

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)
HEAVY PLATES AND VESSELS PLANT
PURCHASE DEPARTMENT
VISAKHAPATNAM - 530012
ANDHRA PRADESH(INDIA)

Contact Ph No :08916681307
Fax :08916681700
Email :ahprasad@bhel.in
Web : hpvp.bhel.in

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1/2

Enquiry No (Coll-No)	Enquiry Date	Due Date for Quotation
H182000013	20.07.2020	10.08.2020
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order. Bid should be submitted in two parts. 1.Techno-commercial bid (Part-I) and 2.Price bid(Part-II) in a separate sealed cover and both covers must be placed in a third cover and sealed. Our Enquiry No., Enq. date & Enq. Due date must be written on all three covers.		

Item	Description	Unit	Quantity	Delivery Quantity	Delivery Date
10	D28XR50 SPLIT TYPE TUBE BENDING DIE T3520480000 ASSEMBLY OF ITEM-100, 200 AND 1 OF ASSLY DRAWING NO. T2-352048-000. DIE TO BE SUPPLIED IN FITTED CONDITION OF TOP AND BOTTOM DIE WITH THE HELP OF DRIVE PIN AS SHOWN IN DRAWING.	SET	1.000	1.00	05.10.20
20	MOVABLE JAW FOR D28 TUBE - WE80 MACHINE T3520490001 MOVABLE JAW AS PER ITEM-1 OF DRAWING NO. T3-352049-001	NO	1.000	1.00	05.10.20
30	FOLLOWER BLOCK FOR D28 TUBE - WE80 MC. T3520500001 FOLLOWER BLOCK AS PER ITEM-1 OF DRAWING NO. T3-252050-001	NO	1.000	1.00	05.10.20
40	WIPER DIE FOR BENDING DIE D28XR50 T3520510001 WIPER DIE SUITABLE TO D28XR50 BENDING DIE AS PER ITEM-1 OF DRAWING NO.T3-352051-001.	NO	2.000	2.00	05.10.20
50	D28XR64 SPLIT TYPE TUBE BENDING DIE T3520520000 ASSEMBLY OF ITEM-100, 200 AND 1	SET	1.000	1.00	05.10.20

The offers should reach us before 14:00 hrs on the due date of opening of the tender. The offers will be opened after 15:00 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

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


एम.पी.एस.एन.मूर्ति/M.P.S.N. MURTHY
उप प्रबंधक (एमपी सीपी-विविध)
Dy. MANAGER (MP-Misc)

वीएसईएल, एचपीवीपी, विशाखपट्टणम-530 012
BHEL, HPVP, VISAKHAPATNAM-530 012

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H182000013 / 20.07.2020

	OF ASSLY DRAWING NO. T2-352052-000. DIE TO BE SUPPLIED IN FITTED CONDITION OF TOP AND BOTTOM DIE WITH THE HELP OF DRIVE PIN.				
60	WIPER DIE FOR BENDING DIE D28XR64 T3520530001 WIPER DIE SUITABLE TO D28XR64 BENDING DIE AS PER ITEM-1 OF DARWING NO.T3-352053-001 REV.0	NO	2.000	2.00	05.10.20
70	WIPER DIE FOR BENDING DIE D28XR55 T3520550001 WIPER DIE SUITABLE TO D28XR55 BENDING DIE AS PER ITEM-1 OF DARWING NO.T3-352055-001	NO	2.000	2.00	05.10.20

General Note:

- 1) COMMERCIAL TERMS & CONDITIONS AS PER ANNEXURE-A.
- 2) SPECIAL TERMS & CONDITIONS AS PER ANNEXURE-B.
- 3) ALL THE ITEMS TO BE SUPPLIED AS PER ENCLOSED DRAWINGS & TDC.
- 4) EVALUATION OF L1 WILL BE DONE BASED ON TOTAL AMOUNT QUOTED FOR ALL THE ITEMS.

Enclosures:

ITEM NO. 10 (Drawing No.: T2-352048-000, T2-352048-100,
T2-352048-101, T2-352048-200, T2-352048-201, T4-352048-001).
ITEM NO. 20 (Drawing No.: T3-352049-001).
ITEM NO. 30 (Drawing No.: T3-352050-001).
ITEM NO. 40 (Drawing No.: T3-352051-001).
ITEM NO. 50 (Drawing No.: T2-352052-000, T2-352052-100,
T2-352052-101, T2-352052-200, T2-352052-201, T4-352052-001).
ITEM NO. 60 (Drawing No.: T3-352053-001).
ITEM NO. 70 (Drawing No.: T3-352055-001).

TDC - BENDING 002 REV.00

- a) COMMERCIAL TERMS & CONDITIONS AS PER ANNEXURE-A.
- b) SPECIAL TERMS & CONDITIONS AS PER ANNEXURE-B.
- c) MSME CA CERTIFICATION FORMAT AS PER ANNEXURE-C.
- d) PRICE SCHEDULE AS PER ANNEXURE - D.

The offers should reach us before 14:00 hrs on the due date of opening of the tender. The offers will be opened after 15:00 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

एम.पी.एस.मूर्ति M. P. S. MURTHY
उप प्रबंधक (निष्पन्न) उप निविदा
Dy. MANAGER (NIPUN)
विपणन, एच.पी.वी. विभाग
BHEL, HPVP, VISAKHAPATNAM 530012

ANNEXURE-A (COMMERCIAL TERMS & CONDITIONS)			RFQ: H182000013
SL. NO.	DESCRIPTION	BHEL'S REQUIREMENT	SUPPLIER'S COMMENTS
1	PAYMENT TERM	100% payment shall be made within 45 days from the date of receipt and acceptance of materials at BHEL. However, GST portion of invoice shall be released only upon: 1. Vendor declaring the invoice in their GSTR-1. 2. Receipt of Goods and Tax Invoice by BHEL. 3. Confirmation of payment of GST thereon by vendor on GSTN Portal. Any deviation in the above payment term will attract loading as mentioned below. "Base rate of SBI (as applicable on the date of techno commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by bidder") <u>Note : Offers with Payment against Proforma Invoice / Advance payment / LC at site / confirmed LC are liable for rejection.</u>	
2	DELIVERY PERIOD	The acceptable Delivery period shall be within 6 weeks from the date of Purchase Order to the date of LR / Invoice whichever is later. <u>Loading Factor:</u> The offers which do not conform to 6 weeks of delivery period shall be loaded for the delayed delivery beyond 6 weeks @ 0.5% per week or part thereof on the offered basic value.	
3	DELIVERY BASIS	FOR - HPVP STORES, BHEL - VISAKHAPATNAM.	
4	FREIGHT CHARGES	Please specify whether INCLUDED (or) EXTRA. (if EXTRA, indicate in terms of _____ % on Basic Rate)	
5	TRANSIT INSURANCE	Please specify whether INCLUDED (or) EXTRA. (if EXTRA, indicate in terms of _____ % on Basic Rate)	
6	PACKING & FORWARDING CHARGES	Please specify whether INCLUDED (or) EXTRA. (if EXTRA, indicate in terms of _____ % on Basic Rate)	
7	VENDOR GSTIN	To be furnished by supplier	
8	GST & HSN CODE	% GST: (To be furnished by supplier)	
9	UAM Number	Udyog Aadhaar Number (MSME Vendors) to be specified by vendor	
10	INSPECTION CHARGES	Supplier need to register in BHEL online portal www.cqir.bhel.in for offering inspection as on when material is ready according to P.O. All costs related to readiness of goods shall be borne by the Supplier. Inspection charges shall be borne by BHEL. All the materials shall be inspected as per provisions of BHEL standard practice. BHEL or its authorized representative (i.e. TPIA) shall be entitled to carry out inspection of material and workmanship at Supplier's premises or at his sub-contractor's premises at all reasonable times during execution of contract; Such inspection, examination and testing, if made, shall not absolve the Supplier from his obligations under the contract.	BHEL A/C.
11	TESTING CHARGES	Please specify whether INCLUDED (or) EXTRA. (if EXTRA, indicate in terms of _____ % on Basic Rate)	
12	OFFER VALIDITY	90 days from the date of Technical bid opening.	
13	TEST CERTIFICATE	TC's, MTC's, Test Reports, Final Inspection Reports, etc., are to be submitted as per applicable Material Specification / TDC.	
14	PART QUANTITY/ PART ORDER	BHEL, HPVP reserves the right to Reduce / Increase the quantities mentioned in the enquiry. Vendor shall agree to accept Item wise order / Part Quantity of each item / Part Order.	Not Applicable, as all the items will be procured from single vendor only.

ANNEXURE-A (COMMERCIAL TERMS & CONDITIONS)			RFQ: H182000013
SL. NO.	DESCRIPTION	BHEL'S REQUIREMENT	SUPPLIER'S COMMENTS
15	L.D.CLAUSE	Delivery is the essence of this contract. In the event of your failure to ship the materials within the stipulated delivery period, Liquidated Damages shall be @ of 0.5% of the total order value per week of delay or part thereof subject to maximum of 10% of the total order value. LD shall be reckoned from the date of LR / Invoice whichever is later. Loading Factor: Any deviation from the above LD clause, loading shall be applied to the extent of relaxation sought to which it is not agreed by the bidder at offered basic value. <i>In case of LD recovery, the applicable GST shall also be recovered from the supplier.</i>	
16	ARBITRATION	Notwithstanding anything to the contrary contained herein or any document whatsoever, all questions/ interpretations/ disputes/ claims relating to and arising out of this contract, shall be referred to sole arbitrator who shall be appointed by the Head of Unit/HPVP at his sole discretion. Appointment of arbitrator shall not take place unless and until a written request from any of the parties involved in contract, has been received by the Head of Unit as aforesaid. It is a term of this contract that none other than person appointed by Head of the Unit as aforesaid, shall act as arbitrator. If for any reason that it is not possible, the subject matter is not to be referred to arbitration at all. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion. The award of the arbitrator shall be final, conclusive and binding on all parties to this contract. The cost of arbitration shall be borne by the parties to the dispute, as may be decided by the arbitrator(s).	
17	JURISDICTION	Notwithstanding any other court or courts having jurisdiction to decide the question(s) forming the subject matter of the reference if the same had been the subject matter of a suit, any and all actions and proceedings arising out of or relative to the contract (including any arbitration in terms thereof) shall lie only in the Court of Competent Civil/territorial jurisdiction in this behalf at Visakhapatnam and only the said Courts(s) shall have jurisdiction to entertain and try any such action(s) and/or proceeding(s) to the exclusion of all other Courts.	
18	RISK PURCHASE	The delivery period stated shall be reasonable/realistic and shall strictly be adhered to. If the material is not supplied within the agreed delivery period, in order to avoid loss or damage BHEL reserves the right to cancel the order and purchase the material (either wholly or undelivered portion) from alternate source(s) at the Risk and Cost (with extra 5 % overhead) of the Supplier. In such an event, it shall be obligatory on the part of Supplier to make good any loss suffered by the BHEL. In such cases, BHEL shall withhold bills, bank guarantees, etc., of the Supplier, which are pending either at HPVP BHEL or any other Unit of BHEL.	
19	REJECTION & REPLACEMENT	If any material is rejected, supplier to make free of cost (on freight paid basis) replacement within a specified period. Rejected materials can be lifted by the supplier thereafter. (OR) BHEL Shall take alternate procurement action from elsewhere and recover the difference in cost, if any incurred by BHEL in this regard from the supplier. The supplier shall not be entitled to any gain on repurchase. (OR) BHEL can terminate the contract either in part or wholly in which at BHEL discretion and recover loss if any from the supplier.	

ANNEXURE-A (COMMERCIAL TERMS & CONDITIONS)			RFQ: H182000013
SL. NO.	DESCRIPTION	BHEL'S REQUIREMENT	SUPPLIER'S COMMENTS
20	GUARANTEE CERTIFICATE	Vendor should guarantee that all materials shall be free from any defect due to facility design, material and workmanship. Supplier shall guarantee the performance of material/equipment/total system, for a period of 18 months from the date of last dispatch or 12 months from the date of commissioning, whichever is earlier. If any defect is noticed during the above period, the same shall be rectified / replaced free of cost on FOR BHEL,HPVP, Visakhapatnam / Destination basis within a reasonable time.	
21	FIRM PRICE	All prices shall be firm till complete execution of the P.O., without any escalation/increase for any reason, whatsoever. Unless specifically provided for in the P.O. OD Interest: No overdue interest is payable by HPVP-BHEL, Visakhapatnam to vendors or their bankers.	
22	VENDOR STATUS (MICRO / SMALL)	a) MICRO / SMALL : (To be indicated by vendor and latest copy of supporting documents as mentioned in RFQ shall be furnished along with offer)	
	VENDOR STATUS (SC / ST)	b) whether owned by SC / ST Entrepreneurs: (To be indicated by vendor and latest copy of supporting documents shall be furnished along with offer)	
	VENDOR STATUS (Women Entrepreneur)	c) whether owned by Women Entrepreneurs (To be indicated by vendor and latest copy of supporting documents shall be furnished along with offer)	
	VENDOR STATUS (MICRO / SMALL)	d) Vendor shall furnish Udyog Aadhaar Memorandum number: (Copy of Udyog Aadhaar Memorandum is to be attached along with offer)	
23	QUALITY ASSURANCE PLAN DESPATCH CLEARANCE	In the event of order, vendor should submit signed & stamped Drawings and QAP within 10 days from the date of PO. Supplier has to submit the following documents for Dispatch Clearance: (1) Material Test Certificate, (2) Dimensional Report, (3) Visual Inspection Report & (4) Guarantee Certificate.	

The above format shall be completely filled, deviation if any, shall be clearly spelt out. The clauses which are not applicable, shall be mentioned as "Not Applicable". No clauses should be left blank under the column of supplier's comments without addressing. Non-filling of supplier's comments (column) may lead to rejection of offer. If there is any difference (against the clause accepted or confirmed) between the offer and the filled up commercial terms and conditions sheet, the latter only shall prevail in evaluation.

The vendor should categorically indicate confirmation of all the points of Technically Delivery Conditions and Commercial Terms & Conditions with signature and seal at the bottom of each page, and submit the same along with Un-priced Technical Bid.

Offer of those who do not confirm compliance of all terms and condition are likely to be rejected. BHEL-HPVP reserves the right to cancel the enquiry/tender at any stage without assigning any reasons thereof. And BHEL-HPVP reserves the right to reject or accept one or any offer without assigning any reason.

BHEL-HPVP reserves the right to negotiate and re-float the enquiry / tender, if the lowest price offered is not competitive enough.

**MPSN
MURTHY**

Digitally signed by MPSN MURTHY
DN: c=IN, o=BHARAT HEAVY
ELECTRICALS LIMITED, ou=HPVP
Unit, postalCode=530012,
st=Andhra Pradesh,
2.5.4.20=b3f0f2e3049e598512799f0
dc6494784dfa0a34776f4af8feb7d08
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**BHARAT HEAVY ELECTRICALS LIMITED**

Heavy Plates & Vessels Plant
(A Government of India Undertaking)
Visakhapatnam - 530012 (A.P) India.

Enquiry No. H182000013

ANNEXURE - B

☎ 0891 668 1307 /1350 /1319

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✉ mpsnmurthy@bhel.in

✉ nsatishkumar@bhel.in

Dt.20-07-2020

SPECIAL TERMS AND CONDITIONS

1. Vendor shall submit a duly filled with categorical confirmation of Commercial Terms & Conditions (CTC) as per enclosed ANNEXURE-A along with Drawings & Technical Delivery Conditions (TDC). The offers of those Vendors who do not comply with all the Clauses of CTC, Drawings and TDC in total are likely to be rejected. Documents submitted along with the offer shall be signed and stamped on each page by an authorised representative of the vendor as an acceptance to the terms & conditions.

2. **Inspection:** By BHEL / BHEL Authorized TPIA

BHEL or its authorized representative shall be entitled to carry out inspection of material and workmanship at supplier's premises or at his sub-contractor's premises at all reasonable times during execution of the contract and before dispatch clearance; Such inspection, examination and testing, if made, shall not absolve the vendor from his obligations under the contract.

Instructions to Suppliers:

Supplier needs to register at BHEL online portal i.e. www.cgir.bhel.in for offering Inspection call as on when material is ready according to contract. On readiness of ordered material, the supplier shall raise inspection call request with a minimum period of 07 working days to the authorized representative of the purchaser for inspection / witnessing the testing as envisaged in P.O. Inspection Charges shall be borne by BHEL for Indigenous suppliers.

BHEL representative either from HPVP Unit or Corporate Quality is authorized to carry out audits at supplier's works before providing the dispatch clearance.

After completion of the Inspection at works respectively, suppliers need to send the scanned copies of TC's, Inspection reports and other applicable Test Reports in accordance with TDC to BHEL with duly endorsed by Inspecting authority for obtaining the material dispatch clearance.

3. **Technical Delivery Conditions (TDC):** All the Enquired Items should be as per TDC NO. BENDING 002 REV.00 and Drawings Item No. 10 (Drawing No.: T2-352048-000, T2-352048-100, T2-352048-101, T2-352048-200, T2-352048-201, T4-352048-001), Item No. 20 (Drawing No.: T3-352049-001), Item No. 30 (Drawing No.: T3-352050-001), Item No. 40 (Drawing No.: T3-352051-001), Item No. 50 (Drawing No.: T2-352052-000, T2-352052-100, T2-352052-101, T2-352052-200, T2-352052-201, T4-352052-001) Item No. 60 (Drawing No.: T3-352053-001) and Item No. 70 (Drawing No.: T3-352055-001).

Vendor shall categorically submit all the TDCs & Drawings along with enquiry documents, Commercial Terms & Conditions by all means confirming each point by endorsing and stamped undertaking on each page by an authorised representative of the bidder as a token acceptance of the same.

4. **Pre-Qualification Criteria(PQC) / Eligibility criteria:** PQC / Eligibility criteria for vendor to participate against this RFQ mentioned videlicet is essential. Supporting documents need to be attached along with Technical bid, **offers without proper supporting documents in line with the requirement shall not be considered for scrutiny.**
- Experience & Past performance in executing similar type of material in last 2 years (PO copies & Inspection release note preferably from PSU reckoned as supporting documents).
 - Financial Standing thru latest I.T.C.C. and Annual Report (Balance sheet, Profit & Loss account) of last 3 fiscal years.
 - Valid ISO:9001 certificates & Accreditation with validity period (To submit True Copy Duly Notarized or Attested by Gazetted Officer)
 - PAN, TIN, GST Details.

The above stated Pre-Qualification Criteria is not applicable to those vendors who were already registered under PMD of HPVP-BHEL (or) executed previous HPVP-BHEL purchase orders.

5. **Price Evaluation:**

The Price shall be evaluated on Landed Cost basis (Total cost to BHEL). Landed cost shall be worked w.r.t the price quoted including Quantity Tolerance, P&F charges, Testing & Inspection charges, Freight, Transit Insurance, loading on Deviations, Customs duty, loading as per customs notifications and GST after taking out Input Tax Credit as applicable.

The price comparative statement shall be worked out on overall landed cost (Total Cost to BHEL-HPVP) of all the enquiry items for arriving L1.

**MPSN
MURTHY**

Digitally signed by MPSN MURTHY
DN: c=IN, o=BHARAT HEAVY ELECTRICALS
LIMITED, ou=HPVP Unit,
postalCode=530012, st=Andhra Pradesh,
2.5.4.20=b3f02e3049e598512799f0dc649
478dfad34775f4af6eb708b81593222b
3, cn=MPSN MURTHY
Date: 2020.07.21 14:41:21 +05'30'

**BHARAT HEAVY ELECTRICALS LIMITED**

Heavy Plates & Vessels Plant
(A Government of India Undertaking)
Visakhapatnam - 530012 (A.P) India.

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✉ mpsnmurthy@bhel.in

✉ nsatishkumar@bhel.in

Enquiry No. H182000013

ANNEXURE - B

Dt.20-07-2020

- The comparative statement of price shall be prepared based on the reference date and the same will remain firm throughout the enquiry period. Any change in duty and tax structure during the execution of contract will not be considered for the re-ranking of vendors.
- The lowest price bid received against BHEL-HPVP tender need not to be the commercially lowest (L1) price bid. BHEL-HPVP always reserves the right to negotiate the same.
- BHEL-HPVP always reserves the right/option to REFLOAT the tender, if L1 price bid is not deemed to be the lowest acceptable price.
- Import offers shall be evaluated based on the consideration of Exchange rates (TT selling rate of SBI) that is prevailing on the date of Technical Bid opening. If the date of Technical bid opening happens to be a bank holiday or no forex, then the forex rate that was prevailing on previous bank (SBI) working day shall be considered.
- In the course of evaluation, if more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from the respective L-1 bidders. In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss / draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

6. GST Clauses:

- The bidder to specify in their offer (Part-1 Bid) w.r.t the category of their registration under GST like Registered, Unregistered or Composite Dealer.
- The provisional GST registration number of Bharat Heavy Electrical Ltd., Heavy Plates and Vessels Plant, Visakhapatnam is "37AAACB4146P7Z8" with state Code as "37" and State Name as "Andhra Pradesh".
- No GST will be reimbursed to unregistered or composite dealer. In the event, any GST is quoted by composite dealer, the same shall be added to the cost of supply in evaluating the bid.
- Supplier shall mention their GSTIN registration number(GSTIN) in all the invoices and invoices shall be in the format as specified/prescribed under GST Laws. Invoices shall necessarily contain Invoice No. (in case of multiple numbering system is being followed for billing like SAP Invoice No., Commercial Invoice No., etc., then the Invoice No. which is linked/uploaded in GSTN Network shall be explicitly indicated), item description as per P.O., Quantity, Rate, Value, Applicable Taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code etc.
- All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature) / SAC code (Services Accounting Code).
- The bidder shall clearly indicate HSN (Harmonized System of Nomenclature) / SAC (Service Accounting Code), its description and applicable rate of GST for each item in their techno-commercial bid.
- In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from vendor along with interest levied / leviable on BHEL.
- In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor along with interest levied / leviable on BHEL.
- Vendors must ensure compliance of all the applicable rules and procedure as envisaged in the GST Regime. Any loss to BHEL due to fault / noncompliance by the vendor will be to the vendor's account.
- Indigenous suppliers need to fill the details in Annexure- D and submit the supporting documents along with their offer without fail.
- GST TDS is applicable as per rules.

7. SPECIAL PROVISION FOR MICRO AND SMALL ENTERPRISES (MSE) – APPLICABLE FOR INDIGENOUS MANUFACTURER ONLY:

- As per Public Procurement Policy Gazette Notification by the Government of India. In tenders, participating Micro & Small Enterprises (MSE) quote price within price band of L1+15%, such MSE shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro & Small enterprise and such Micro & Small Enterprise shall be allowed to supply up to 25% of total tendered value. In case of more than one such Micro & Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

**MPSN
MURTHY**

Digitally signed by MPSN MURTHY
DN: c=IN, o=BHARAT HEAVY
ELECTRICALS LIMITED, ou=HPVP
Unit, postalCode=530012,
st=Andhra Pradesh,
2.5.4.20=b3f07e3049e598512799f0
dc=94784dfda247764a8fb7308
d1593222b3, cn=MPSN MURTHY
Date: 2020.07.21 14:41:57 +05'30'

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✉ nsatishkumar@bhel.in

Dt.20-07-2020

Enquiry No. H182000013

ANNEXURE - B

- ii. Special provision for Micro and Small Enterprises owned by women: Out of 25% tendered quantity reserved for MSE suppliers, 3% shall be earmarked for procurement from MSE owned by Women entrepreneurs.
 - iii. Special provision for Micro and Small Enterprises owned by SC or ST: Out of 25% tendered quantity reserved for MSE suppliers, 6.25% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs.
 - iv. MSE Suppliers can avail the intended benefits only upon submission of supporting documents along with offer i.e. attested copies of either EM II certificate having deemed validity (five Years from the date of issue of acknowledgement in EM-II) OR valid NSIC certificate OR EM II certificate along with attested copy of a CA certificate (as per enclosed format Annexure - C where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited), Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable to this enquiry if any deficiency (in the above required documents) is found due to non-submission before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted Officer. This provision for MSE will be applicable subject to the condition that, the participating MSE meet the tender requirement.
 - v. All Micro and Small Enterprises (MSE's) who are having Udyog Aadhaar Memorandum shall also be provided in order to avail all the benefits applicable for MSEs under the Public Procurement Policy for Micro and Small Enterprises (MSE), order 2012. MSME Vendors to specify clearly their UAN – Number.
 - vi. In case 2 (two) or more MSE vendors quote the price within price band of L1+15%, purchase order will be placed on the MSE vendor who quoted lowest price, subject to the acceptance of L1 price.
 - vii. MSE Suppliers shall declare the Udyog Aadhaar Memorandum (UAM) number on Central Public Procurement Portal (CPPP), failing which such bidders will not be able to enjoy the benefits as per Public Procurement Policy for MSE's order 2012 for tenders invited electronically through CPPP.
 - viii. In case of any change in the MSE status of bidder, it shall be the responsibility of bidder to notify the same as a part of the bid document. If it comes to the knowledge of BHEL at a later date/stage, that the change in the status has not been intimated by the bidder and the order is obtained under the premise of an MSE then BHEL would cancel the pending order against this tender and take necessary steps for suspension of the business dealing with the bidder as per the procurement policy of BHEL.
8. BHEL always reserves the right to cancel the Enquiry / Tender at any stage without assigning any reasons thereof. Also, BHEL always reserves the right to reject or accept one or any offer without assigning any reason.
9. **BHEL Fraud Prevention Policy:**
The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."
10. In case of an agent submitting bid on behalf of a Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product. BHEL reserves the right to reject such bids.
11. No overdue interest will be payable by BHEL to either supplier or his bankers.
12. All Bank Charges bearable to Vendor account only.
13. **Linking up of Old issues:** In case if you have any outstanding problems with earlier supplies, you should not linkup against this enquiry or P.O. at later stages.
14. **Packing:** Items shall be packed as per the requirements of Roadworthy / Seaworthy Packing according to TDC.

**MPSN
MURTHY**

Digitally signed by MPSN MURTHY
DN: c=IN, o=BHARAT HEAVY
ELECTRICALS LIMITED, ou=HPVP
Unit, postalCode=530012,
st=Andhra Pradesh,
2.5.4.20=b3f0f2e3049e598512799f
0dc6494784dfa0a34776f4af8feb7d
08d1593222b3, cn=MPSN MURTHY
Date: 2020.07.21 14:42:35 +05'30'

**BHARAT HEAVY ELECTRICALS LIMITED**

Heavy Plates & Vessels Plant
(A Government of India Undertaking)
Visakhapatnam - 530012 (A.P) India.

☎ 0891 668 1307 /1350 /1319

✉ ahprasad@bhel.in

✉ mpsnmurthy@bhel.in

✉ nsatishkumar@bhel.in

Dt.20-07-2020

Enquiry No. H182000013

ANNEXURE - B**15. GUIDELINES FOR SUSPENSION OF BUSINESS DEALING WITH SUPPLIERS:**

The offers of the bidders who are under suspension and also the offers of the bidders, those who engage the services of the banned firms, shall be liable to rejection. The list of banned firms is available on BHEL website <http://www.bhel.com>.

1.0 Integrity commitment, performance of the contract and punitive action thereof:

1.1 Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

1.2 Commitment by Bidder/ Supplier/ Contractor:

1.2.1 The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

1.2.2 The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

1.2.3 The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

1.2.4. If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on [www. bhel.com](http://www.bhel.com) and/or under applicable legal provisions.

16. Preference to Make in India:

For current tender/enquiry, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent orders issued by the respective Nodal Ministry shall be applicable, even if issued after floating this NIT and before finalization of contract / P.O. / W.O. against this NIT.

In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, the same shall be applicable.

17. MSDS (wherever it is applicable):

The supplier has to submit latest MSDS (Material Safety Data Sheet) for each product with the consignment.

Hazardous chemicals and flammable substances shall be transported only through authorized transporters and all safety practices as laid down in applicable legislative requirements such as Central Motor Vehicle Rules, Manufacture, Storage and Import of Hazardous Chemical 1989, etc. shall be followed.

**MPSN
MURTHY**

Digitally signed by MPSN MURTHY
DN: c=IN, o=BHARAT HEAVY
ELECTRICALS LIMITED, ou=HPVP
Unit, postalCode=530012,
st=Andhra Pradesh,
2.5.4.20=b3f0f2e3049e598512799f
0dc6494784dfa0a34776f4af8feb7d
08d1593222b3, cn=MPSN MURTHY
Date: 2020.07.21 14:43:14 +05'30'

Certificate by Chartered Accountant on letter head

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

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial year as per MSMED Act 2006 is as follows:

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

(Strike off whichever is not applicable)

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

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

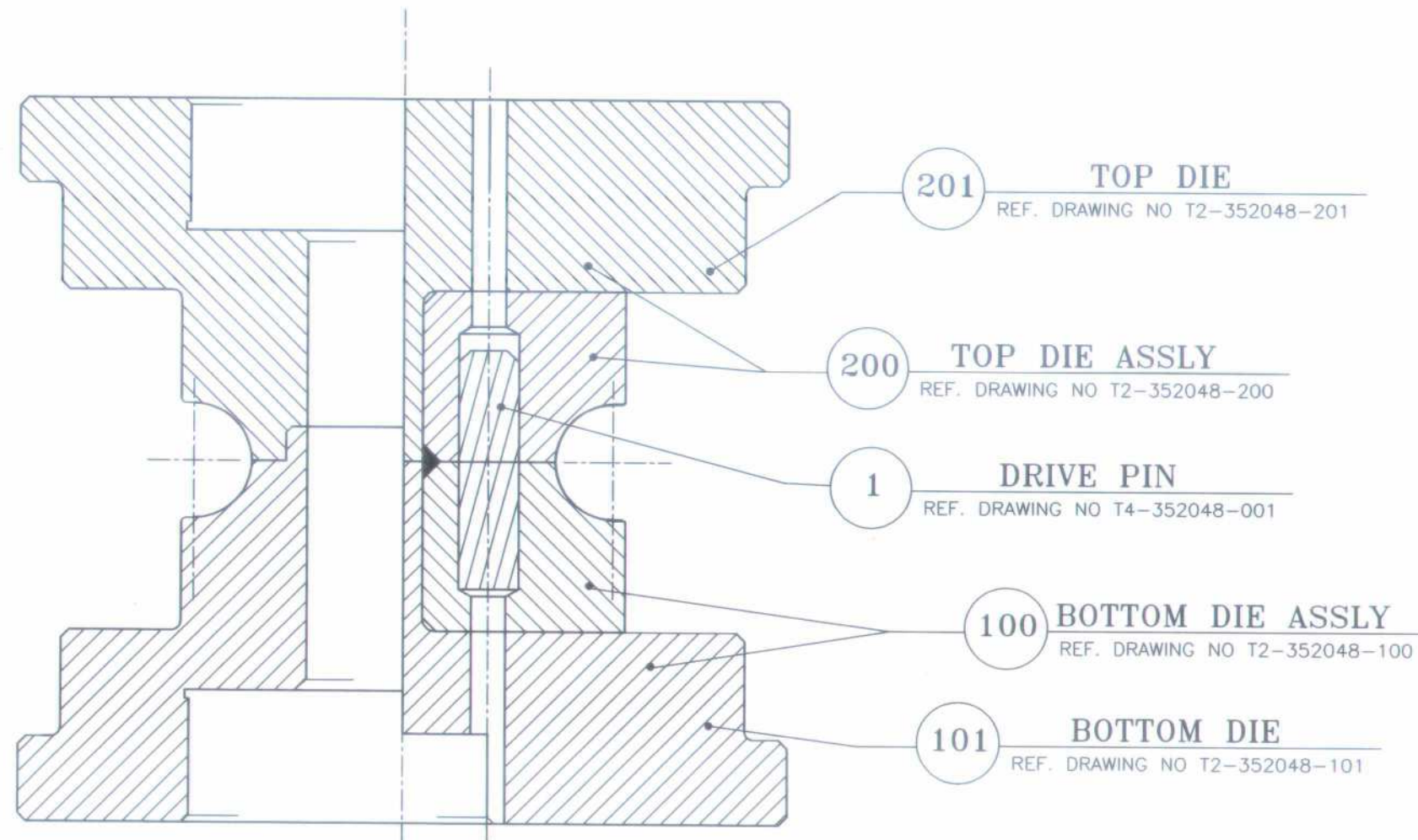
H182000013 - PRICE SCHEDULE

Enq. Item No.	MATL. CODE	DESCRIPTION	Unit	Qty.	Unit Rate	Total Basic Price
1	T3520480000	D28 x R50 SPLIT TYPE TUBE BENDING DIE ----- ASSEMBLY OF ITEM-100, 200 AND 1 OF ASSLY DRAWING NO. T2-352048-000. DIE TO BE SUPPLIED IN FITTED CONDITION OF TOP AND BOTTOM DIE WITH THE HELP OF DRIVE PIN AS SHOWN IN DRAWING.	SET	1		
2	T3520490001	MOVABLE JAW FOR D28 TUBE - WE80 MACHINE ----- MOVABLE JAW AS PER ITEM-1 OF DRAWING NO. T3-352049-001	NO.	1		
3	T3520500001	FOLLOWER BLOCK FOR D28 TUBE - WE80 MC. ----- FOLLOWER BLOCK AS PER ITEM-1 OF DRAWING NO. T3-252050-001	NO.	1		
4	T3520510001	WIPER DIE FOR BENDING DIE D28XR50 ----- WIPER DIE SUITABLE TO D28XR50 BENDING DIE AS PER ITEM-1 OF DRAWING NO.T3-352051-001.	NO.	2		
5	T3520520000	D28 x R64 SPLIT TYPE TUBE BENDING DIE ----- ASSEMBLY OF ITEM-100, 200 AND 1 OF ASSLY DRAWING NO. T2-352052-000. DIE TO BE SUPPLIED IN FITTED CONDITION OF TOP AND BOTTOM DIE WITH THE HELP OF DRIVE PIN.	SET	1		
6	T3520530001	WIPER DIE FOR BENDING DIE D28XR64 ----- WIPER DIE SUITABLE TO D28XR64 BENDING DIE AS PER ITEM-1 OF DRAWING NO.T3-352053-001 REV.0	NO.	2		
7	T3520550001	WIPER DIE FOR BENDING DIE D28XR55 ----- WIPER DIE SUITABLE TO D28XR55 BENDING DIE AS PER ITEM-1 OF DRAWING NO.T3-352055-001	NO.	2		
TOTAL AMOUNT						

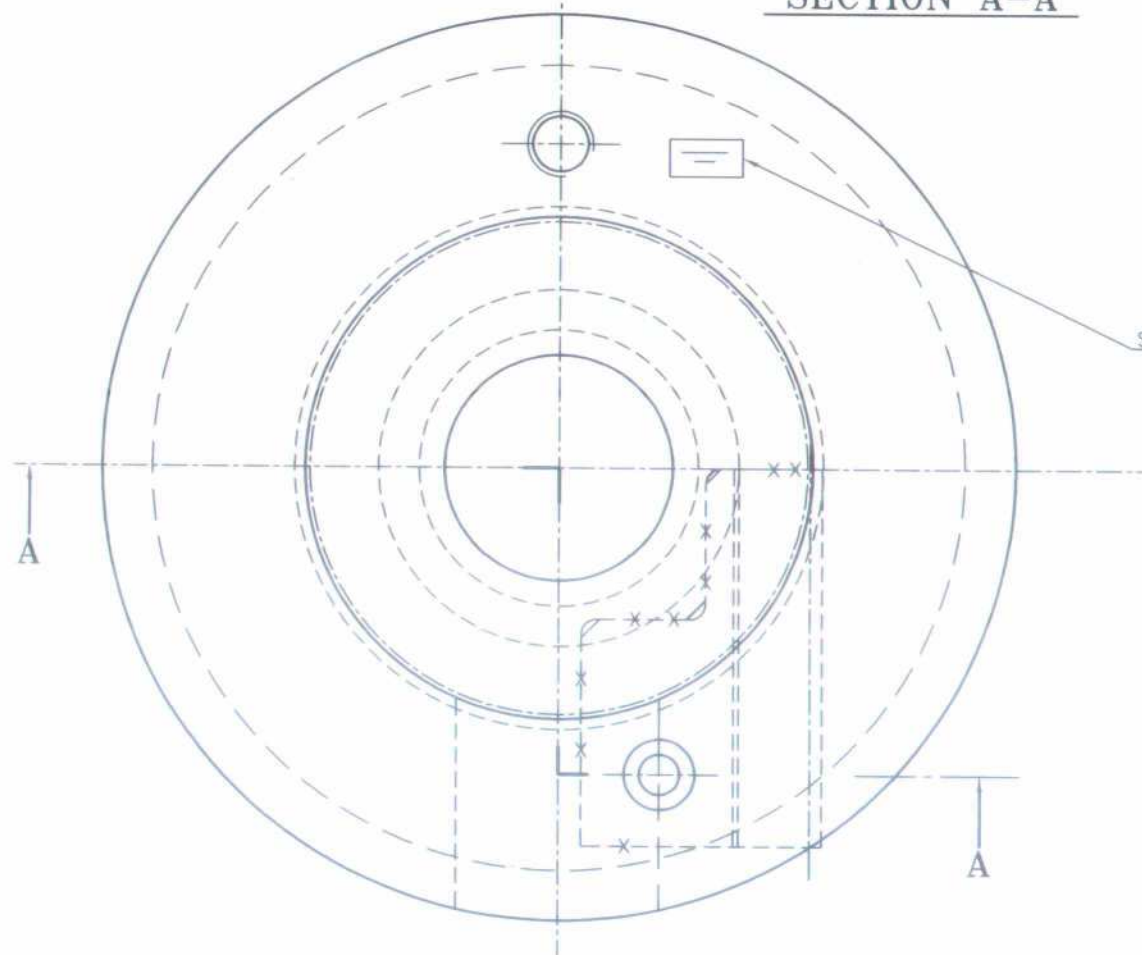
MPSN**MURTHY**

Digitally signed by MPSN MURTHY
 DN: c=IN, o=BHARAT HEAVY
 ELECTRICALS LIMITED, ou=HPVP
 Unit, postalCode=530012,
 st=Andhra Pradesh,
 2.5.4.20=b3f0f2e3049e598512799f0
 dc6494784dfa0a34776f4af8feb7d0
 8d1593222b3, cn=MPSN MURTHY
 Date: 2020.07.21 14:44:53 +05'30'

- 1) FIRST ANGLE PROJECTION
2) DO NOT SCALE.
3) STAMP TOOL NUMBERS & SIZE.



SECTION A-A



NOTES:

1. DIE ASSEMBLY (TOP DIE ASSLY AND BOTTOM DIE ASSLY) TO BE SUPPLIED IN FITTED CONDITION.
2. ALL GROOVES TO BE MATCHED PERFECTLY TO SUIT THE DIE FOR 180 DEGREE BENDS.
3. USE THE DIE ON WE-80 TUBE BENDING MACHINE ALONG WITH MOVABLE JAW ITEM-1 OF DRAWING NO. T3-352049-001, FOLLOWER BLOCK ITEM-1 OF DRAWING NO. T3-352050-001 AND WIPER DIE ITEM-1 OF DRAWING NO. T3-352051-001

STAMP IDENTIFICATION MARK 352048
Ø28XR50

* ALTERNATE MAT. FOR DRIVE PIN: IS1570 T90Mn6WCr2

1	DRIVE PIN	IS1570 T90 Mn2W50Cr45 *	—	1	0.07	T4-352048-001
200	TOP DIE	EN-9	—	1	19.2	T2-352048-200
100	BOTTOM DIE	EN-9	—	1	21	T2-352048-100
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.

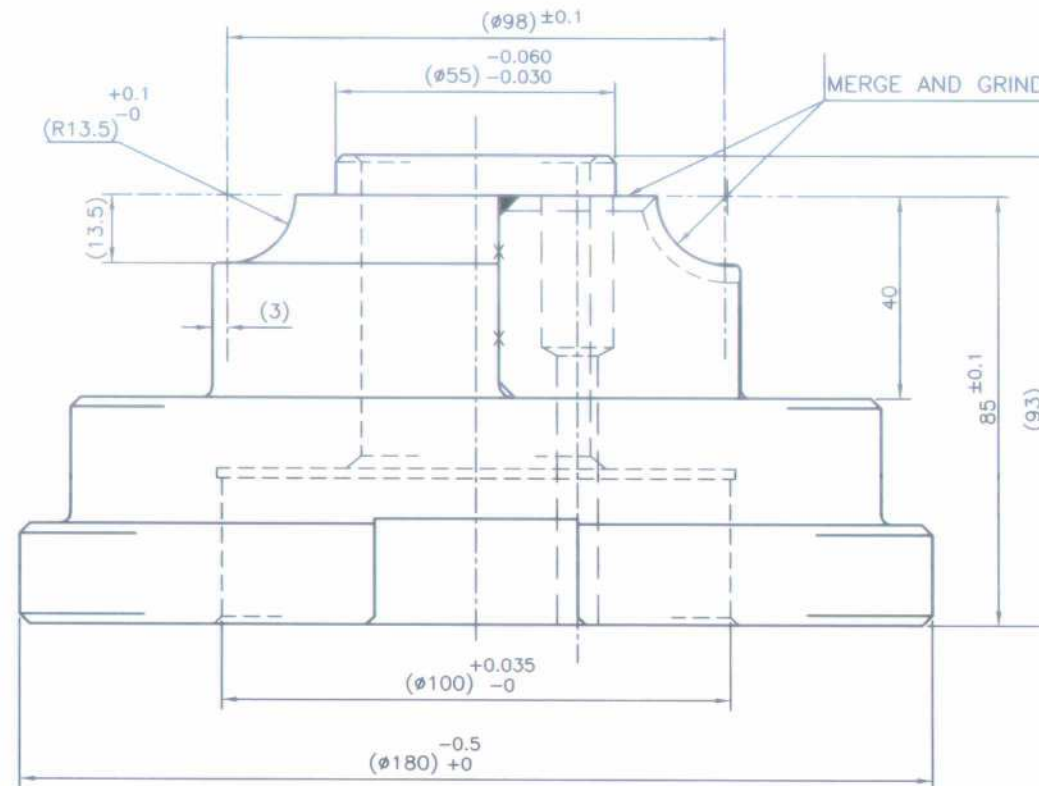
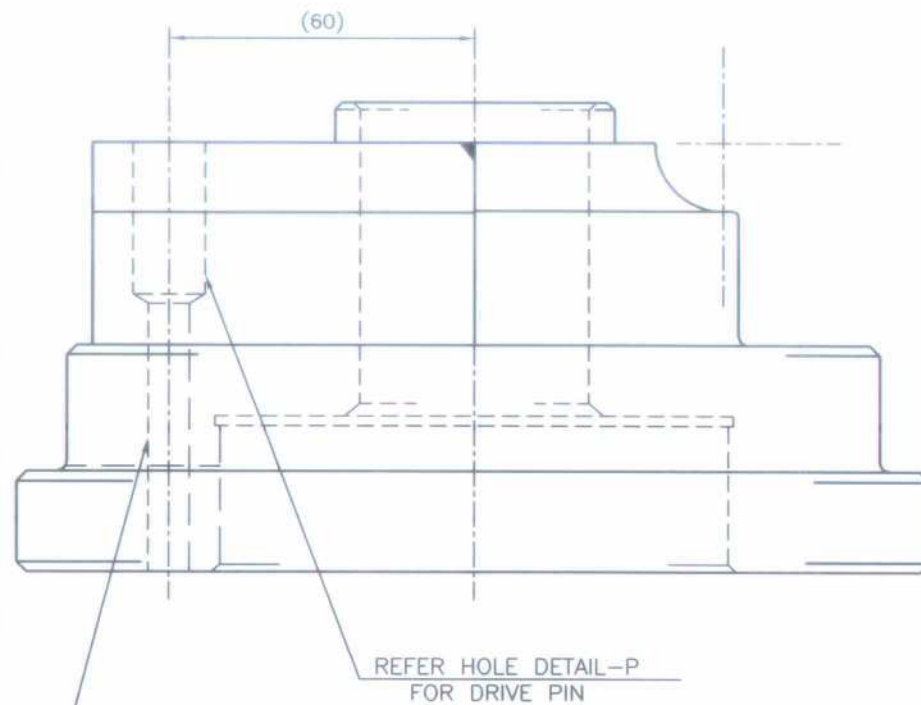
HPVP, VISAKHAPATNAM		TOOL DESIGN	
DRN	DSRK	SO.NO.: — —	LR.NO. 1327 DT: 06.06.2020
CHD	SAROU	W.O.NO: SO-7899	COMP.NO. PGMA XXX
APD		DEL TO: CSP-II	LOAD ON: WE-80 MACHINE
		TITLE ø28 X R50 SPLIT TYPE TUBE BENDING DIE	
WT/KG : 40.2		SHEET	TOOL DRAWING NO
SCALE N.T.S		1	REV
DATE 11.06.2020		1	T2-352048-000
			0

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE
- 3) STAMP TOOL NUMBERS & SIZE.

HARDEN AND TEMPER TO 32-36 HRC
CHAMFER SHARP EDGES 1X45°

MACHINE POLISH THE PROFILE
AND CHECK WITH TEMPLATE

TOLERANCE FOR UNTOLEANCED DIMENSIONS.	
UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.

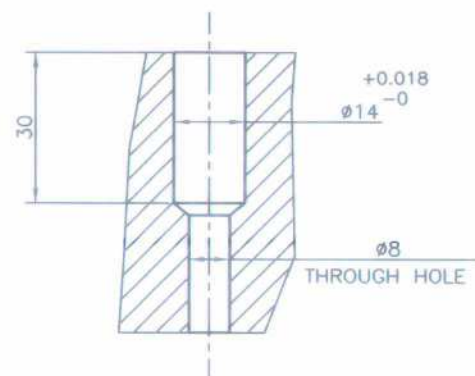


DRILL Ø8 THROUGH HOLE ON ASSLY OF BOTTOM DIE AND TOP DIE (ITEM-100 AND ITEM-200 RESPECTIVELY) BY PROPERLY MATCHING THE ALL GROOVES.

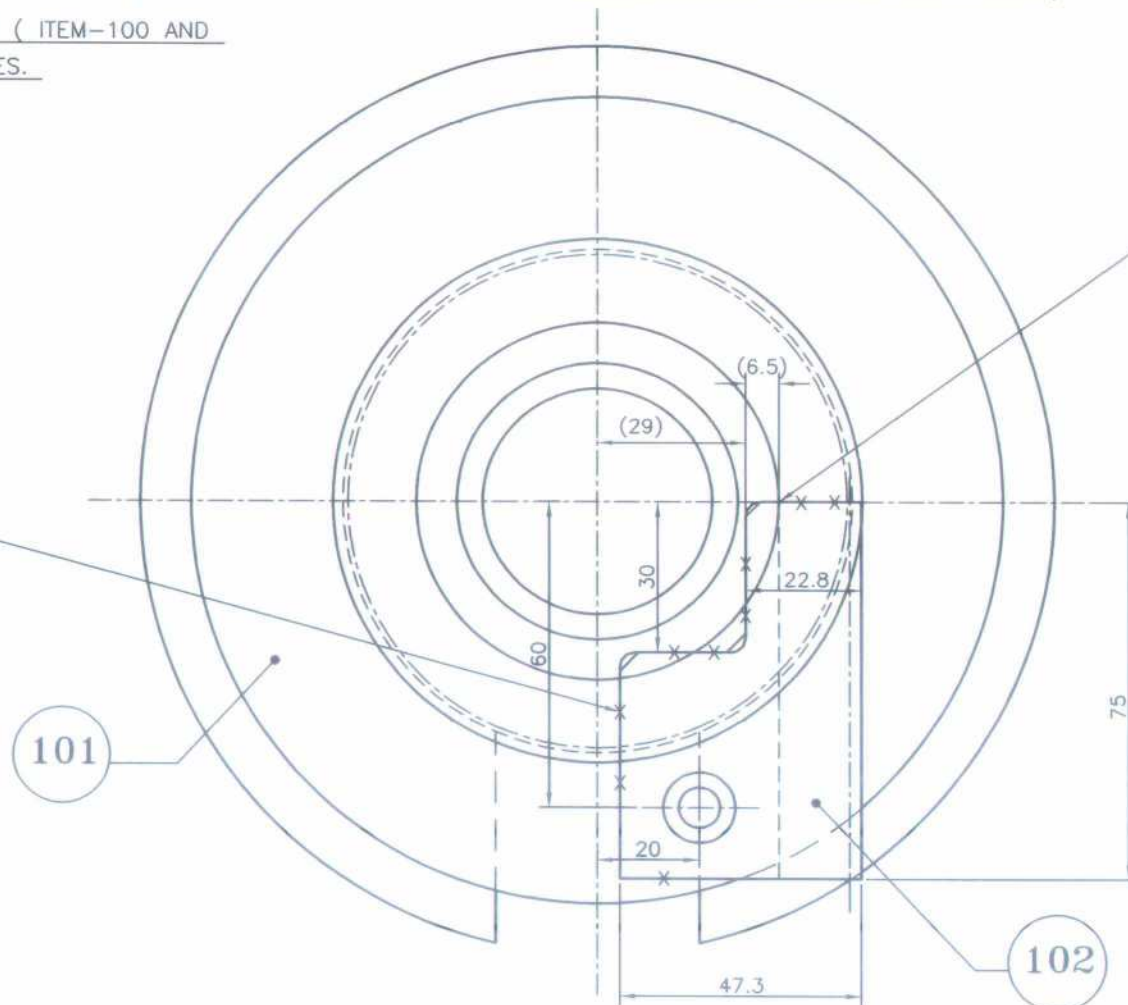
SYMBOL X X X: FOR WELDING

WELD FILLET: FILL THE CHAMFERING PROVIDED ON FIXED JAW

MATCH DIE GROOVE AND JAW GROOVE PROPERLY
AND BLEND SMOOTHLY.



HOLE DETAIL-P



101

102

100 BOTTOM DIE ASSLY

HARDEN AND TEMPER TO 32-36 HRC.

REFER DIE ASSLY DRG.: T2-352048-000

102	FIXED JAW	EN:9	48X75X80	1	2.4	T2-352048-101
101	BOTTOM DIE	EN:9	Ø180X93LG.	1	18.6	T2-352048-101
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
HPVP,VISAKHAPATNAM TOOL DESIGN						
DRN	DSRK	SO.NO.: — —		LR.NO. [1327] DT: 06.06.2020		
CHD	SARUJ	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE BOTTOM DIE ASSLY Ø28 X R50 SPLIT TYPE				
WT/KG : 21		SHEET		TOOL DRAWING NO		REV
SCALE	N.T.S	DATE 11.06.2020		T2-352048-100		0

REV	DATE	BRIEF RECORD	INITIALS

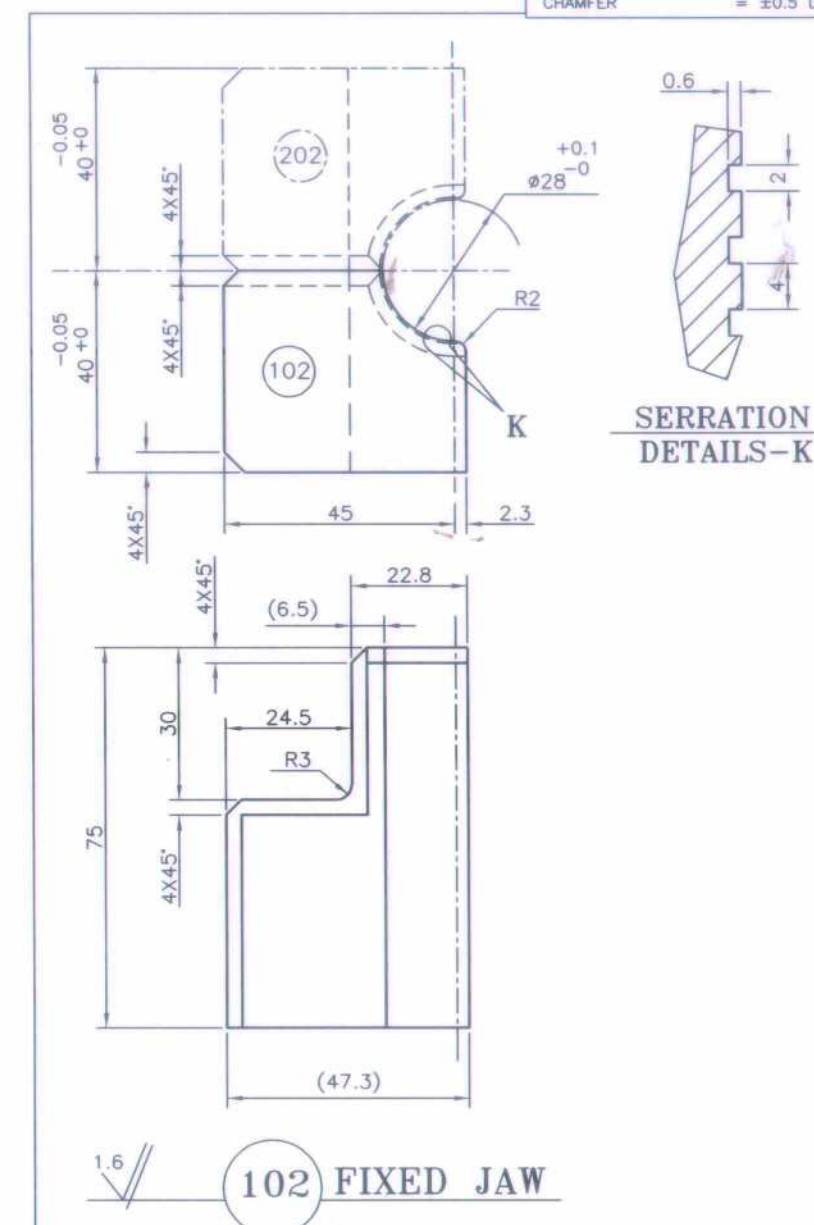
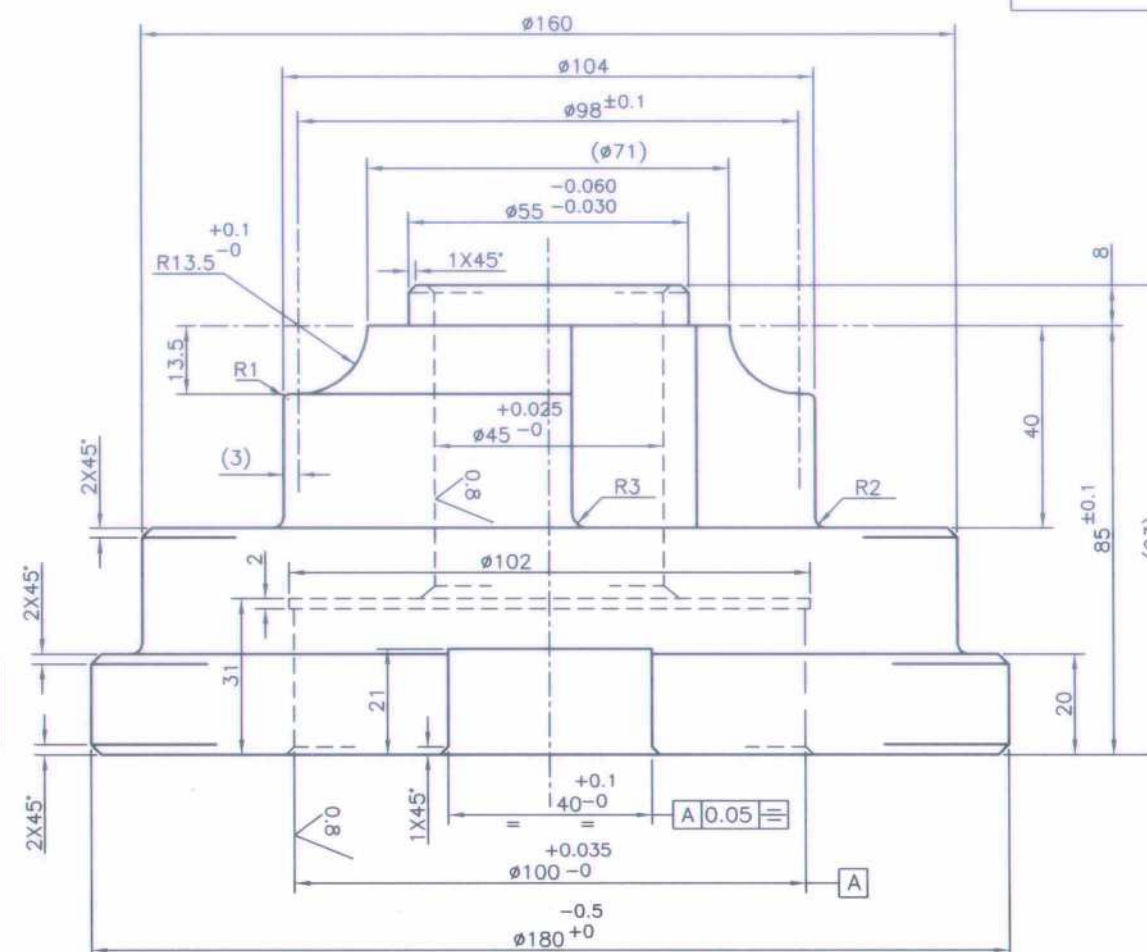
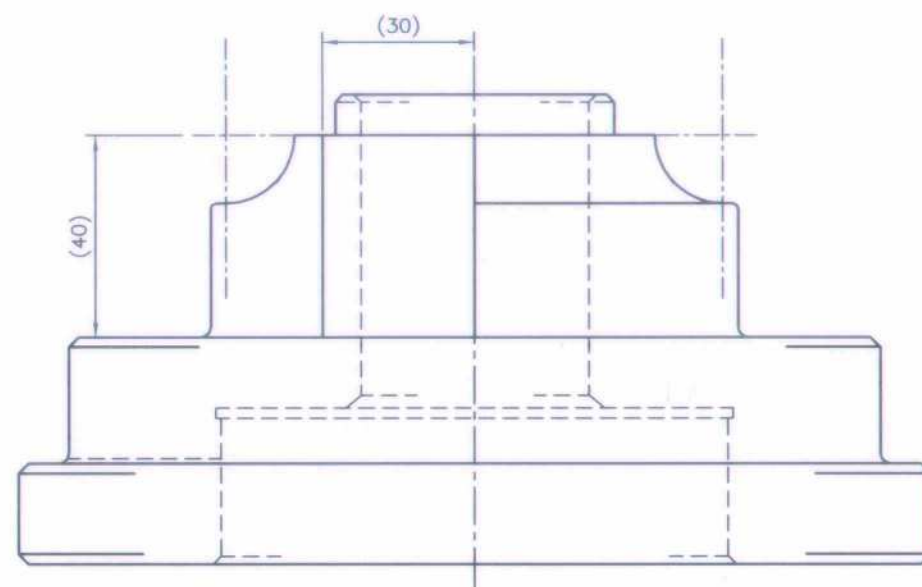
- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

MACHINE POLISH THE PROFILE
AND CHECK WITH TEMPLATE

1.6 0.8

TOLERANCE FOR
UNTOLERANCED DIMENSIONS.

UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.



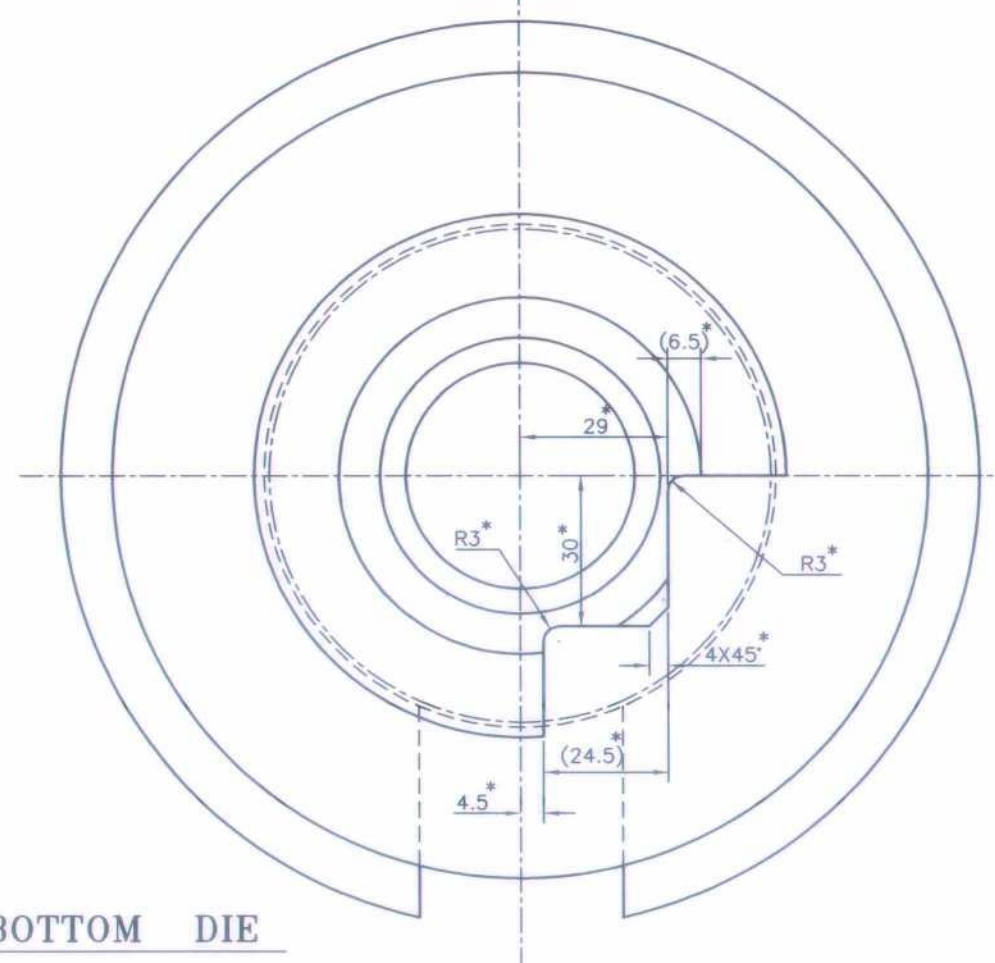
NOTES:

1. THE GROOVES OF BOTTOM DIE ASSLY (ITEM-100) AND TOP DIE ASSLY (TEM-200) SHOULD MATCH PERFECTLY.
2. * THESE DIMS ARE FOR SEATING THE FIXED JAW ITEM-102 OF PART DRAWING NO. T2-352048-101

REFER ASSLY DRG.: T2-352048-100
& T2-352048-000

101 BOTTOM DIE

102 FIXED JAW



102	FIXED JAW	EN:9	48X75X80	1	2.4	T2-352048-101
101	BOTTOM DIE	EN:9	Ø180X93LG.	1	18.6	T2-352048-101
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
वी एच डी एल 		HPVP,VISAKHAPATNAM TOOL DESIGN				
DRN	DSRK	SO.NO.: — —		LR.NO. 1327		
CHD	SAROL	W.O.NO: SO-7899		DT: 06.06.2020		
APD	APD	DEL TO: CSP-II		COMP.NO. PGMA XXX		
		LOAD ON: WE-80 MACHINE				
		TITLE				
		BOTTOM DIE Ø28 X R50 SPLIT TYPE				
WT/KG : —		SHEET		TOOL DRAWING NO		
SCALE N.T.S		1		REV		
DATE 11.06.2020		1		T2-352048-101		
				0		

REV	DATE	BRIEF RECORD	INITIALS

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

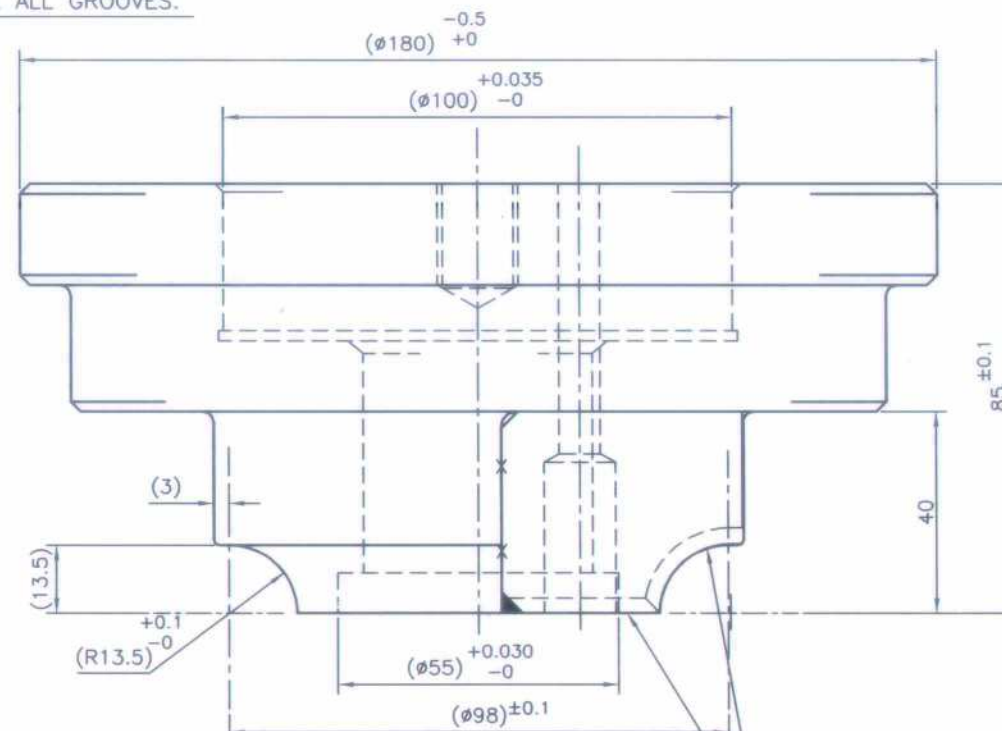
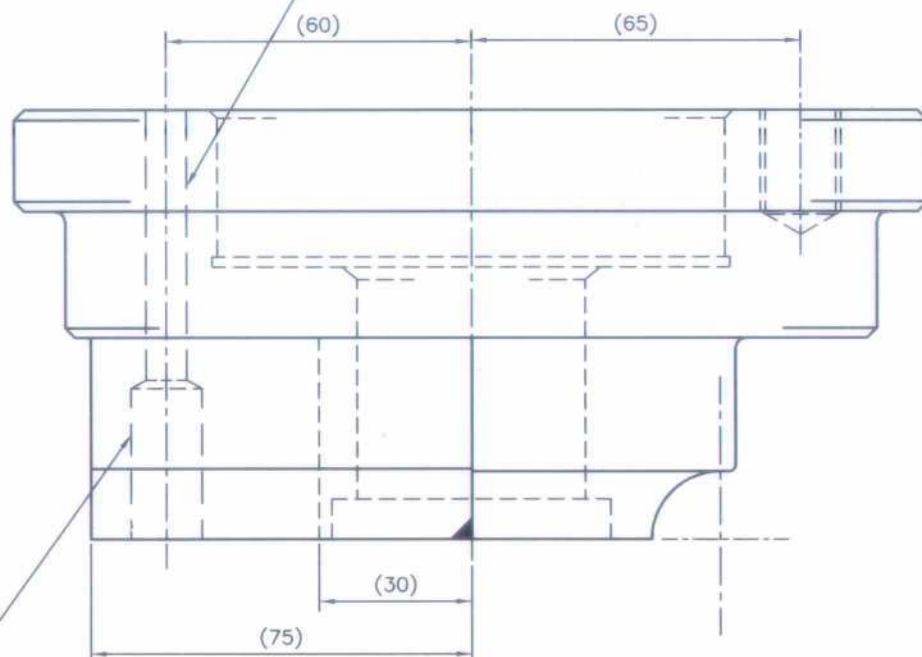
HARDEN AND TEMPER TO 32-36 HRC.
CHAMFER SHARP EDGES 1X45°

MACHINE, POLISH THE PROFILE
AND CHECK WITH TEMPLATE.

TOLERANCE FOR
UNTOLERANCED DIMENSIONS.

UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.

DRILL Ø8 THROUGH HOLE ON ASSLY OF BOTTOM DIE AND TOP DIE (ITEM-100 AND
ITEM-200 RESPECTIVELY) BY PROPERLY MATCHING THE ALL GROOVES.



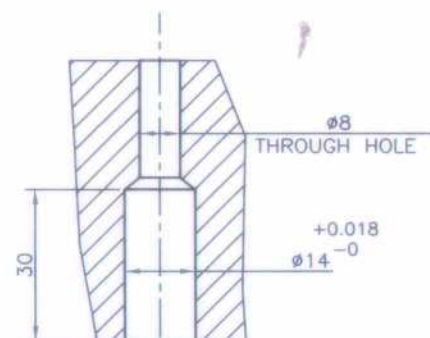
REFER HOLE DETAIL-P
FOR DRIVE PIN

GRIND PASSAGE AFTER
WELDING OF JAW ITEM-202

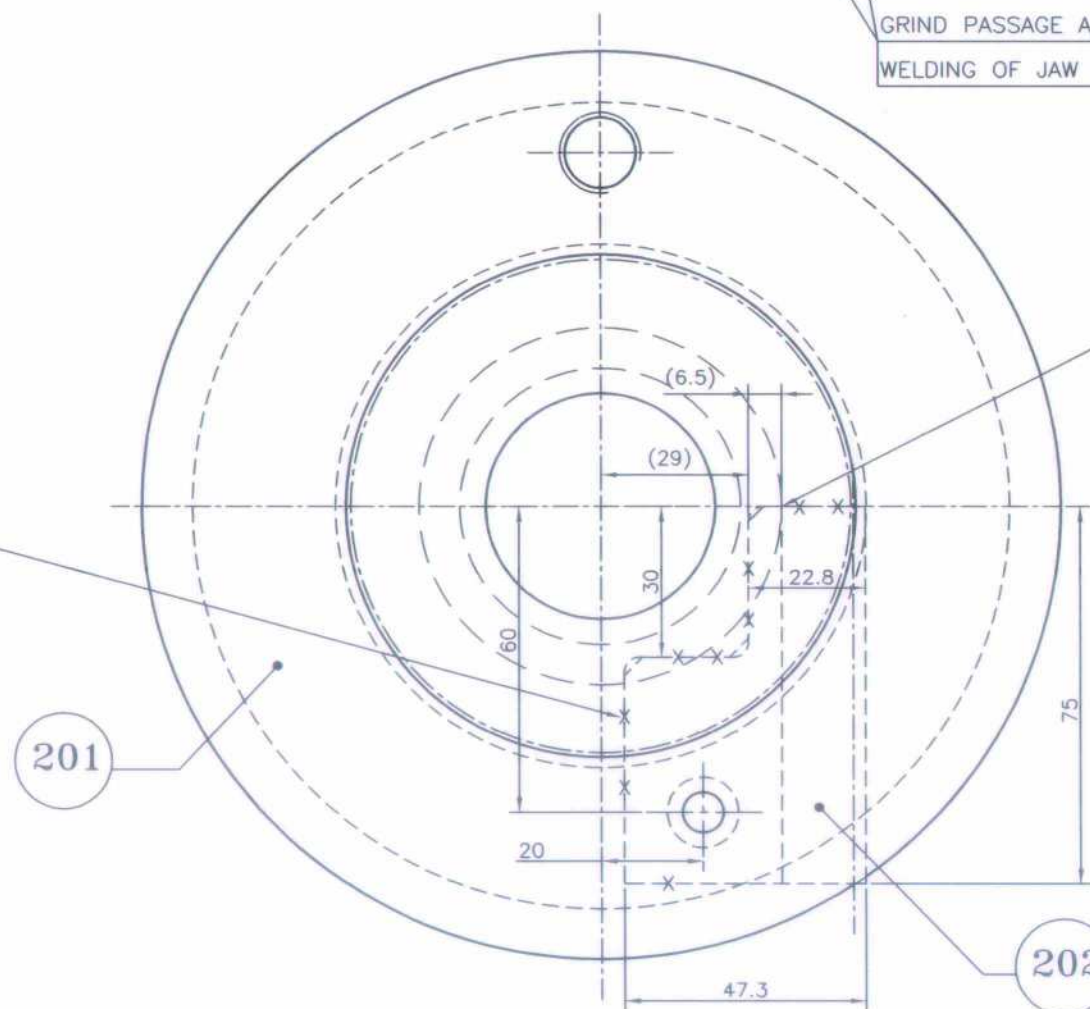
MATCH DIE GROOVE AND JAW GROOVE PROPERLY
AND BLEND SMOOTHLY.

SYMBOL X X X: FOR WELDING

WELD FILLET: FILL THE CHAMFERING PROVIDED ON FIXED JAW



HOLE DETAIL-P



201

202

200

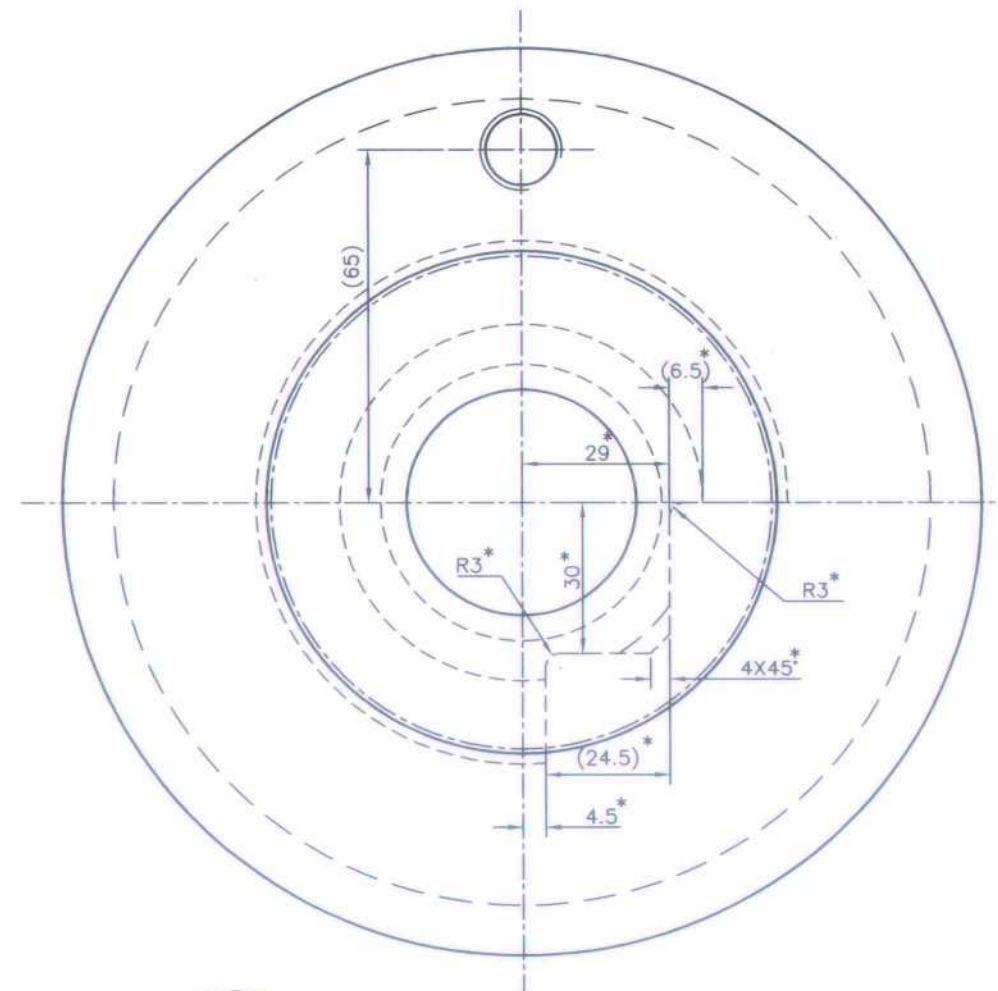
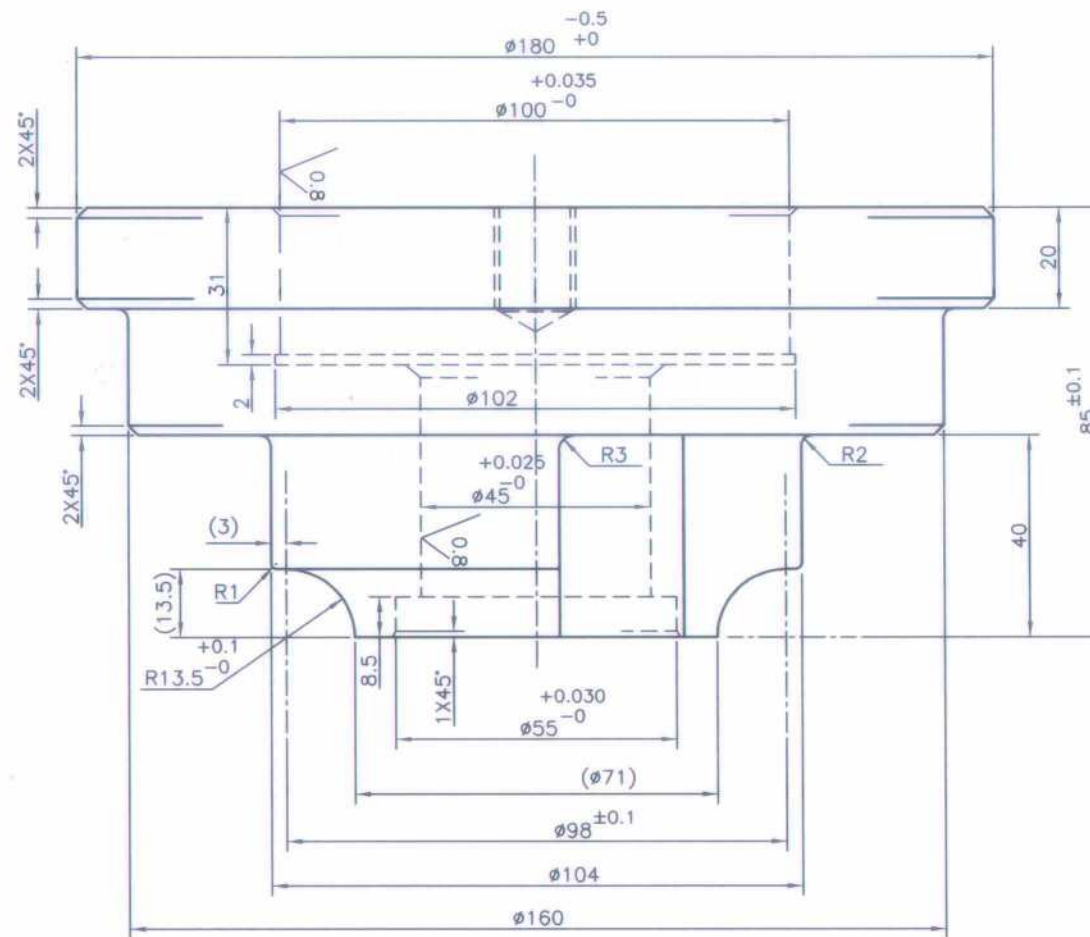
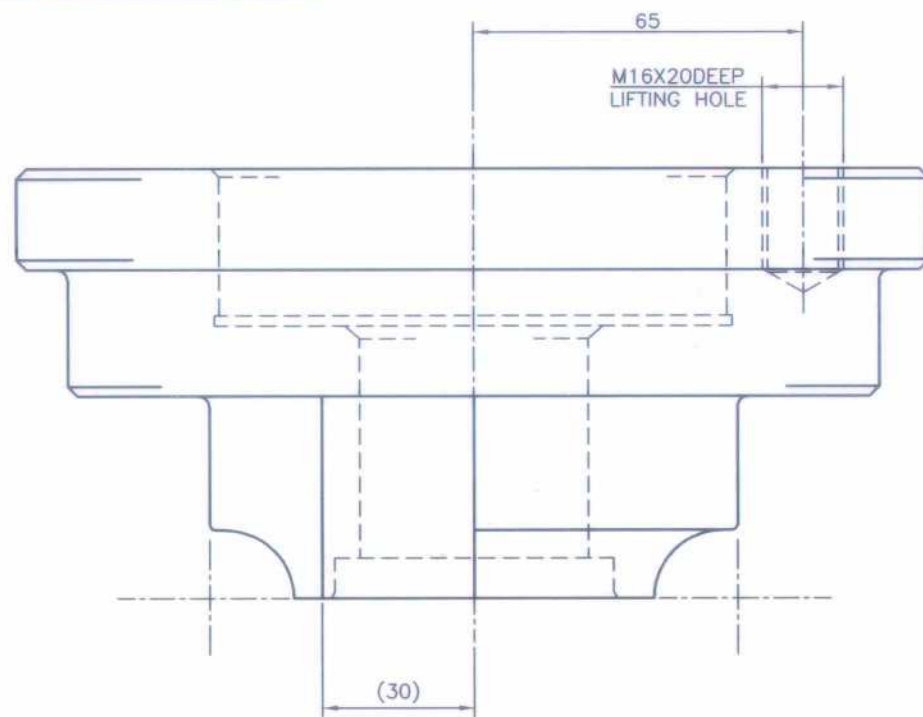
TOP DIE ASSLY

HARDEN AND TEMPER TO 32-36 HRC.

REFER DIE ASSLY DRG.: T2-352048-000

202	FIXED JAW	EN:9	48X75X80	1	2.4	T2-352048-201
201	TOP DIE	EN:9	Ø180X85LG.	1	17	T2-352048-201
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
		<u>HPVP, VISAKHAPATNAM</u>				
<u>TOOL DESIGN</u>						
DRN	DSRK	SO.NO.: --		LR.NO. [1327]		
CHD	SARQJ	W.O.NO: SO-7899		DT: 06.06.2020		
APD		DEL TO: CSP-II		COMP.NO. PGMA XXX		
				LOAD ON: WE-80 MACHINE		
		TITLE				
		<u>TOP DIE ASSLY</u>				
		<u>Ø28 X R50 SPLIT TYPE</u>				
WT/KG : 19.4		SHEET		TOOL DRAWING NO		
SCALE N.T.S		1		REV		
DATE 11.06.2020		1		T2-352048-200		
				0		

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.



201 TOP DIE

NOTES:

1. THE GROOVES OF BOTTOM DIE ASSLY (ITEM-100) AND TOP DIE ASSLY (TEM-200) SHOULD MATCH PERFECTLY.
2. * THESE DIMS ARE FOR SEATING THE FIXED JAW ITEM-202 OF PART DRAWING NO. T2-352048-201

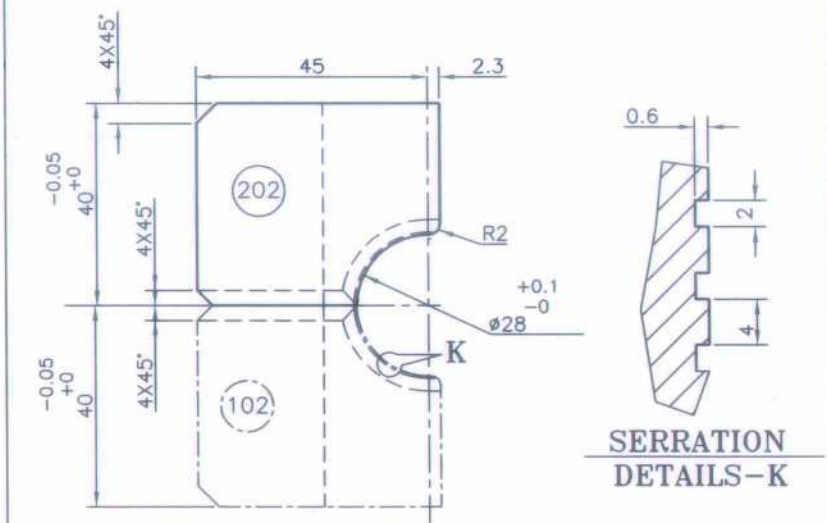
REFER ASSLY DRG.: T2-352048-200
& T2-352048-000

MACHINE, POLISH THE PROFILE
AND CHECK WITH TEMPLATE.

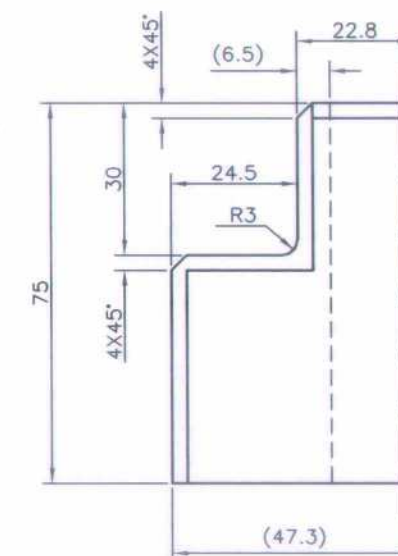
1.6 0.8

TOLERANCE FOR
UNTOLERANCED DIMENSIONS.

UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.



SERRATION
DETAILS-K

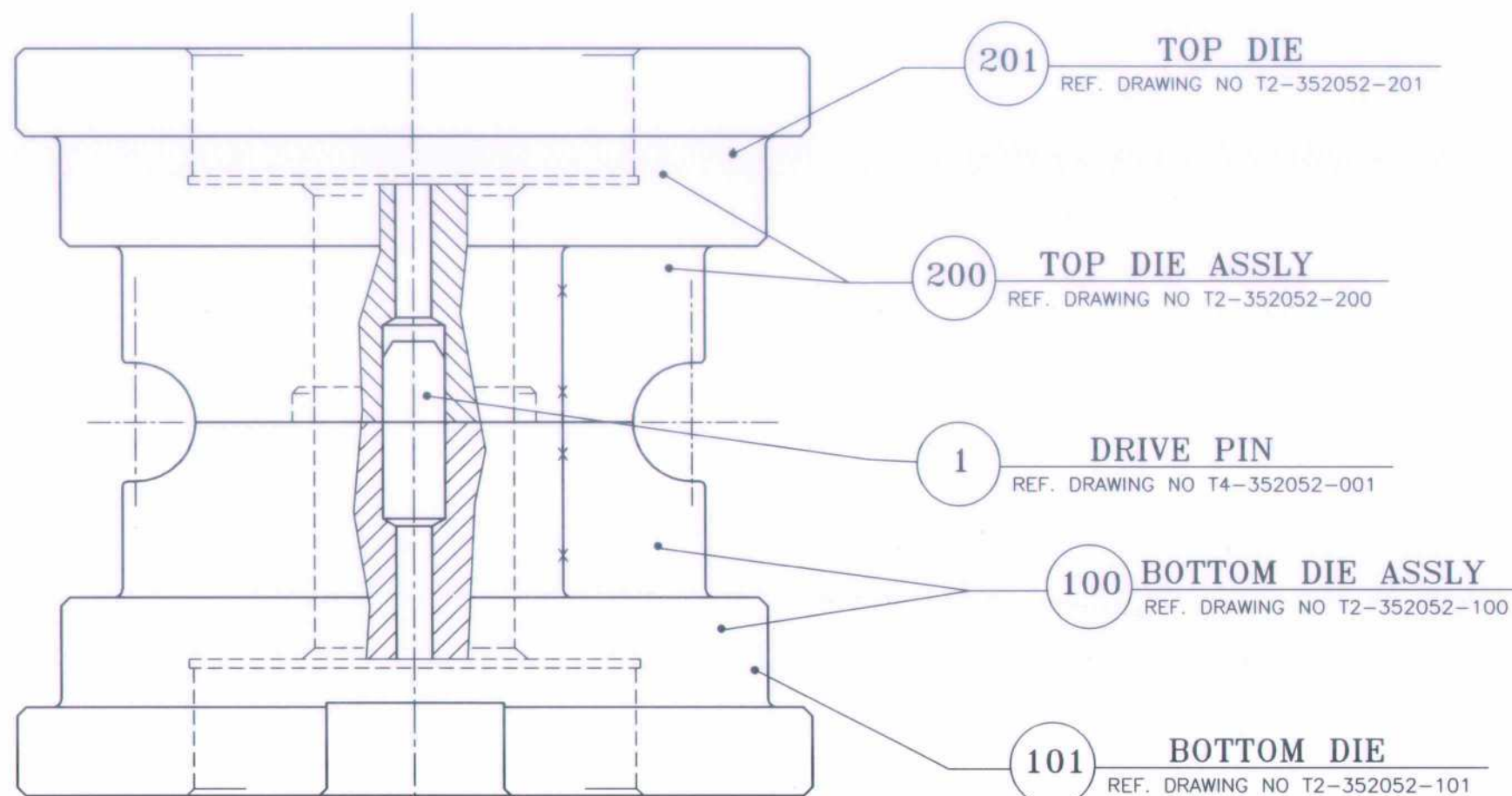


202 FIXED JAW

202	FIXED JAW	EN:9	48X75X80	1	2.4	T2-352048-201
101	BOTTOM DIE	EN:9	ø180x85LG.	1	17	T2-352048-201
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
		<u>HPVP,VISAKHAPATNAM</u>				
<u>TOOL DESIGN</u>						
DRN	DSRK	SO.NO.: --		LR.NO. 1327 DT: 06.06.2020		
CHD	SARU	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD	DEL TO: CSP-II			LOAD ON: WE-80 MACHINE		
		TITLE				
		<u>TOP DIE</u>				
		<u>ø28 X R50 SPLIT TYPE</u>				
WT/KG : -		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T2-352048-201			0
DATE 11.06.2020		1				

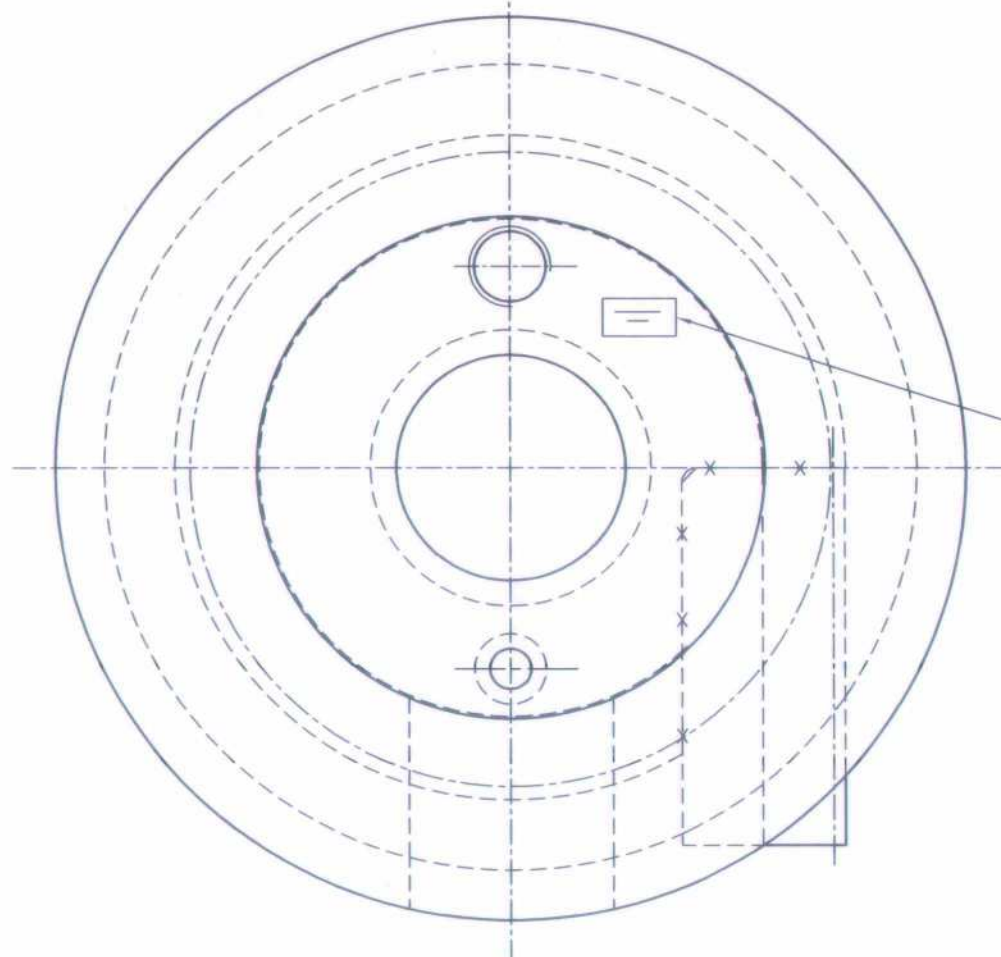
REV	DATE	BRIEF RECORD	INITIALS

- 1) FIRST ANGLE PROJECTION
2) DO NOT SCALE.
3) STAMP TOOL NUMBERS & SIZE.



NOTES:

1. DIE ASSEMBLY (TOP DIE ASSLY AND BOTTOM DIE ASSLY) TO BE SUPPLIED IN FITTED CONDITION.
2. ALL GROOVES TO BE MATCHED PERFECTLY TO SUIT THE DIE FOR 180 DEGREE BENDS.
3. USE THE DIE ON WE-80 TUBE BENDING MACHINE ALONG WITH MOVABLE JAW ITEM-1 OF DRAWING NO. T3-352049-001, FOLLOWER BLOCK ITEM-1 OF DRAWING NO. T3-352050-001 AND WIPER DIE ITEM-1 OF DRAWING NO. T3-352053-001



* ALTERNATE MAT. FOR DRIVE PIN: IS1570 T90Mn6WCr2

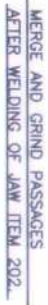
1	DRIVE PIN	IS1570 T90 Mn2W50Cr45 *	—	1	0.07	T4-352052-001
200	TOP DIE	EN:9	—	1	18.5	T2-352052-200
100	BOTTOM DIE	EN:9	—	1	20.1	T2-352052-100
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.

HPVP, VISAKHAPATNAM TOOL DESIGN		DRN		DSRK	SO. NO.: —	LR. NO. [1327] DT: 06.06.2020		
CHD		SAROU		W.O. NO: SO-7899		COMP. NO. PGMA XXX		
APD				DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE		Ø28 X R64 SPLIT TYPE TUBE BENDING DIE				
WT/KG : 38.6		SHEET		TOOL DRAWING NO				REV
SCALE N.T.S		1 / 1		T2-352052-000				0
DATE 17.06.2020								

102	FIXED JAW	EN:9	33X75X80	1	1.5	T2-352052-101
101	BOTTOM DIE	EN:9	ø180x93LG.	1	18.6	T2-352052-101
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
			<u>HPVP, VISAKHAPATNAM</u> <u>TOOL DESIGN</u>			
DRN	DSRK	SO.NO.: —		LR.NO. <u>1327</u> DT: 06.06.2020		
CHD	SAROJ	W.O.NO: S0-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE <u>BOTTOM DIE ASSLY</u> <u>ø28 X R64 SPLIT TYPE</u>				
WT/KG : 20.1		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T2-352052-100			0
DATE	17.06.2020	1				

- MACHINE POLISH THE PROFILE
AND CHECK WITH TEMPLATE

TOLERANCE FOR UNTOLERANCED DIMENSIONS.	
UP TO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.



DRILL #8 THROUGH HOLE ON ASSLY OF BOTTOM DIE AND TOP DIE (ITEM-100 AND ITEM-200 RESPECTIVELY) BY PROPERLY MATCHING THE ALL GROOVES.

MATCH THE GROOVE AND JAW GROOVE PROPERLY
AND BLEND SMOOTHLY.

WELD FILLET: FILL THE CHAMFERING PROVIDED ON FIXED JAW



HARDEN AND TEMPER TO 32-36 HRS.

ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT LBS	DRAWING NO.
102	FIXED JAW	EN-9	3.5X7.5X80	1	1.5	T2-352052-10
101	BOTTOM DIE	EN-9	ø180X3 L.C.	1	18.6	T2-352052-10

REFER ASSLY DRG.: T2-352052-000
& PART DRG. T2-352052-101

HPVP, VISAKHAPATNAM
TOOL DESIGN

LR. NO. 1327
DT: 06.06

399	COMP. NO. PG
	LOAD ONE ME

TTOM DIE ASSL

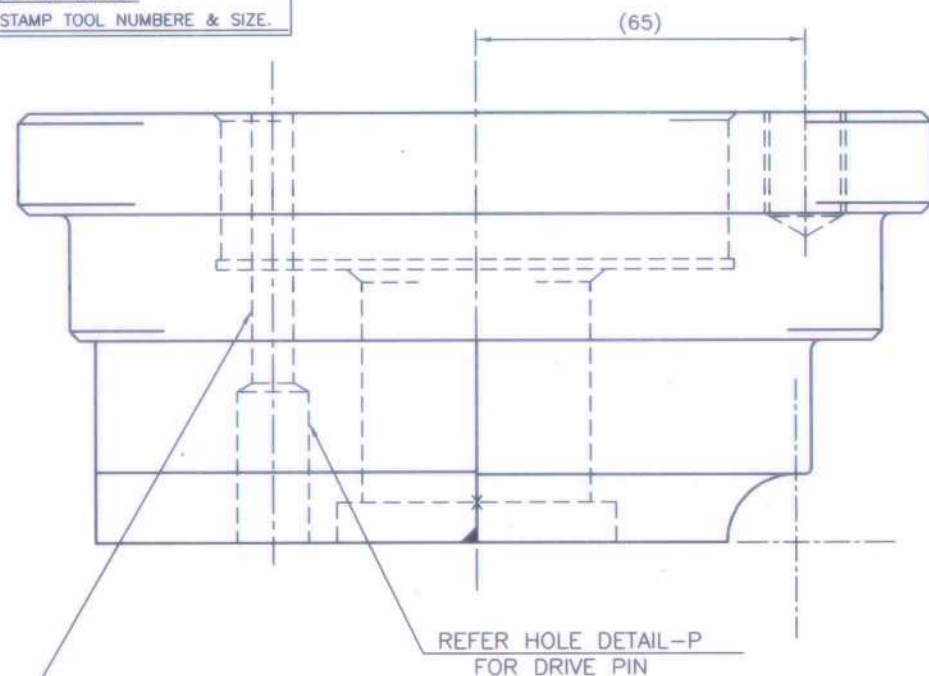
X R64 SPLIT TY

MODEL DRAWING NO.

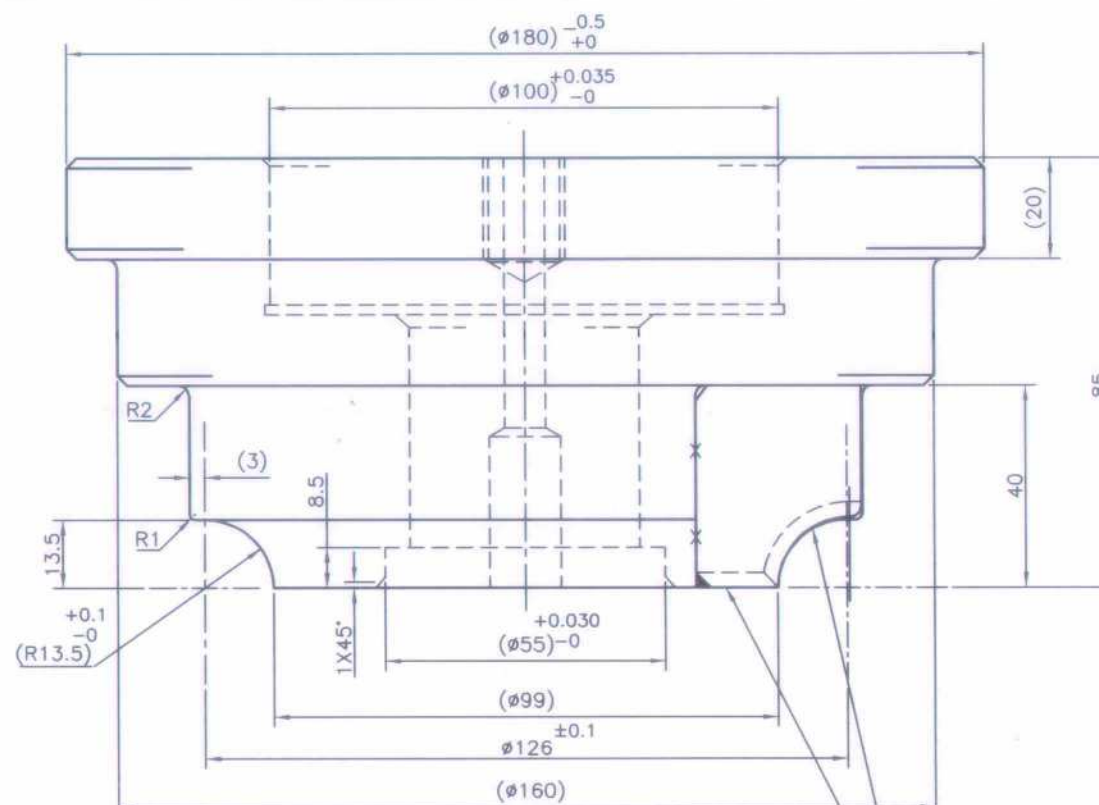
352052-100

102	FIXED JAW	EN:9	33x75X80	1	1.5	T2-352052-101
101	BOTTOM DIE	EN:9	ø180x93LG.	1	18.6	T2-352052-101
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
			HPVP,VISAKHAPATNAM <u>TOOL DESIGN</u>			
DRN	DSRK	SO.NO.: - -		LR.NO. 1327		
CHD		W.O.NO: SO-7899		DT: 06.06.2020		
APD	SAROJ	DEL TO: CSP-II		COMP.NO. PGMA XXX		
		TITLE		LOAD ON: WE-80 MACHINE		
		BOTTOM DIE ø28 X R64 SPLIT TYPE				
WT/KG : -		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1/1	T2-352052-101			0
DATE 17.06.2020						

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.



DRILL $\phi 8$ THROUGH HOLE ON ASSLY OF BOTTOM DIE AND TOP DIE (ITEM-100 AND ITEM-200 RESPECTIVELY) BY PROPERLY MATCHING THE ALL GROOVES.

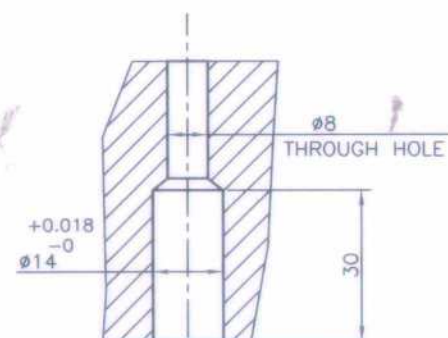


MERGE AND GRIND PASSAGES
AFTER WELDING OF JAW-202

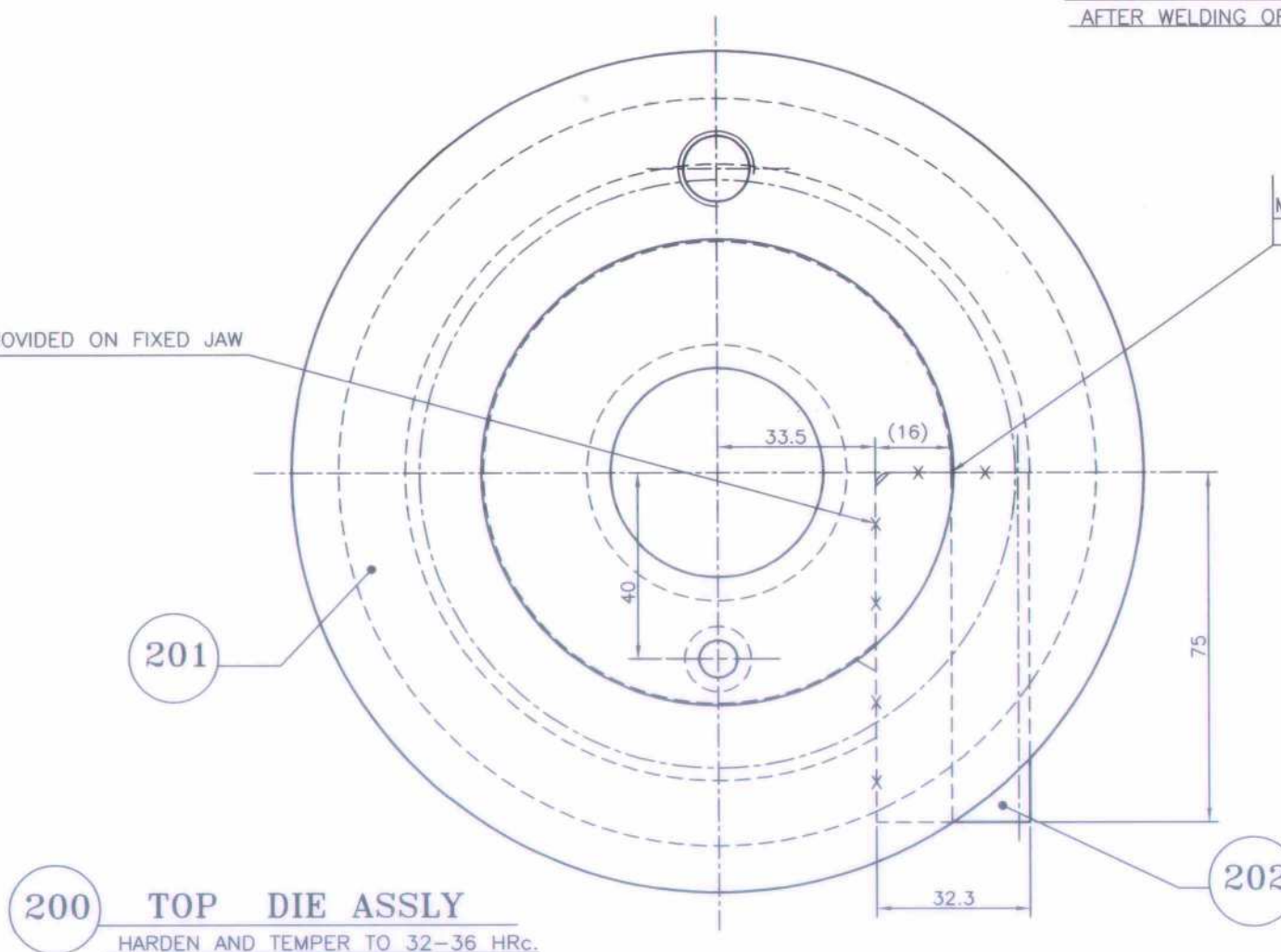
SYMBOL X X X: FOR WELDING

WELD FILLET: FILL THE CHAMFERING PROVIDED ON FIXED JAW

MATCH DIE GROOVE AND JAW GROOVE PROPERLY
AND BLEND SMOOTHLY.



HOLE DETAIL-P



200 TOP DIE ASSLY
HARDEN AND TEMPER TO 32-36 HRC.

MACHINE, POLISH THE PROFILE
AND CHECK WITH TEMPLATE

1.6

TOLERANCE FOR UNTOLEERANCED DIMENSIONS.	
UPTO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.

REFER ASSLY DRG.: T2-352052-000
& PART DRG. T2-352052-201

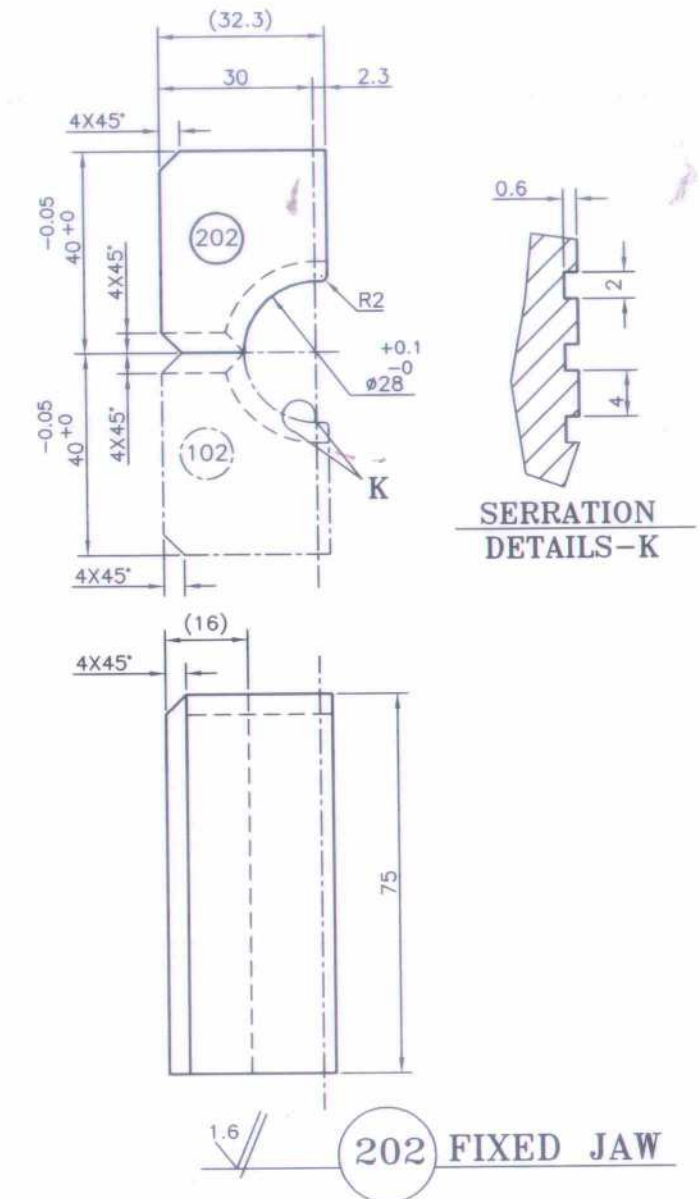
202	FIXED JAW	EN:9	33X75X80	1	1.5	T2-352052-201
201	TOP DIE	EN:9	ø180x85LG.	1	17	T2-352052-201
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
			HPVP,VISAKHAPATNAM			
			TOOL DESIGN			
DRN	DSRK	SO.NO.: — —		LR.NO. 1327 DT: 06.06.2020		
CHD		W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD	SAROU	DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE TOP DIE ASSLY ø28 X R64 SPLIT TYPE				
WT/KG : 18.5		SHEET		TOOL DRAWING NO		
SCALE N.T.S		DATE 17.06.2020		T2-352052-200		
		1 / 1		0		

REV	DATE	BRIEF RECORD	INITIALS

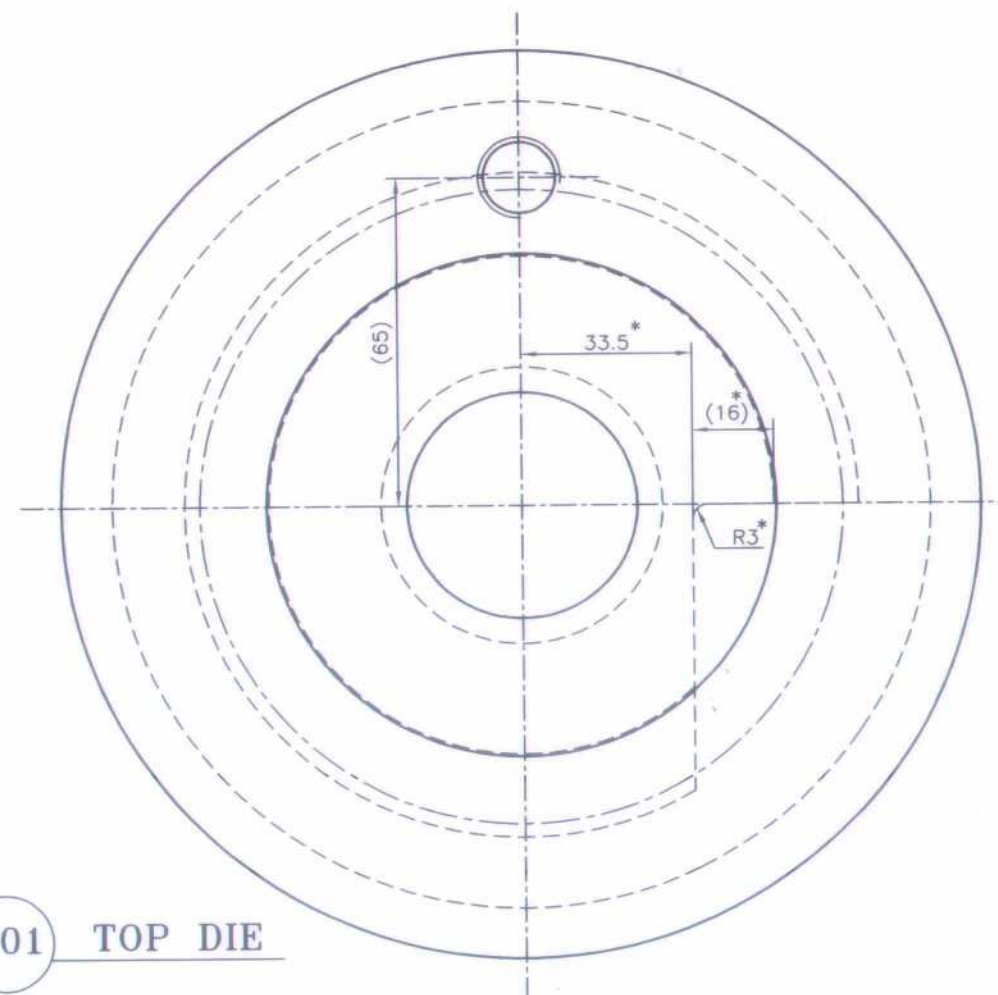
- MACHINE,POLISH THE PROFILE
AND CHECK WITH TEMPLATE

Diagram showing two triangles with bases 1.6 and 0.8.

TOLERANCE FOR UNTOLERANCED DIMENSIONS.	
UPTO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.



(201) TOP DIE



202	FIXED JAW	EN:9	33X75X80	1	1.5	T2-352052-201
201	TOP DIE	EN:9	Ø180x85LG.	1	17	T2-352052-201
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
			HPVP, VISAKHAPATNAM <u>TOOL DESIGN</u>			
DRN	DSRK	SO.NO.: -		LR.NO. [1327] DT: 06.06.2020		
CHD	SAROU 	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TOP DIE Ø28 X R64 SPLIT TYPE				
WT/KG : -		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1/1	T2-352052-201			0
DATE 11.06.2020						

						SCALE	N.T.S.	1	T2-352052-201	0
REV	DATE	BRIEF RECORD			INITIALS	DATE	11.06.2020	1		

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

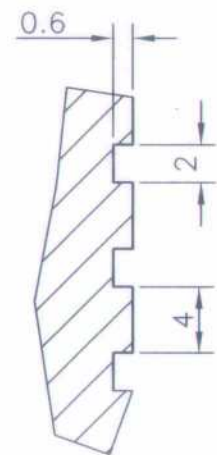
HARDEN AND TEMPER TO 32-36 HRC.
CHAMFER SHARP EDGES 1X45°

1.6

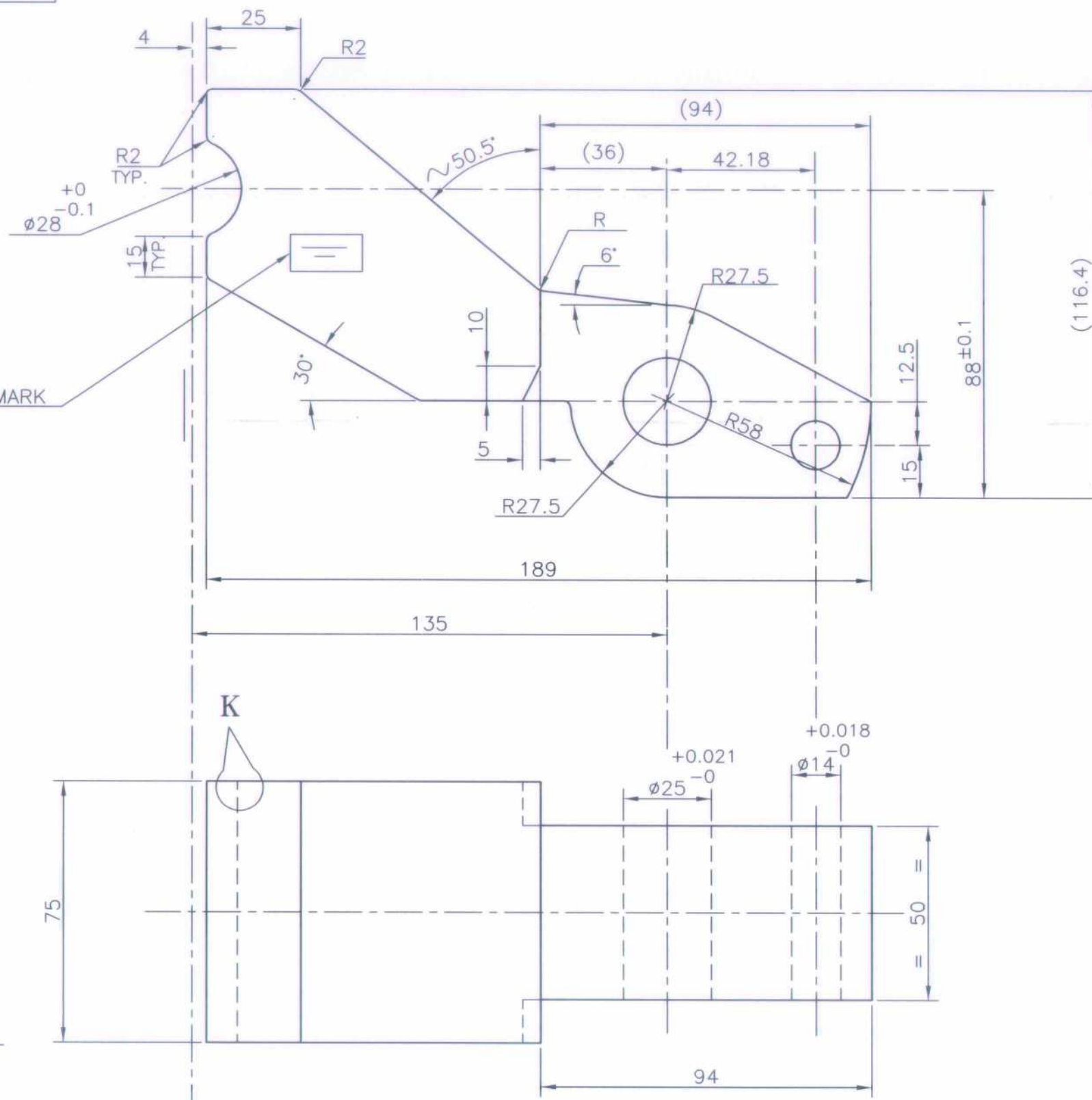
TOLERANCE FOR UNTOLERANCED DIMENSIONS.	
UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.

STAMP IDENTIFICATION MARK

352049
ø28



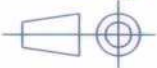
SERRATION
DETAILS-K



1

MOVABLE JAW

HARDEN AND TEMPER TO 32-36 HRC.

1	MOVABLE JAW	EN:9	75X117X193	1	13	—
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
		<u>HPVP,VISAKHAPATNAM</u> <u>TOOL DESIGN</u>				
DRN	DSRK	SO.NO.: — —		LR.NO. 1327 DT: 06.06.2020		
CHD	SAROJ 	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE <u>MOVABLE JAW</u> <u>FOR ø28 TUBE</u>				
WT/KG : 13		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T3-352049-001			0
DATE	12.06.2020	1				

REV	DATE	BRIEF RECORD	INITIALS

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

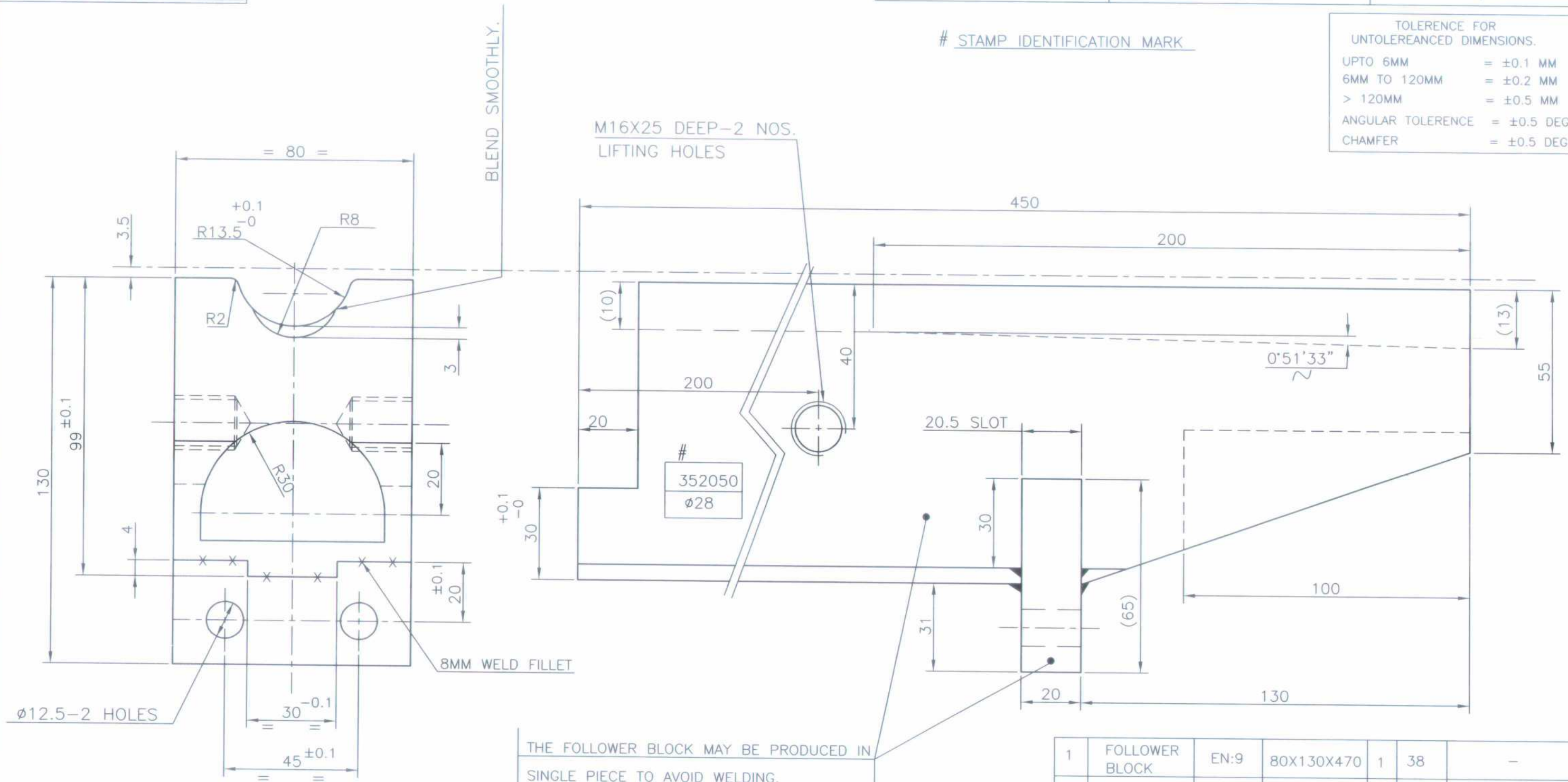
MACHINE, POLISH THE PROFILE
AND CHECK WITH TEMPLATE

HARDEN AND TEMPER TO 32-36 HRC.
CHAMFER SHARP EDGES 1X45°

1.6

STAMP IDENTIFICATION MARK

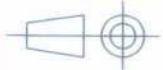
TOLERANCE FOR UNTOLERANCED DIMENSIONS.	
UPTO 6MM	= ±0.1 MM
6MM TO 120MM	= ±0.2 MM
> 120MM	= ±0.5 MM
ANGULAR TOLERANCE	= ±0.5 DEG.
CHAMFER	= ±0.5 DEG.



1 FOLLOWER BLOCK

(HARDEN AND TEMPER TO 32-36 HRC.)

1.6
ALL OVER

1	FOLLOWER BLOCK	EN:9	80X130X470	1	38	—
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
		<u>HPVP,VISAKHAPATNAM</u> <u>TOOL DESIGN</u>				
DRN	DSRK	S.O.NO.: — —		LR.NO. <u>1327</u> DT: 06.06.2020		
CHD	SAROJ 	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE <u>FOLLOWER BLOCK</u> <u>FOR ø28 TUBE</u>				
WT/KG : 38		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T3-352050-001			0
DATE	12.06.2020	1				

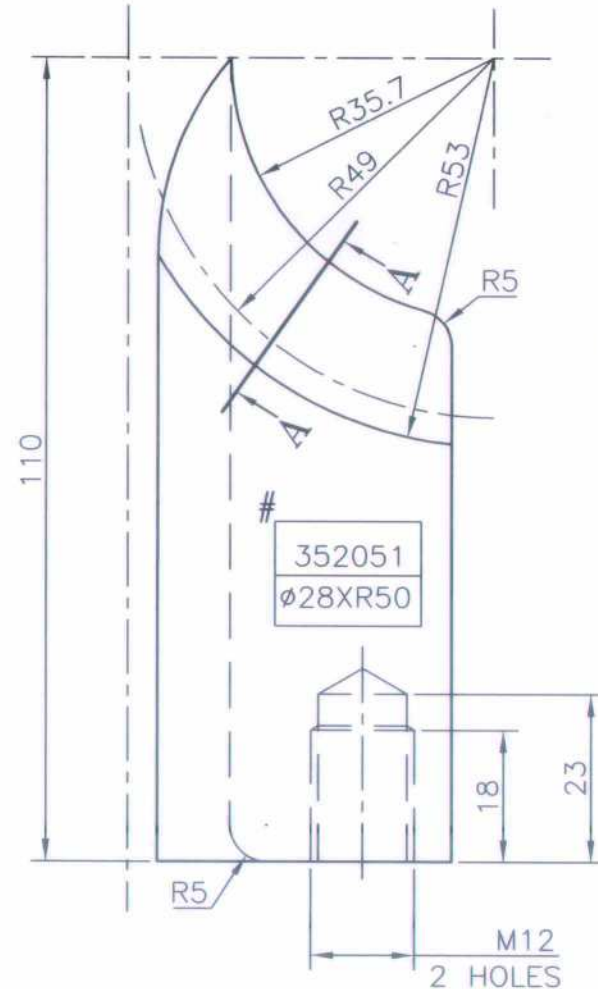
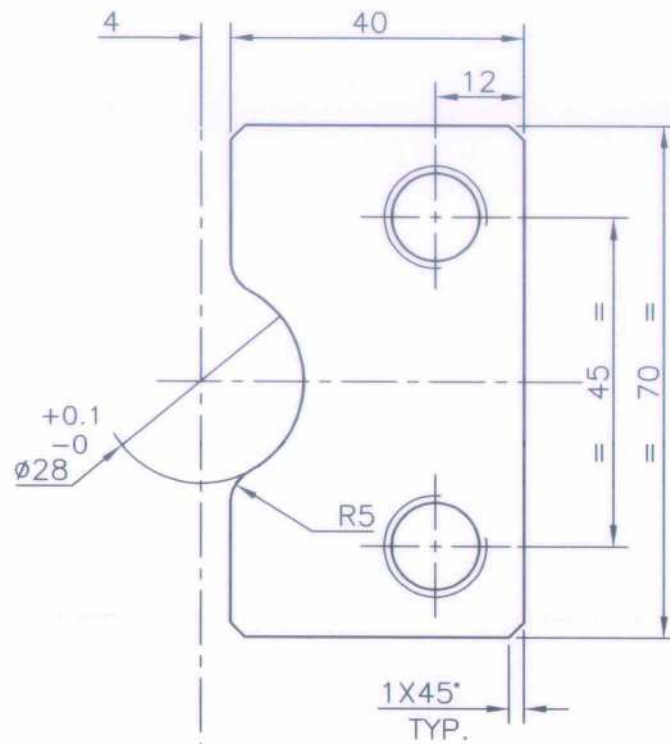
REV	DATE	BRIEF RECORD	INITIALS

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

STAMP IDENTIFICATION MARK

HARDEN AND TEMPER TO 30 ± 2 HRC.
CHAMFER SHARP EDGES $1 \times 45^\circ$

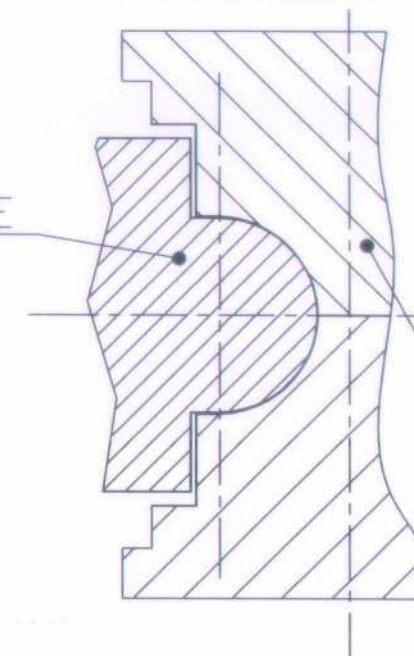
1.6



1

WIPER DIE

WIPER DIE

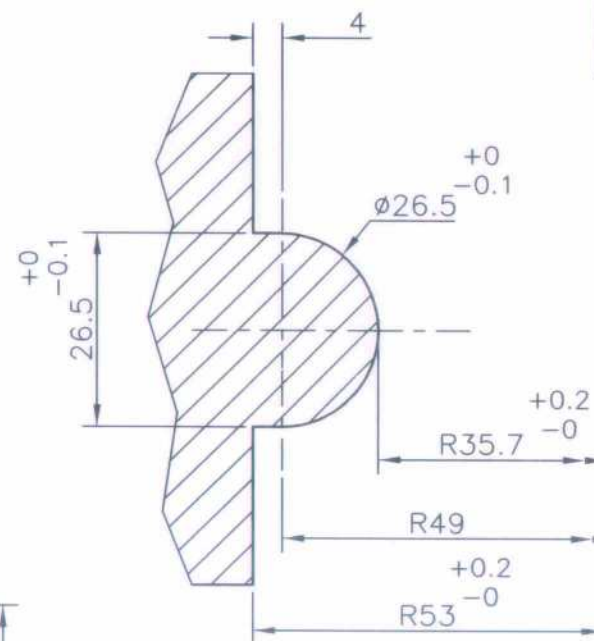


BENDING DIE ASSLY FOR $\phi 28 \times R50$
DRAWING NO: T2-352048-000

TOLERANCE FOR UNTOLEREANCED DIMENSIONS.	
UPTO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.

NOTE:

WIPER DIE TO BE SUPPLIED ALONG WITH DIE ASSLY T2-352048-000
BY PROPERLY MATCHING THE PROFILE OF BENDING DIE WITH WIPER
DIE PROFILE AS SHOWN ABOVE.



SECTION A-A

1	WIPER DIE	EN:9	40X70X110	1	2.5	-
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
HPVP, VISAKHAPATNAM TOOL DESIGN						
DRN	DSRK	SO.NO.: --		LR.NO. 1327		
CHD	SAROJ	W.O.NO: SO-7899		DT: 06.06.2020		
APD	<i>Sid</i>	DEL TO: CSP-II		COMP.NO. PGMA XXX		
		TITLE		WIPER DIE FOR BENDING DIE		
				$\phi 28 \times R50$		
WT/KG : 2.5		SHEET	TOOL DRAWING NO		REV	
SCALE	N.T.S	1	T3-352051-001		0	
DATE	12.06.2020	1				

REV	DATE	BRIEF RECORD	INITIALS

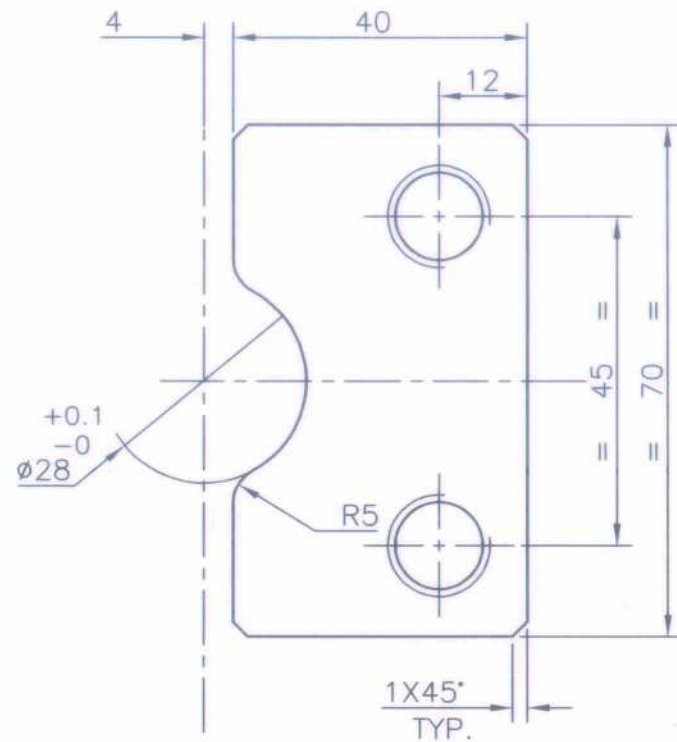
- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

STAMP IDENTIFICATION MARK

HARDEN AND TEMPER TO 30 ± 2 HRC.
CHAMFER SHARP EDGES $1 \times 45^\circ$

1.6

TOLERANCE FOR UNTOLEARENCD DIMENSIONS.	
UPTO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.

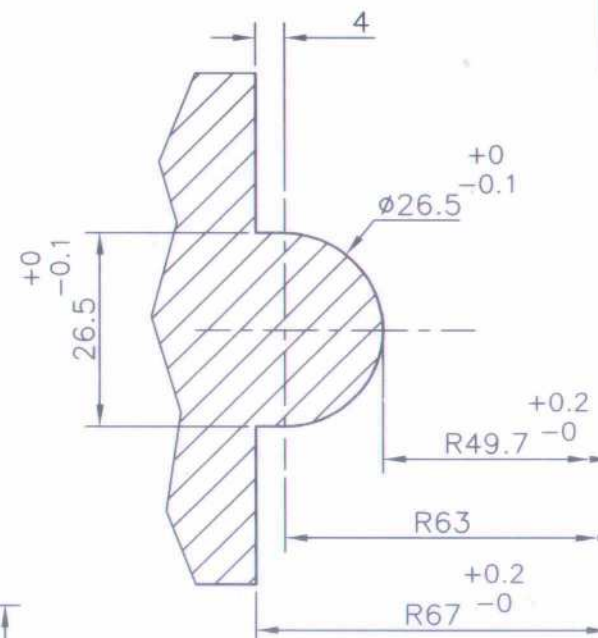
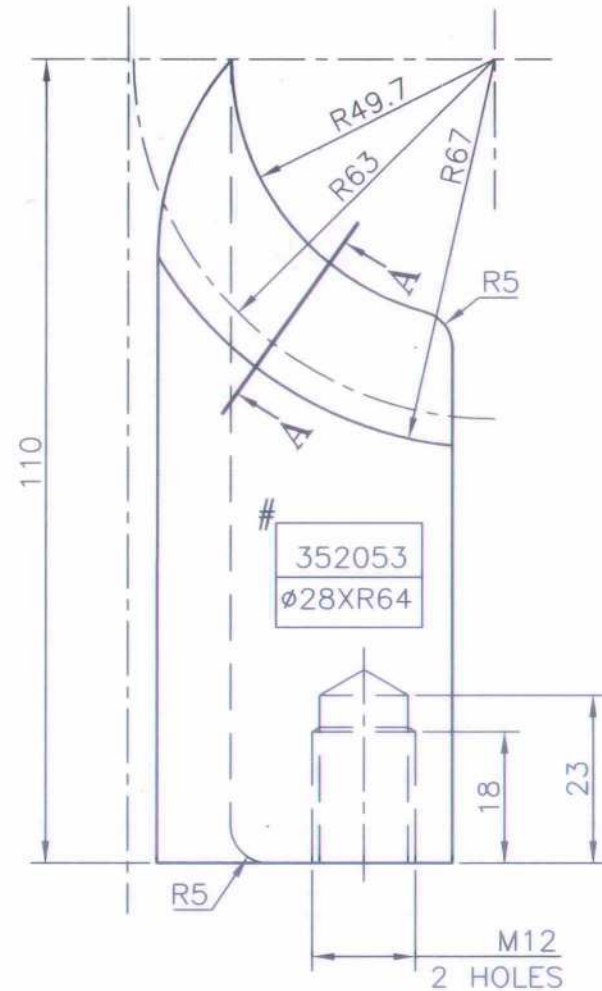


WIPER DIE

BENDING DIE ASSLY FOR $\phi 28 \times R64$
DRAWING NO: T2-352052-000

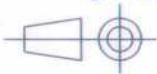
NOTE:

WIPER DIE TO BE SUPPLIED ALONG WITH DIE ASSLY T2-352052-000
BY PROPERLY MATCHING THE PROFILE OF BENDING DIE WITH WIPER
DIE PROFILE AS SHOWN ABOVE.



SECTION A-A

1 WIPER DIE

1	WIPER DIE	EN:9	40X70X110	1	2.5	—
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
बी एच ई एम 		HPVP,VISAKHAPATNAM <u>TOOL DESIGN</u>				
DRN	DSRK	SO.NO.: — —		LR.NO. <u>1327</u> DT: 06.06.2020		
CHD	SAROJ 	W.O.NO: SO-7899		COMP.NO. PGMA XXX		
APD		DEL TO: CSP-II		LOAD ON: WE-80 MACHINE		
		TITLE <u>WIPER DIE FOR BENDING DIE</u> <u>ø28XR64</u>				
WT/KG : 2.5		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1 1	T3-352053-001			0
DATE 17.06.2020						

REV	DATE	BRIEF RECORD	INITIALS

- 1) FIRST ANGLE PROJECTION
- 2) DO NOT SCALE.
- 3) STAMP TOOL NUMBERS & SIZE.

STAMP IDENTIFICATION MARK

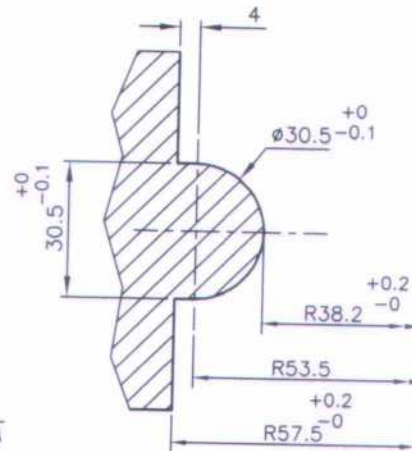
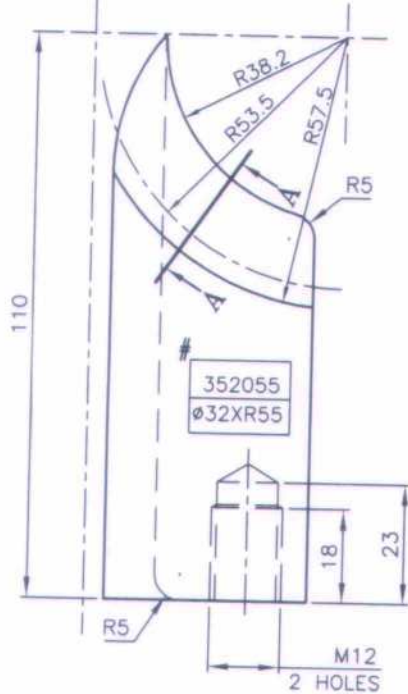
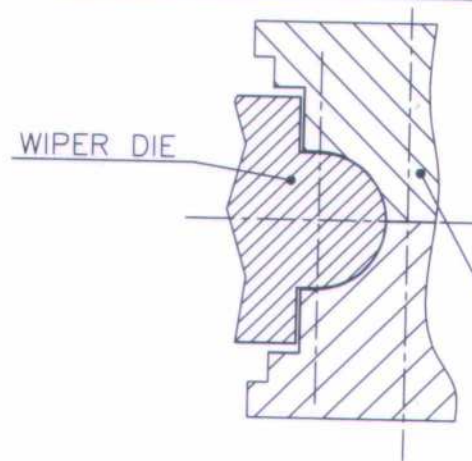
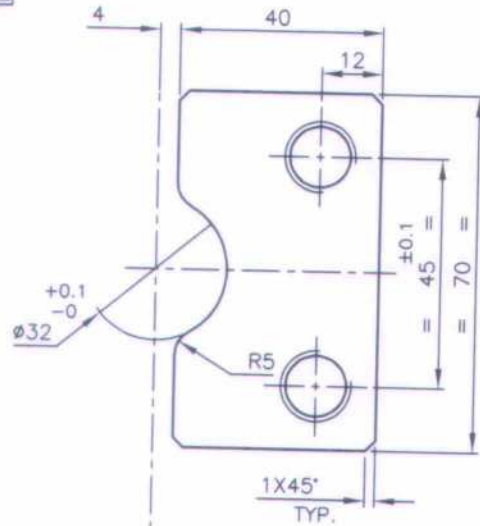
HARDEN AND TEMPER TO 30±2 HRC.
CHAMFER SHARP EDGES 1X45°

1.6

TOLERANCE FOR
UNTOLERANCED DIMENSIONS.

UPTO 6MM	= ± 0.1 MM
6MM TO 120MM	= ± 0.2 MM
> 120MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 DEG.
CHAMFER	= ± 0.5 DEG.

BENDING DIE ASSLY FOR $\phi 32 \times R55$
DRAWING NO: T2-352054-000



SECTION A-A

1) WIPER DIE

1	WIPER DIE	EN:9	40X70X110	1	2.5	—
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	NET WT /KG	DRAWING NO.
			<u>HPVP, VISAKHAPATNAM</u> <u>TOOL DESIGN</u>			
DRN	DSRK	SO.NO.: —		LR.NO. 1327		
CHD	SAROJ	W.O.NO: SO-7899		DT: 06.06.2020		
APD		DEL TO: CSP-II		COMP.NO. PGMA XXX		
				LOAD ON: WE-80 MACHINE		
		TITLE <u>WIPER DIE FOR BENDING DIE</u> <u>ø32XR55</u>				
WT/KG : 2.5		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T3-352055-001			0
DATE	24.06.2020	1				

REV	DATE	BRIEF RECORD	INITIALS
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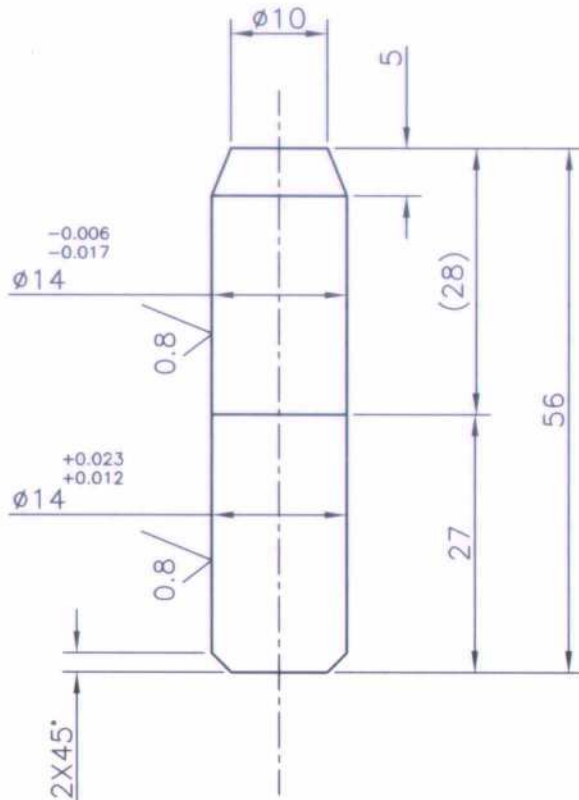
1) FIRST ANGLE PROJECTION

2) DO NOT SCALE.

3) STAMP TOOL NUMBERS & SIZE.

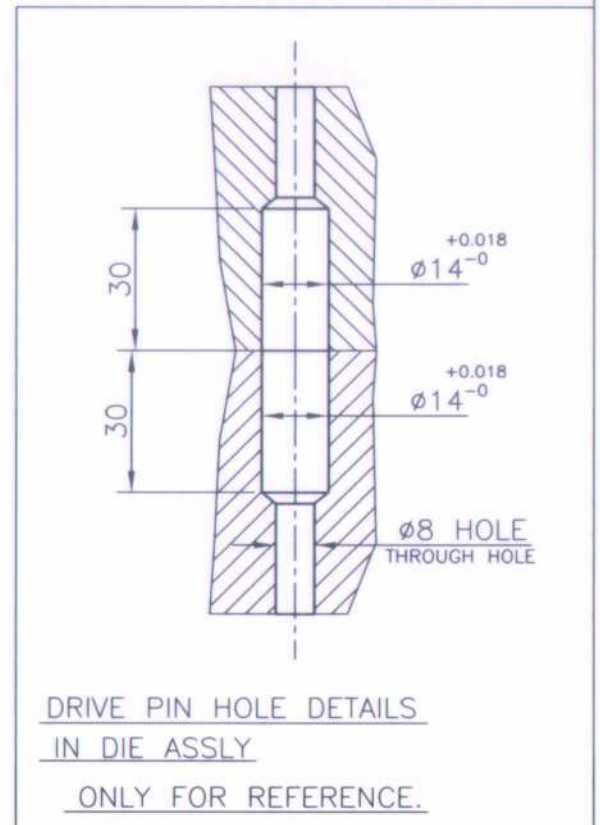
HARDEN AND TEMPER TO 40-45 HRc.

3.2 0.8



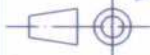
1 DRIVE PIN

HARDEN AND TEMPER TO 40-45 HRc.



* DIE ASSLY TO BE SUPPLIED IN FITTED CONDITION WITH THE HELP OF DRIVE PIN.
TRANSITION FIT WITH BOTTOM DIE AND CLEARANCE FIT WITH TOP DIE.

* ALTERNATE MAT. FOR DRIVE PIN: IS1570 T90Mn6WCr2

1	DRIVE PIN	IS1570 T90 * Mn2W50Cr45	Ø14X60LG	1	0.03	T2-352048-000
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	WT/KG	ASSLY DRG NO.
बी एच डी एल  HPVP,VISAKHAPATNAM TOOL DESIGN						
DRN	DSRK	SO.NO.:		LR.NO. 1327 DT: 06.06.2020		
CHD	SAROJ	W.O.NO: SO : 7899		PGMA: XXXX		
APD		DEL TO: C.S.P.II		LOAD ON: WE-80 MACHINE		
		TITLE DRIVE PIN FOR Ø28XR50 SPLIT DIE				
WT/KG : 0.03		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T4-352048-001			0
DATE	11.06.2020	1				

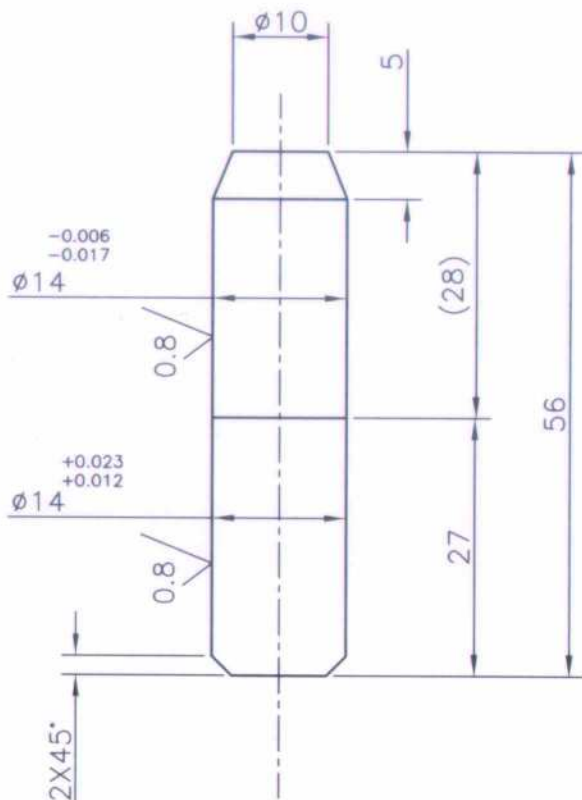
1) FIRST ANGLE PROJECTION

2) DO NOT SCALE.

3) STAMP TOOL NUMBERS & SIZE.

HARDEN AND TEMPER TO 40-45 HRC.

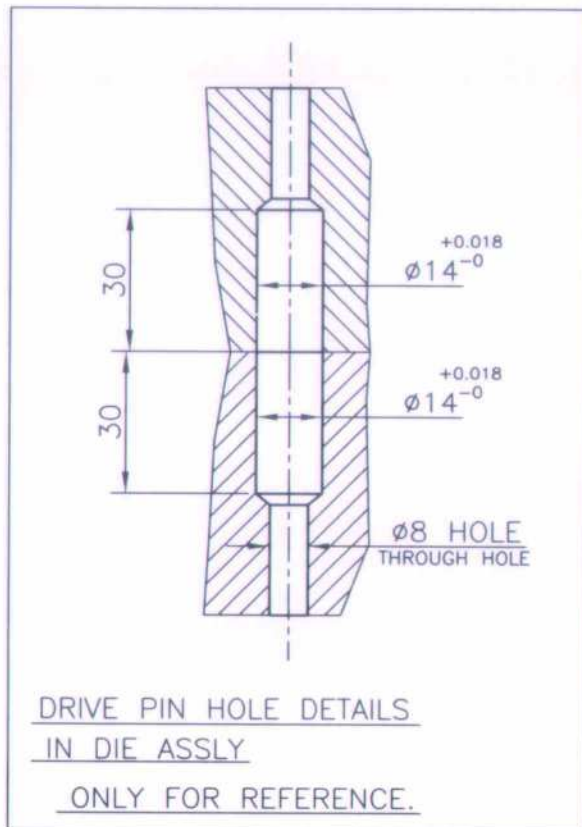
3.2 0.8



1 DRIVE PIN

HARDEN AND TEMPER TO 40-45 HRC.

* DIE ASSLY TO BE SUPPLIED IN FITTED CONDITION WITH THE HELP OF DRIVE PIN.
TRANSITION FIT WITH BOTTOM DIE AND CLEARANCE FIT WITH TOP DIE.



* ALTERNATE MAT. FOR DRIVE PIN: IS1570 T90Mn2W50Cr45

1	DRIVE PIN	IS1570 T90 * Mn2W50Cr45	ø14X60LG	1	0.03	T2-352052-000
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY	WT/KG	ASSLY DRG NO.
नौ एच डी एन  HPVP,VISAKHAPATNAM TOOL DESIGN						
DRN	DSRK	SO.NO.:		LR.NO. 1327 DT: 06.06.2020		
CHD		W.O.NO: SO : 7899		PGMA: XXXX		
APD	SARAJ	DEL TO: C.S.P.II		LOAD ON: WE-80 MACHINE		
		TITLE DRIVE PIN FOR ø28XR64 SPLIT DIE				
WT/KG : 0.03		SHEET	TOOL DRAWING NO			REV
SCALE	N.T.S	1	T4-352052-001			0
DATE	17.06.2020	1				

REV	DATE	BRIEF RECORD	INITIALS



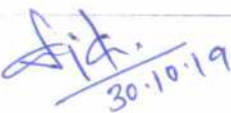
TOOLING DEPT.
BHEL,HPVP-VISAKHAPATNAM
TECHNICAL DELIVERY CONDITIONS

TDC NO: BENDING 002 REV.00
Effective Date: 30.10.2019
Page: 1 of 1

This TDC covers the following Dies/Tools:

- | | | |
|----------------------|----------------------------|-------------------|
| 1. Tube Bending Dies | 2. Tube Bending Die Assly. | 3. Follower Block |
| 4. Movable Jaw | 5. Collets | 6. Booster Clamp |
| 7. Squeezing Die | 8. Sizing Die | 9. Swaging Die |

1. Raw Material of the Items should conform to the specification given in the drawings. In order to use any substitute material other than specified in the drawing, prior approval from BHEL shall be obtained before start of manufacturing.
2. In case of cutting from raw material, traceability of raw material shall be suitably maintained on the final Items and the same shall be offered to BHEL/ BHEL authorized inspector.
3. The Items shall be guaranteed by supplier for the correct raw material usage and manufacturing workmanship for a period of one year from the date of acceptance.
4. Supplier has to prepare the dimensional report such that all the dimensions specified in the drawing are reported along with the actual values and the same shall be offered to BHEL/BHEL authorized inspector for approval.
5. Heat treatment, required as per drawing shall be carried.
6. Supplier has to Punch Tool identification mark as shown in the respective drawing.
7. The following Certificates/ reports shall be sent to BHEL for dispatch clearance:
 - 1) Raw Material Test certificate
 - 2) Hardness report
 - 3) Visual inspection report
 - 4) Dimensional report
 - 5) Guarantee certificate for raw materials and manufacturing workmanship
8. Final inspection of the items shall be done at BHEL, HPVP-Visakhapatnam by BHEL inspector.
9. Items, if rejected, shall be replaced free of cost with in the specified time.

 30.10.19	 30/10/19	 30.10.19
Saroj Kumar	A.Dhanshekar	S.C. Pasha
Sr.Engineer (Tooling)	Sr.Manager/Plg & Tech	DGM/Prdn.
Prepared By	Reviewed By	Approved By