & ANODIZED, Gd. AC 10, IS: 1868	
SCALE	1:1	DRG.NO.	PU 1 A 13 C 01	SHEET 1 OF 2
APP.	<i>R. S. Datta</i>	DATE	5.2.81	

01 J 2 080

5

4



NOTE:—

REMOVE SHARP EDGES & CORNERS

3	A-2	ANODISE WAS NICK PLATED	15.3.95	AN
2	A-3	REV. NO. 1 DELETED	8.11.94	AN
1	A-3	MATERIAL WAS ALUMINIUM ALLOY HE-30 WP IS: 733, ϕ 6.55 mm (A P 60)	13.5.88	AN

S.No.	REGION	REVISION	DATE	SIG.
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REVISIONS



ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR

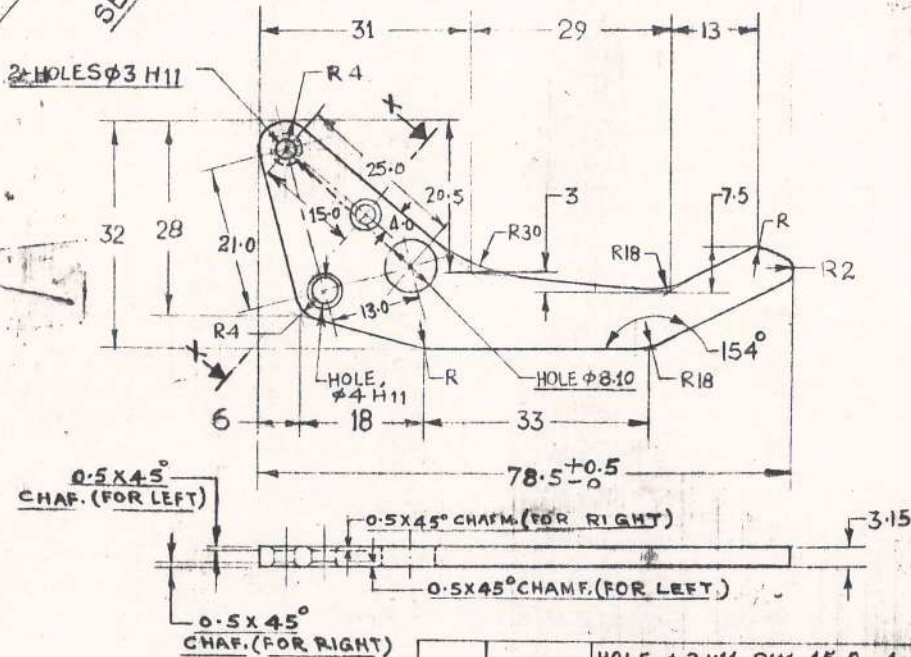
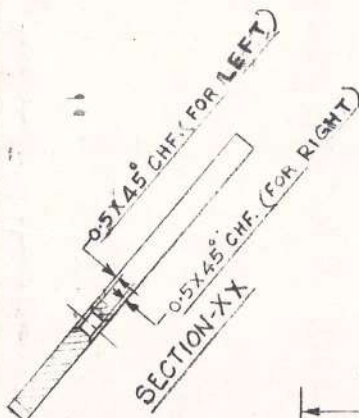


DGN.	AKB/vand/kyan	NOM.	CROSS BAR
DRN.	R. D. Jais	MTL.	ALUMINIUM ALLOY HE-30 WP IS: 733 ϕ 6.55 mm (A P 60)
CHD.	AN	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.126 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	ANODISE GRADE AC-10 IS: 1868
SCALE	2:1	APP.	AN
DATE	31.3.82	DRG. NO.	PU 2 H 11 0 10
			SHEET OF 1

01 J 2 133

5

4



5	F5, E4	HOLE $\phi 3 H11$, DIM. 15.0, 4.0, SECTION-XX & NOTE No. 3 ADDED.	11-9-82	Full
4	D-3	DIM. 78.5 ± 0.5 WAS 78.5	23-12-80	B
3	D-3	HOLE $\phi 8.10$ WAS HOLE $\phi 8 H8$	19-11-80	Full
2	A-3	BUFF WAS SAND BLAST IN FIN.	27-10-80	B
1	B-2 D-52.4 A-2 A 2	NOM. CHANGED. POSITION OF CHAM. $0.5X45^\circ$ (FOR RT/LT INDICATED) CHAM. $0.5X45^\circ$ ON $\phi 8 H8$ DELETED SAND BLAST ADDED IN FIN. DRG. NO. PU 1 A 16 B 01 ADDED	11.3.80	B

- NOTE:-**
1. REMOVE SHARP EDGES.
 2. BLENDING RADII FOR REF. ONLY.
 3. DRILL HOLE $\phi 3 H11$ AS SHOWN IN SECTION-XX WHEN IT IS USED FOR PASSIVE HAND.

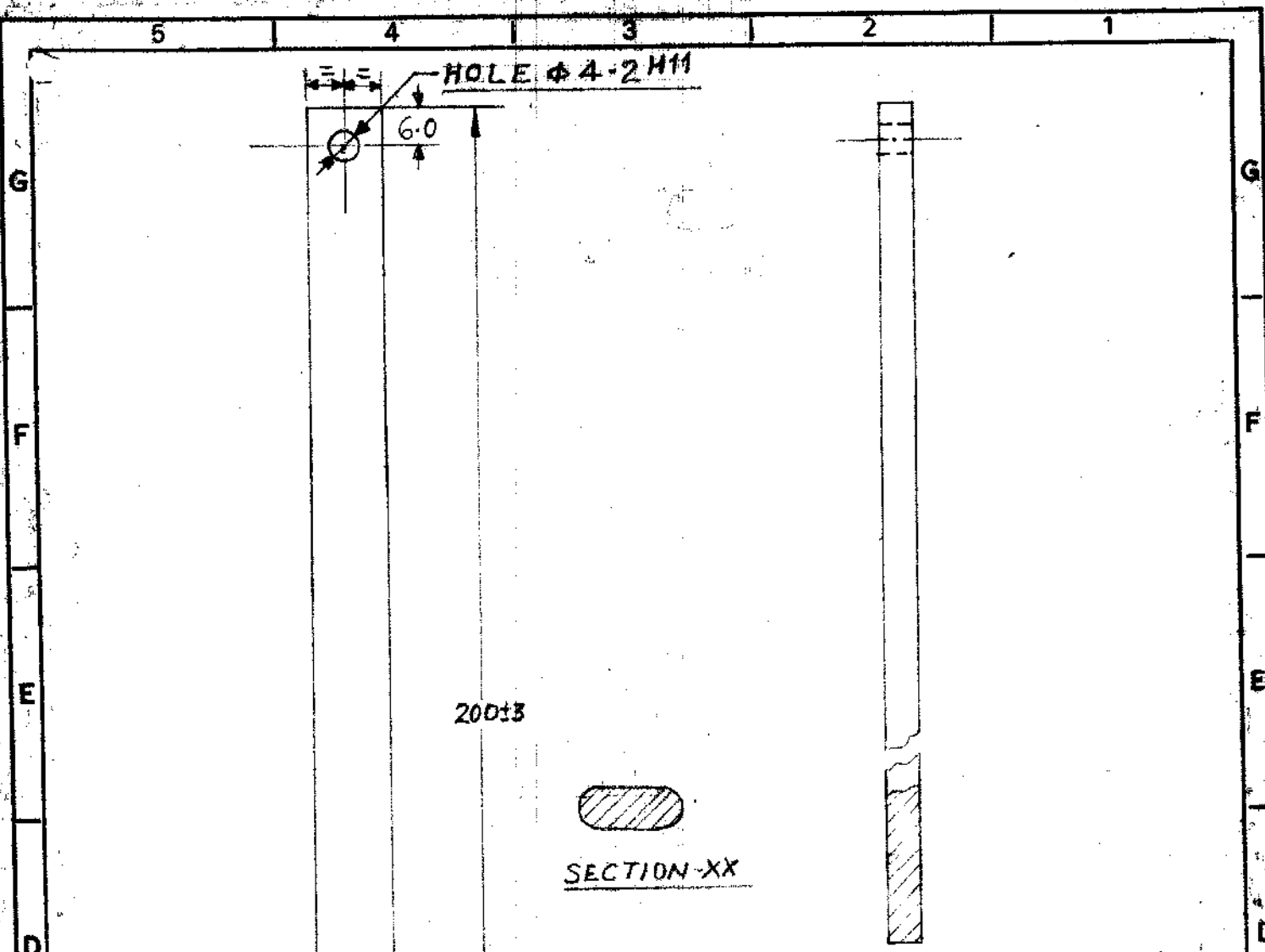
S.No.	REGION	REVISION	DATE	SIG.
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R E V I S I O N S



DGN.	Harish	NOM.	THUMB RIGHT/LEFT
DRN.	Krishna	MTL.	SHEET AL. ALLOY, HS 30 W.P. IS: 737, TH. 3-15 mm (AP. 15)
CHD.	Harish	TOL.	INTEGER ONLY ± 0.300 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	BUFF & ANODIZE, Gd. AC 10, IS: 1868
SCALE	1:1	APP.	DATE
DATE	19-9-82	DRG. NO.	PU 1 A 15 B 01 PU 1 A 16 B 01

01 J 2 041
5 4



200±3

SECTION XX

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH

- NOTE:
1. ROUND OFF SHARP EDGES
 2. ANGULAR TOL: ±1/2°

13	G-4	HOLE ϕ 4.2 H11 & DIM 6.0 ADDED	26/2000	RLG
12	A2	MAT. CONDITION 'W' WAS WP & T4 WAS T6	23.3.78	RLG
11	DE-2	2-HOLES & C BORE DELETED	1-7-82	RLG
10	D-2	C BORE WAS CSR 50° & NOTE NO. 3 DELETED	19.6.80	RLG
9	A-2	2-HOLES ϕ 4.2 H11 WAS 2-HOLES ϕ 5.2/5.1		RLG
8	A-5	M.T.L. WAS GE 9.01		RLG
7	A-5	NOTE NO. 5 ADDED	27.3.79	RLG
6	A2	NOTE NO. 4 ADDED	22.8.78	RLG
5	D2	FINISH ADDED	2-8-78	RLG
4	D 2	ϕ 5.2/5.1 WAS ϕ 6.125/6.000	11-12-76	RLG
3	D3	ϕ 6.125/6.000 WAS ϕ 6 H11	7.11.76	RLG
2	G3, A2	DIM. 200±3 WAS 200	5.7.76	RLG
1		SECT. DETAILS DELETED & M.T.L. CODE NO. ADDED	12.6.76	RLG
		REDESIGNED & REDRAWN		RLG

S.N.	REGION	REVISION	DATE	SIG.
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ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA

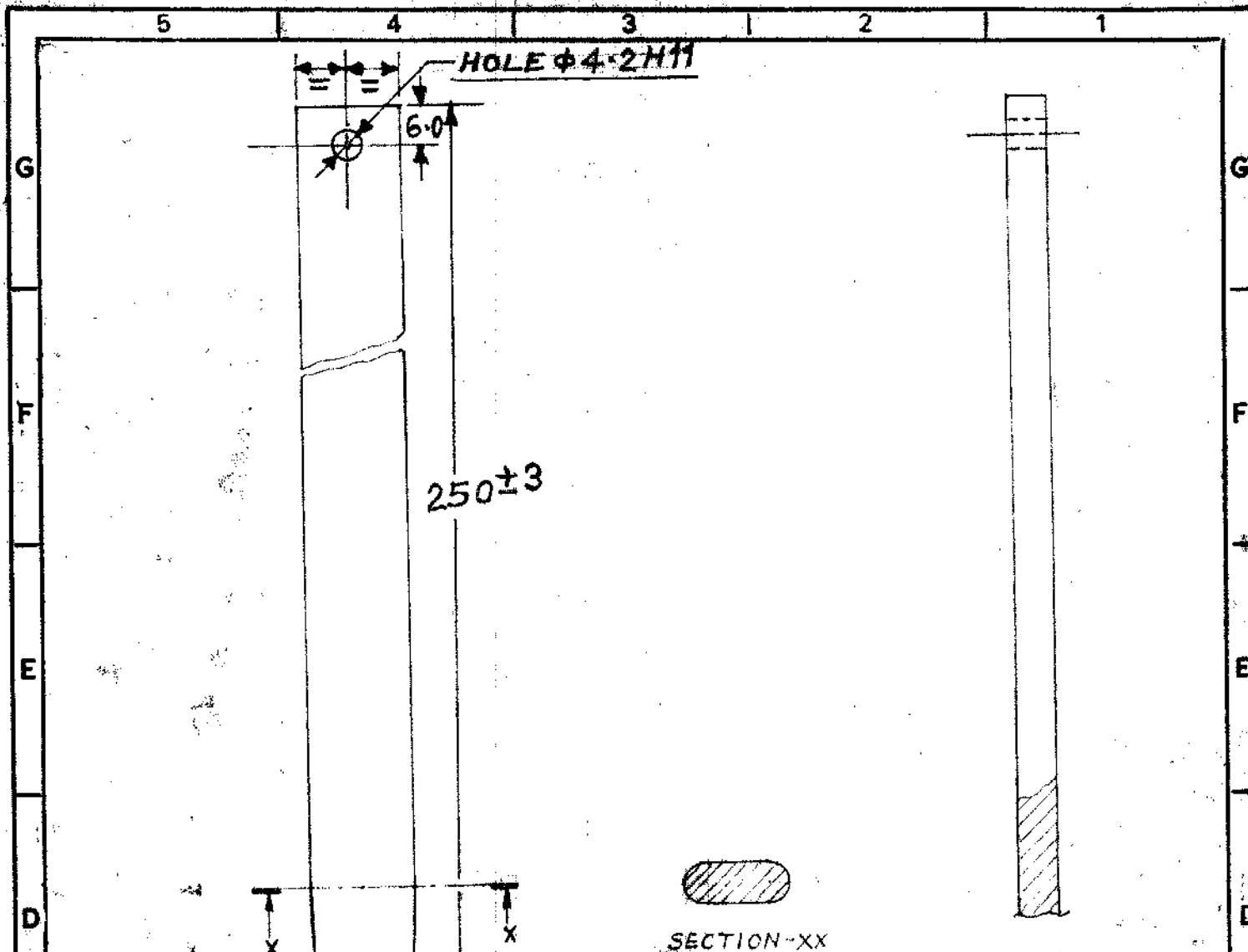


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4. HEAT TREATMENT:-
HEAT TO 450°C ±10°, SOAKING TIME 1 HOUR & WATER QUENCH
5. HARDNESS ± 40 HR 30-T

QBR.	RLG	NOM.	JOINT BAR ANKLE JOINT UNIT SIZE I
DRW.	RLG	MTL.	EXTRUDED SECTION AL-ALLOY 12 X 5 mm (64423 W, IS: 733-1975 (6066-T4 OR EQV) (A6 07)
ENR.	RLG	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
FIN.	RLG	FIN.	ANODIZE GRADE AC-10 IS: 1868
ORG.	RLG	ORG. NO.	RL 1E 10 000

01 H 5 107



250 ± 3

HOLE $\phi 4.2 \text{ H11}$

6.0

SECTION-XX

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH

NOTE:-

1. ROUND OFF SHARP EDGES
2. ANGULAR TOL. $\pm 1/2^\circ$
- 3.

4. HEAT TREATMENT:-

HEAT TO $450^\circ\text{C} \pm 10^\circ$, SOAKING TIME 1 HOUR & WATER QUENCH

5. HARDNESS $\geq 40 \text{ HR } 30\text{-T}$

01 H 5 125

S.No.	REGION	REVISION	DATE	SIG.
12	G-4	HOLE $\phi 4.2 \text{ H11}$ & DIM 6.0 ADDED.	26-6-76	R.K.
11	A-2	MAT. CONDITION - W WAS WP & T4 WAS T6	18-6-92	R.K.
10	D-2	2-HOLES & C BORE DELETED	23-3-90	R.K.
9	D-3	2 nd BORE WAS CSK 90° NOTE NO.3 DELETED	1-7-82	R.K.
8	A-2	2-HOLES $\phi 4.2 \text{ H11}$ WAS 2-HOLES $\phi 5.1/5.7$ MTL. WAS GE G 02	19-6-80	R.K.
7	A-5	NOTE NO. 5 ADDED	18-4-79	R.K.
6	D-2	$\phi 5.2/5.1$ WAS $\phi 6.125/6.000$ NOTE NO.4 ADDED	27-3-79	R.K.
5	A-2	FINISH ADDED	22-8-78	R.K.
4	D-2	$\phi 6.125/6.000$ WAS $\phi 6 \text{ H11}$	11-12-76	R.K.
3	D-3	DIM. 250 ± 3 WAS 250	9-8-76	R.K.
2	G3, A2	SECT. DETAILS DELETED & MTL. CODE NO. ADDED	5-7-76	R.K.
1		REDESIGNED & REDRAWN	18-6-76	R.K.

REVISIONS



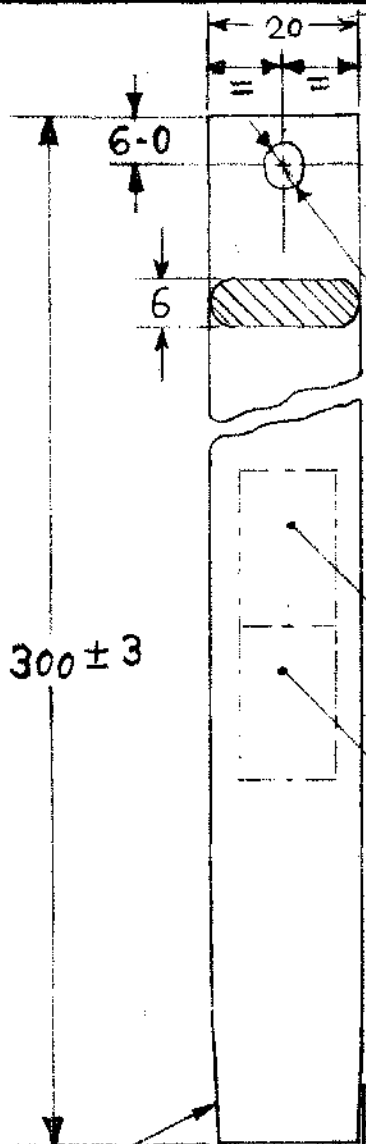
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR



DDN.	R.K. R. D.	NDM.	JOINT BAR ANKLE JOINT UNIT SIZE - II
DDN.	R.K. R. D.	MTL.	EXTRUDED SECTION AL. ALLOY 16X6mm 6A423 W, 15:733-1975 (6066-T4 OR E. QU) (A908)
DDN.	R.K. R. D.	TOL.	INTEGER ONLY 20.100 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
DDN.	R.K. R. D.	FIN.	ANODIZE GRADE AC-10 IS: 1868
DDN.	R.K. R. D.	DRG. NO.	RL LE 20 0 00
DATE	12-6-76		

5 4 3 2 1

ITEM NO.	DRG. NO.	NOMENCLATURE	NO. OFF	REMARKS
1	LE-16	AL FOIL ISI MARK STICKER SIZE - 20x12.5x0.03mm THK FOR ORTHOTIC JOINT BAR IS: 9471 (P-7)	1	
2	LE-51	AL FOIL NAME PLATE STICKER SIZE - 20x12.5x0.03mm THK FOR JOINT BAR, ANKLE SIZE - III	1	



HOLE φ4.2H11

SUITABLE TAPER TO PERMIT
ENTRY OF BAR TO APPROX 50%
OF JOINT UNIT SLOT LENGTH.

NOTE:-

1. ROUND OFF SHARP EDGES
2. ANGULAR TOL. $\pm \frac{1}{2}$
- 3.
4. HEAT TREATMENT:-
HEAT TO 450°C ± 10 , SOAKING TIME
1 HOUR & WATER QUENCH
5. HARDNESS ± 40 HR 30-T

01H5 142

13	E-4	ITEM NO. 1 & 2 ADDED.	16.7.04	RPSH
12	G-4	HOLE φ4.2H11 & DIM 6-0 ADDED	26.2.00	RL
11	A2	MAT. CONDITION W WAS WP & T4 WAS T6	18.6.92	
10	D2	2 HOLES & C BORE DELETED	23.3.90	
9	D-2	2 C BORE WAS CSK 90° & NOTE NO. 3 DELETED	1.7.82	
8	A-2	2 HOLES φ4.2H11 WAS 2 HOLES φ5.2/5.1 MTL. WAS GE G O 3	9.6.80	
7	A-5	NOTE NO. 5 ADDED	18.6.79	
6	D-2	φ5.2/5.1 WAS φ6.125/6.000 ^{NOTE 4 ADDED}	27.1.79	
5	A2	FINISH ADDED	22.8.78	
4	D2	φ6.125/6.000 WAS φ6 H11	11.12.76	DUK
3	D3	DIM. 300±3 WAS 300	9.5.76	
2	G2, A2	SECT. DETAILS DELETED & MTL. CODE NO. ADDED	5.7.76	
1		REDESIGNED & REDRAWN	12.6.76	

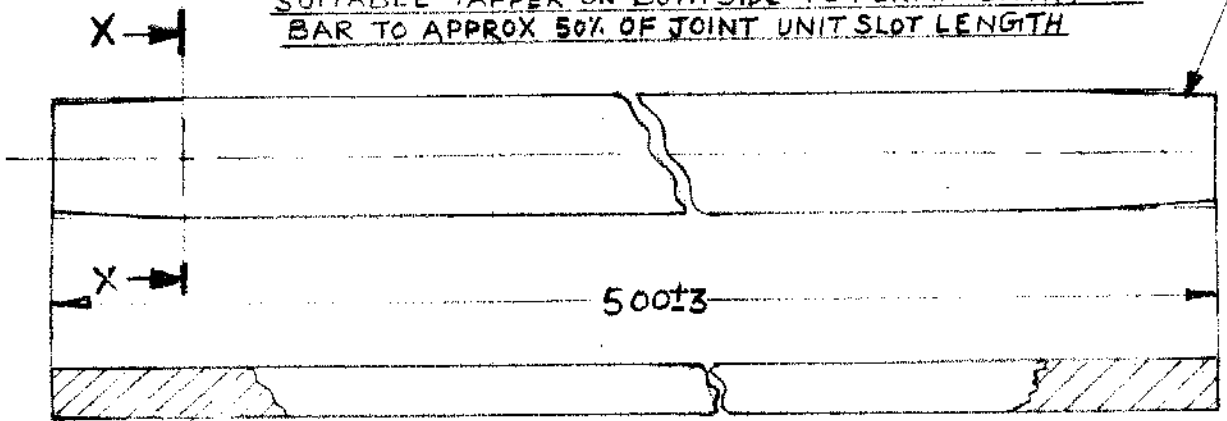
S. No.	REGION	REVISION	DATE	SIG.
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**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DES.	B. K. Das	NOM.	JOINT BAR ANKLE JOINT UNIT SIZE III
ENG.	R. Singh	MTL.	EXTRUDED SECTION AL. ALLOY 20x6mm 6442314 IS: 733-1975/16086-T4 OR EQU. (A Q O 9)
CHKD.	N. Singh	TOL.	INTEGER ONLY 20.500 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
DRW.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1888
SCALE	1:1	DRG. NO.	RL IE 30 0 00
APP.	B. K. Das		
DATE	12.6.76		

5 4 3 2 1

SUITABLE TAPPER ON BOTH SIDE TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH



SECTION XX

NOTE:-
1. ROUND OFF SHARP EDGES

1	E 4	A-HOLES & C'BORE DELETED	293.00	
S No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN	<i>Mudh...</i>	NOM	JOINT BAR ANKLE JOINT UNIT SIZE - II (INSIDE OUTSIDE COMBINED)	
DRN	<i>P. S. ...</i>	MTL	EXTRUDED SECTION AL. ALLOY 15X6mm 64423 W, IS: 733-1975 6066-T4 OR EQUIVALENT (AG 98)	
CHD	<i>Rishi</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1868	
SCALE	1:1			
APP	<i>[Signature]</i>	DRG No.	RL 1 E 50 0 0 0	
DATE	30.9.89		SHEET	1 OF 1

01 H 5 181

5 4

5

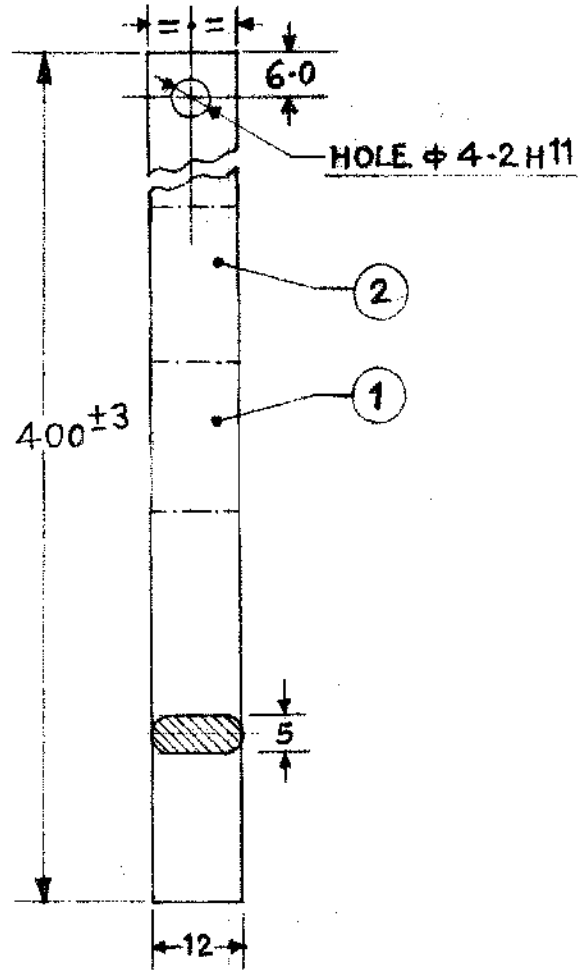
4

3

2

1

ITEM No	DRG. No.	NOMENCLATURE	No. OFE	REMARKS
1	LE 16	AL. FOIL ISI MARK STICKER SIZE-20X12.5X0.03mm THK. FOR ORTHOTIC JOINT BARS, IS: 9471 (Pt-7)	1	
2	LE 52	AL. FOIL NAME PLATE STICKER SIZE-20X12.5X0.03mm THK. BAR LEG (SIZE-I) INSIDE	1	



6	F-4	ITEM No. 1 & 2 ADDED	16.7.04	<i>R.P.</i>
5	G-4	HOLE ϕ 4.2 H11 & DIM 6.0 ADDED.	26.6.2000	<i>R.P.</i>
4	A-2	MTL. WAS G E G 01	19.6.80	<i>R.P.</i>
3	B-5	NOTE NO. 2 ADDED	18.6.79	<i>R.P.</i>
2	B-5	NOTE NO. 1 ADDED	27.3.79	<i>R.P.</i>
1	A2	FINISH ADDED	22.8.78	<i>R.P.</i>

NOTE :-

1. HEAT TREATMENT: -
HEAT TO 450 ± 10°C, SOAKING
TIME 1 HOUR & WATER QUENCH

2. HARDNESS \geq 40 HR 30-T

S.No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

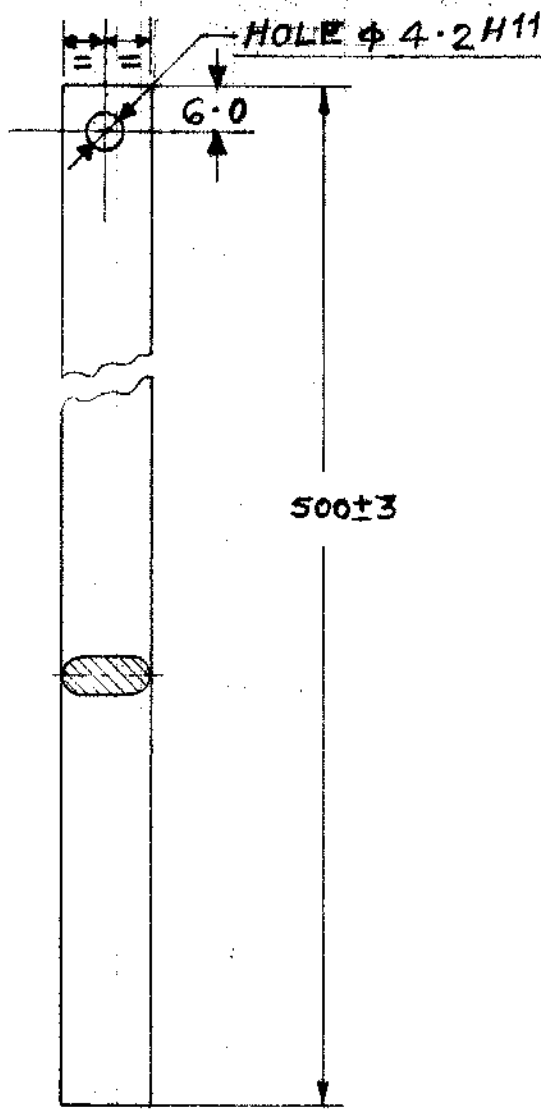


DGN.	<i>P. Rana</i>	NOM.	BAR LEG SIZE-I (INSIDE)
DRN.	<i>R. Deoguz</i>	MTL.	EXTRUDED SECTION AL. ALLOY 12X5mm 64423 WP, IS: 733-1975 (6086-T6 OR EQU.) (A207)
CHD.	<i>N. Sharma</i>	TOL.	INTEGER ONLY \pm 0.500 mm ONE PLACE DECIMAL \pm 0.250 mm TWO PLACE DECIMAL \pm 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1	APP.	<i>P. Rana</i>
DATE	14-7-78	DRG. NO.	RL 1 E 95 0 00
			SHEET OF 1

01 H 5 150

5

4



NOTE :-

1. HEAT TREATMENT :-

HEAT TO 450°C ± 10°C, SOAKING
TIME 1 HOUR & WATER QUENCH

2. HARDNESS > 40 HR 30-T

S.No.	REGION	REVISION	DATE	SIG.
5	G-4	HOLE φ 4.2 H11 & DIM 6.0 ADDED	26-6-78	R.P.
4	A-2	MTL. WAS GE. G 0 1	19-6-80	R.P.
3	B-5	NOTE NO. 2 ADDED	18-6-79	R.P.
2	B-5	NOTE NO. 1 ADDED	27-3-79	R.P.
1	A2	FINISH ADDED	22-8-78	R.P.

R E V I S I O N S

**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**



DGN.	R.P. Reddy	NOM.	BAR LEG SIZE - I (OUTSIDE)
DRN.	R. Deyraj	MTL.	EXTRUDED SECTION AL. ALLOY 12X5mm φ 4.23 W.P. IS: 733-1975 (6066-T6 OR EQU) (AQ 07)
CHD.	N.Sha	TOL.	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED
DIM.	mm	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1	DRG. NO.	RLIE 96000
APP.	R.P. Reddy	SHEET	1 OF 1
DATE	14-7-78		

01 H 5 151

5 4 3 2 1

HOLE ϕ 4.2 H11

6.0

R300 250 \pm 3

SECTION-XX

R100

25

X

10

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

NOTE:-

1. ROUND OFF SHARP EDGES
2. ANGULAR TOL. \pm 1/2
- 3.

4. RADI TOL. \pm 5%
5. HEAT TREATMENT:-
HEAT TO 450 $^{\circ}$ C \pm 10 $^{\circ}$, SOAKING
TIME 1 HOUR & WATER QUENCH
6. HARDNESS \geq 40HR 30-T

01 H 7 034

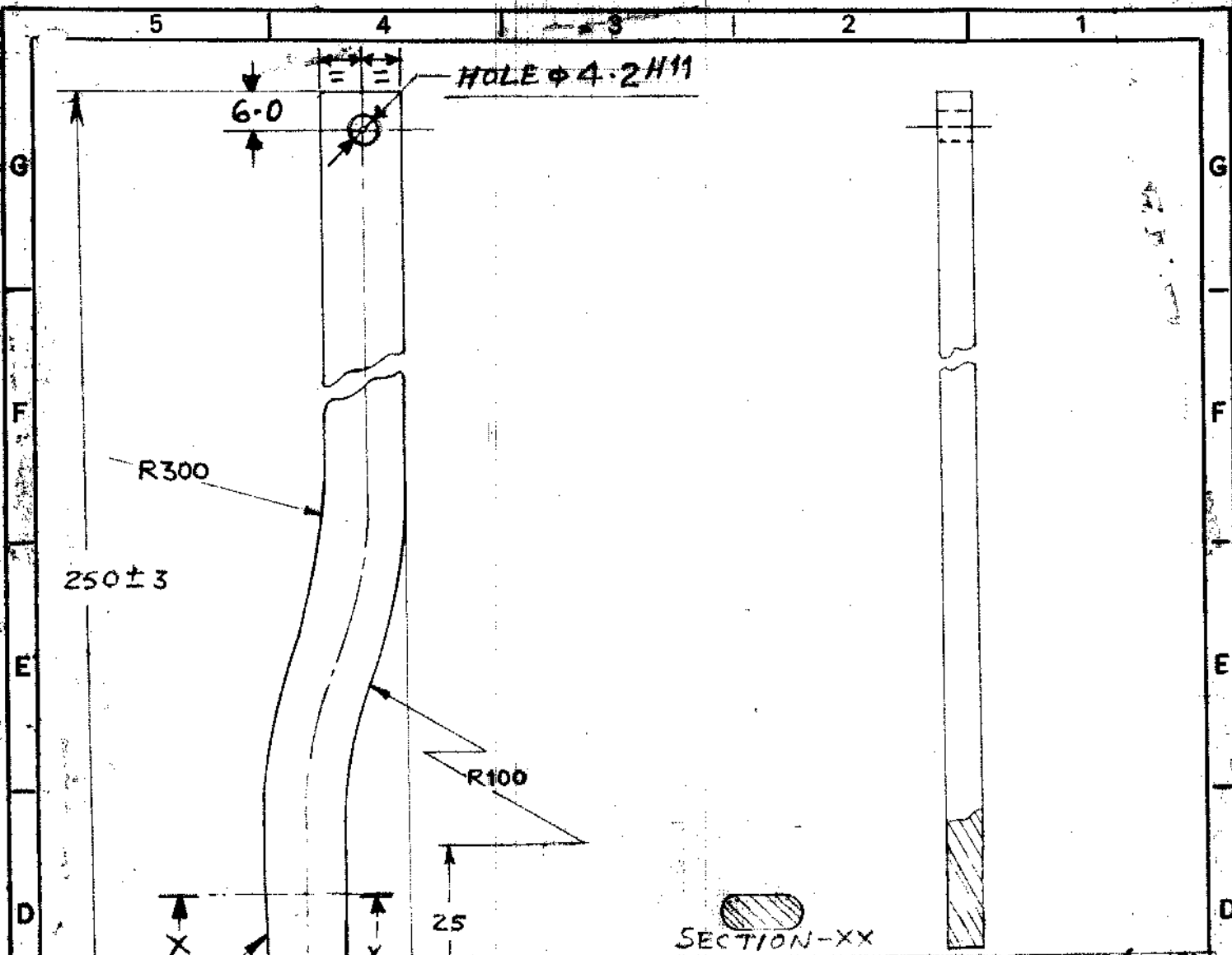
12	G-4	HOLE ϕ 4.2 H11 & DIM 6.0 ADDED	26.6.76	RL
X	A2	MAT. CONDITION 'W' WAS WP & TA WASTG	26.6.76	RL
10	E-2	2 HOLES & C BORE DELETED	23.3.90	RL
9	E-2	2 C BORE ϕ 8.8/8.3 WAS ϕ 9.0/8.5	27.10.83	RL
8	D-2	C BORE WAS CSK 90 $^{\circ}$ & NOTE NO. 3 DELETED	1.7.82	RL
7	A-2	2 HOLES ϕ 4.2 H11 WAS 2 HOLES ϕ 2.1/2.1	19.6.80	RL
6	A-5	MTL. WAS GE G 01		RL
5	A-5	NOTE NO. 6 ADDED	18.6.79	RL
4	A2	NOTE NO. 5 ADDED	27.3.79	RL
3	D2	FINISH ADDED	22.8.78	RL
2	D 2	ϕ 5.2/5.1 WAS ϕ 6.125/6.000	2-8-78	RL
1	C4	ϕ 6.125/6.000 WAS ϕ 6 H 11	14.7.76	RL
1	C4	DIM. 250 \pm 3 WAS 250 & NOTE NO. 4 ADDED	9.11.76	RL

S.No.	REGION	REVISION	DATE	SIG.
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REVISIONS

ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR

DGN.	<i>Burtha</i>	NOM.	JOINT BAR KNEE JOINT UNIT
DRN.	<i>Approved</i>		(LOWER) SIZE I RIGHT INSIDE/LEFT OUTSIDE
CHD.	<i>Wasth</i>	MTL.	EXTRUDED SECTION AL ALLOY 12X5mm 6A23 W, IS: 733-1975 (666-T4 OR EGU) (AG 07)
DIM.	IN MM	TOL.	INTEGER ONLY \pm 0.600 mm ONE PLACE DECIMAL \pm 0.250 mm TWO PLACE DECIMAL \pm 0.125 mm UNLESS SPECIFIED
SCALE	1:1	FIN.	ANODIZE GRADE AC-10 IS: 1868
APP.	<i>Burtha</i>		
DATE	11-8-76	DRG. NO.	RL 1 H 19 000





12	G-4	HOLE ϕ 4.2 H11 & DIM 6.0 ADDED	26-6-76	RL
11	A2	MAT. CONDITION - W WAS WP & T4 WAS T6	6-6-76	RL
10	D2	2 HOLES & C BORE DELETED	23-3-76	RL
9	D-2	2 C BORE ϕ 8.8/8.3 WAS ϕ 9.0/8.5	27-10-85	RL
8	D-2	2 C BORE WAS CSK 90° NOTE NO. 3 DELETED 2 HOLES ϕ 4.2 H11 WAS 2 HOLES ϕ 5.2/5.1	1-7-82	RL
7	A-2	MTL WAS GE. G O 1	19-6-80	RL
6	A-5	NOTE NO. 6 ADDED	18-4-79	RL
5	A-5	NOTE NO. 5 ADDED	27-3-79	RL
4	A2	FINISH ADDED	22-8-78	RL
3	D2	ϕ 5.2/5.1 WAS ϕ 6.125/6.000	2-8-78	RL
2	D2	ϕ 6.125/6.000 WAS ϕ 6 H11	1-12-76	RL
1	D3	DIM 250 ± 3 WAS 250 & NOTE NO. 4 ADDED	9-11-76	RL

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

NOTE :-

1. ROUND OFF SHARP EDGES
2. ANGULAR TOL. $\pm 1/2^\circ$
- 3.
4. RADI TOL. $\pm 5\%$
5. HEAT TREATMENT :-
HEAT TO $450^\circ\text{C} \pm 10^\circ$, SOAKING
TIME 1 HOUR & WATER QUENCH
6. HARDNESS \geq 40 HR 30-T

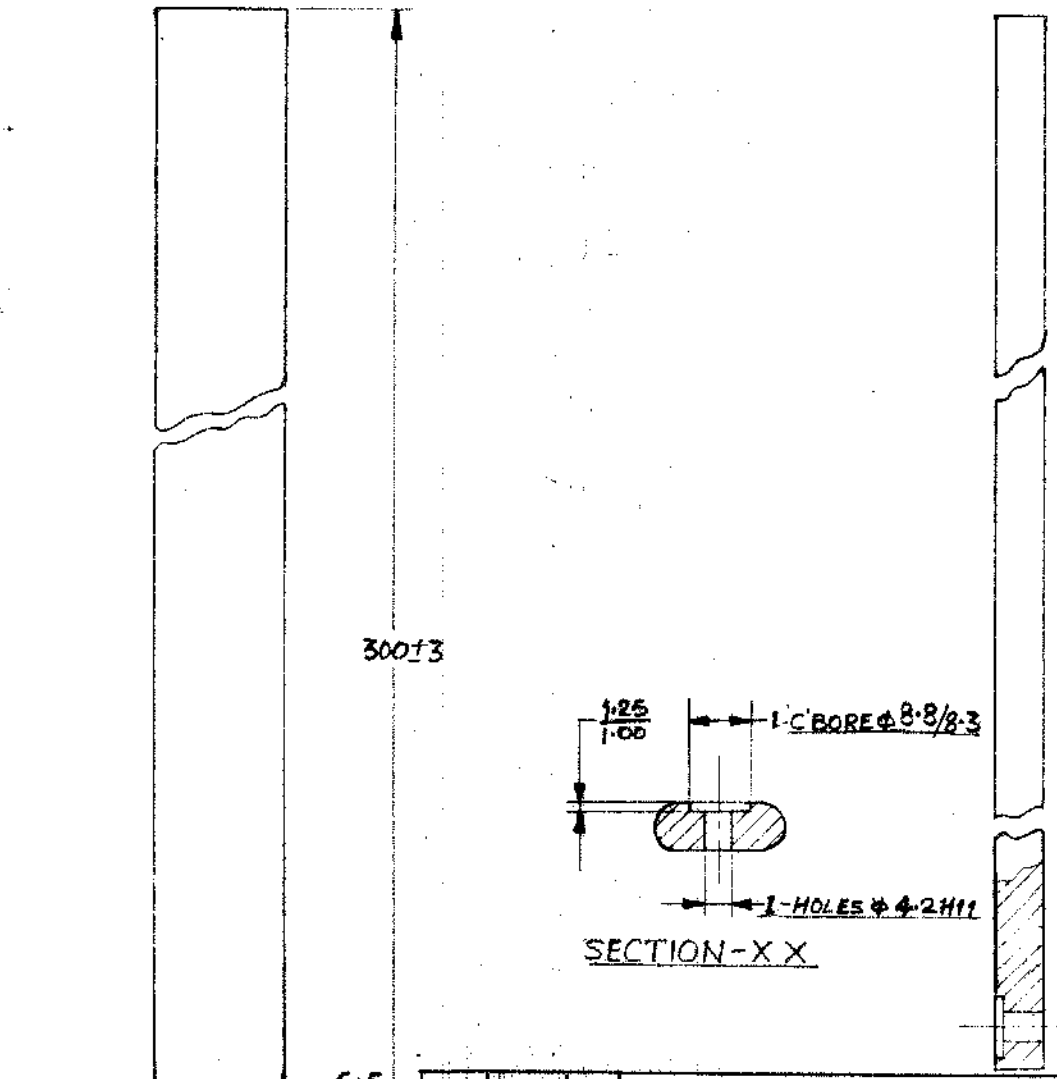
01 H 7. 035

S.No.	REGION	REVISION	DATE	SIG.
REVISIONS				
 ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA  KANPUR				
DGN.	[Signature]		NOM. JOINT BAR KNEE JOINT UNIT (LOWER) SIZE 1 RIGHT OUTSIDE/LEFT INSIDE	
DRN.	[Signature]		MTL. EXTRUDED SECTION AL ALLOY 1205 64423 W, IS: 733-1975 (6066-T4 OREQU) (AQ OT)	
CND.	[Signature]		TOL. INTEGER ONLY 30.500 mm ONE PLACE DECIMAL 30.250 mm UNLESS SPECIFIED TWO PLACE DECIMAL 30.125 mm	
DIM.	[Signature]		FIN. ANODIZE GRADE AC-10 IS: 1868	
SCALE	1:1			
APP.	[Signature]		ORG. NO. RL 1 H 20 0 00	
DATE	11-8-76		SHEET 1/1	

5 4 3 2 1

G
F
E
D
C
B
A

G
F
E
D
C
B
A



12	A2	ST	MAT. CONDITION - W WAS WP & T4 WAS T6	12-6-92	DR
11	DE-2		1-HOLE & C'BORE WAS 2 HOLES & C'BORE	30-3-90	DR
10	E-2		2-C'BORE ϕ 8.8/8.3 WAS ϕ 9.0/8.5	27-10-83	DR
9	D-2		2-C'BORE WAS CSK 90° & NOTE-3 DELETED	1-7-82	DR
8	A-2		MPL. WAS GE. 5 C 2	19-6-80	DR
7	A-5		NOTE NO. 5 ADDED	18-6-79	DR
6	D-2		ϕ 9.2/5.1 WAS ϕ 6.125/6.000 & NOTE NO. 4 ADDED	27-3-79	DR
5	A2		FINISH. ADDED	22-8-78	DR
4	D-2		ϕ 6.125/6.000 WAS ϕ 6 H11	11-2-76	DR
3	C-3		DIM. 300 ± 3 WAS 300	9-8-76	DR
2	F3, A2		DRG. DETAILS DELETED & MPL. CODE NO. ADDED	5-7-76	DR
1			REDESIGNED & REDRAWN	12-6-76	DR

- NOTE:-**
1. ROUND OFF SHARP EDGES
 2. ANGULAR TOL. $\pm 1/2$
 - 3.
 4. HEAT TREATMENT:-
HEAT TO $450^{\circ}\text{C} \pm 10^{\circ}$, SOAKING TIME 1 HOUR & WATER QUENCH
 5. HARDNESS ± 40 HR 30-T

S.N.	REGION	REVISION	DATE	SIG.
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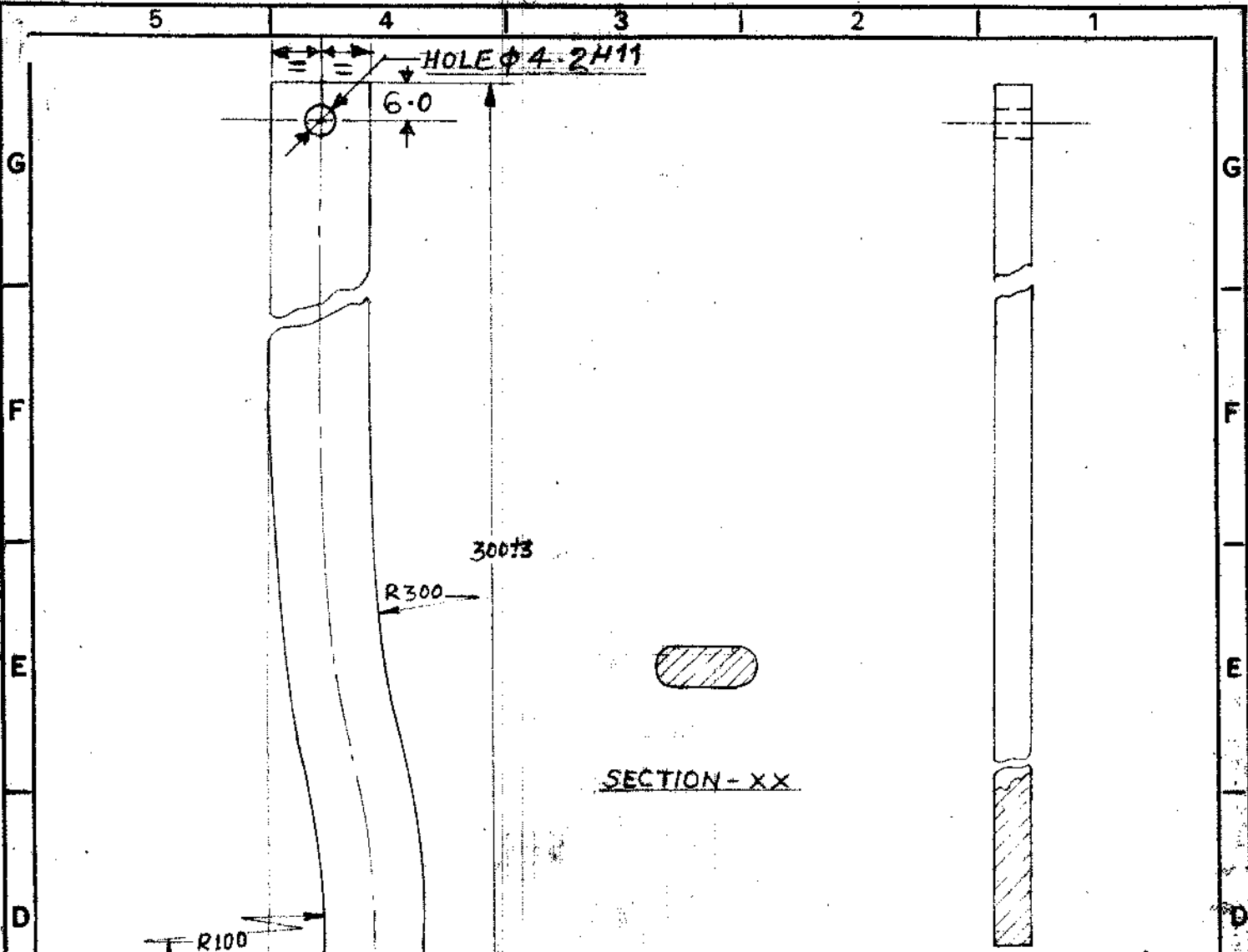
REVISIONS



QTY.	1	ITEM.	JOINT BAR KNEE JOINT UNIT (UPPER) SIZE - II
QTY.	1	REF.	EXTRUDED SECTIONAL ALLOY 16x6 mm 89-423 W IS: 1733-1975 (6088-T4 OR EQU.) (A Q. O. B)
QTY.	1	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.125 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm
QTY.	1	FIN.	ANODIZE GRADE AC-10 IS: 1358
QTY.	1	DRG. NO.	RL 1 H 280 00 185

01 H 7 064

5 4



13	G-4	HOLE ϕ 4.2H11 & DIM 6.0 ADDED	26.6.82	RL
12	AZ	MAT. CONDITION WAS WP & T4 WAS T6	18.6.92	RL
11	E-2	2-HOLES & C'BORE DELETED	23.3.90	RL
10	E-2	2-C BORE ϕ 8.8/8.3 WAS ϕ 9.0/8.5	27.10.83	RL
9	D-2	C'BORE WAS CSK 90° & NOTE NO. 3 DELETED	1.7.82	RL
8	A-2	MTL. WAS GE 502	19.4.80	RL
7	A-5	NOTE NO. 6 ADDED	18.4.79	RL
6	D-2	ϕ 5.2/5.1 WAS ϕ 6.125/6.000 & NOTE NO. 5 ADDED	27.3.79	RL
5	AZ	FINISH ADDED	22.8.78	RL
4	DC 2	ϕ 6.125/6.000 WAS ϕ 6H11	18.12.76	RL
3	C4	DIM. 300 \pm 3 WAS 300 \pm 8 NOTE NO. 4 ADDED	9.11.76	RL
2	G3, AZ	SECT. DETAILS DELETED & MTL. CODE NO. ADDED	5.7.76	RL
1	-	REDESIGNED & REDRAWN	12.6.76	RL

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

NOTE:-

1. ROUND OFF SHARP EDGES
2. ANGULAR TOL. $\pm 1/2$

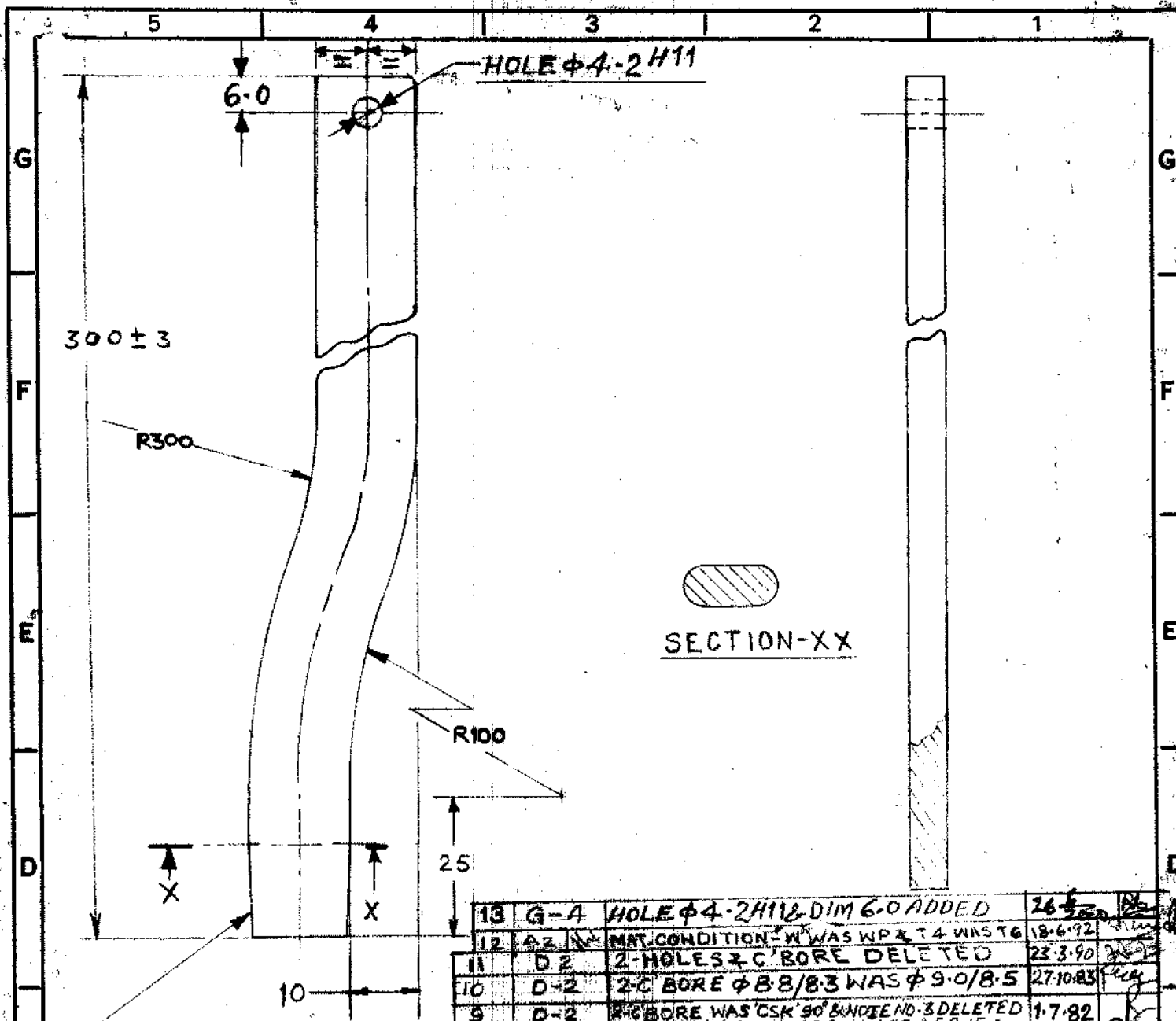
4. RADII TOL. $\pm 5\%$
5. HEAT TREATMENT:-
HEAT TO $450^{\circ}\text{C} \pm 10^{\circ}$, SOAKING TIME 1 HOUR & WATER QUENCH
6. HARDNESS ≥ 40 HR 30-T

01 H 7 0 65

REVISIONS

ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA
KANPUR

DES.	Rev. 1	NOM.	JOINT BAR KNEE JOINT UNIT (LOWER)
DRN.	Rev. 1	MTL.	EXTRUDED SECTION AL ALLOY 16x6mm 64423 W, IS: 793-1975 (6061-T4 OR EQV) (A Q O B)
ENR.	Rev. 1	TOL.	INTEGER ONLY ONE PLACE DECIMAL ± 0.500 mm TWO PLACE DECIMAL ± 0.250 mm UNLESS SPECIFIED
SCALE	1:1	FIN.	ANODIZE GRADE AC-10 IS: 1858
APP.	Rev. 1	DATE	12.6.76
ORG. NO.	RL 1 H 29 0 60		



13	G-4	HOLE $\phi 4.2 H11$ DIM 6.0 ADDED	26-5-80	
12	A2	MAT. CONDITION - W WAS WP & T4 WAS T6	18-6-72	
11	D-2	2 HOLES & C BORE DELETED	23-3-90	
10	D-2	2 C BORE $\phi 8.8/8.3$ WAS $\phi 9.0/8.5$	27-10-83	
9	D-2	C BORE WAS CSK 90° & NOTE NO. 3 DELETED	1-7-82	
8	A-2	2 HOLES $\phi 4.2 H11$ & 2 HOLES $\phi 5.2/5.1$	19-6-80	
7	A-5	MTL WAS GE 6 02	18-6-79	
6	D-2	NOTE NO. 6 ADDED	27-3-79	
5	A2	$\phi 5.2/5.1$ WAS $\phi 6.125/6.000$ & NOTE NO. 5 ADDED	22-8-78	
4	D-2	FINISH ADDED	12-7-76	
3	D-3	$\phi 6.125/6.000$ WAS $\phi 6 H11$	9-8-75	
2	G3, A2	DIM. 300'S WAS 300 & ADDED NOTE NO. 4	5-7-74	
1		SECT. DETAILS DELETED & MTL. CODE NO. ADDED	12-6-73	
		REDESIGNED & REDRAWN	12-6-73	

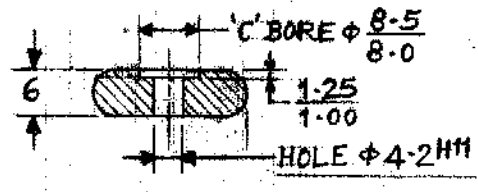
- NOTE:-
1. ROUND OFF SHARP EDGES
 2. ANGULAR TOL $\pm 1/2$
 - 3.

4. RADII TOL $\pm 5\%$
 5. HEAT TREATMENT :-
HEAT TO 450°C $\pm 10^\circ$, SOAKING TIME 1 HOUR & WATER QUENCH
 6. HARDNESS $\geq 40 HR 30-T$
- 01 H 7 066

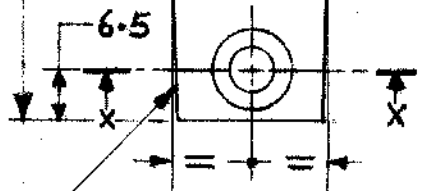
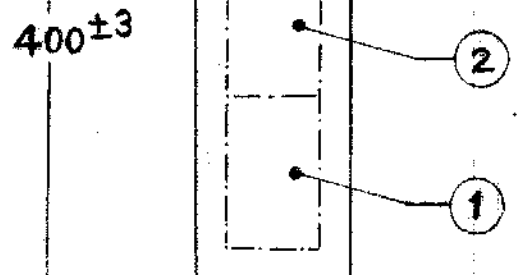
S.No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR				
IGN.			JOINT BAR KNEE JOINT UNIT (LOWER) SIZE II RIGHT OUTSIDE/LEFT INSIDE	
APP.			EXTRUDED SECTIONAL-ALLOY 76 X 6 mm 64423 W, IS: 733-1975 (6066-T4 OR 6061-T6) (A.Q.O.S)	
CHKD.			TOL. INTEGER ONLY 50.500 mm ONE PLACE DECIMAL 30.250 mm UNLESS SPECIFIED TWO PLACE DECIMAL 30.125 mm	
DATE			FIN. AND DIZE GRADE AC-10 IS: 1868	
SCALE	1:1		DRG. NO. RL 1 H 30 0 00	
DATE	12-6-76			

5 4 3 2 1

ITEM No.	DRG. No.	NOMENCLATURE	No. OFF	REMARKS
1	LE 16	AL. FOIL ISI MARK STICKER SIZE-20X12.5X0.03mm THK. FOR ORTHOTIC JOINT BARS, IS: 9471 (Pt-7)	1	
2	LE 53	AL. FOIL NAME PLATE STICKER SIZE-20X12.5X0.03mm THK. FOR JOINT BAR KNEE UPPER SIZE-III	1	



SECTION-XX



SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

NO.	REV.	REVISION	DATE	SIG.
13	E-4, F-4	ITEM No. 1 & 2 ADDED	16.7.04	RPS
12	A2	MAT. CONDITION - W WAS WP R T4 WAS T6	18.6.72	
11	DE 2	1 HOLE & C BORE WAS 2-HOLES & C BORE	30.3.70	
10	F-3	DIM. 400 ± 3 WAS 350 ± 3	2.3.53	Pure
9	D-2	C BORE WAS CSK 90° & NOTE NO. 5 DELETED	1.7.82	
8	A-2	2-HOLES & 4.2 HOLE WAS 2-HOLES & 5.2/5.7	19.4.80	
7	A-5	MTL. WAS GF 60 3	18.6.79	
6	D-2	NOTE NO. 4 ADDED	27.7.79	
5	A2	FINISH ADDED	22.8.78	
4	D 2	φ 6.125/6.000 WAS φ 6 H 11	1.12.76	
3	D 3	DIM. 350 ± 3 WAS 300	9.1.76	
2	G3/A2	SECT. DETAILS DELETED & MTL. CODE NO. ADDED	5.7.76	
1		REDESIGNED & REDRAWN	12.6.76	

- NOTE:—
1. ROUND OFF SHARP EDGES
 2. ANGULAR TOL $\pm \frac{1}{2}$
 - 3.

4. HEAT TREATMENT:—
HEAT TO 450°C ± 10 , SOAKING
TIME 1 HOUR & WATER QUENCH
5. HARDNESS: 40 HR 30-T
O1 H 7 095

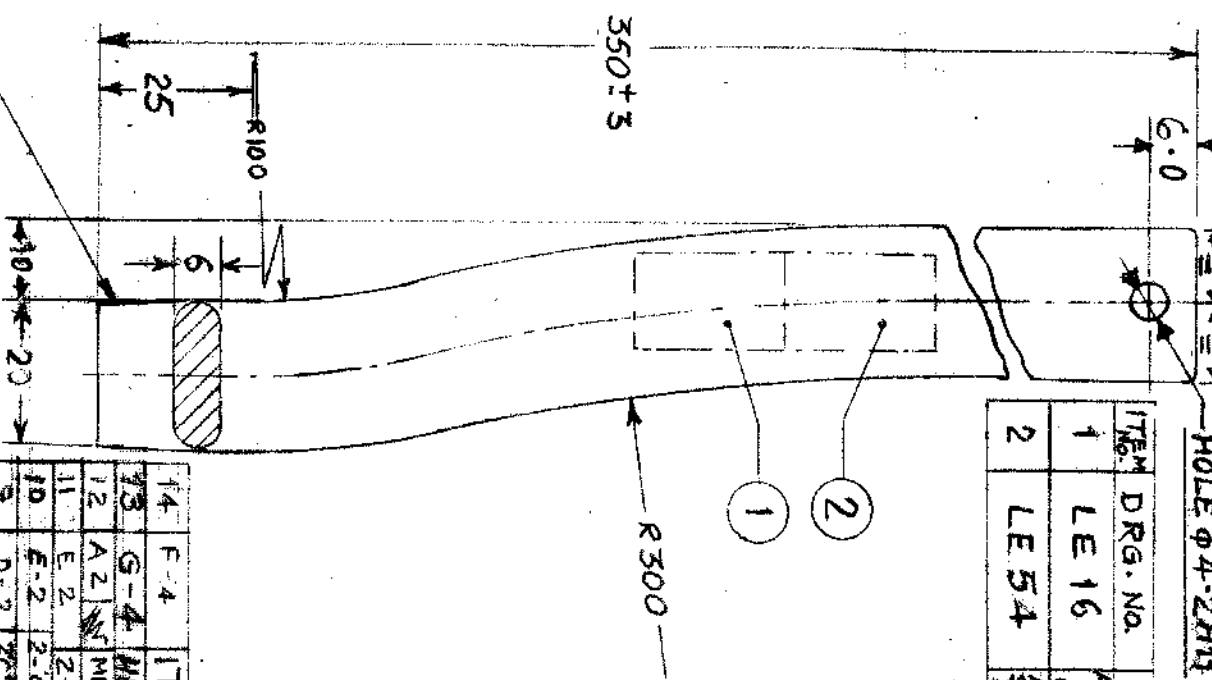
REVISIONS

ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR

DES.		NOM.	JOINT BAR KNEE JOINT UNIT (UPPER) SIZE III
DRW.		MTL.	EXTRUDED SECTION AL ALLOY 2016 mm 644 23 W, IS: 733-1975 (6066-T4 DR. EQU.) (AQ 09)
CHKD.		TOL.	INTEGER ONLY 0.000 mm ONE PLACE DECIMAL 0.250 mm UNLESS SPECIFIED TWO PLACE DECIMAL 0.125 mm
SCALE	1:1	FIN.	ANODIZE GRADE AC-10 IS: 1868
DATE	12.6.76	ORG. NO.	RL 1 H 38000

HOLE ϕ 4-2H13

ITEM No.	DRG. No.	NOMENCLATURE	No. OFF	REMARKS
1	LE 16	AL FOUL ISI MARK STEEL FOR SIZE - 20X12.5X0.03mm THK FOR ORTHOTIC JOINT BARS IS: 947 (M)	1	
2	LE 54	AL FOUL NAME PLATE STEEL FOR SIZE - 20X12.5X0.03mm THK FOR JOINT BAR KNEE LOWER R/L SIZE 111	1	



NOTE:-
 1. ROUND OFF SHARP EDGES.
 2. ANGULAR TOL: $\frac{1}{2}^\circ$
 3.
 4. RADI TOL. $\pm 5\%$
 5. HEAT TREATMENT :-
 HEAT TO 450 \pm 10 $^\circ$. SOAKING TIME
 1 HOUR & WATER QUENCH
 HARDNESS \geq 40 HR 30-T

1. ROUND OFF SHARP EDGES.
 2. ANGULAR TOL: $\frac{1}{2}^\circ$
 3.
 4. RADI TOL. $\pm 5\%$
 5. HEAT TREATMENT :-
 HEAT TO 450 \pm 10 $^\circ$. SOAKING TIME
 1 HOUR & WATER QUENCH
 HARDNESS \geq 40 HR 30-T

S.No.	REGION	REVISION	DATE	SIG.
14	F-4	ITEM NO. 1 & 2 ADDED.	16.6.92	R
13	G-4	HOLE ϕ 4-2 HOLE DIM 6.0 ADDED.	16.6.92	R
12	A-2	MKT CONDITION W WAS WPT 14 WAS T 6	16.6.92	R
11	E-2	2-HOLE 5 & 6 BORE DELETED	23.1.82	R
10	E-2	2-C BORE ϕ B. 5/B. 3 WAS ϕ 9.0/8.5	27.10.82	R
9	D-2	2-C BORE WAS TSK 30 $^\circ$ R NOTE NO. 3 DELETED 2-HOLE 5 & 6 WAS 2-HOLE 5 & 6 5.2/4.57	1.7.82	R
8	A-2	MTL. WAS GE 603	19.6.86	R
7	A-5	NOTE NO. 6 ADDED	18.4.79	R
6	E-2	ϕ 5.2/5.1 WAS ϕ 6.125/6.000 & NOTE NO. 5	22.3.78	R
5	A-2	FINISH ADDED	22.8.78	R
4	E-2	ϕ 6.125/6.000 WAS ϕ 6 H11	9.11.76	R
3	D-4	DIM. 350 \pm 3 WAS 350 \pm 2 NOTE NO. 4 ADDED	9.12.76	R
2	G-2, A-2	SECTIONAL DETAILS DELETED & MTL. CODE NO. ADDED	5.7.76	R
1		REDESIGNED & REDRAWN	12.6.76	R



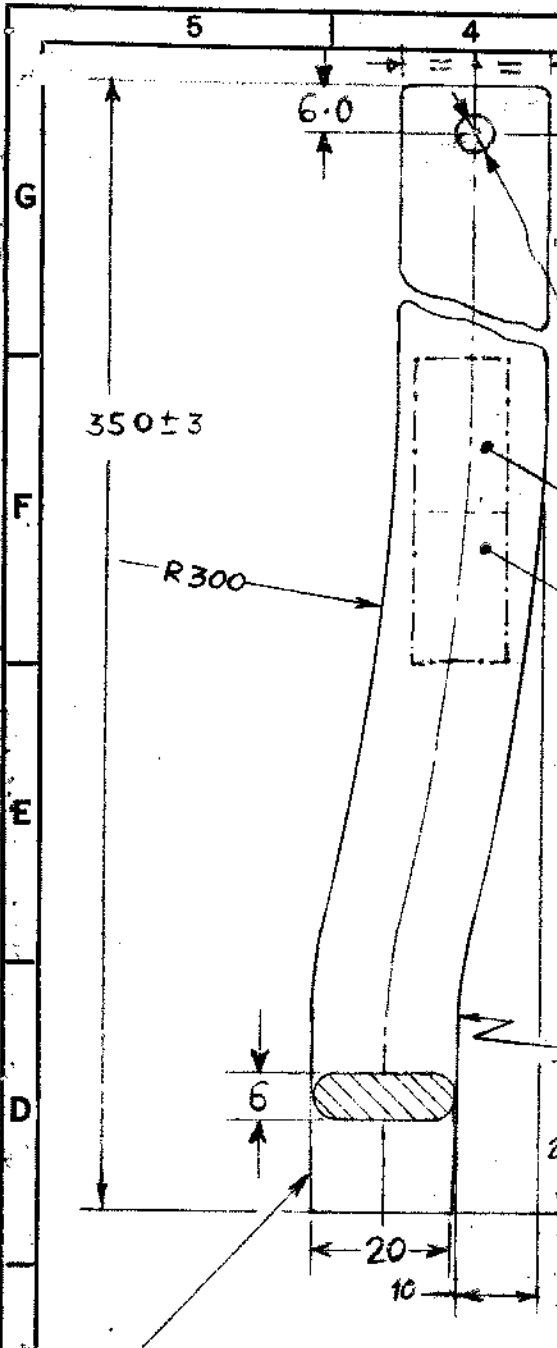
**ARTIFICIAL LIMBS
 MANUFACTURING CORPN.
 OF INDIA**
 KANPUR



DGN.	DRG. NO.	REV.	DATE	SCALE	APP.	DATE
B	11	1	12.6.76	1:1	B. S. J.	12.6.76

DRG. NO. RL 1 H 39 0 001

ITEM NO	DRG. NO	NOMENCLATUR	NO. OFF	REMARKS
1	LE 16	AL-FOIL 1ST MARK STICKER SIZE-20X12-5X0.03 THK FOR ORTHOTIC JOINT BARS IS: 9471 (Pt-7)	1	
2	LE 55	AL-FOIL NAME PLATE STICKER SIZE-20X12-5X0.03 THK FOR JOINT BARS KNEE LOWER (R.D.L.) SIZE-III	1	



SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

S.No.	REGION	REVISION	DATE	SIG.
14	F-4	ITEM No. 1 & 2 ADDED.	16.7.04	R.S.
13	G-4	HOLE ϕ 4.2 H11 & DIM 6.0 ADDED	26.3.00	R.S.
12	A-2	MAT. CONDITION - W WAS WP & T4 WAST	18.6.92	R.S.
11	E-2	2 HOLES & C BORE DELETED	23.3.80	R.S.
10	E-2	2 C BORE ϕ 8.8 / ϕ 8.3 WAS ϕ 9.0 / ϕ 8.5	27.10.83	R.S.
9	D-2	C BORE WAS CSK 90° & NOTE NO. 3 DELETED	1.7.82	R.S.
8	A-2	2 HOLES ϕ 4.2 H11 WAS 2 HOLES ϕ 5.25	19.6.80	R.S.
7	A-5	NOTE NO. 6 ADDED	18.6.79	R.S.
6	E-2	ϕ 5.2 / 5.1 WAS ϕ 6.125 / 6.000	27.3.79	R.S.
5	A2	FINISH ADDED	22.8.78	R.S.
4	E 2	ϕ 6.125 / 6.000 WAS ϕ 6 H11	11.12.76	R.S.
3	D 3	DIM. 350 ± 3 WAS 350 & NOTE NO. 4 ADDED	9.11.76	R.S.
2	G 3, A 2	SECT. DETAILS DELETED & MTL. CODE NO. ADDED	5.7.76	R.S.
1	-	REDESIGNED & REDRAWN	12.6.76	R.S.

S.No.	REGION	REVISION	DATE	SIG.
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REVISIONS

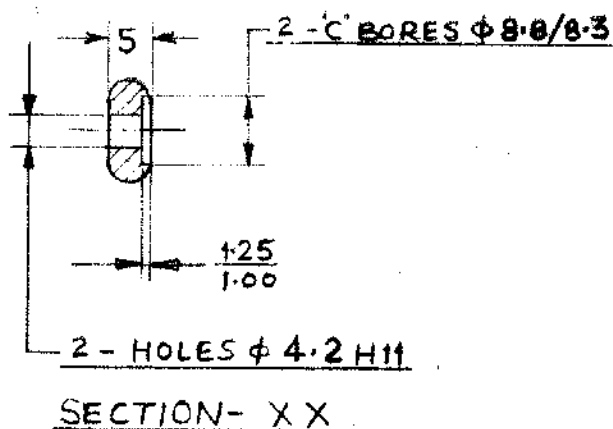
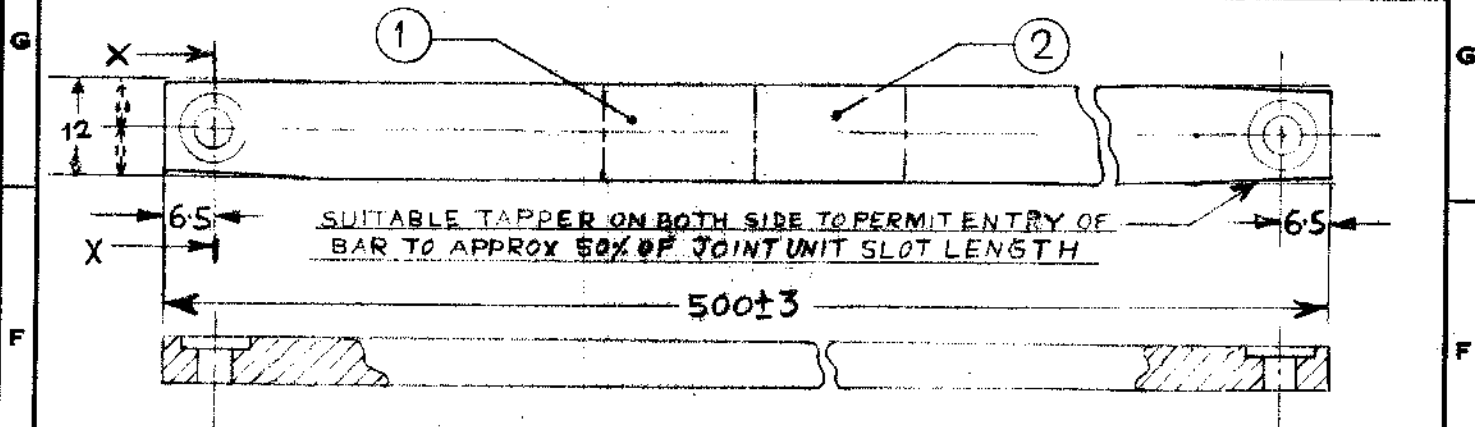


**ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR**

DDM.	B. R. Ind. Co.	NOM.	JOINT BAR KNEE JOINT UNIT (LOWER) RIGHT OUTSIDE / LEFT INSIDE SIZE-III
DRN.	B. R. Ind. Co.	MTL.	EXTRUDED SECTION AL. ALLOY 20X6mm 6A423 W; IS: 733-1975 (6066-T4 OR EQU.) (A909)
CKD.	B. R. Ind. Co.	TOL.	INTEGER ONLY \pm 0.800 mm ONE PLACE DECIMAL \pm 0.250 mm TWO PLACE DECIMAL \pm 0.125 mm UNLESS SPECIFIED
CHK.	B. R. Ind. Co.	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1	ORG. NO.	RL 1 H 40 0 00
NO.	12576		

- NOTE -**
1. ROUND OFF SHARP EDGES.
 2. ANGULAR TOL \pm 1/2°
 - 3.
 4. RADII TOL. \pm 5%
 5. HEAT TREATMENT:-
HEAT TO 450 \pm 10°, SOAKING
TIME 1 HOUR & WATER QUENCH
 6. HARDNESS \geq 40 HR 30-T
01 H 7 097

ITEM NO.	D.R.G. NO.	NOMENCLATURE	NO. OF	REMARKS
1	LE 16	AL. FOIL ISIMARK STICKER SIZE - 20x12.5x0.03mm THK FOR ORTHOTIC JOINT BARS IS: 9471 (P+7)	1	
2	LE 56	AL. FOIL NAME PLATE STICKER SIZE - 20x12.5x0.03mm THK FOR JOINT BAR KNEE UPPER SIZE - I	1	



NOTE:-
1. ROUND OFF SHARP EDGES

2	G-3	ITEM NO 1 & 2 ADDED	16.7.04	R/S
1	E, S, A	2-HOLES & C BORE WAS 4-HOLES & C BORE	29.3.50	R/S

S No.	REGION	REVISION	DATE	SIG.
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REVISIONS

ARTIFICIAL LIMBS
MANUFACTURING CORPN
OF INDIA
KANPUR

DGN: *Woodless* NOM: JOINT BAR KNEE JOINT UNIT UPPER SIZE-I (INSIDE OUTSIDE COMBINED)

DRM: *Woodless* MTL: EXTRUDED SECTION AL. ALLOY 12X5mm 64423 W, IS: 733-1975 (6066-T4 OR EQUIVALENT) (AG-07)

CHD: *Woodless* TOL: INTEGER ONLY ± 0.500 mm
ONE PLACE DECIMAL ± 0.250 mm
TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED

DIM: IN mm FIN: ANODIZE GRADE AC-10 IS: 1868

SCALE: 1:1 APP: *Woodless*

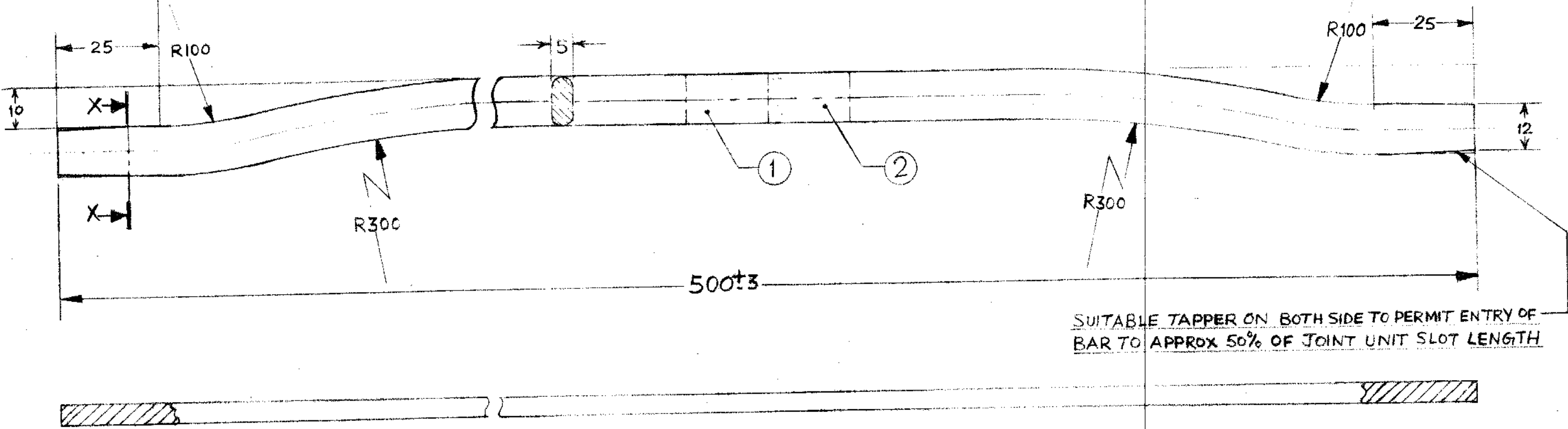
DATE: 30.9.89 DRG No. RL 1 H 910 00 SHEET 1 OF 1

01 H 7 166

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4

ITEM NO.	DRG. NO	NOMECLATURE	NO. OFF	REMARKS
1	LE-16	AL. FOIL ISI MARK STICKER SIZE-20X12.5X0.03mm THK FOR ORTHOTIC JOINT BARS IS: 9471 (P1-7)	1	
2	LE-57	AL. FOIL NAME PLATE STICKER SIZE-20X12.5X0.03mm THK FOR JOINT BAR KNEE LOWER SIZE I	1	



NOTE:-
1. ROUND OFF SHARP EDGES.

S No.	REGION	REVISION	DATE	SIG.
2	F-6	ITEM NO. 1 & 2 ADDED	16.7.04	RPS
1	C-9	4 HOLES & C BORE DELETED	29.3.90	

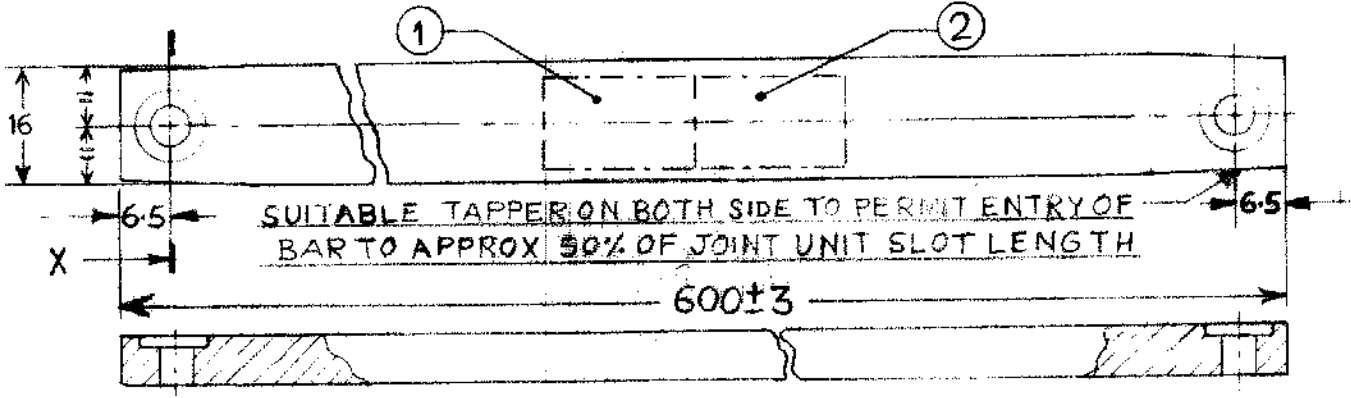
REVISIONS

**ARTIFICIAL LIMBS
MANUFACTURING CORPN
OF INDIA
KANPUR**

DGN	<i>Arundhan</i>	NOM	JOINT BAR KNEE JOINT UNIT LOWER SIZE-I (IN SIDE OUTSIDE COMBINED)
DRN	<i>A. S. B. S.</i>	MTL	EXTRUDED SECTION AL. ALLOY 12X5mm 64423W; IS: 733-1975 (6066-T4 OR EQUIVALENT) (AG 07)
CHD	<i>Skish</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1		
APP	<i>A. S. B. S.</i>		
DATE	30.9.89	DRG No	RL 1 H 92 000
			SHEET 1 OF 1

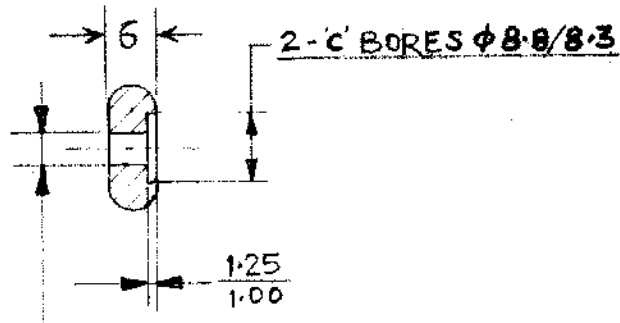
01 F1110

ITEM NO.	DRG. NO.	NOMENCLATURE	NO. OF	REMARKS
1	LE 16	AL. FOIL ISI MARK STICKER SIZE 20X12.5X0.03mm THK. FOR ORTHOTIC JOINT BARS IS: 9471 (Pt-7)	1	
2	LE 58	AL. FOIL NAMEPLATE STICKER SIZE 20X12.5X0.03mm THK. FOR JOINT BAR KNEE UPPER SIZE II	1	



SUITABLE TAPER ON BOTH SIDE TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH

600 ± 3



2 - HOLES $\phi 4.2 H11$

SECTION - X X

NOTE:--
1. ROUND OFF SHARP EDGES

2	G-3	ITEM NO 1 & 2 ADDED	16.7.04	RASH
1	E 5,4	2-HOLES & C'BORE WAS 4-HOLES & C'BORE	29.3.90	AL

S No.	REGION	REVISION	DATE	SIG.
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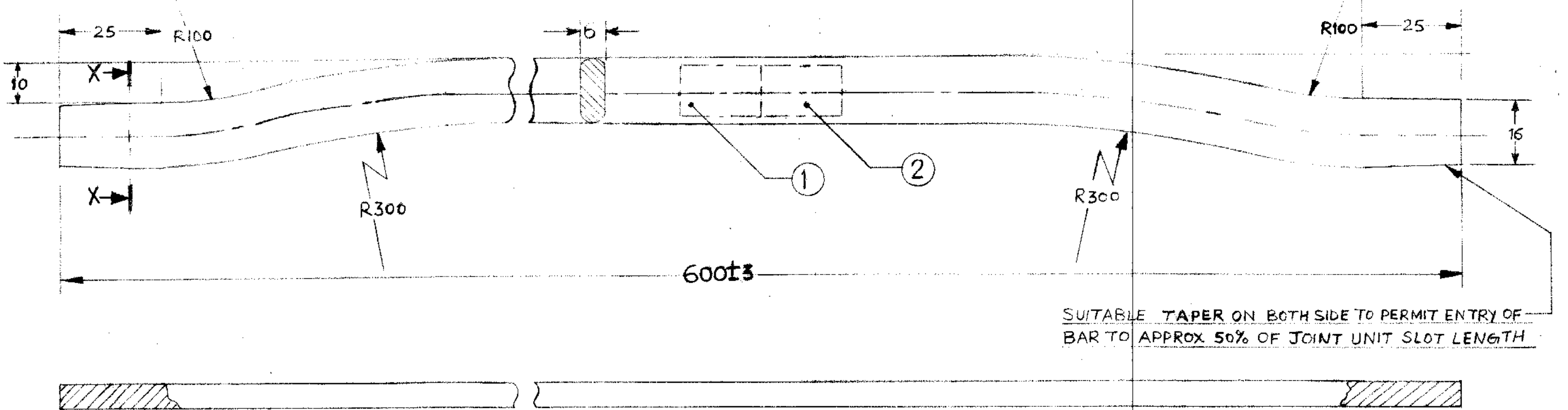
R E V I S I O N S
ARTIFICIAL LIMBS
MANUFACTURING CORPN
OF INDIA
KANPUR

DGN	<i>Arundhan</i>	NOM	JOINT BAR KNEE JOINT UNIT UPPER SIZE-II (INSIDE OUTSIDE COMBINED)
DRN	<i>V. Prasad</i>	MTL	EXTRUDED SECTION AL. ALLOY 16X6mm 64423 W, IS: 733-1975 6066-T4 OR EQUIVALENT (A9 08)
CHD	<i>Sk. Indu</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED
DIM.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1	APP	<i>Arundhan</i>
DATE	30.9.89	DRG No.	RL 1 H 93000

01 | H 7 | 167

SHEET 1 OF 1

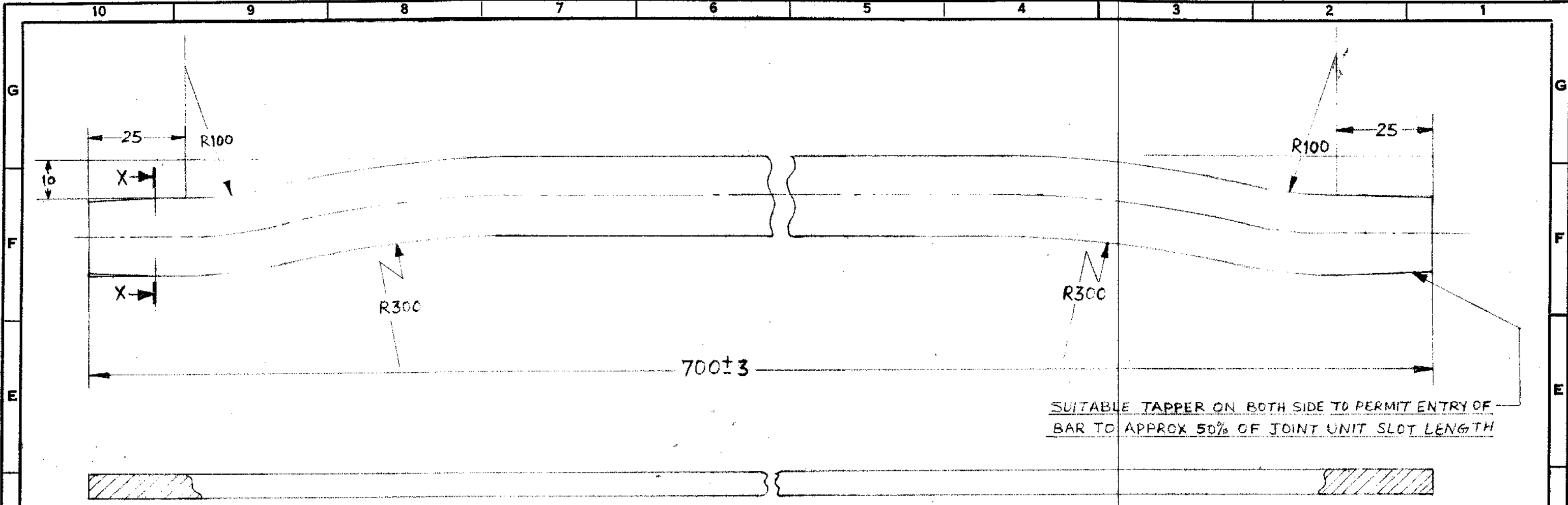
ITEM NO.	DRG. NO.	NOMENCLATURE	NO OFF	REMARKS
1	LE-16	AL. FOIL ISI MARK STICKER SIZE-20X12.5X0.03mm THK. FOR ORTHOTIC JOINT BARS IS: 9471 (F+7)	1	
2	LE-59	AL. FOIL NAME PLATE STICKER SIZE-20X12.5X0.03mm THK FOR JOINT BAR KNEE LOWER SIZE-II	1	



NOTE:-
1. ROUND OFF SHARP EDGES

2	F-6	ITEM NO. 1 & 2 ADDED.	16.7.04	R/S
1	C 9	4-HOLES & C BORE DELETED	29.3.90	R/S
S No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS MANUFACTURING CORPN OF INDIA KANPUR				
DGN	<i>Asad Ali</i>	NOM	JOINT BAR KNEE JOINT UNIT LOWER SIZE-II (INSIDE OUTSIDE COMBINED)	
DRN	<i>S. Prasad</i>	MTL	EXTRUDED SECTION AL. ALLOY 16X6mm 64 4 23 W, IS: 733-1975 (6066-T4 OR EQUIVALENT) (AS OR)	
CHD	<i>S. Krishna</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
SCALE	1:1	FIN.	ANODIZE GRADE AC-10 IS: 1868	
APP	<i>S. Prasad</i>	DRG No.	RL 1 H 94 000	SHEET OF 1
DATE	30.9.89			

01 F I III

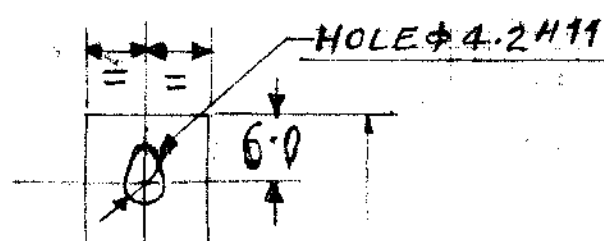


NOTE:-
1. ROUND OFF SHARP EDGES

SECTION-XX

L	C 9	4-HOLES & C'BORE DELETED	29.3.90	
S No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN	<i>Amal Kumar</i>	NOM	JOINT BAR KNEE JOINT UNIT LOWER	
DRN	<i>S. S. S.</i>	MTL	SIZE-III (INSIDE OUTSIDE COMBINED)	
CHD	<i>S. Krishna</i>		EXTRUDED SECTION AL. ALLOY 20X6mm	
			64 4 2 3 W. 15: 733-1975 (6066-T4 OR	
			EQUIVALENT) (AG-09)	
DIM.	IN MM	TOL	INTEGER ONLY ± 0.500 mm	
			ONE PLACE DECIMAL ± 0.250 mm	
			TWO PLACE DECIMAL ± 0.125 mm	
SCALE	1:1	FIN.	AND DIZE GRADE AC-10 IS: 1868	
APP	<i>Amal Kumar</i>			
DATE	30.9.89	DRG No.	RL 1 H 96 0 00	SHEET 1 OF 1

01 | F1 | 112



150 ± 2

SECTION - XX

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH

NOTE:-
1. ROUND OFF SHARP EDGES & CORNERS

ANGULAR TOL. ± 1/2°

3.

4. HEAT TREATMENT

HEAT TO 450°C ± 10°, SOAKING

TIME 1 HOUR & WATER QUENCH

5. HARDNESS > 40 HR 30-T

10	G-4	HOLE φ 4.2 H11 & DIM G ADDED	26.5.76	ML
9	A-2	MAT. CONDITION - 'W' WAS WP & T4 WAS T6	18.6.72	ML
8	D-3	2 HOLES & C' BORE DELETED	23.3.77	ML
7	D-2	2 'C' BORE φ 8.8/8.3 WAS φ 9.0/8.5	27.10.83	ML
6	D-3	2 'C' BORE WAS 'CSK' 90° & NOTE NO. 3 DELETED 2 HOLES φ 4.2 H11 WAS 2 HOLES φ 5.2/5.1	1.7.82	ML
5	A-2	M.T.L. WAS GE GC 2	19.6.80	ML
4	A-5	NOTE NO. 5 ADDED	18.6.79	ML
3	C-2	φ 5.2/5.1 WAS φ 6.125/6.000 & NOTE 4 ADDED	27.3.79	ML
2	A-2	FINISH ADDED	22.8.78	ML
1	D-2	φ 6.125/6.000 WAS φ 6 H11	11.2.76	ML
S.No.	REGION	REVISION	DATE	SIG.

REVISIONS



ARTIFICIAL LIMBS
MANUFACTURING CORPN.
OF INDIA
KANPUR



DESIGN	Joint Bar	NOM.	JOINT BAR HIP JOINT UNIT SIZE II (LOWER)
DRN.	Prakash	MTL.	EXTRUDED SECTIONAL ALLOY 16x6mm CA423 WJ IS: 733-1975 (666-T4 OR EQU) (AQOS)
SCALE	1:1	TOL.	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.250 mm TWO PLACE DECIMAL 20.125 mm UNLESS SPECIFIED
FIN.	ANODIZE	FIN.	ANODIZE GRADE AC-10 IS: 1868
DATE	29-11-76	DRG. NO.	RL I J 20 0 00
			SHEET 1/1

04 H 3 0 3 3

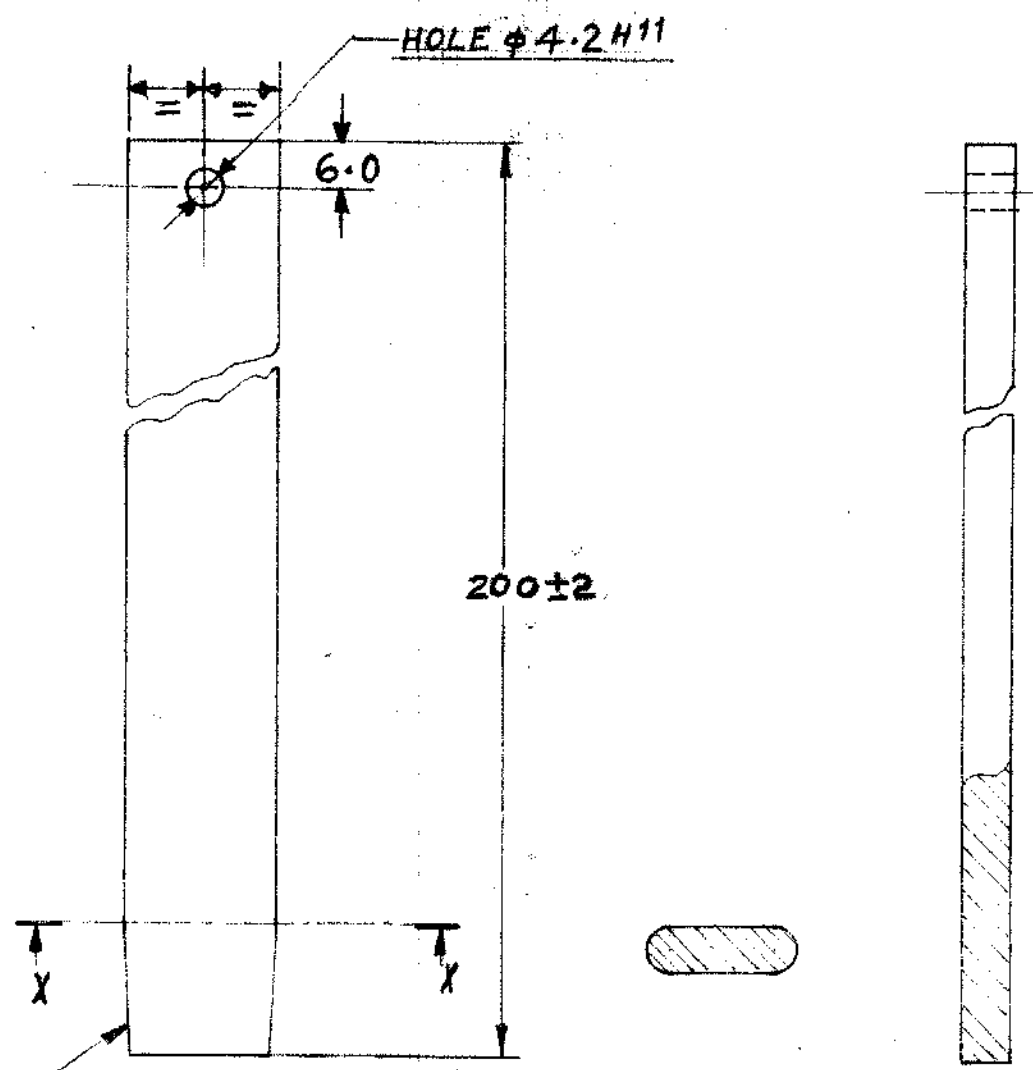
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4

5 4 3 2 1

G
F
E
D

G
F
E
D



SECTION - XX

SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH.

- NOTE:-**
1. ROUND OF SHARP EDGES & CORNERS
 2. ANGULAR TOL. $\pm 1/2$
 - 3.

4. HEAT TREATMENT:-
HEAT TO $450^{\circ}C \pm 10^{\circ}$, SOAKING TIME
1 HOUR & WATER QUENCH

5. HARDNESS ± 40 HR 30-T

01 H 8 049

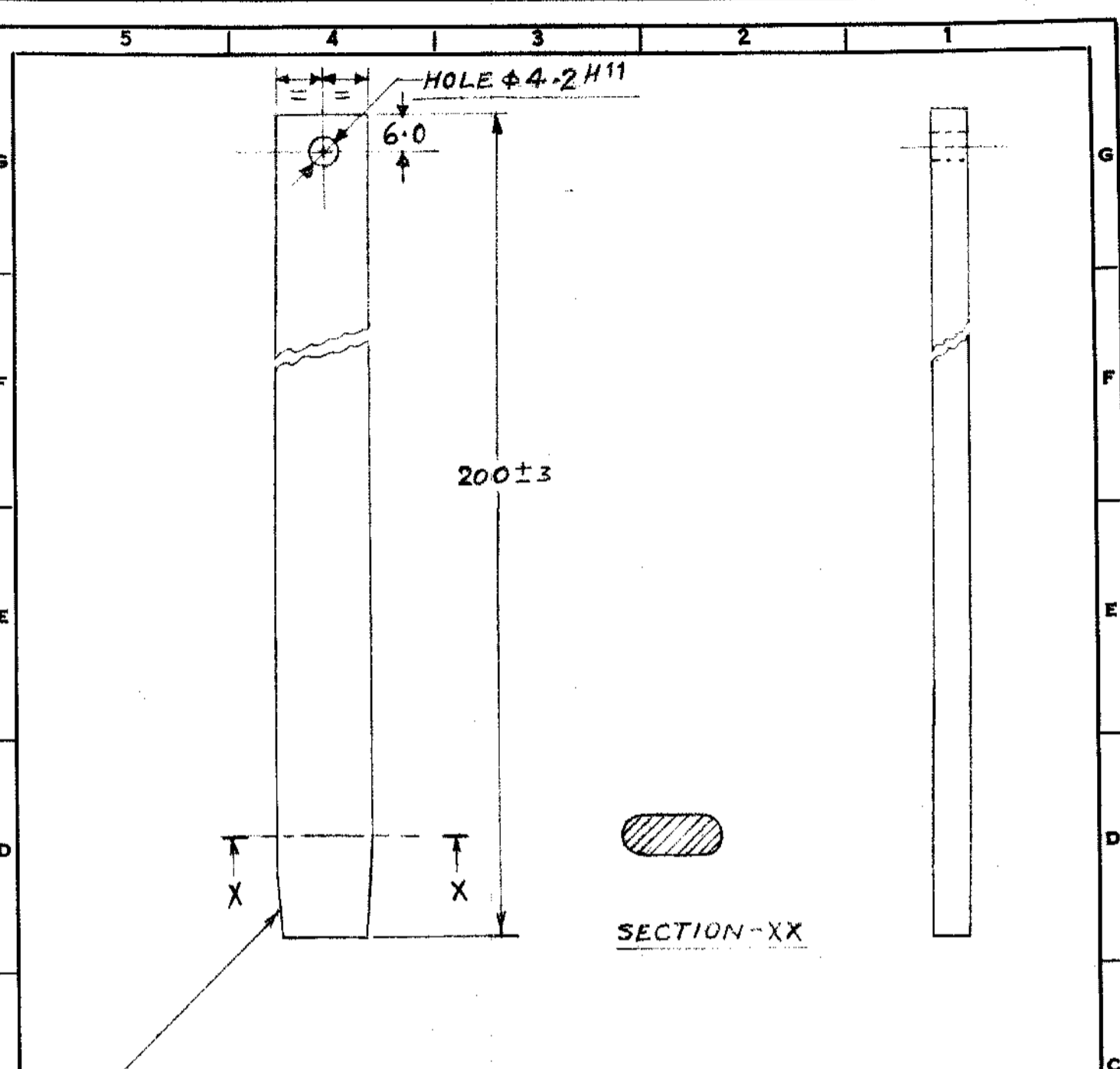
S.No.	REGION	REVISION	DATE	SIG.
9	G-4	HOLE $\phi 4.2$ H11 & DIM 6.0 ADDED	22-8-78	RL
8	A2	MAT. CONDITION - W WAS WP & T4 WAS T6	18-6-77	RL
7	D-2	2-HOLES & C'BORE DELETED	23-3-78	RL
6	D-2	2-C'BORE $\phi 8.8/8.3$ WAS $\phi 9.0/8.5$	27-10-83	RL
5	D-2	C'BORE WAS 'CSK' 90° & NOTE NO. 3 DELETED 2-HOLE $\phi 4.2$ H11 WAS 2-HOLE $\phi 5.2/5.1$	1-7-82	RL
4	A-2	MTL. WAS GE G03	19-6-80	RL
3	A-5	NOTE NO. 5 ADDED	18-6-79	RL
2	D-2	$\phi 5.2/5.1$ WAS $\phi 6.125/6.000$ NOTE 4 ADDED	27-3-79	RL
1	A2	FINISH ADDED	22-8-78	RL

REVISIONS

ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR

DDN.	RD	NOM.	JOINT BAR HIP JOINT UNIT SIZE-III (LOWER)
DRN.	RD	MTL.	EXTRUDED SECTION AL ALLOY 20X6mm 6425
CHD.	RD	TOL.	W/ IS: 733-1975 (6066-T4 OR E30) (A.G. 09)
DDM.	RD	FIN.	ANODIZE GRADE AC-10 IS: 1868
SCALE	1:1	DATE	15-12-76
APP.	RD	DRG. NO.	RL 17 30 0 00
SHEET	1		

5 4



SUITABLE TAPER TO PERMIT ENTRY OF BAR TO APPROX 50% OF JOINT UNIT SLOT LENGTH

NOTE:-

1. ROUND OFF SHARP EDGES.
2. ANGULAR TOL. $\pm 1/2^\circ$
3. HEAT TREATMENT:-
HEAT TO $450^\circ\text{C} \pm 10^\circ$, SOAKING TIME 1 HOUR & WATER QUENCH
4. HARDNESS ± 40 HR 30-T

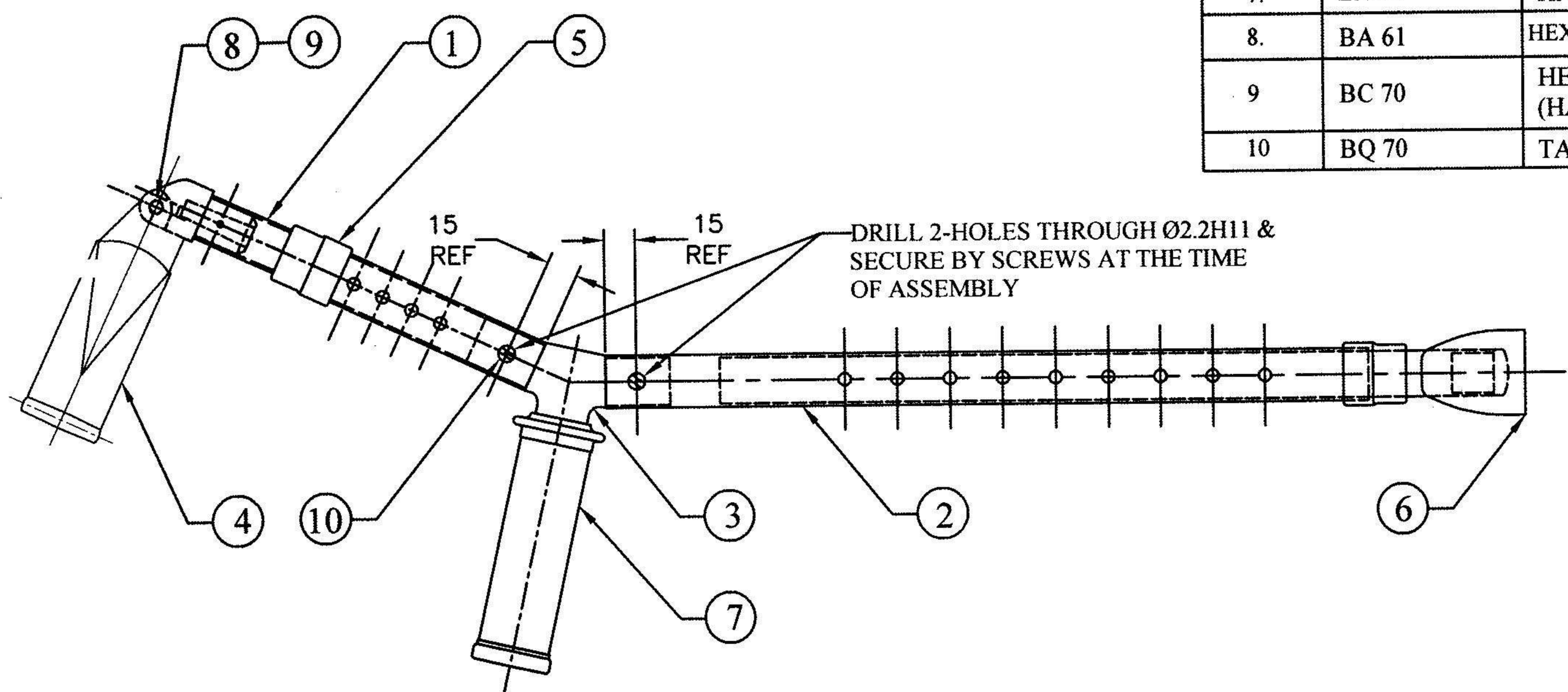
3	G-A	HOLE $\phi 4.2H11$ & DIM 6.0 ADDED.	26/10/89	
2	A2	MAT. CONDITION 'W' WAS WPT & WAS T6	10/6/92	
1	D-A	2-HOLES AND 'C' BORES DELETED	14/9/90	
S No.	REGION	REVISION	DATE	SIG.
R E V I S I O N S				
ARTIFICIAL LIMBS				
MANUFACTURING CORPN				
OF INDIA				
KANPUR				
DGN	<i>Arvind Kumar</i>	NOM	JOINT BAR HIP JOINT UNIT, LOWER SIZE - III	
DRN	<i>Arvind Kumar</i>	MTL	EXTRUDED SECTION AL. ALLOY 16X6 mm 64423W ₂ IS: 733. (AQ 08) (6066-T4 REGN)	
CHD	<i>Arvind Kumar</i>	TOL	INTEGER ONLY ± 0.500 mm ONE PLACE DECIMAL ± 0.250 mm TWO PLACE DECIMAL ± 0.125 mm UNLESS SPECIFIED	
DIM.	IN mm	FIN.	ANODIZE GRADE AC-10 IS: 1868	
SCALE	1:1			
APP	<i>Arvind Kumar</i>	DRG No. RL1J 40 0 00		SHEET 1 OF 1
DATE	18-7-89			

01 | H | 0 | 206

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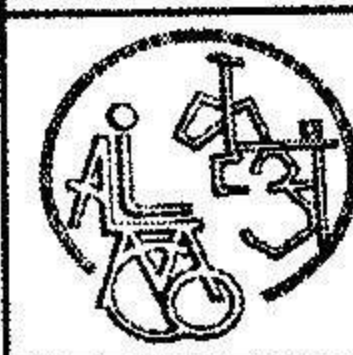
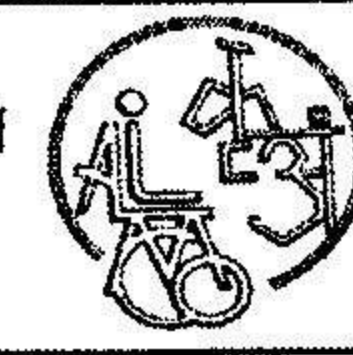
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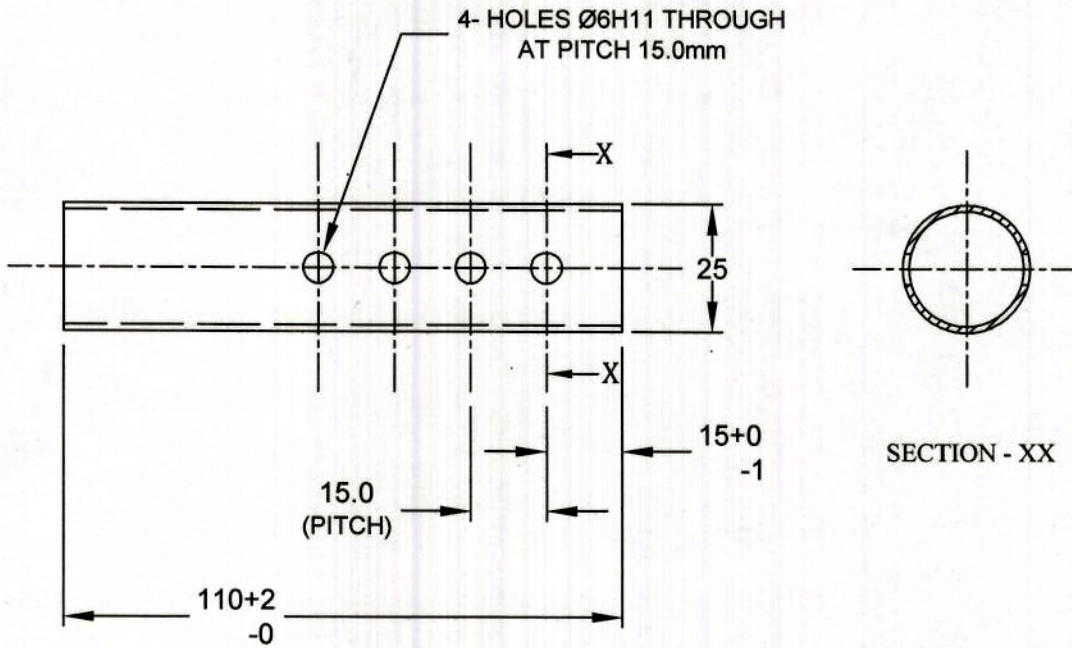
ITEM No.	DRAWING No.	NOMENCLATURE	QTY	REMARKS
1.	TD 1 N 23 A 00	TUBE EXTENSION UPPER ASSY	1	
2.	TD 1 N 23 0 Z0	LEG TUBE ASSY KIT	1	
3.	TD 1 N 23 0 04 OR TD 1 N 23 0 06	HAND PIECE	2	AL.ALLOY
			1	NYLON
4.	TD 1 N 23 0 07	ARM CUFF	1	
5.	TD 1 N 23 0 10	ANTI - RATTLE COLLAR	2	
6.	TD 4 N 34 0 01	TIP END 19mm	1	
7.	LA 24	HAND GRIP	1	
8.	BA 61	HEX NUT M5, IS:2389, BRASS, Ni.Cr.PLATED	1	
9.	BC 70	HEX SCREW M5x0.8x30 IS:2389-5-4.6 (HALF THREADED) Ni.Cr.PLATED	1	
10.	BQ 70	TAPPING SCREW AB4x6.5mm,IS:7173	4	



OVERALL DIMENSIONS:-

- HEIGHT FROM GROUND TO HAND PIECE (MIN) = 460 ± 10mm
- HEIGHT FROM GROUND TO HAND PIECE (MAX) = 660 ± 10mm
- HEIGHT FROM HAND PIECE TO ARM CUFF (MIN) = 175 ± 5mm
- HEIGHT FROM HAND PIECE TO ARM CUFF (MAX) = 220 ± 5mm

8	—	DRAWING REDESIGN & REDRAWN	06.03.17	<i>[Signature]</i>
SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
 ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR 				
DGN	<i>Ashish</i>	NOM	CRUTCH ELBOW ADJUSTABLE(AL.) SIZE I	
DRN	<i>[Signature]</i>	MTL	—	
CHD	<i>[Signature]</i>	HEAT	—	
DIM	IN mm	TREATMENT	—	
SCALE	NTS	SURFACE TREATMENT	—	
APP	<i>Sd/DDI</i>	DRG No:- TD 1 N 23 0 00	SHEET 1 OF 1	
DATE	23.06.1983			



MTL:-

EXTRUDED TUBE AL.ALLOY HV 9 (63400)
 COMMERCIAL QUALITY OD 25.0/24.8,
 ID 22.5/22.3, IS:1285 (AQ 67)
 OR
 EXTRUDED TUBE AL.ALLOY & TEMPER
 6063-T6 CONFORMING TO 63400 WP,
 ID 22.93/22.63 X 1.25mm WALL THICKNESS,
 IS:1285 (AQ 79)

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS
 (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0
	Up to 10 ±1°00'
	Over 10 upto 50 ±0°30'
	Over 50 upto 120 ±0°20'
	Over 120 upto 400 ±0°10'

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

5	C - 5	MTL AQ 79 ADDED AS AN ALTERNATE	27.09.18	
SNNo.	REGION	REVISION	DATE	SIGN

R E V I S I O N S



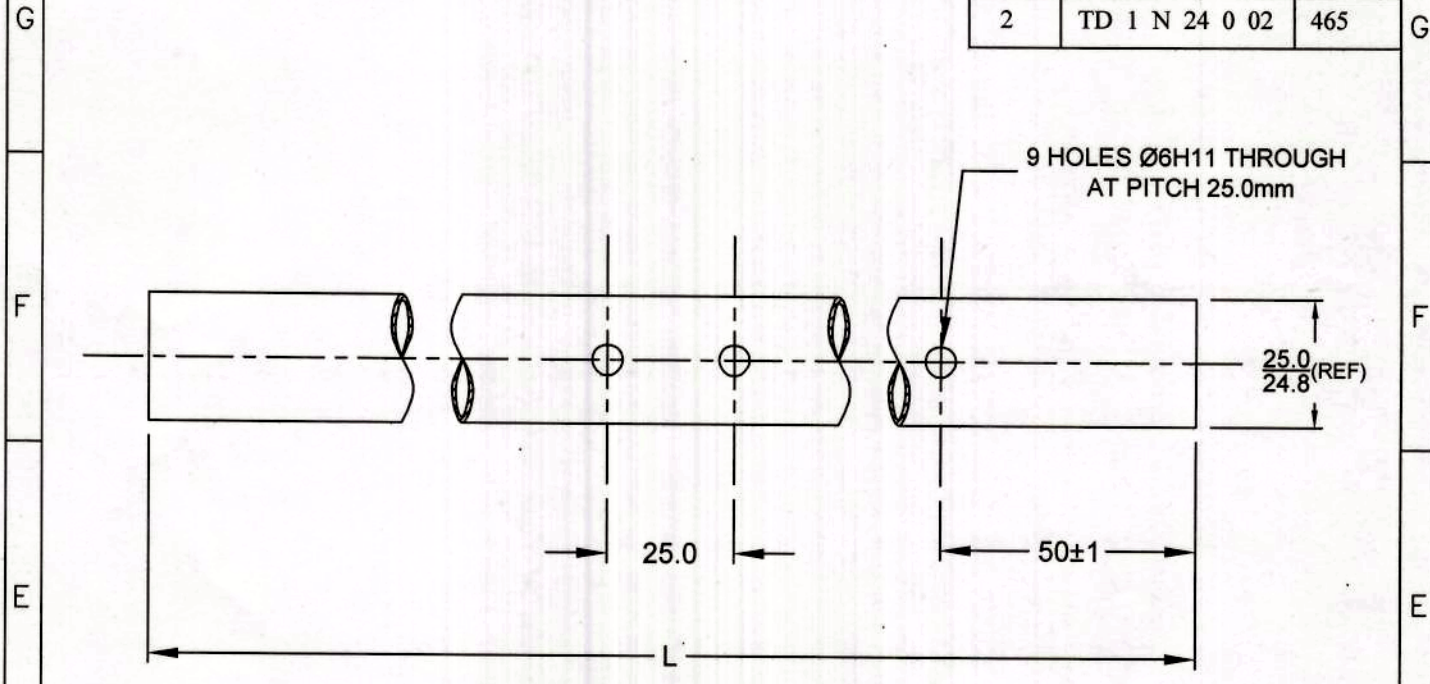
**ARTIFICIAL LIMBS
 MANUFACTURING CORPORATION
 OF INDIA
 KANPUR**



DGN		NOM	ARM TUBE	
DRN		MTL	INDICATED	
CHD		HEAT TREATMENT	—	
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868	
SCALE	NTS	DRG No:-	TD 1 N 23 0 01	REV 5
APP	Sd/DSI			SHEET 1 OF 1
DATE	15.10.1982			

5 4 3 2 1

SL No.	DRG No.	L ± 1
1	TD 1 N 23 0 02	365
2	TD 1 N 24 0 02	465



MTL:-
 EXTRUDED TUBE AL.ALLOY HV 9 (63400)
 COMMERCIAL QUALITY OD 25.0/24.8,
 ID 22.5/22.3, IS:1285 (AQ 67)
 OR
 EXTRUDED TUBE AL.ALLOY & TEMPER
 6063-T6 CONFORMING TO 63400 WP,
 ID 22.93/22.63 X 1.25mm WALL THICKNESS,
 IS:1285 (AQ 79)

NOTE:-
 1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (ISI:2102 MEDIUM)

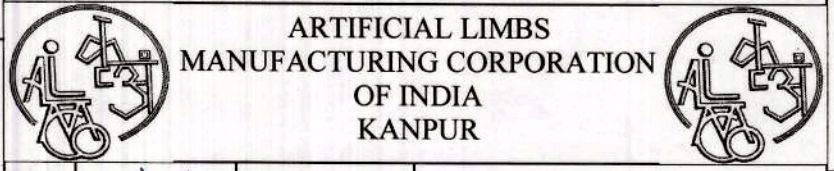
DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽ 1.6 - 8 ▽ 0.025 - 1.6 ▽ 0.0125 < 0.025

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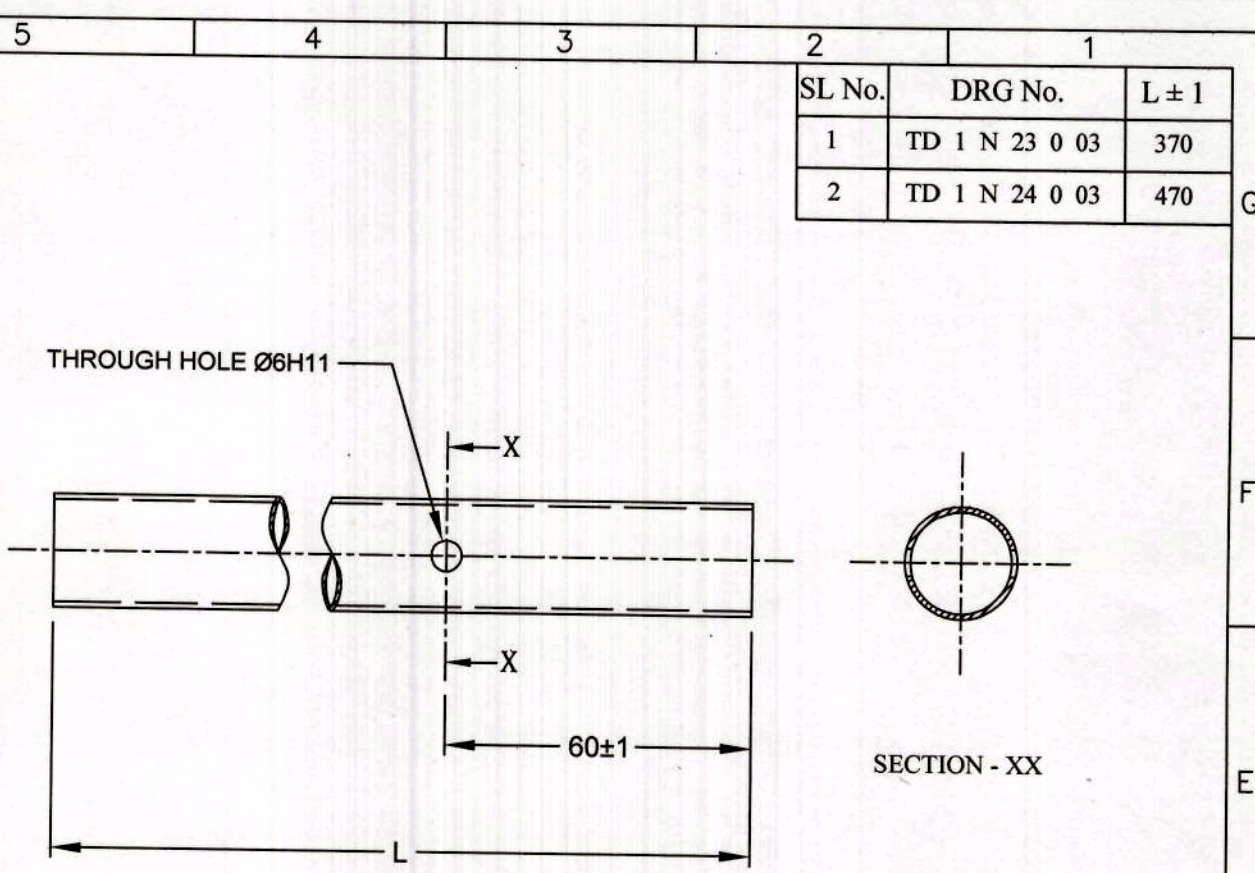
4	C - 5	MTL AQ 79 ADDED AS AN ALTERNATE	27.09.18	<i>[Signature]</i>
SNNo.	REGION	REVISION	DATE	SIGN

REVISIONS



DGN	<i>Alish</i>	NOM	LEG TUBE
DRN	<i>[Signature]</i>	MTL	INDICATED
CHD	<i>[Signature]</i>	HEAT TREATMENT	—
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 N 23 0 02 TD 1 N 24 0 02
APP	<i>Sd/DDI</i>	REV	4
DATE	15.10.1982	SHEET	10F1

5 4



SL No.	DRG No.	L ± 1
1	TD 1 N 23 0 03	370
2	TD 1 N 24 0 03	470

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	TOLERANCE	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	TOLERANCE
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

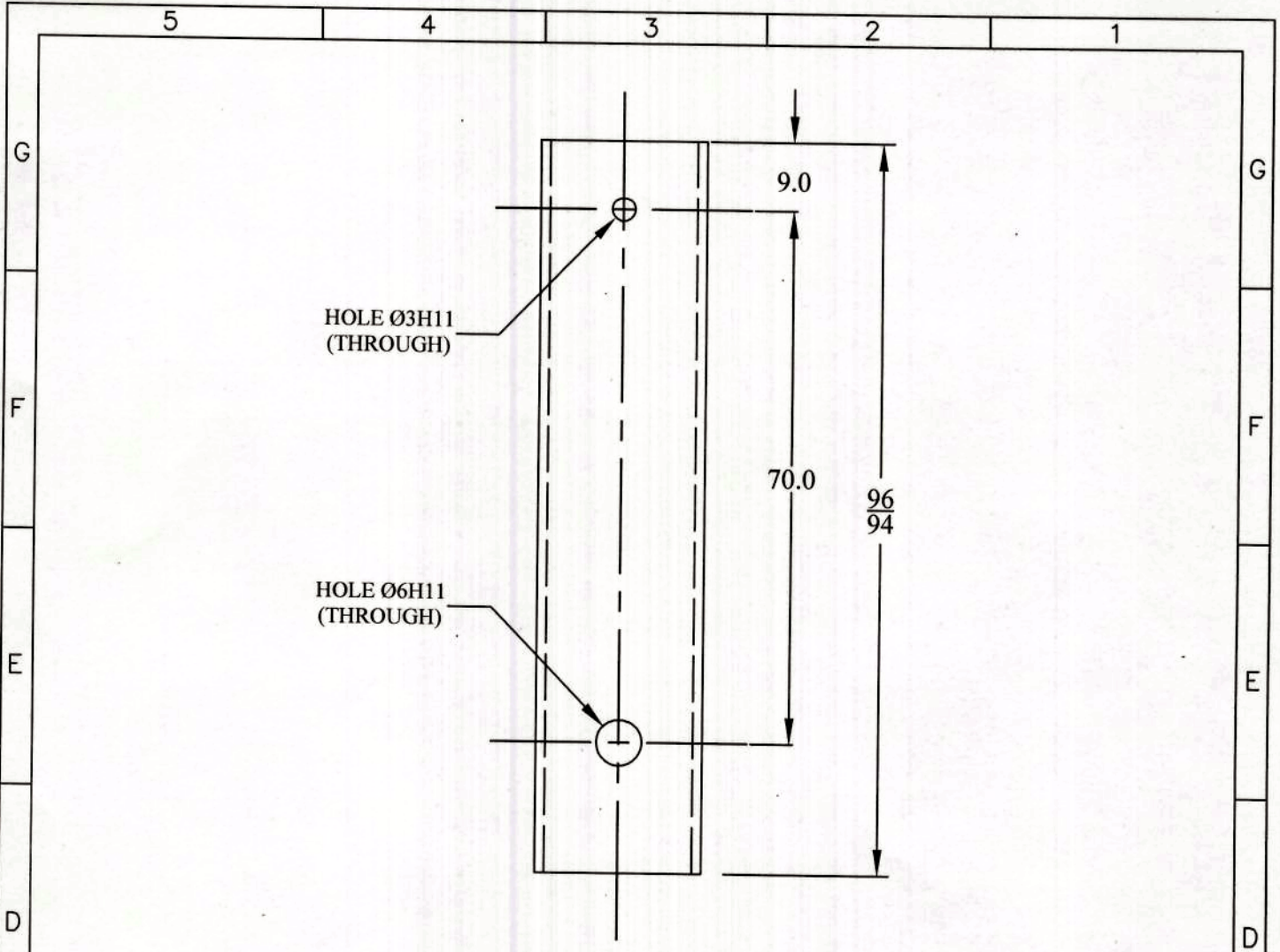
THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

6	A-2	MTL AQ 80 WAS AQ 57	27.09.18	
SN0.	REGION	REVISION	DATE	SIGN

R E V I S I O N S

ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR

DGN	<i>Alish</i>	NOM	HEIGHT ADJUSTABLE TUBE
DRN		MTL	EXTRUDED TUBE AL ALLOY & TEMPER 6063-T6 CONFORMING TO 63400 WP OD 22.2 x 1.6mm WALL THICKNESS, IS:1285 (AQ 80)
CHD	<i>Rajan</i>	HEAT TREATMENT	
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 N 23 0 03
APP	<i>Sd/DDI</i>		REV 6
DATE	15.10.1982		SHEET 1 OF 1



HOLE Ø3H11
(THROUGH)

HOLE Ø6H11
(THROUGH)

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:--

DEVIATION FOR NON TOLERANCED DIMENSIONS
(ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	TOLERANCE	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	TOLERANCE
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

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7	A - 2	MTL AQ 80 WAS AQ 57	27.09.18	
SNo.	REGION	REVISION	DATE	SIGN

REVISIONS



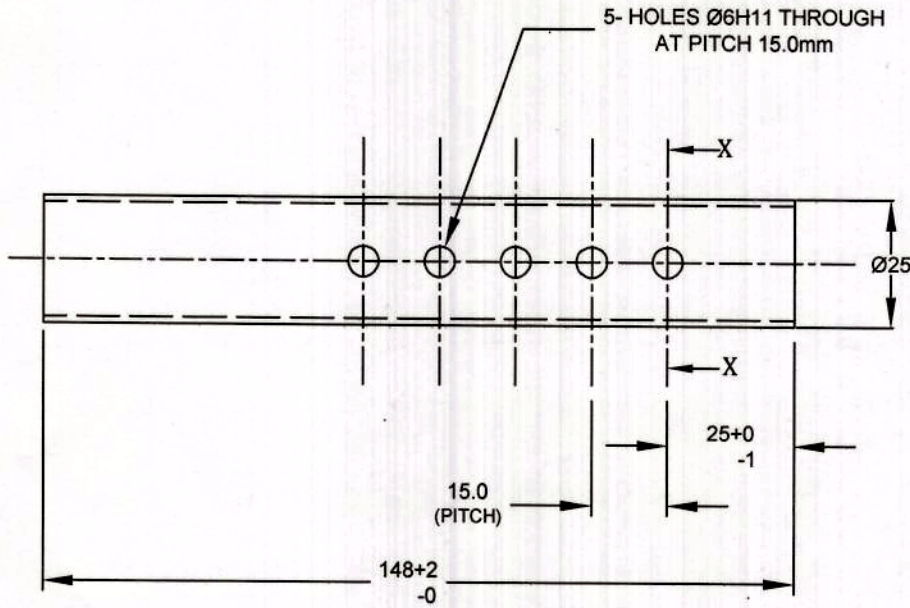
**ARTIFICIAL LIMBS
MANUFACTURING CORPORATION
OF INDIA
KANPUR**



DGN		NOM	TUBE EXTENSION UPPER
DRN		MTL	EXTRUDED TUBE AL.ALLOY & TEMPER 6063-T6 CONFORMING TO 63400 WP OD 22.2 x 1.6mm WALL THICKNESS. IS:1285 (AQ 80)
CHD		HEAT TREATMENT	_____
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 N 23 A 01
APP		REV	7
DATE	23.06.1983	SHEET	1 OF 1

5

4



MTL:-

EXTRUDED TUBE AL.ALLOY HV 9 (63400)
 COMMERCIAL QUALITY OD 25.0/24.8,
 ID 22.5/22.3, IS:1285 (AQ 67)
 OR
 EXTRUDED TUBE AL.ALLOY & TEMPER
 6063-T6 CONFORMING TO 63400 WP,
 ID 22.93/22.63 X 1.25mm WALL THICKNESS,
 IS:1285 (AQ 79)

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.




TOLERANCE:-

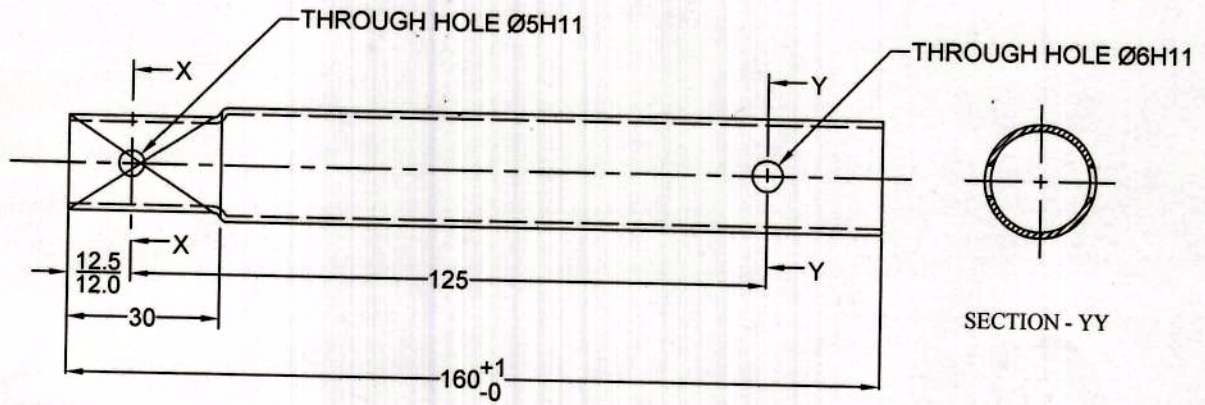
DEVIATION FOR NON TOLERANCED DIMENSIONS
 (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

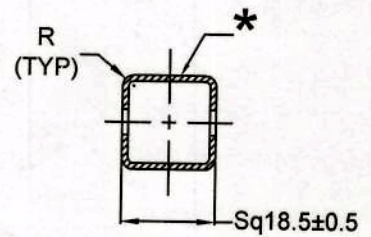
MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽ 1.6 - 8 ▽ 0.025 - 1.6 ▽ 0.025

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4	-----	MTL AQ 79 ADDED AS AN ALTERNATE	27.09.18	<i>[Signature]</i>
SNNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
 ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR 				
DGN	<i>Ashish</i>	NOM	ARM TUBE	
DRN	<i>[Signature]</i>	MTL	INDICATED	
CHD	<i>[Signature]</i>	HEAT TREATMENT	---	
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868	
SCALE	NTS 	DRG No:- TD 1 N 24 0 01	REV 4	SHEET 1 OF 1
APP	<i>Sd/DDI</i>	DATE	15.10.1982	



SECTION - YY



SECTION - XX

NOTE:-

1. REMOVE SHARP EDGES & CORNERS.
2. UNSPECIFIED RADII 1mm.
- *3. RADIUS FORMATION/DEPRESSION ACCEPTABLE ON SQUARE SIDES.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	TOLERANCE	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	TOLERANCE
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

THIS DRAWINGS AND SPECIFICATION ARE THE PROPERTY OF ALIMCO AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT PRIOR PERMISSION.

7	A - 2	MTL AQ 80 WAS AQ 57	27.09.18	
SNNo.	REGION	REVISION	DATE	SIGN

R E V I S I O N S

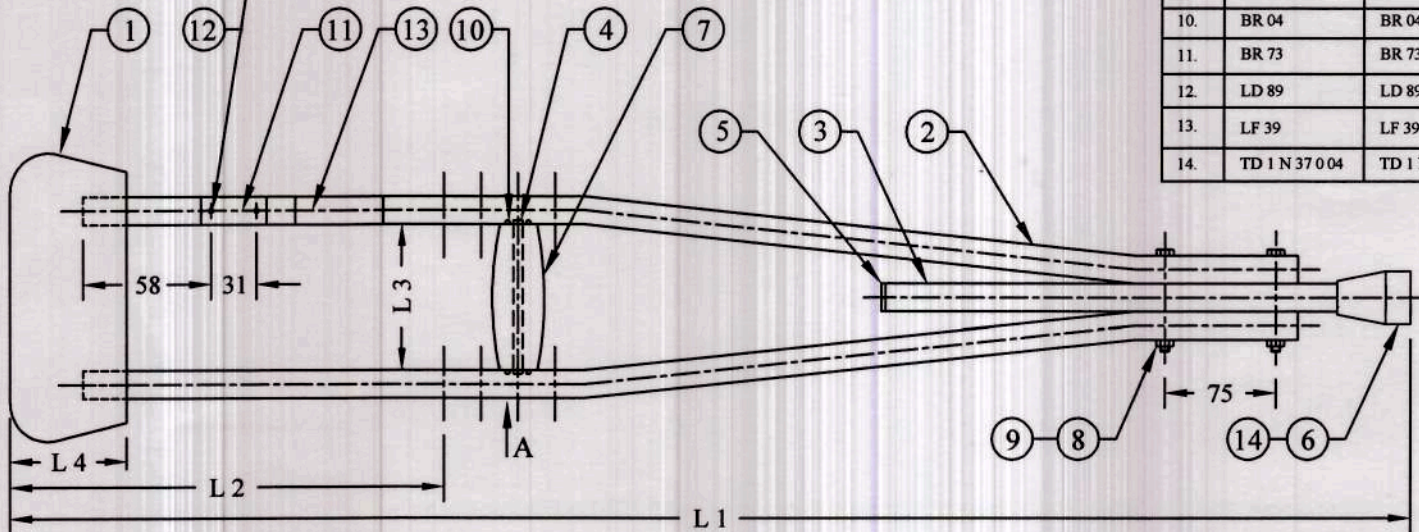
ARTIFICIAL LIMBS
 MANUFACTURING CORPORATION
 OF INDIA
 KANPUR



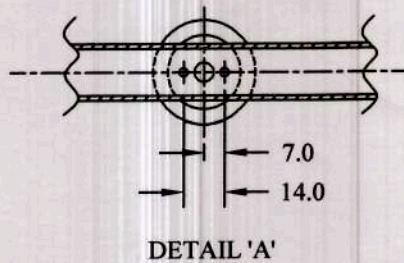
DGN	<i>Ashish</i>	NOM	TUBE CUFF	
DRN	<i>Ashish</i>	MTL	EXTRUDED TUBE AL. ALLOY & TEMPER 6063-T6 CONFORMING TO 63400 WP OD 22.2 x 1.6mm WALL THICKNESS, IS:1285 (AQ 80)	
CHD	<i>Rajeev</i>	HEAT TREATMENT	—	
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868	
SCALE	NTS	DRG No:- TD 1 N 24 A 01	REV	SHEET
APP	<i>Sal/DDJ</i>	DATE 15.10.1982	7	10F1

SIZE	DRG.No.	L1 ±10		L2 ±5	L3 ±5	L4 ±5
		FULLY WITHDRAWN	FULLY EXTENDED			
I	TD 1 N 37 0 00	600	800	200	80	55
II	TD 1 N 38 0 00	825	1025	275	80	55

LASER MARKING FOR PRINTING —OR— 2 HOLES Ø3.2H11 FOR FIXING BIS LABEL (ONE SIDE IN ONE OF THE TUBE) AT THE TIME OF ASSY AS SHOWN



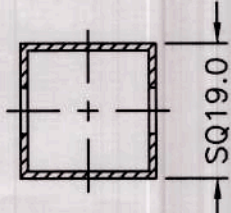
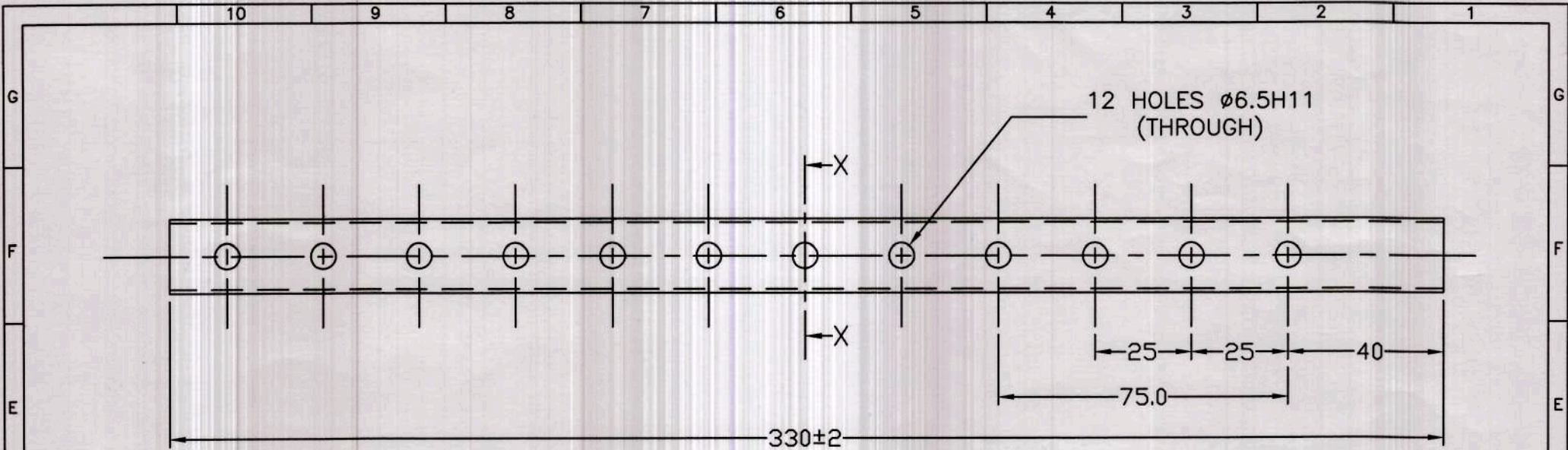
ITEM No.	DRAWING No.		NOMENCLATURE	QTY	REMARKS
	TD 1 N 37 0 00	TD 1 N 38 0 00			
1.	TD 1 N 37 A 00 OR TD 1 N 37 B 00	TD 1 N 37 A 00 OR TD 1 N 37 B 00	AXILLA PIECE ASSY	1	AS PER BIS
2.	TD 1 N 37 0 01	TD 1 N 38 0 01	SIDE TUBE	2	
3.	TD 1 N 37 0 02	TD 1 N 37 0 02	EXTENSION TUBE	1	
4.	TD 1 N 37 0 03	TD 1 N 37 0 03	BAR HANDLE	1	
5.	TD 1 N 18 0 04	TD 1 N 18 0 04	END PLUG	1	
6.	TD 1 N 18 0 05	TD 1 N 18 0 05	TIP	1	
7.	TD 6 N 02 A 02	TD 6 N 02 A 02	HAND PIECE	1	
8.	BA 01	BA 01	HEXAGON NUT - IS:1363(PART 3) ISO 4034-M6-4.6, Zn PLATED	2	
9.	BB 09	BB 09	HEXAGON HEAD BOLT - IS:1363(PART 1) ISO-4016, M6X65-4.6, Zn PLATED	2	
10.	BR 04	BR 04	CUT LATH NAIL 2.00 X 25mm, IS:6734	4	HEAD REMOVED
11.	BR 73	BR 73	POP RIVET Ø $\frac{1}{8}$ " x $\frac{1}{4}$ " (AL.)	2	NOT REQD. IN CASE OF LASER MARKING
12.	LD 89	LD 89	LABEL IS:5143	1	
13.	LF 39	LF 39	AL. FOIL INSTRUCTION STICKER SIZE 60x18x0.03mm THICK	1	
14.	TD 1 N 37 0 04	TD 1 N 37 0 04	TIP END	1	



NOTE:-

1. SECURE TWO NAILS SHANK (ITEM No.10) IN POSITION ON THE BOTH FACES OF ITEM No.7 AS SHOWN IN DETAIL 'A'
2. NAILS (ITEM No.10) SHOULD BE HAMMERED 15mm DEEP IN HAND PIECE (ITEM No.7) AFTER REMOVING HEAD.
3. USE ADHESIVE DUNLOP S758 TO SECURE TIP (ITEM No.6) WITH EXTENSION TUBE (ITEM No.3).
4. IF REQUIRED, USE ADHESIVE MOVICOL (JOINING COMPOUND WOOD) (DP 05) TO SECURE AXILLA PIECE ASSY (ITEM No.1) WITH SIDE TUBE (ITEM No.2), AT THE TIME OF FINAL ASSY.

10	E-3	ITEM NO 14 ADDED & SPECIFICATION OF BR 04 MODIFIED AT ITEM NO 10	04.07.18	<i>[Signature]</i>
SNo.	REGION	REVISION	DATE SIGN	
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN	<i>[Signature]</i>	NOM	ADJUSTABLE AXILLA CRUTCH SIZE I & II	
DRN	<i>[Signature]</i>	MTL	---	
CHD	<i>[Signature]</i>	HEAT TREATMENT	---	
DIM	IN mm	SURFACE TREATMENT	---	
SCALE	NTS			
APP	<i>[Signature]</i>	DRG No:- INDICATED		REV 10 SHEET 1 OF 1
DATE	12.02.1987			



SECTION -XX

MATERIAL:- (AQ 69)
 EXTRUDED SQ. TUBE AL. ALLOY
 19x19x1.6mm THICK, IS:1285
 (EQUI. HINDALCO SECTION No.TU-169)

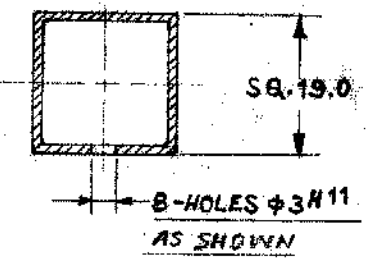
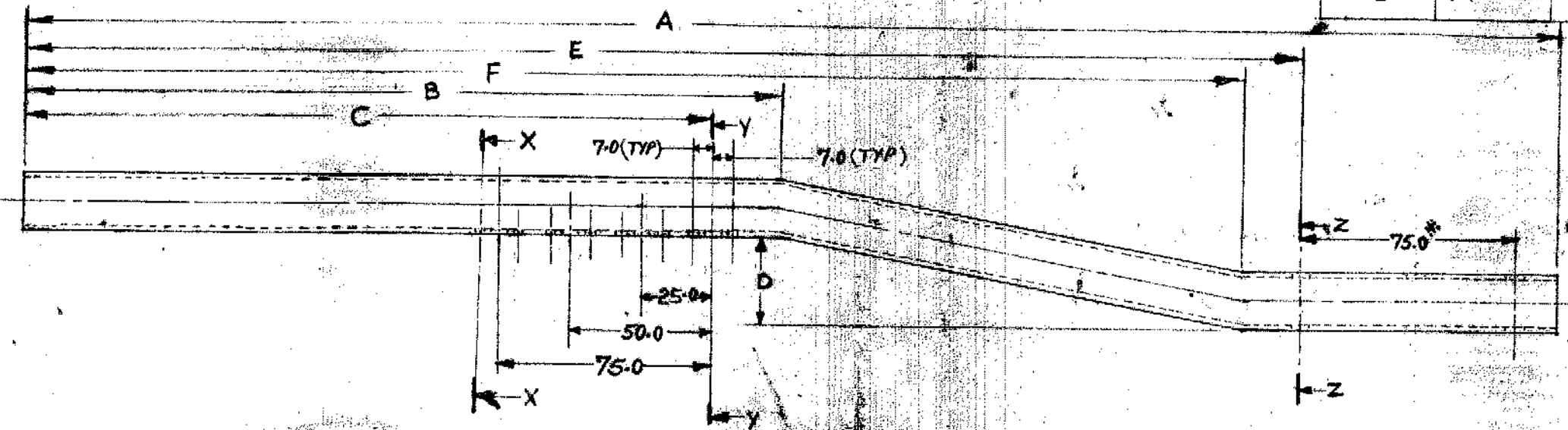
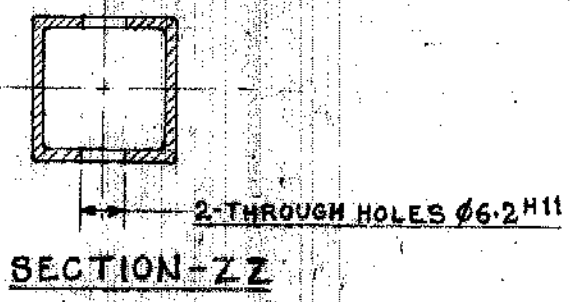
5	E - 2	DIM 40mm WAS 50mm	04.07.18	<i>[Signature]</i>
4	—	DRAWING REDRAWN	16.05.17	
SNo.	REGION	REVISION	DATE	SIGN

REVISIONS

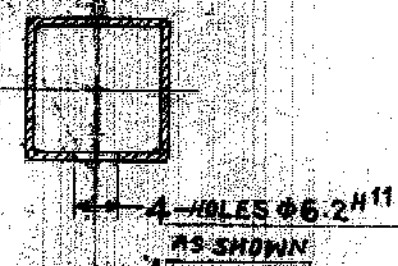
ARTIFICIAL LIMBS
MANUFACTURING CORPORATION
OF INDIA
KANPUR

DGN	<i>Asish</i>	NOM	EXTENSION TUBE	
DRN	<i>[Signature]</i>	MTL	INDICATED	
CHD	<i>[Signature]</i>	TOL	INTEGER ONLY ±0.500 mm UNLESS SPECIFIED ONE PLACE DECIMAL ±0.250 mm TWO PLACE DECIMAL ±0.125 mm	
DIM	IN mm	FIN	ANODIZE Gd.A C 10, IS:1868	
SCALE	NTS			
APP	<i>[Signature]</i>			
DATE	12.02.1987	DRG No:-	TD 1N 37 0 02	REV 5 SHEET 10F1

SIZE	A±2	B±2	C±2	D±1	E±1	F±1
I	520	265	242	30	430	410
II	745	340	317	30	655	635
III	950	395	375	40	860	840
IV	1175	470	450	40	1085	1065



SECTION-XX
SCALE-1:1



SECTION-YY
SCALE-1:1

NOTE:
1. * CRS OF THESE HOLES TO MATCH WITH * CRS OF TD 1N 37 0 02

MTL:

AL EXTRUDED SQUARE TUBE 19X1.6mm THK.
(EQUIVALENT TO HINDALCO SECTION No. TU-169)
(AB 69).

SIZE	DRG.No.
I	TD 1 N 37 0 01
II	TD 1 N 38 0 01
III	TD 1 N 39 0 01
IV	TD 1 N 40 0 01

OLG 2 184

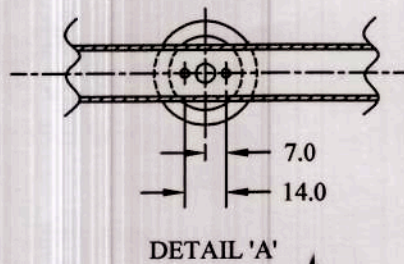
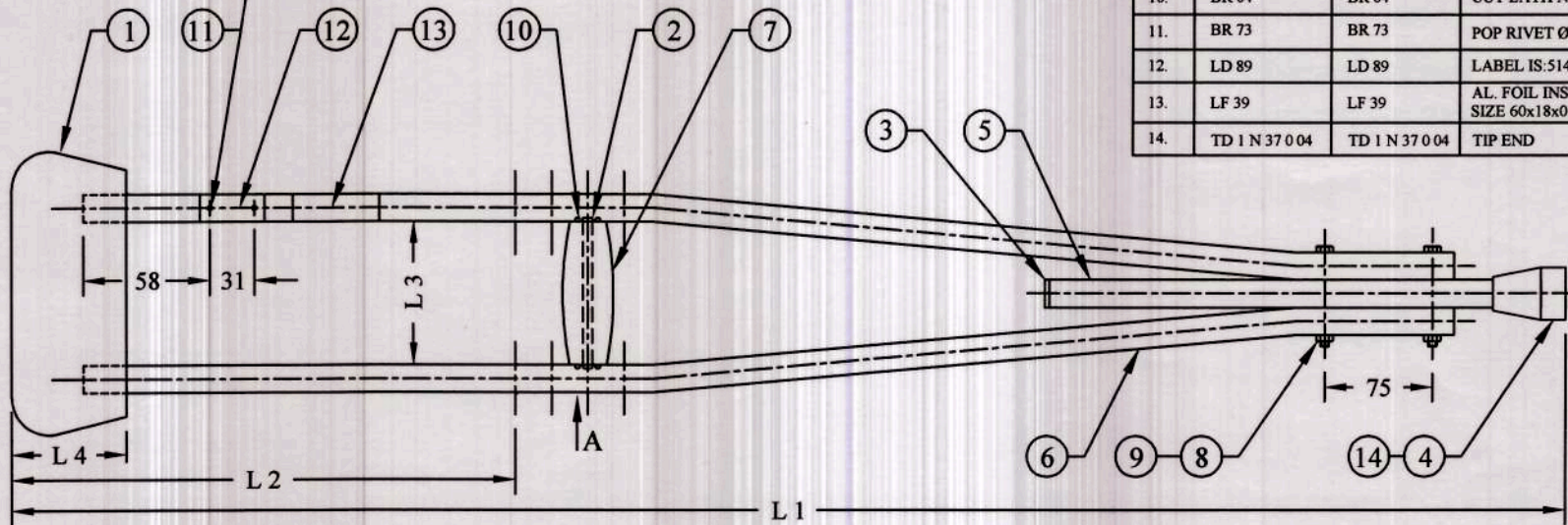
10	E-9	2-HOLES Ø 3.2 H11 & DIMS 58, 31.0 - SECTION-WW DELETED.	28.12.84	Rosa
9	E-G-8	2-HOLES Ø 3.2 H11 WAS 3 H11 AT SECTION-WW	11.10.95	...
8	E-8/9	2-HOLES Ø 3 H11 DIMS. 58, 31.0 - SECTION-WW ADDED TO LOCATE LABEL IS:51A3	12.8.95	...
7	E-8	ISI MARK & DIM 55 ADDED	3.5.95	...
6	A-2	FIN. POWDER COATING DELETED	21.9.93	...
5	A-2	FIN - POWDER COATING ADDED MTL-A Q.68 DELETED	7.7.93	...
4	E-7	DIMS OF SIZE I, II, PITCH DIMS. & 4 HOLES Ø 6.2 H11 WERE DIM. C-24.5, 32.0, PITCH DIMS. 14.0, 28.0, 42.0, 56.0, 70.0, 84.0 & 7 HOLES Ø 6.2 H11	13.7.90	...
3	F&E-4 E-3/2	DIMS. E & F ADDED DIMS. 110, 15 DELETED	26.5.90	...
2	D7/6	IN SECTION-XX 8 HOLES WERE 4 SECTION-YY 7 HOLES WERE 3	29.3.90	...
1	E-7	DIM 4.0 WAS 35.0	7.3.87	...

S.No.	REGION	REVISION	DATE	SIG.
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPN. OF INDIA KANPUR				
OGN	...	NOM	SIDE TUBE	
ORN	...	MTL	INDICATED	
CHD	...	TOL	INTEGER ONLY 20.000 mm ONE PLACE DECIMAL 20.100 mm UNLESS SPECIFIED TWO PLACE DECIMAL 20.125 mm	
SCALE	1:2	FIN.	ANODIZE Gd. AC10, IS:1868	
APP	...	DRG.No.	INDICATED	
DATE	...			

SIZE	DRG.No.	L1 ±10		L2 ±5	L3 ±5	L4 ±5
		FULLY WITHDRAWN	FULLY EXTENDED			
III	TD 1 N 39 0 00	1050	1250	350	100	80
IV	TD 1 N 40 0 00	1275	1475	425	100	80

ITEM No.	DRAWING No.		NOMENCLATURE	QTY	REMARKS
	TD 1 N 39 0 00	TD 1 N 40 0 00			
1.	TD 1 N 18 A 00 OR TD 1 N 39 F 00	TD 1 N 18 A 00 OR TD 1 N 39 F 00	AXILLA PIECE ASSY	1	AS PER BIS
2.	TD 1 N 18 0 03	TD 1 N 18 0 03	BAR HANDLE	1	
3.	TD 1 N 18 0 04	TD 1 N 18 0 04	END PLUG	1	
4.	TD 1 N 18 0 05	TD 1 N 18 0 05	TIP	1	
5.	TD 1 N 37 0 02	TD 1 N 37 0 02	EXTENSION TUBE	1	
6.	TD 1 N 39 0 01	TD 1 N 40 0 01	SIDE TUBE	2	
7.	TD 6 N 04 A 01	TD 6 N 04 A 01	HAND PIECE	1	
8.	BA 01	BA 01	HEXAGON NUT - IS:1363(PART 3) ISO 4034-M6-4.6. Zn PLATED	2	
9.	BB 09	BB 09	HEXAGON HEAD BOLT - IS:1363(PART 1) ISO-4016. M6X65-4.6. Zn PLATED	2	
10.	BR 04	BR 04	CUT LATH NAIL 2.00 x 25mm, IS:6734	4	HEAD REMOVED
11.	BR 73	BR 73	POP RIVET $\phi \frac{1}{8} \times \frac{1}{4}$ " (AL.)	2	NOT REQD. IN CASE OF LASER MARKING
12.	LD 89	LD 89	LABEL IS:5143	1	
13.	LF 39	LF 39	AL. FOIL INSTRUCTION STICKER SIZE 60x18x0.03mm THICK	1	
14.	TD 1 N 37 0 04	TD 1 N 37 0 04	TIP END	1	

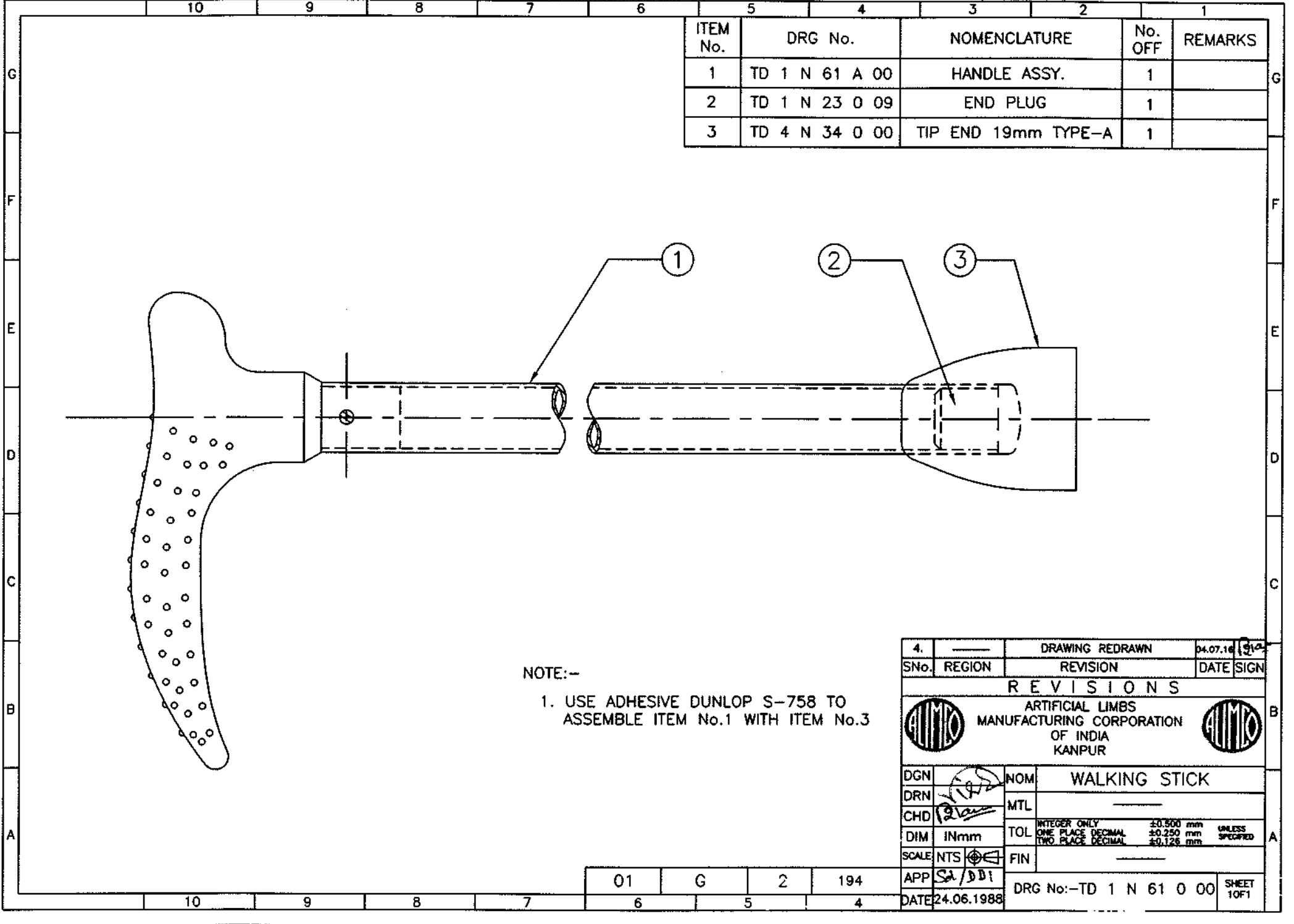
LASER MARKING FOR PRINTING -OR- 2 HOLES $\phi 3.2$ H11 FOR FIXING BIS LABEL (ONE SIDE IN ONE OF THE TUBE) AT THE TIME OF ASSY AS SHOWN



NOTE:-

1. USE ADHESIVE DUNLOP S 758 TO SECURE ITEM No.4 (TIP) WITH ITEM No.5 (EXTENSION TUBE)
2. SECURE TWO NAILS SHANK (ITEM No.10) IN POSITION ON THE BOTH FACES OF ITEM No.7 AS SHOWN IN DETAIL 'A'
3. NAILS (ITEM No.10) SHOULD BE HAMMERED 15mm DEEP IN HAND PIECE (ITEM No.7) AFTER REMOVING HEAD.

14	D-3	ITEM NO 14 ADDED & SPECIFICATION OF BR 04 MODIFIED AT ITEM NO 10	04.07.18
SNo.	REGION	REVISION	DATE/SIGN
REVISIONS			
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR			
DGN	<i>Alish</i>	NOM	ADJUSTABLE AXILLA CRUTCH SIZE III & IV
DRN	<i>Alish</i>	MTL	---
CHD	<i>Alish</i>	HEAT TREATMENT	---
DIM	IN mm	SURFACE TREATMENT	---
SCALE	NTS ϕ		
APP	<i>Sch/001</i>	DRG No:-	INDICATED
DATE	12.02.1987	REV 14	SHEET 1 OF 1

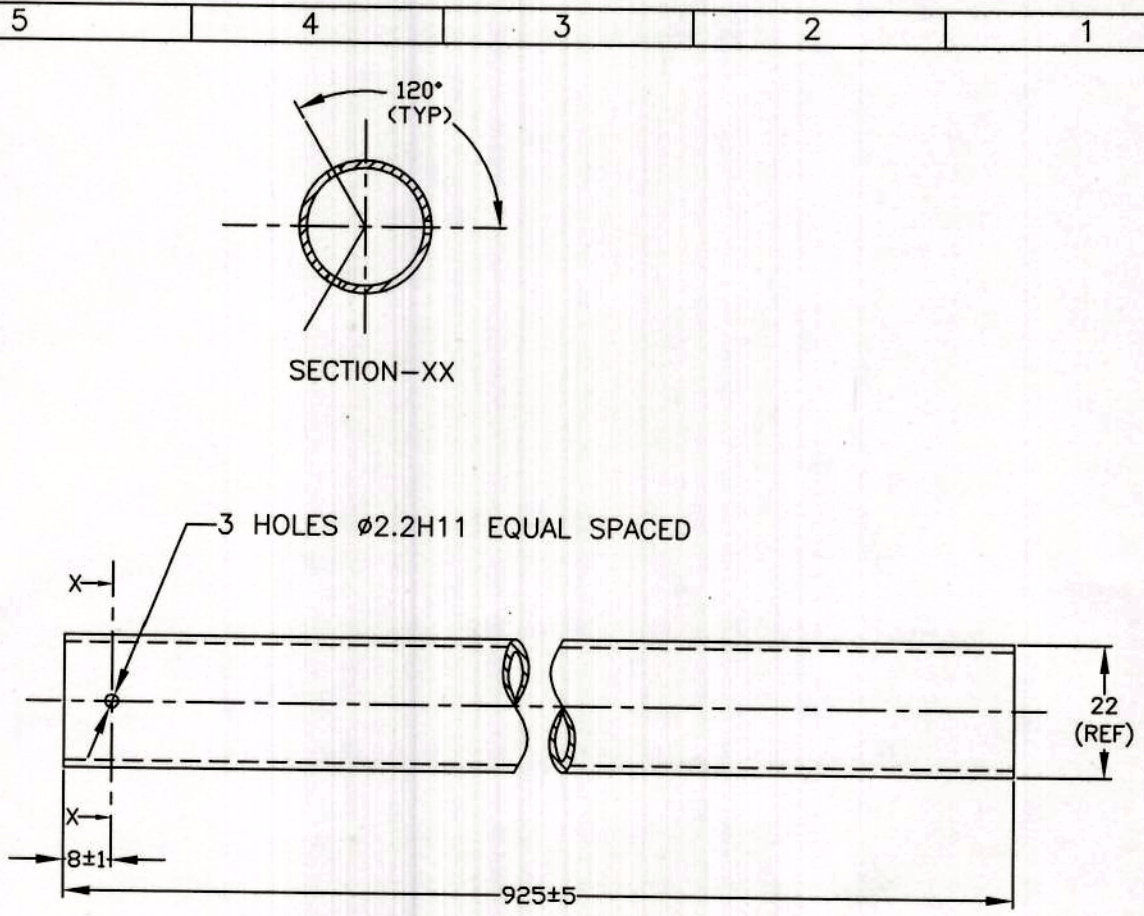


ITEM No.	DRG No.	NOMENCLATURE	No. OFF	REMARKS
1	TD 1 N 61 A 00	HANDLE ASSY.	1	
2	TD 1 N 23 0 09	END PLUG	1	
3	TD 4 N 34 0 00	TIP END 19mm TYPE-A	1	

NOTE:-
 1. USE ADHESIVE DUNLOP S-758 TO ASSEMBLE ITEM No.1 WITH ITEM No.3

4.	---	DRAWING REDRAWN	04.07.1988	1310
SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
		ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR		
DGN		NOM WALKING STICK		
DRN		MTL		
CHD		TOL		
DIM		INmm		
SCALE		NTS		
APP		FIN		
DATE		DRG No:-TD 1 N 61 0 00		
		SHEET 10F1		

01	G	2	194
6	5	4	



NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

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6	A - 2	MTL AQ 80 WAS AQ 57	27.09.18	<i>[Signature]</i>
SNNo.	REGION	REVISION	DATE	SIGN

REVISIONS

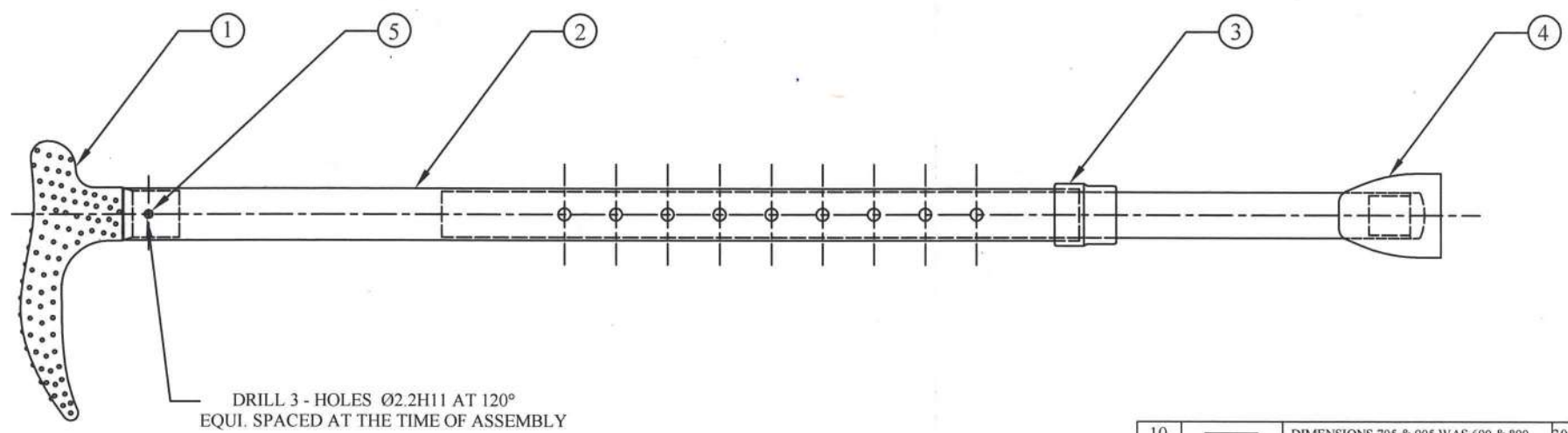
ARTIFICIAL LIMBS
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OF INDIA
KANPUR

DGN	<i>Abhishek</i>	NOM	TUBE
DRN	<i>Abhishek</i>	MTL	EXTRUDED TUBE ALALLOY & TEMPER 6063-T6 CONFORMING TO 63400 WP OD 22.2 x 1.6mm WALL THICKNESS, IS:1285 (AQ 80)
CHD	<i>Abhishek</i>	HEAT TREATMENT	---
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 N 61 0 01
APP	<i>Sd/DDI</i>	REV	6
DATE	24.06.1988	SHEET	10F1

5

4

ITEM No.	DRAWING No.	NOMENCLATURE	QTY	REMARKS
1.	TD 1 N 62 0 02	HANDLE	1	
2.	TD 1 N 24 0 Z0	LEG TUBE ASSY KIT	1	
3.	TD 1 N 23 0 10	ANTI - RATTLE COLLAR	1	
4.	TD 4 N 34 0 01	TIP END 19mm	1	
5.	BQ 75	TAPPING SCREW AB4X9.5mm, IS:7173	3	



DRILL 3 - HOLES Ø2.2H11 AT 120°
EQUI. SPACED AT THE TIME OF ASSEMBLY

OVERALL DIMENSIONS:-

- LENGTH FULLY WITHDRAWN - 705 ± 10mm $\triangle 10$
- LENGTH FULLY EXTENDED - 905 ± 10mm $\triangle 10$

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS:2102 (Pt.1) MEDIUM)	
DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

MACHINING FINISH IN MICRONS	
∇ 8 - 25	∇ 1.6 - 8
∇ 0.025 - 1.6	∇ <0.025

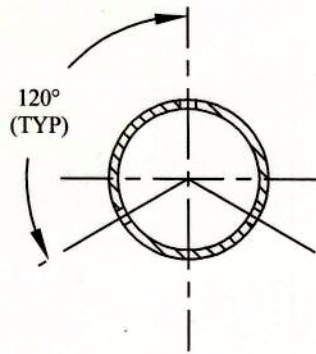
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10	---	DIMENSIONS 705 & 905 WAS 690 & 890	30.12.21	<i>[Signature]</i>
9	---	DRAWING REDESIGN & REDRAWN	19.01.17	<i>[Signature]</i>
SN.No.	REGION	REVISION	DATE	SIGN

REVISIONS

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KANPUR

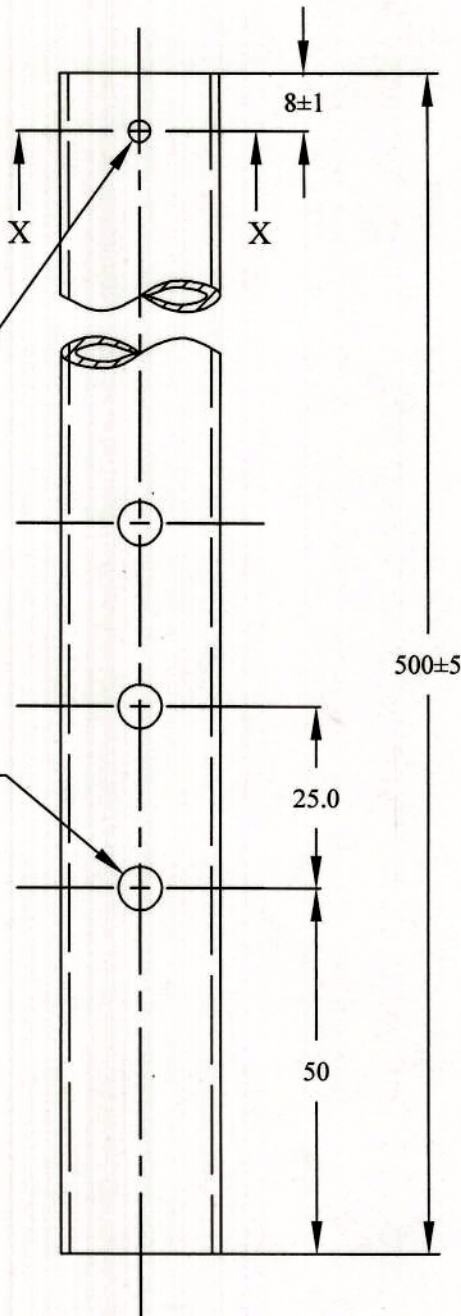
DRN	<i>[Signature]</i>	NOM	ADJUSTABLE WALKING STICK AL.
CHD	<i>[Signature]</i>	MTL	(CANE)
DIM	IN mm	HEAT TREATMENT	
SCALE	NTS	SURFACE TREATMENT	
PROJ.	\odot		
APP	Sd.DD1		
DATE	09.08.1988	DRG No:- TD 1 N 62 0 00	SHEET 1 OF 1



SECTION-XX

HOLE Ø3H11 (THROUGH)

9- HOLES Ø6H11 (THROUGH) AT PITCH 25.0mm



MTL:-

EXTRUDED TUBE AL.ALLOY HV 9 (63400)
COMMERCIAL QUALITY OD 25.0/24.8,
ID 22.5/22.3, IS:1285 (AQ 67)

OR

EXTRUDED TUBE AL.ALLOY & TEMPER
6063-T6 CONFORMING TO 63400 WP,
ID 22.93/22.63 X 1.25mm WALL THICKNESS,
IS:1285 (AQ 79)

NOTE:-

1.REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS
(ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	
0.5 up to 6	±0.1	
Over 6 up to 30	±0.2	Up to 10 ±1°00'
Over 30 up to 120	±0.3	Over 10 upto 50 ±0°30'
Over 120 up to 315	±0.5	Over 50 upto 120 ±0°20'
Over 315 up to 1000	±0.8	Over 120 upto 400 ±0°10'
Over 1000 up to 2000	±1.2	
Over 2000 up to 4000	±2.0	

MACHINING FINISH IN MICRONS
▽ 8 - 25 ▽ 1.6 - 8 ▽▽ 0.025 - 1.6 ▽▽▽ <0.025

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4	C - 5	MTL AQ 79 ADDED AS AN ALTERNATE	27.09.18	
SNNo.	REGION	REVISION	DATE	SIGN

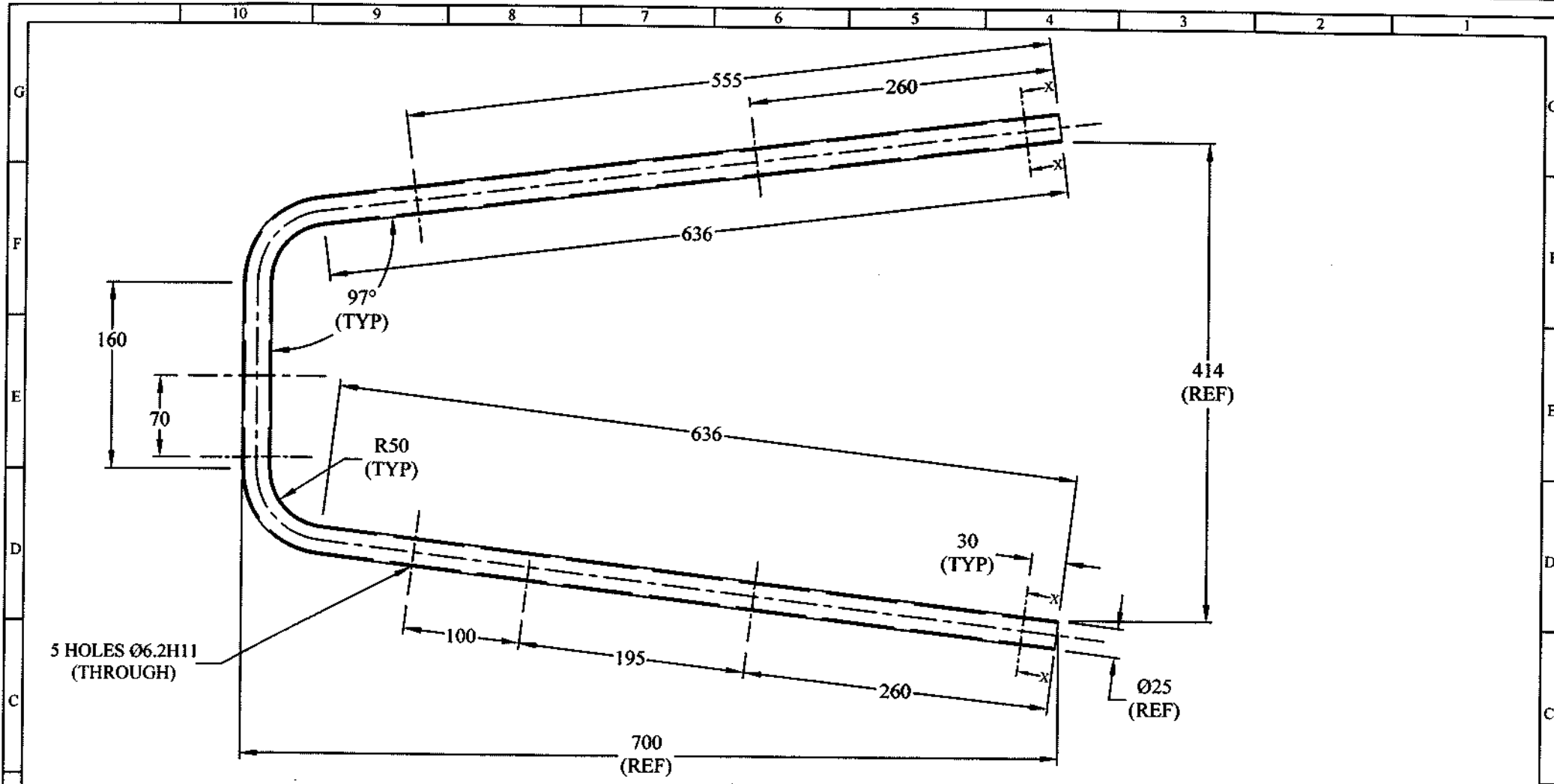
REVISIONS



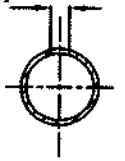
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MANUFACTURING CORPORATION
OF INDIA
KANPUR



DGN		NOM	TUBE OUTER
DRN		MTL	INDICATED
CHD		HEAT TREATMENT	—
DIM	IN mm	SURFACE TREATMENT	POWDER COATING COLOUR - WHITE ALTERNATE ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 N 62 0 01
APP		REV	4
DATE	09.08.1988	SHEET	1 OF 1



3 HOLES Ø6.2H11
AS SHOWN



SECTION XX

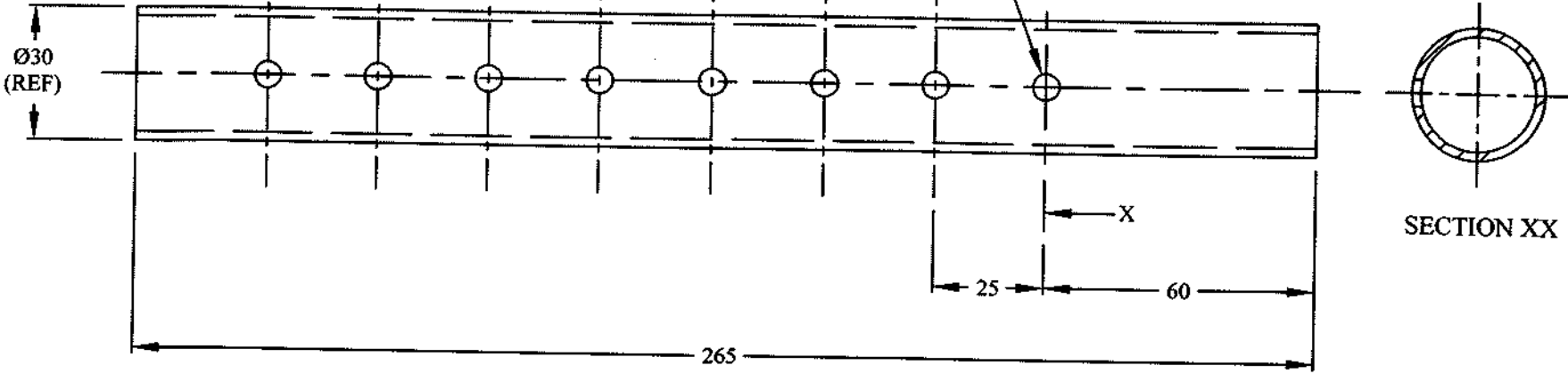
TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS:2102 MEDIUM)	
DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

MACHINING FINISH IN MICRONS	
▽ 8 - 25	▽▽ 1.6 - 8
▽▽▽ 0.025 - 1.6	▽▽▽▽ <0.025

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SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN	<i>Alish</i>	NOM	SIDE TUBE	
DRN	<i>Grav</i>	MTL	EXTRUDED TUBE AL ALLOY 62400-T6 OD 25.4mm X 1.6mm THICK IS:1285 (AS 79)	
CHD		HEAT TREATMENT		
DIM	IN mm	SURFACE TREATMENT	ANODIZE Gd AC 10, IS:1868	
SCALE	1:1			
APP	<i>Sh</i>			
DATE	02.05.2017	DRG No:- TD 1 P 09 0 01	SHEET 1 OF 1	



8 HOLES Ø6H11
AT PITCH 25mm
AS SHOWN

SECTION XX

NOTE:-
1. REMOVE SHARP EDGES & CORNERS.

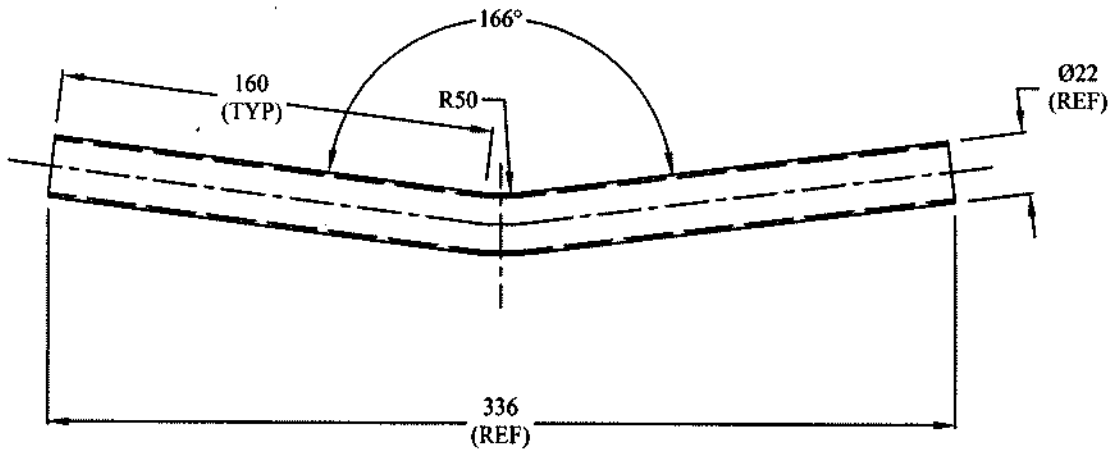
TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (ISE:2102 MEDIUM)	
DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0
	Up to 10 ±1°00'
	Over 10 upto 50 ±0°30'
	Over 50 upto 120 ±0°20'
	Over 120 upto 400 ±0°10'

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽ 1.6 - 8 ▽ 0.025 - 1.6 ▽ 0.025 < 0.025

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SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN	NOM		EXTENSION TUBE	
DRN	MTL		EXTRUDED TUBE AL.ALLOY, 62400-T6, OD 36mm X 2.0mm THICK IS: 1285 (AS 80)	
CHD	HEAT TREATMENT		SURFACE TREATMENT	
DIM	ANODIZE Gd AC 10, IS: 1868			
SCALE	1:1			
APP				
DATE	02.05.2017		DRG No:- TD 1 P 09 0 02	
				SHEET 1 OF 1



NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS
(ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN		LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

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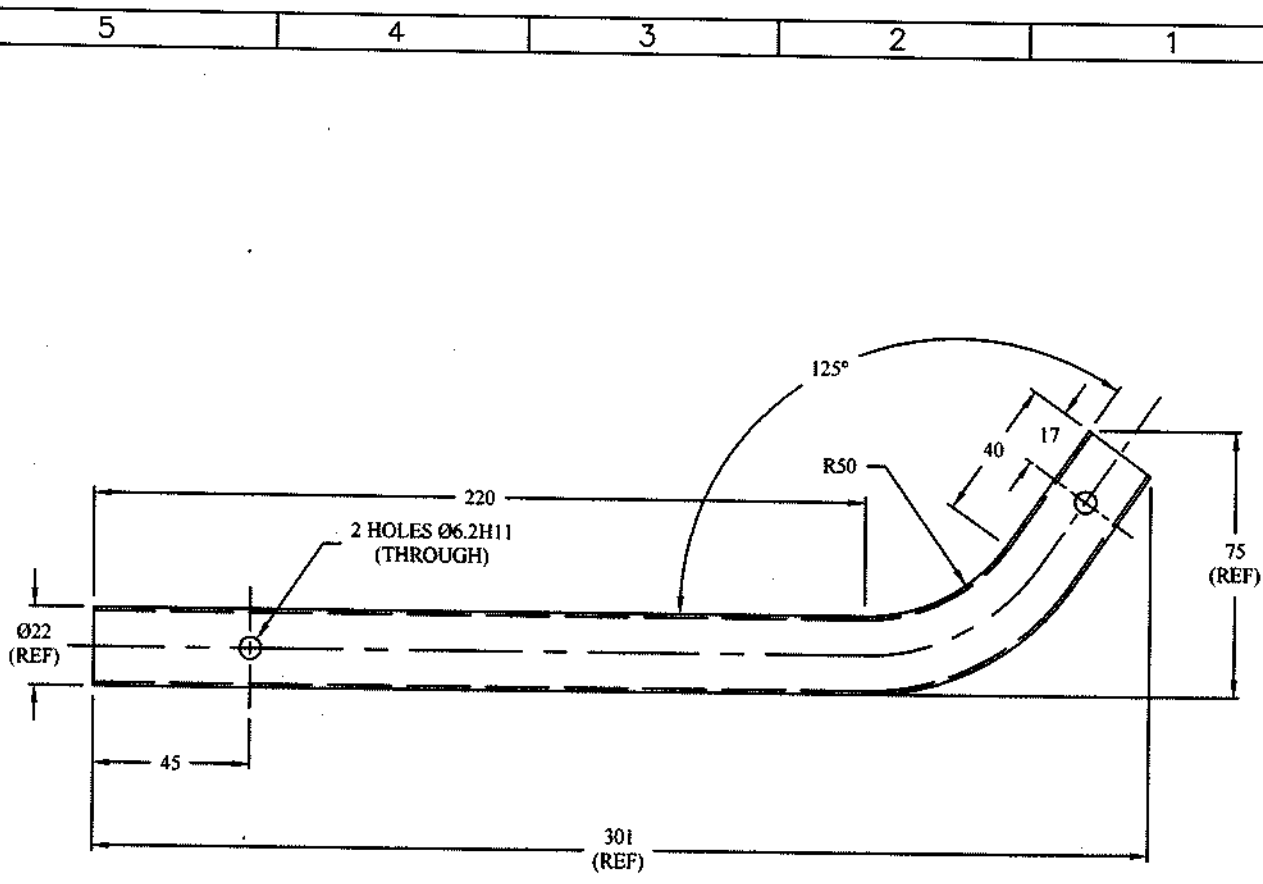
SNNo.	REGION	REVISION	DATE	SIGN
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REVISIONS

ARTIFICIAL LIMBS
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OF INDIA
KANPUR



DGN	<i>Adish</i>	NOM	SIDE STIFFENER
DRN	<i>Adish</i>	MTL	EXTRUDED TUBE AL.ALOY,62400-T6, OD 22.1/21.9, ID 19.6/19.4mm,IS:1285 (AS 81)
CHD	<i>gla</i>	HEAT TREATMENT	—
DIM	IN mm	SURFACE TREATMENT	ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 P 09 0 03
APP	<i>Adish</i>		SHEET 1 OF 1
DATE	02.05.2017		



NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:--

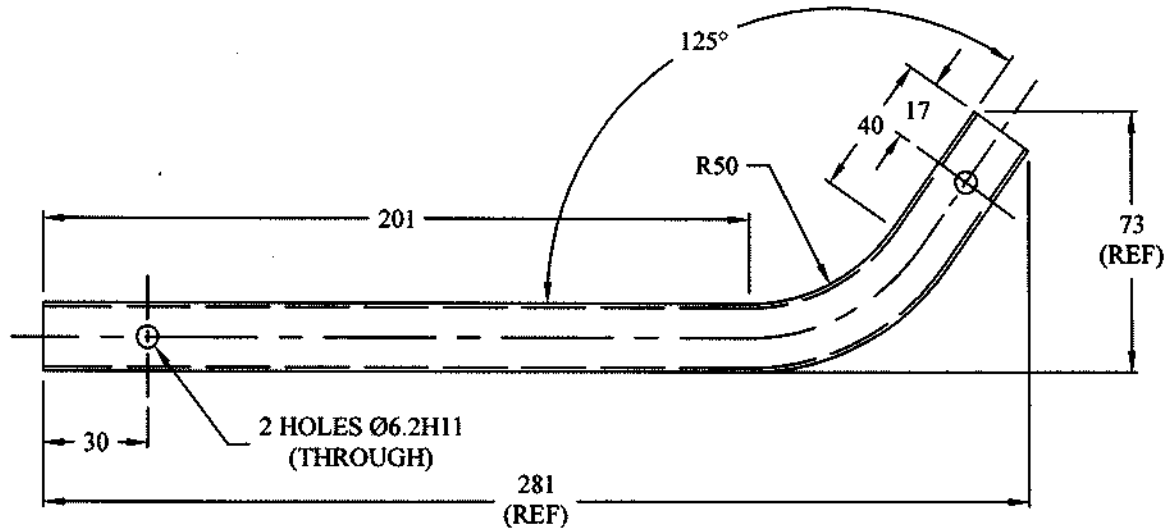
DEVIATION FOR NON TOLERANCED DIMENSIONS (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN	TOLERANCE	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	TOLERANCE
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

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SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN	<i>Ashish</i>	NOM	SLIDER OUTER	
DRN		MTL	EXTRUDED TUBE AL. ALLOY, 62400-T6, OD 22.1/21.9, ID 19.6/19.4mm, IS:1285 (AS 81)	
CHD	<i>Qian</i>	HEAT TREATMENT	---	
DIM	IN mm	SURFACE TREATMENT	ANODIZE Gd AC 10, IS:1868	
SCALE	NTS	DRG No:-	TD 1 P 09 0 04	SHEET 10F1
APP	<i>[Signature]</i>	DATE	13.05.2017	



NOTE:-

1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (ISI:2102 MEDIUM)

DIAMETER & LENGTHS BETWEEN		LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL.	
0.5 up to 6	±0.1	Up to 10	±1°00'
Over 6 up to 30	±0.2	Over 10 upto 50	±0°30'
Over 30 up to 120	±0.3	Over 50 upto 120	±0°20'
Over 120 up to 315	±0.5	Over 120 upto 400	±0°10'
Over 315 up to 1000	±0.8		
Over 1000 up to 2000	±1.2		
Over 2000 up to 4000	±2.0		

MACHINING FINISH IN MICRONS
 ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ <0.025

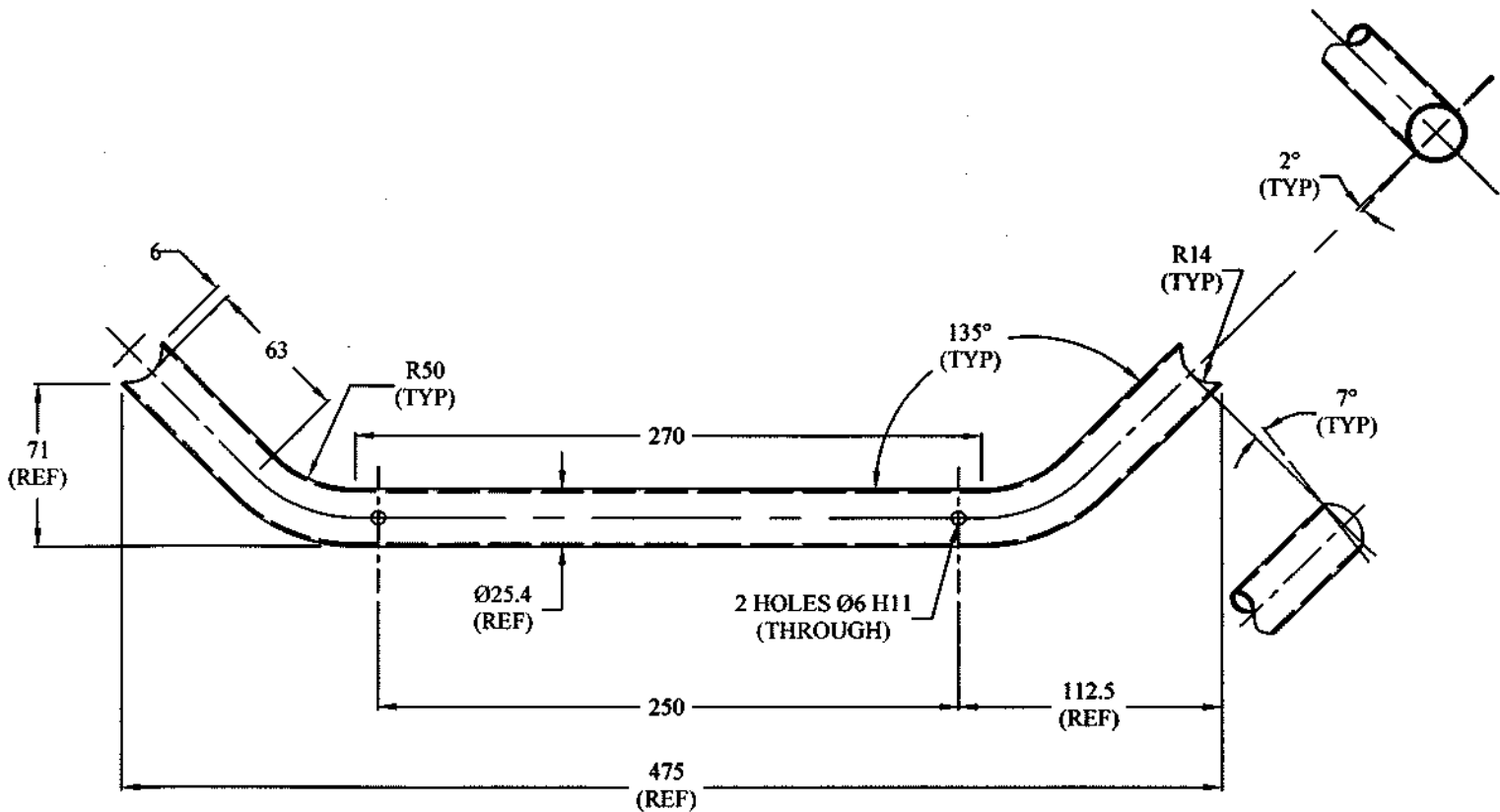
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SNo.	REGION	REVISION	DATE	SIGN
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REVISIONS

ARTIFICIAL LIMBS
 MANUFACTURING CORPORATION
 OF INDIA
 KANPUR

DGN	<i>Ashish</i>	NOM	SLIDER INNER
DRN	<i>Ashish</i>	MTL	EXTRUDED TUBE AL ALLOY, 62400-T6, OD 19.05x1.2mm THICK, IS:1285 (AS 82)
CHD	<i>Pran</i>	HEAT TREATMENT	---
DIM	IN mm	SURFACE TREATMENT	ANODIZE Gd AC 10, IS:1868
SCALE	NTS	DRG No:-	TD 1 P 09 0 05
APP	<i>Ashish</i>		SHEET 10F1
DATE	15.05.2017		



NOTE:-
1. REMOVE SHARP EDGES & CORNERS.

TOLERANCE:-

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS:2102 MEDIUM)	
DIAMETER & LENGTHS BETWEEN	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL
0.5 up to 6	±0.1
Over 6 up to 30	±0.2
Over 30 up to 120	±0.3
Over 120 up to 315	±0.5
Over 315 up to 1000	±0.8
Over 1000 up to 2000	±1.2
Over 2000 up to 4000	±2.0

MACHINING FINISH IN MICRONS	
▽ 8 - 25	▽▽ 1.6 - 8
▽▽▽ 0.825 - 1.6	▽▽▽▽ <0.025

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SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN	Wish	NOM	STIFFENER	
DRN	Wish	MTL	STEEL TUBE ERW-C1 OD 25.4mm THICK 1.25mm, ANNEALED, IS:2039 (AF 60)	
CHD	Wish	HEAT TREATMENT		
DIM	IN mm	SURFACE TREATMENT	ANODIZE GJ AC 10, IS:1868	
SCALE	NTS			
APP	Wish			
DATE	17.05.2017	DRG No:- TD 1 P 09 A 03	SHEET 1 OF 1	