



## INVITATION TO TENDER

Ref : OS/R&D/5610/19-20/43/091

Date : 04.02.2020

**Sub : Manufacture of Monoblock & other components for Coolant Circulation Module against S.O. 5610 – Reg.**

Dear Sir,

Sealed tenders are invited for the subject work in **Two part bid** system from the **Vendors** who are experienced in execution of similar jobs and bidders shall enclose documents in support of their experience in execution of similar jobs.

### 1. LOCATION OF WORK SPOT :

The subject work is to be carried out at **Vendor's Works**.

### 2. VENDOR'S SCOPE OF WORK :

- a) CNC Machining, Milling, Tapping & Drilling etc. for manufacture of Monoblock and other components like Stepped Plugs, Adapters, Threaded Plugs etc., required for Coolant Circulation Module, as per the drawings and applicable standards & specifications. Details of the components to be manufactured are given in the Annexure . II.
- b) Spot Facing shall be done at seating location of Adapter 1 to 6, QDC, Pressure Relief Valve, Temperature Sensor Port, Pressure Sensor Port and Accumulator Inlet Port as shown in the drawings to ensure perpendicularity of the hole.
- c) Adapters to be supplied with suitable O-Rings which are to be procured by the Vendor at their own cost.
- d) Procurement & Supply of Helical Insert Screw Locking for Monoblock.
- e) Tools required for the above operations are to be designed and manufactured by the Vendor with their (Vendors) raw materials.
- f) Raw materials for item (1) & (2) shall be provided by BHEL as free issue materials but procurement of raw materials required for Item Nos. (3) to (6) shall be in the Vendor's scope.
- g) Bidders shall have facilities like CNC Turning & Milling Machines, Surface Grinding Machine, Hydraulic Pressing Machine etc. for machining of high precision jobs up to tolerances of  $\pm 0.01$  to  $\pm 0.05$  mm.
- h) Bidders shall have Calibrated Surface Table, Digital measuring instruments like Vernier Calipers, Height Gauges, Go - No Go Thread Gauges, Radius Gauges etc. required for inspection of finished components.
- i) Vendors shall have to strictly follow the dimensions and tolerances mentioned in the drawings.
- j) The finished components shall be securely packed in suitable lots and are to be delivered by the vendor to Sr.Manager (R&D), BHEL-HPVP, Visakhapatnam on door delivery basis.
- k) Any modification work due to revision of drawings during fabrication is to be carried out by the vendor without any extra cost. Though not mentioned specifically, any activity which is required for completion of the work is deemed to be included in the scope of work of vendor.

### 3. BHEL's SCOPE :

**BHEL shall issue the following as free issue :**

- a) Issue of applicable Drawings & reference Documents
- b) Issue of raw material for item 1 & 2 of SOR viz. Aluminium Alloy Block of size 130 x 205 x 205.

**4. TRANSPORTATION :**

Vendor scope includes collection of free issue raw materials from R&D dept. at BHEL - HPVP, Visakhapatnam & Transportation of the raw materials to Vendor's works and Transportation of Finished components back to Visakhapatnam & Handing over to Sr. Manager (R&D) at BHEL-HPVP, Visakhapatnam.

**5. INSPECTION :**

Inspection shall be carried out at Vendor works by M/s BHEL - HPVP (QC) and / or by an Appointed agency / Customers. Instruments required for inspection of finished components are to be arranged by the vendor along with calibration certificates.

**6. DELIVERY :**

Materials shall be issued to the vendors in a phased manner to suit the delivery schedules committed to the customers. Finished components along with relevant inspection documents and all other certificates are to be delivered to Sr. Manager (R&D), BHEL-HPVP, Visakhapatnam **progressively** within a maximum of **4 weeks** from the date of issue of materials.

The delivery period will be calculated from the date of issue of materials at HPVP, Visakhapatnam to the date of delivery of finished items at HPVP, Visakhapatnam. The delivery period includes the time involved in collection of all raw materials, cutting plan approval, handing over of finished items at Sr. Manager (R&D), BHEL-HPVP.

**7. PRICE :**

**The prices shall be quoted as per Annexure – I for the detailed scope of work mentioned in the tender document.** The quoted price shall be **inclusive of all applicable taxes & duties except GST** and Income tax shall be deducted at applicable rates from the vendor's bills. GST shall be reimbursable to the vendor as detailed in Clause . 8 and as per Annexure - GST.

The prices shall be fixed & firm without any escalation during the entire period of contract and till completion of the work.

**8. GOODS & SERVICES TAX (GST) :**

Bidders shall make a note of the following points of GST before submission of their offer :

- a) Vendors registered under GST Act shall have to mention their GSTIN no. (15 Digits) in their Technical Bid. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering their offer.
- b) Semi-finished goods are to be delivered by the Vendors in BHEL, HPVP premises within a maximum period of one year from the date of issue of the material, failing which the whole transaction will be considered as Supply and Sale and GST is required to be paid along with interest (calculated @ SBI Base Rate + 6%) along with penalty, if any, from the date of Challan on the whole value of materials. Hence vendors shall have to ensure that materials issued to them are returned within 365 days.
- c) After fabrication, the vendors shall have to deliver the Semi-finished Goods by fulfilling the following formalities :

GST invoice should be raised by the vendors by paying GST on job work charges at applicable rates and by incorporating the HPVP GSTIN no. in the invoice for availing the reimbursement of GST from HPVP.

The vendor shall also have to enter in their GST Return -1 (GSTR-1) the details of invoice raised for payment of GST so as to enable HPVP to avail input credit.

**9. REVERSE AUCTION :**

BHEL reserves the right to opt for Reverse Auction at its discretion instead of opening the price bids submitted in sealed envelope and any information regarding the reverse auction shall be decided after technical evaluation and shall be intimated to the bidders at appropriate time.

The bidders are advised to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids in case BHEL decides to go for RA.

In case BHEL decides to go for RA, only those bidders who give their acceptance will be allowed to participate in RA and these bidders shall have to necessarily submit sOnline Sealed Bid in the RA. Non-submission of sOnline Sealed Bid by the bidder will be considered as tampering of the tendering process and will invite action by BHEL as per extent guidelines in vogue.

**10. VALIDITY OF OFFER :**

The offer shall be valid for a period of **3 months** from the due date of tender submission.

**11. RISK PURCHASE :**

**In case the vendor fails to execute the work within the scheduled time or due to any other reasons, BHEL-HPVP reserves the right to get the same completed through some other vendors at the risk & cost of the vendor and any additional expenditure incurred due to the same shall be charged to the vendor's account.**

**12. Other Terms & Conditions shall be as per Annexure . III enclosed.**

**13. GENERAL :**

- a) The bidders shall study the Tender documents, Drawings, Quality Documents and all other relevant documents in detail for understanding the scope of work and the processes involved before submission of offer. For any clarifications required on this tender document, scope of work etc., the bidders can get clarifications through e-mail or over phone between 09:00 AM and 04:30 PM on any working day.
- b) **Bidders shall confirm their acceptance to all the terms & conditions of the tender enquiry.** Any deviations to the tender terms & conditions are not acceptable and BHEL reserves the right to reject such offers without further correspondence.
- c) BHEL-HPVP reserves the right to opt for Reverse Auction or for negotiation with the L1 bidders as per applicable guidelines.
- d) BHEL reserves the right to modify or cancel the tender enquiry at any stage without assigning any reasons thereof.

**14. The following documents shall form part of the tender enquiry :**

- a) Schedule of Rates : Annexure - I
- b) Details of Components & applicable drawings : Annexure . II
- c) General Terms & Conditions : Annexure - III
- d) Acceptance to Tender terms & conditions : Annexure . IV
- e) Terms & Conditions of Reverse Auction : Annexure - V
- f) GST Compliance for Indigenous Suppliers : Annexure . GST

**15. TENDER SUBMISSION :**

Techno-commercial bids shall be submitted along with the **tender document duly signed by the bidder on all pages**. Techno-Commercial Bid and Price bid shall be placed in two separate envelopes and both shall be kept in another big envelope.

Tenders completed in all respects shall be dropped or sent by Speed Post or Courier so as to reach **Outsourcing Tender Box, Reception counter, Admn. Building, BHEL - HPVP, Visakhapatnam, PIN – 530 012** on or before **14.00 hrs. on 11.02.2020** duly super scribing the Subject, Tender Ref. No. and Technical / Price Bid on the envelopes.

**TENDERS RECEIVED AFTER THE DUE DATE & TIME ARE NOT ACCEPTABLE.**

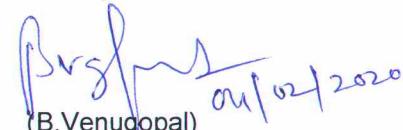
Note : Offers sent in any other form will be treated as invalid and will be summarily rejected.

**16. TENDER OPENING :**

Techno-commercial Bids will be opened on **11.02.2020 at 14.00 Hrs.** at Customer Cell, Admn. Building, BHEL - HPVP, Visakhapatnam – 530012. The price bid of the techno-commercially qualified bidders will also be opened in presence of representatives of the bidders and the date & time of opening of price bids will be intimated later. The bidders may depute their representatives at the time of opening.

In case of opting for Reverse Auction, intimation shall be given to the qualified bidders in advance at appropriate time.

For Bharat Heavy Electricals Limited,

  
(B. Venugopal)  
Manager (OS)

Schedule of Rates

Sub : Manufacture of Monoblock &amp; other components for Coolant Circulation Module against S.O. 5610 – Reg.

Ref : OS/R&amp;D/5610/19-20/43/091

Date : 04.02.2020

Sl. No.	S.O. No.	Description of Work	Unit	Total Qty.	Unit Rate in Rs.	Total Amount in Rs.
		Manufacture of Monoblock and Other Components which involves CNC Machining, Milling, Tapping & Drilling operations as per the drawings listed in Annexure. II and as per the detailed scope of work mentioned in the tender.				
1	5610	Monoblock	Nos.	2		
2		Stepped Plug		20		
3		Adapters - 1 to 5 with suitable O-Rings		14		
4		Threaded Plug to close the port of Adapters 1 to 5		14		
5		Adapter - 6 with suitable O-Ring		4		
6		Threaded Plug to close the port of Adapter 6		4		
		<b>Total (6 Items)</b>		<b>58</b>		

Notes :

- 1 L1 status shall be evaluated based on the total quoted value.
- 2 The quantity indicated above is tentative and may slightly vary subject to the requirement at the time of ordering / execution. However, payment shall be made for the actual quantity only.
- 3 The quoted price shall be inclusive of all applicable taxes & duties except GST and Income tax will be deducted from Vendor's bills at applicable rates. However, GST shall be reimbursed by BHEL on submission of proof of GST payment.
- 4 The prices shall be fixed & firm without any escalation during the entire period of contract and till completion of work.
- 5 The bidders are advised to go through all the drawings & documents before quoting the tender.
- 6 Tenderer should quote the amount in figures & words. It may be noted that corrections, overwriting etc. are not allowed. If there is a discrepancy between amount in figures & words, the amount in words shall prevail unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail. If there is an error in the total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and total shall be corrected accordingly.

In case of mismatch between rate and amount in figures, rate in figures shall be taken into consideration for further evaluation and processing.

- 7 BHEL reserves the right to go for Reverse auction as per the applicable guidelines instead of opening price bids.

Signature of the Bidder with Stamp

ANNEXURE-II

Ref : OS/R&D/5610/19-20/43/091

Date : 04.02.2020

LIST OF APPLICABLE DRAWINGS & RAW MATERIALS TO BE ISSUED

Sl. No.	Unit	Description	Drawing No. & Rev. No.	Material Spec.	Total Qty. (Nos.)	Size of Materials to be issued
1	Coolant Circulation Assembly	Monoblock	3041 006 001 2041 006 001	AA 6061 T6	2	Aluminium Alloy Block of Size 130 x 205 x 205 mm will be issued as free issue material by BHEL.
2		Stepped Plug	3041 006 002		20	
3		Adapters - 1 to 5 with Suitable O-Rings	Thread Description : 0.5 - 20 UNF Male to Male Fittings	SS 316	14	in Vendor's scope
4		Threaded Plug to close the port of Adapters - 1 to 5	As indicated in Drawing No. 3041 006 001	SS 316	14	in Vendor's scope
5		Adapter 6 with Suitable O-Ring	Thread Description : 7/16 - 20 UNF Male to Male Fittings	SS 316	4	in Vendor's scope
6		Threaded Plug to close the port of Adapter 6	As indicated in Drawing No. 3041 006 001	SS 316	4	in Vendor's scope
		<b>TOTAL</b>			<b>58</b>	

**GENERAL TERMS & CONDITIONS****1. TECHNICAL DELIVERY CONDITIONS :**

The work should conform to the technical data given in our drawings, GMS, Shipping List Specifications, QAP, WPS etc.

**2. PARTY'S SCOPE :** The scope of the party shall be as follows :

- a) All welding equipments, baking oven, tools, jigs and fixtures, measuring instruments duly calibrated, handling facilities, testing facilities etc.
- b) All materials other than those mentioned under "Free Issue Materials", which are required for completion of the work.
- c) All consumables such as electrodes, gases, grinding wheels etc.

**Note : Electrodes of specification mentioned in the drawings / WPS and of BHEL approved brands only shall be used.**

**3. REVISION OF DRAWINGS :** There may be minor changes in the drawings during execution. In such a case, party should accommodate the same without any extra claim.**4. WELDING QUALIFICATION :** Qualification of required number of Welders is party's responsibility at their cost.**5. X-RAY :** All welding shall be of X-ray quality where specified on drawings. Inspection would specify the quantum of X-ray based on drawings / code requirement. Party should strictly follow the WPS and QAP supplied by BHEL during welding. Getting the welds radiographed and getting them cleared by inspection is the responsibility of the party.**6. RECTIFICATIONS / REJECTIONS :** Any rectification due to defective work, if required, shall be done by the party free of charge with a suitable technology approved before hand by BHEL in writing. The cost of material, if any used for rectification work / rejection work, will be estimated by BHEL and the same shall be debited to party's account. In case any rectification / rework is to be carried out due to defective material supplied by BHEL, the replacement material and consumables will be supplied by BHEL free of Cost.**7. SECURITY DEPOSIT :** Vendors shall have to submit a Bank Guarantee for **10%** of the order value in case of HPVP site or **25%** of the material cost in case of Vendor works towards Security Deposit and safe custody of materials within one week from the date of issue of Order. The BG shall be valid for the contract period with a claim period of 3 months. This Bank Guarantee shall be released to the contractor after completion of work and on acceptance of the same by BHEL / Owner and on submission of Performance BG for 10 % of the order value covering for the defects liability period. If PBG is not submitted, 10% of the order value shall be deducted towards PBG from final bill.**8. RAW MATERIAL ISSUE :** Raw materials shall be issued with appropriate processing allowance and invisible wastage over the theoretical requirement of raw materials (**Plates, Sheets, Sections and Pipes**).**9. TRANSFER / RETURN OF LEFT OVER MATERIAL :** Party should maintain proper records for receipt & use of all free issue materials. The left over materials & scrap as per the material accounting statement shall be returned to HPVP stores along with finished job. Material Transfer Vouchers (MTV) from one order to another or from one vendor to another and Material Return Vouchers should be submitted immediately after transfer / return. The material reconciliation statement shall be submitted by the contractor after verification and certification by BHEL along with the final bill **within 30 days from the date of completion of work**. Otherwise, recovery for the balance materials shall be made from any of their pending bills without further intimation.

**10. MATERIAL RECONCILIATION :** Orders issued to the vendors have to be completed in all respects including Material Accounting within a maximum of **180 days** from the **date of issue of the first material** from BHEL - HPVP stores. This is a statutory requirement under Central Excise Rules and must be strictly complied with.

**Maximum of 0.5 %** on the requirement of materials (**Plates, Sections and Pipes**) is admitted towards **process allowance and invisible wastage**.

Scrap quantity is permissible up to a **maximum of 1% on Structural (Beams, Channels, Angles, Rods, Pipes etc.), 2% on Sheets, 3% for Plates** on the theoretical requirement of materials.

**If wastage and scrap is beyond the above limits**, it should be fully justified with cutting diagrams etc. which are to be approved in advance by BHEL. **Otherwise, the cost of raw materials beyond approved limits will be recovered from the contractor as per BHEL recovery rates including applicable taxes & duties.**

Material reconciliation including return of balance materials, off-cuts is to be completed within 20 days from the date of completion of the order. The material reconciliation statement shall be submitted by the contractor after verification and certification by BHEL-HPVP along with the final bill **within 30 days from the date of completion of work**. Otherwise, recovery for the balance materials shall be made from any of their pending bills without further intimation,

Repeated occurrence of inordinate delays in returning and settling the material accounting will entail BHEL the right to terminate the contract forthwith or impose a temporary suspension on further loading at the discretion of BHEL.

**11. SCRAP & OFFCUT NORMS :**

Sl. No.	Description	Scrap Size (in mm)	Off-Cut (in MM)
1.	CS/AS Sheets & Plates	Below 500 × 250	500 × 250 & above
2.	Rolled sections Rod, angles etc (other than -tubes, pipes)	Below 1000	1000 & above
3.	Tubes & Pipes	Below 500	500 & above
4.	Universal column	Below 1000	1000 & Above
5.	SS Sheets & Plates	Below 500 × 250	500 × 250 & above
6.	SS Structural, Rods, Tubes, Pipes	Below 250	250 & above
7.	Non – ferrous : sheets & plates, rods & tubes	Below 500 × 250 (S & PL), Below 250 (Rods & Tubes)	500 × 250 & above, 250 & above
8.	Big size Scrap	(2500 & above) × (150 to 249)	-

**12. INSPECTION :** Party shall contact our Quality Control Dept. for stages of inspection before commencement of job and should strictly follow the stages of inspection as per QAP.

**13. WORKMANSHIP GUARANTEE :** The vendors should give workmanship guarantee for fabricated items for a period of 18 months from the date of last delivery of the order. Any defects due to incomplete work, faulty workmanship found in the fabricated items after delivery during the defects liability period shall be rectified / replaced by the vendor free of cost. Otherwise, the expenditure incurred towards the same will be recovered from the pending bills of vendors.

**14. WORK PROGRESS** : The fabricator shall furnish a weekly report on the progress of work along with the status of availability of free issue materials and requirement of further materials, if any.

Outsourcing dept. personnel will visit vendor's works from time to time to assess and review the work progress. Free access shall be provided to BHEL or its inspection agency at all reasonable times of the day / night.

In case the progress is not satisfactory or supplies are delayed abnormally beyond the contractual delivery date, BHEL-HPVP, Visakhapatnam reserves the right to cancel the order in part or full or get the balance job in as is where is condition completed elsewhere by another agency at the risk and cost of Fabricator. The value of the work carried out by the party will be assessed by BHEL and the same shall be final. No compensation will be given to the fabricator in case of cancellation of order or diversion of balance job even if the jobs have been processed partly.

**15. DELIVERY** : Finished items should be handed over to the Logistics dept. on party's delivery challans along with Job completion certificate / Final Inspection Report from inspection agency / HPVP-QC department.

**16. PENALTY** : If delivery exceeds the stipulated delivery schedule, penalty 1/2 % of the total value of order per week or part thereof subject to a maximum of 10% on the total value of the order will be levied. However, time taken for the following will not be considered as delay on the part of the Sub-Contractor.

- 1) Intermediate operations, if any, carried out by BHEL.
- 2) Waiting time for BHEL / Third party Inspection beyond a normal time of 3 days.

**17. PAYMENT TERMS** :

Payment shall be made against RA Bills within 45 days from the date of submission of Bill.

90% payment will be made after handing over of the finished items along with all inspection documents to HPVP shops / Logistics dept. / ADM site, duly inspected & cleared by Inspection authority. Balance 10% payment shall be made along with the Final Bill against completion of total order in all respects including documentation.

Vendors shall have to submit the bills in the formats specified by HPVP-Outsourcing and the bills submitted in the specified format along with necessary supporting documents are only admitted for processing. The following documents shall be submitted along with the Final Bill :

1. No Claim Certificate from the contractor
2. No Dues Certificate from BHEL
3. Work Completion Certificate from BHEL
4. Material Reconciliation Statement submitted by the Contractor and certified by concerned authority of BHEL (if applicable)
5. Workmanship Guarantee certificate from the contractor

**18. SECURITY** : All the documents of BHEL inclusive of Drawings, GMS and Standards made available to the fabricator should be kept in strict confidence and under no circumstance be made available to others or allow others to make use of them. Such documents shall be returned to BHEL on demand after completion of the job. This secrecy clause is binding on the employees of the fabricators also. Violation of the same may lead to suspension of business with the vendor and necessary legal action.

**19. SUB-LETTING** : In general, sub-letting of jobs will not be permitted. But in special circumstances, this may be allowed. In such case, the party should obtain written approval from BHEL-HPVP, Visakhapatnam before sub-letting.

**20. FACTORY RULES AND REGULATIONS** : Party shall abide by all the rules and statutory regulations in force from time to time as per factories act. It shall be party's responsibility to ensure the safety of their workmen and fulfilling the ESI, PF and other relevant statutory regulations.

**21. SAFETY :**

a) Contractor shall adhere to safe construction practices, guard against hazardous & unsafe working conditions and shall comply with the safety rules of BHEL and local authorities. He shall maintain First Aid facilities for all his employees and labour. Contractor's responsibility includes supply of welder kit, all safety items such as safety belts, white and colour glasses, goggles, safety helmets, safety shoes etc.

b) Contractor and his employees shall follow all fire & safety, security regulations of BHEL.

**22. HOUSE KEEPING :**

During execution of work, the contractor at all times keep the working place and storage area clean and free from accumulation of waste materials, rubbish etc.,

**23. ACCIDENT / DAMAGE / CONDUCT ETC. :**

Contractor will be held responsible for any disorderly conduct / misconduct, indiscipline, theft, smoking etc., on the part of his men. He will ensure summarily eviction of such men from his premises failing which BHEL would remove them from the factory on his responsibility. Any damage to and or loss of equipment, machinery, building etc., to BHEL or BHEL employees, visitors or other contractors resulting from his own or any of his men's negligence shall be liable to be made good by him. Contractor shall be solely responsible for any accident in which you or your men or your equipment may be involved during the execution of contract on account of any reason what so ever.

**24. TERMINATION OF CONTRACT :**

In the event of any failure on the part of the contractor, BHEL reserves the right to terminate the contract by giving a notice of 2 weeks for any of the following lapses and contractual violations :

- a) Failure to make labour payments in time as per the rules
- b) Failure to progress the job according to the agreed schedule
- c) Failure to mobilize adequate man power, tools & tackles and consumables in time
- d) Failure to adhere to Quality Standards of BHEL
- e) Refused to co-operate with other agencies working in the same area
- f) Failure to resolve labour disputes like strikes etc., within 7 days of occurrence
- g) Failure to comply with statutory regulations applicable at BHEL

BHEL shall also be free to intervene and take necessary remedial measures. All costs incurred with interest and overheads shall be recovered from contractor by such foreclosing or off-loading any part of the contract work.

**25. DISPUTES** : Head of BHEL- HPVP Unit will be the final authority for any disputes arising out of this contract. The disputes / arbitration / settlement of contractual or legal issues shall be under the Jurisdiction of Visakhapatnam Court.

**26.** For this procurement, 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 issue of this NIT but before finalization of contract / PO/WO 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, same shall be applicable.

**Acceptance to Tender Terms & Conditions**

I / We hereby confirm that the Tender documents, Drawings, Quality documents etc. have been studied in detail and we have fully understood the scope of work.

I / We accept to all the Terms and Conditions of the Tender Enquiry and the prices quoted are in accordance with the same.

I / We give our acceptance to participate in reverse auction in case BHEL decides to opt for reverse auction for this tender.

Tender documents duly signed on all the pages by the Owner / authorized representative of the bidder are attached herewith.

**Signature of the Bidder with Stamp**

**GENERAL TERMS AND CONDITIONS OF RA (REVERSE AUCTION)**

BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://www.bhel.com)) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders have to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non . consideration of their bids, in case BHEL decides to go for RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit ~~Process~~ compliance form~~q~~(to the designated service provider) as well as ~~Online~~ sealed bid~~q~~in the Reverse Auction. Non-submission of ~~Process~~ compliance form~~q~~or ~~Online~~ sealed bid~~q~~by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of the business dealings with suppliers/ contractors (as available on [www.bhel.com](http://www.bhel.com)).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. **The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.**

If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers / contractors (as available on [www.bhel.com](http://www.bhel.com)).+

As a reminder to the bidders, system will flash following message (**in RED Colour**) during the course of ~~Online~~ sealed bid~~q~~

~~Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL+~~


**Signature of the Bidder with Stamp**

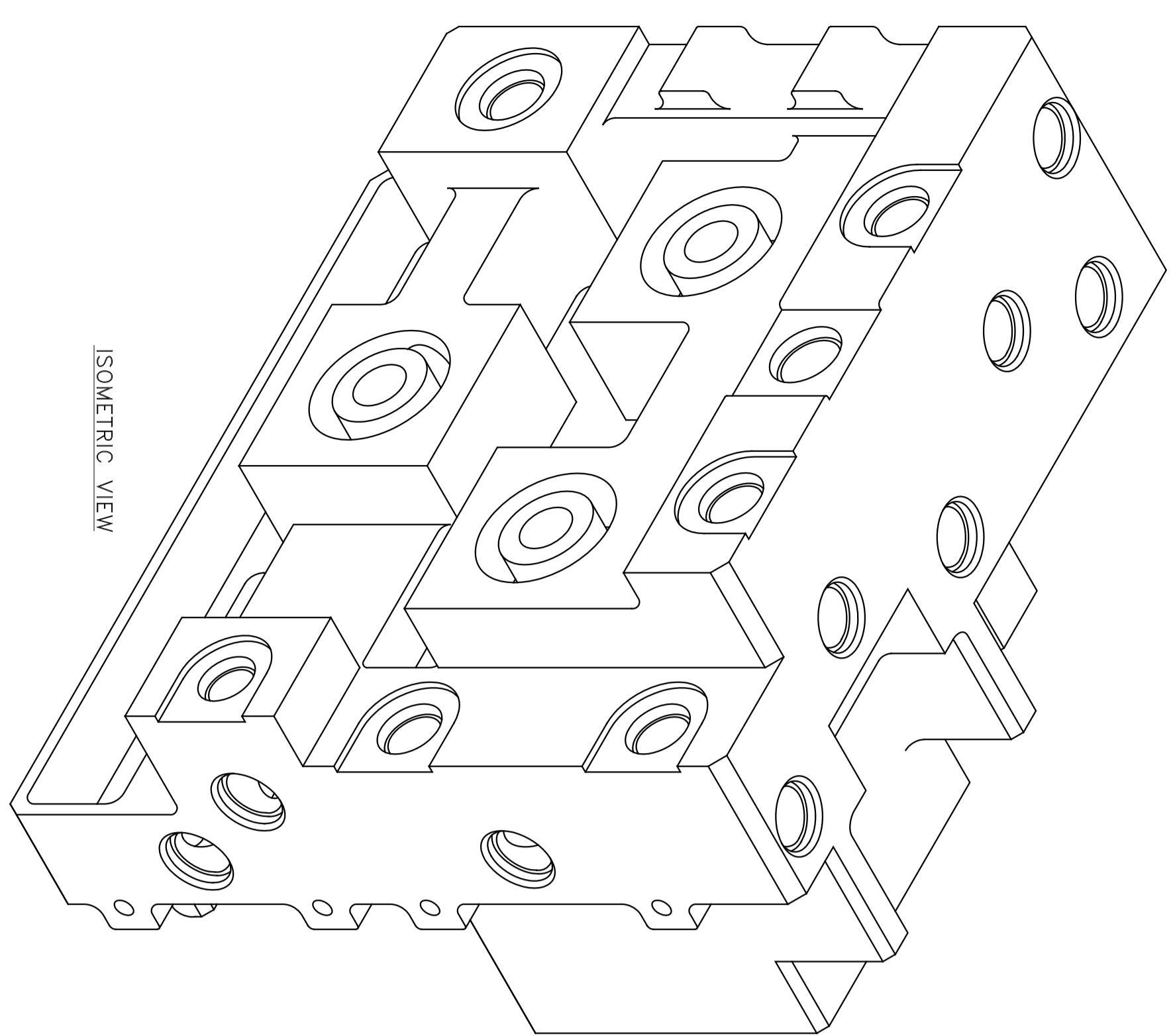
**GST COMPLIANCE FOR INDIGENOUS SUPPLIERS**

1. In Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GSTIN which should be clearly mentioned in the offer. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.
2. Supplier shall mention their GSTIN in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (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 clearly indicated), item description as per P0, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.
3. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
4. A declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & all tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If not mentioned in the invoice, a separate declaration shall be submitted as per the requirement of BHEL.
5. All documents like Test Certificate, LR copy, Guarantee/Warrantee certificate, work completion certificate, any other document mentioned in PO, shall be sent along with the vehicle/consignment where ever applicable. For all consignments received within the calendar month, input credit will be availed within that month in line with monthly returns filing cycle. In case of any discrepancy in the document or non-submission of documents mentioned in the PO, then BHEL will not be able to accept or account the material, in such case availing of tax credit will be deferred to next month or so.
6. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the suppliers, within the calendar month notified by BHEL.
7. For any such delay in availing of tax credit for reasons attributable to supplier (as mentioned above), interest (calculated @ SBI Base Rate + 6%) along with penalty if any will be deducted for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.
8. Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contractors. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.
9. This is to inform that GST portion of invoice, shall be released only upon Vendor declaring such invoice in his GSTR-1 and receipt of goods and Tax invoice by BHEL and Confirmation of payment of GST thereon by vendor on GSTN portal. Alternatively, BG of appropriate value may be obtained from vendor which shall be valid At least one month after the confirmation of date of payment of GST by vendor on GSTN portal and receipt of Tax invoice and receipt of goods, whichever is later. Above is subject to receipt of goods/service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.
10. That 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/contractor along with interest levied/ leviable on BHEL.

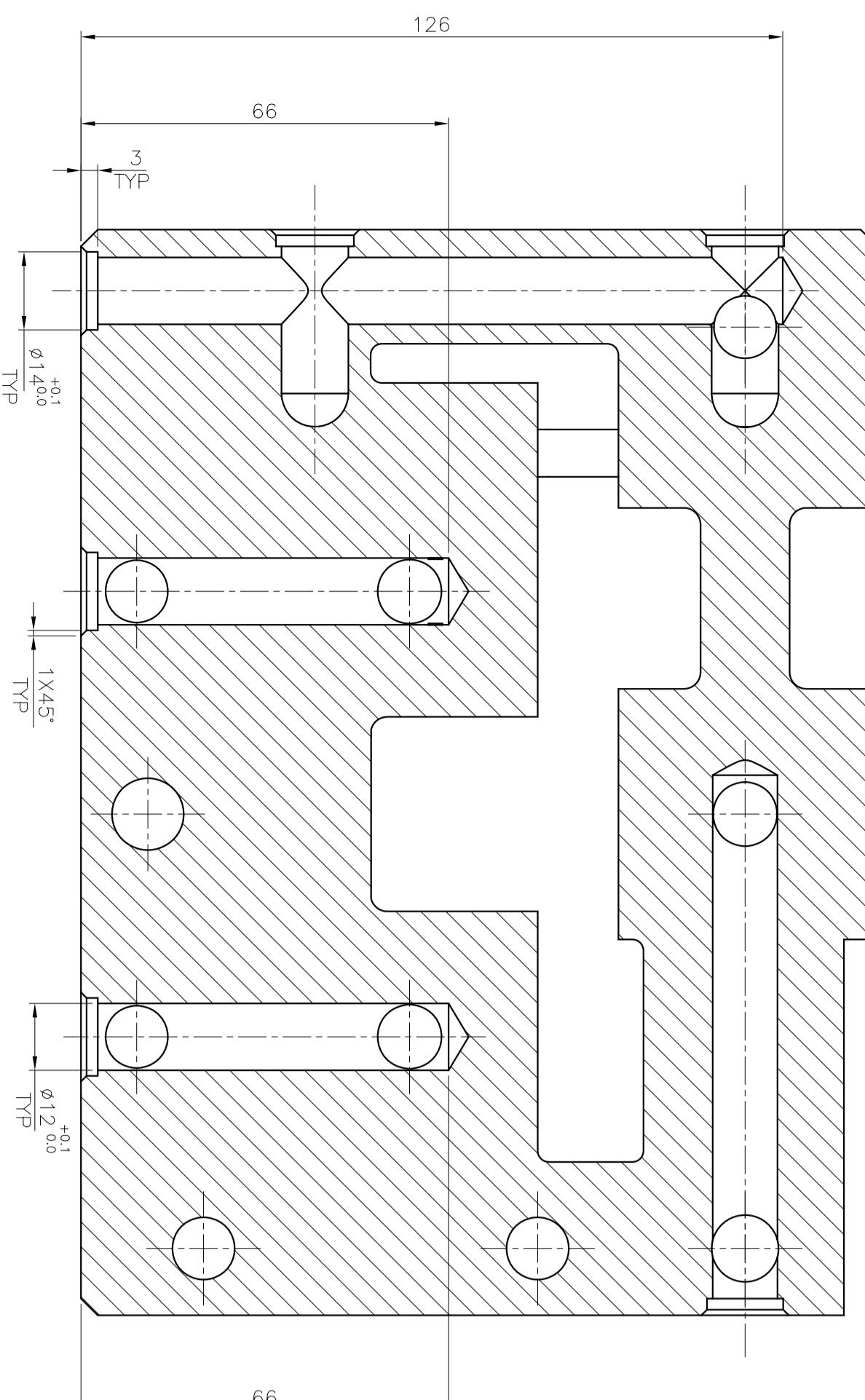
***Note : The above will be followed strictly for processing vendor payments to ensure GST Compliance.***

**Signature of the Bidder with Stamp**



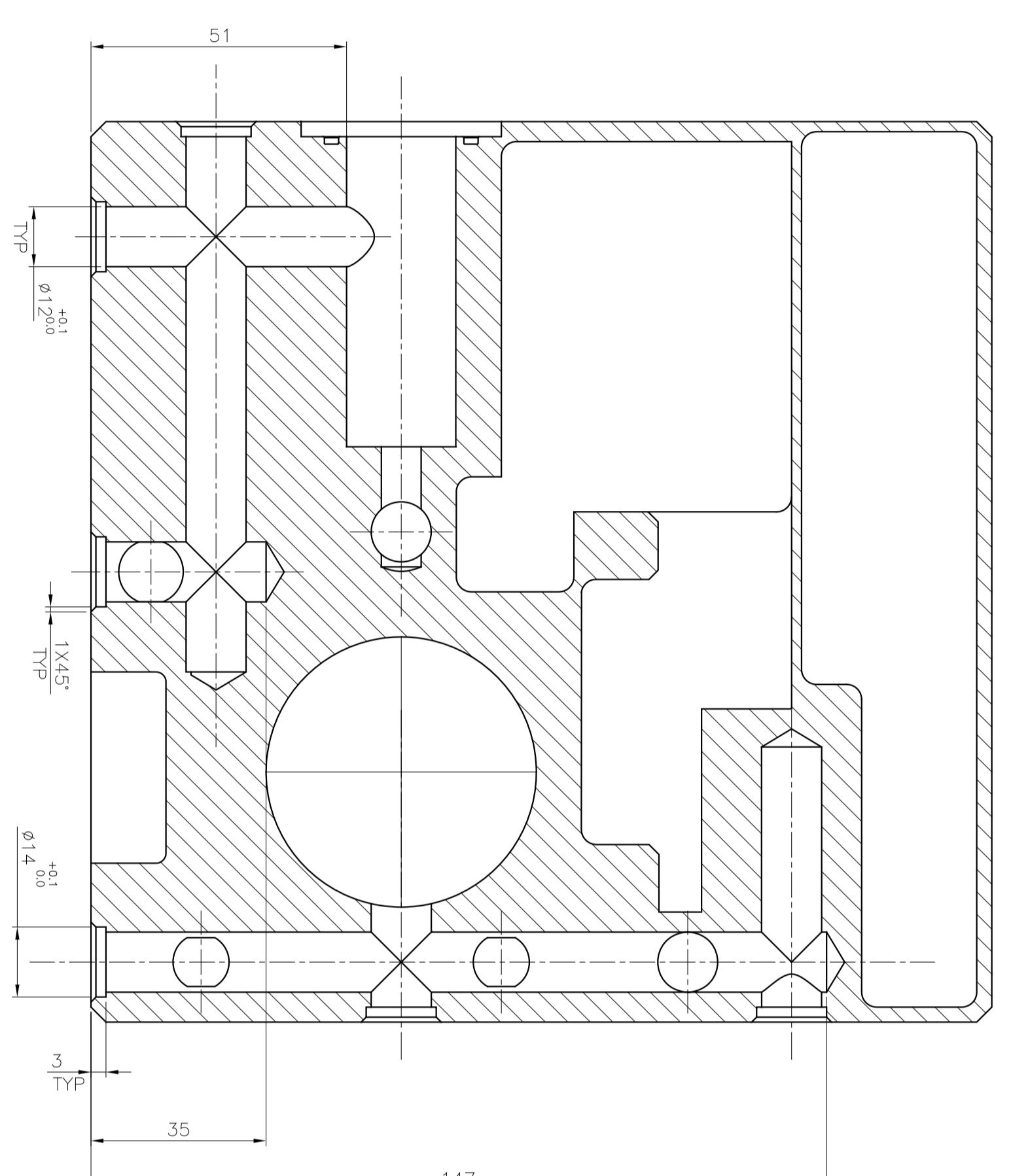
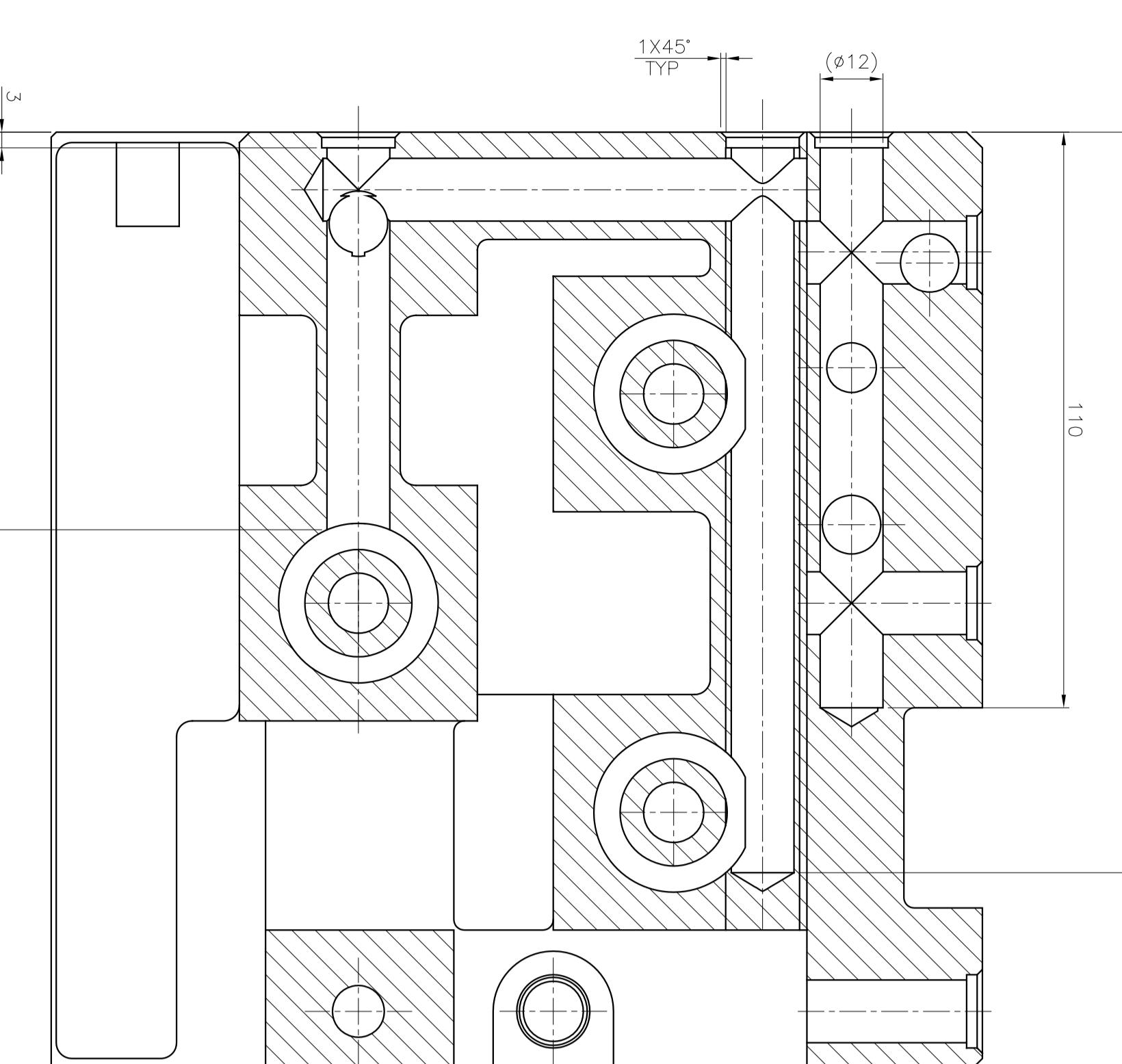


### ISOMETRIC VIEW

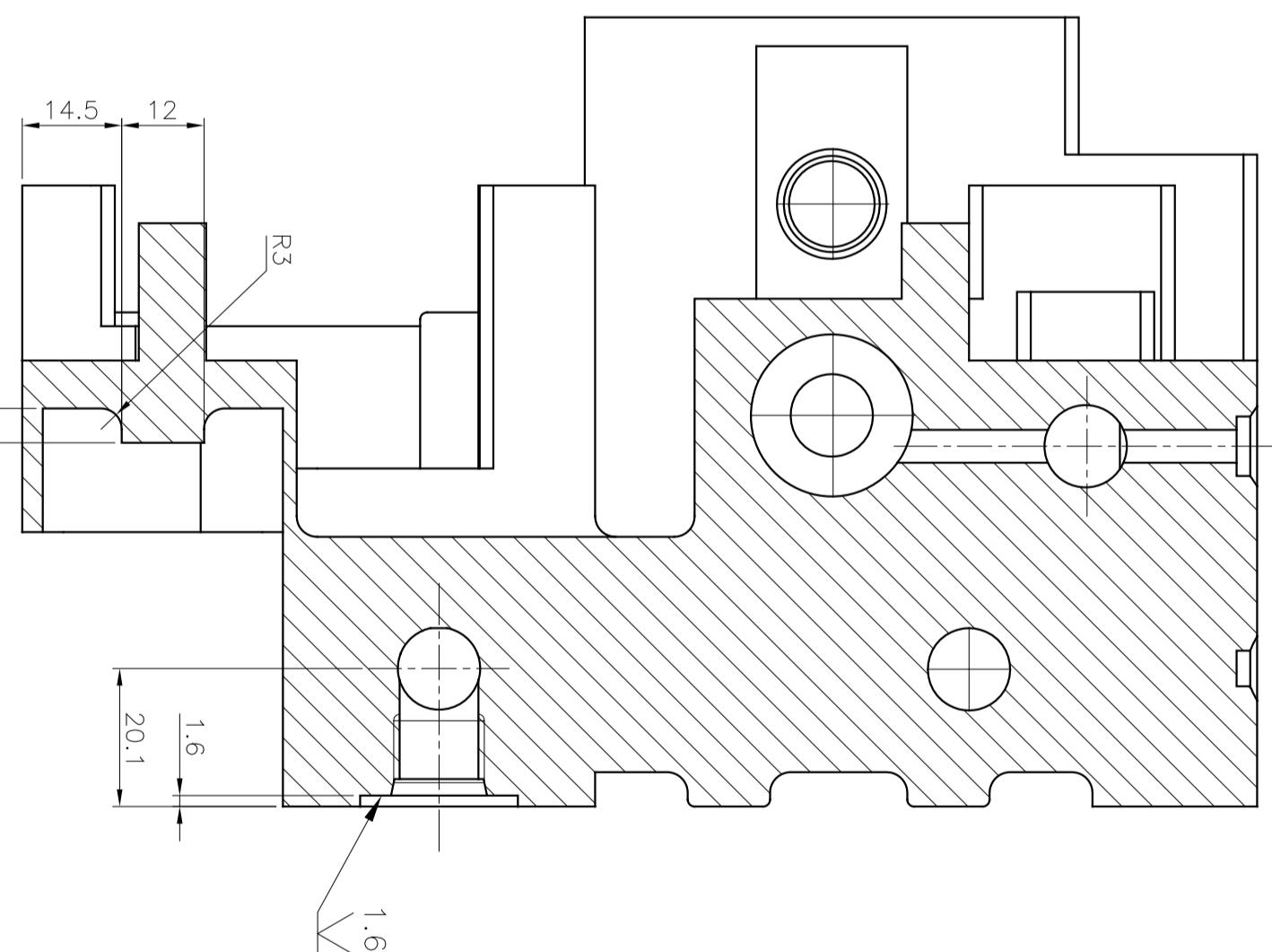
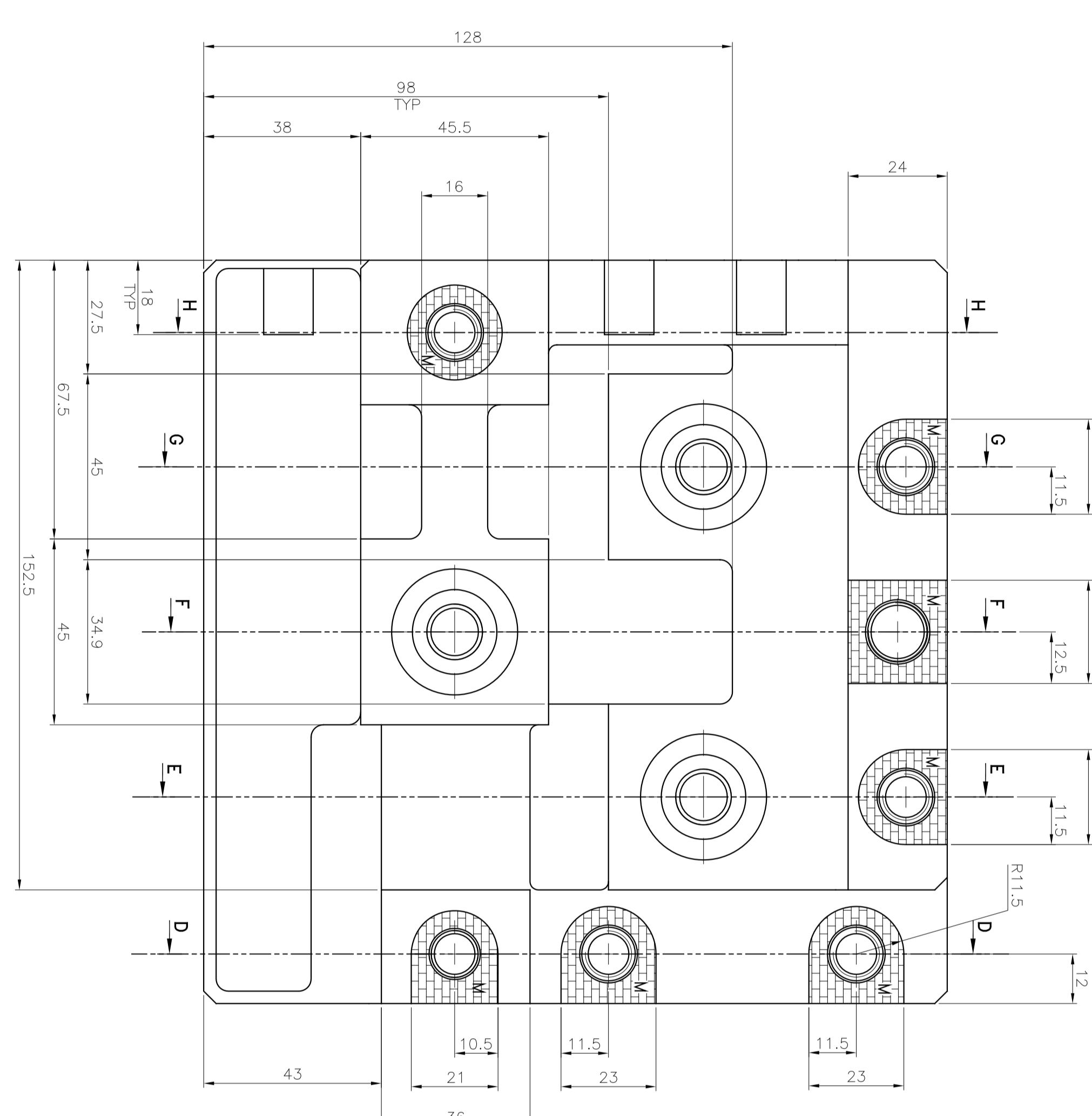
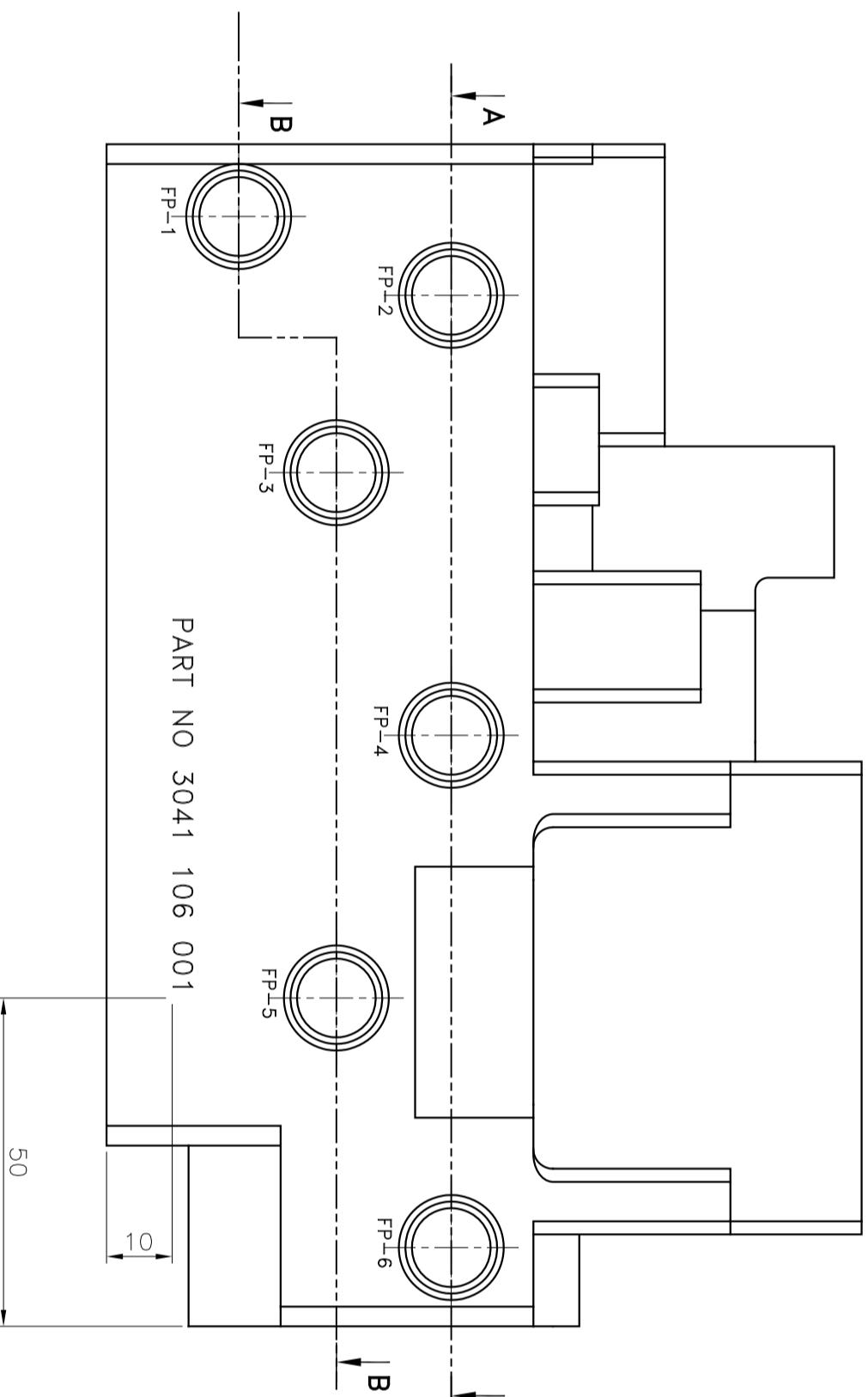


(FOR FP-1, FP-3 & FP-5

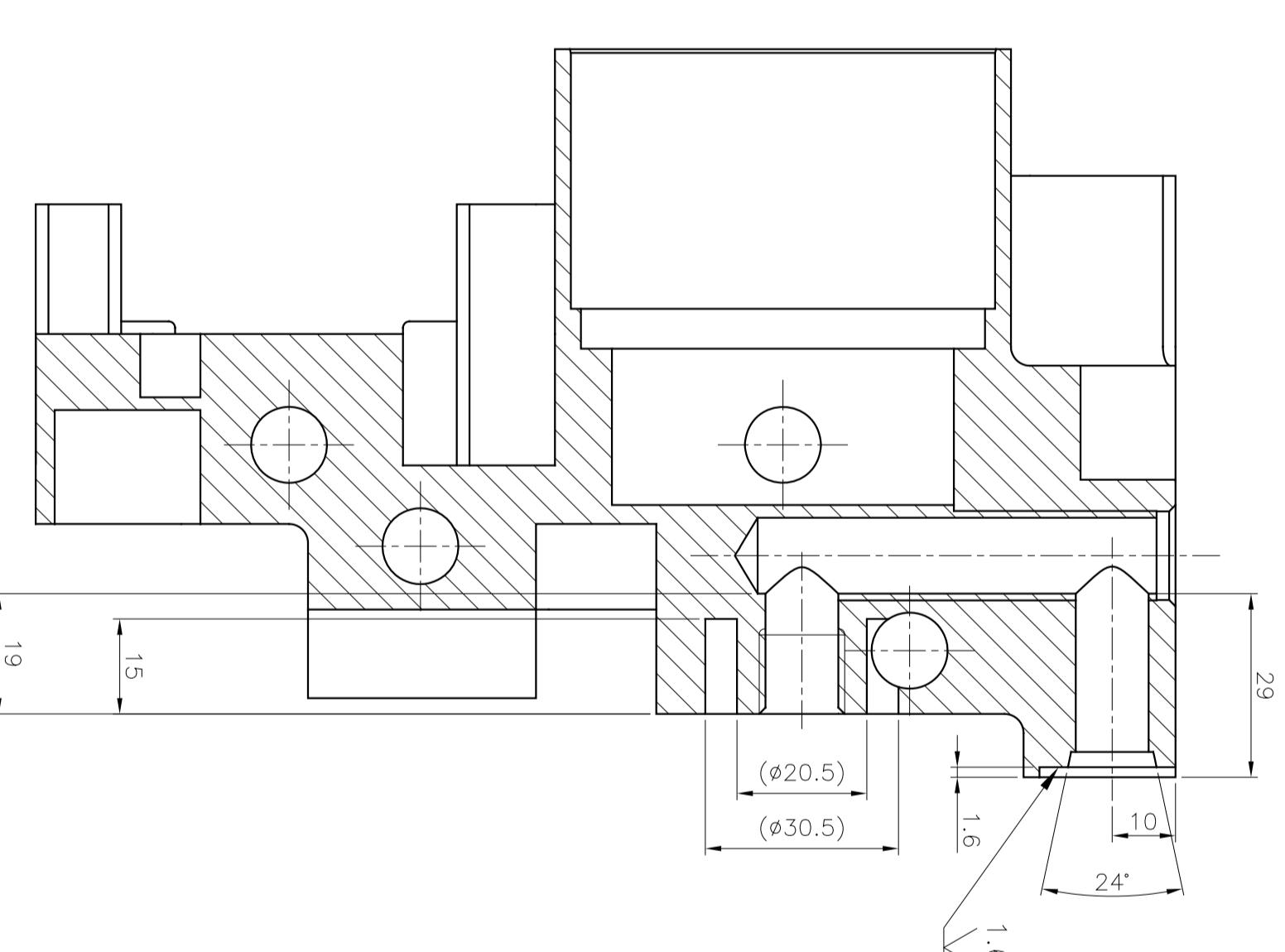
(FOR FP-10, FP-11 & FP-12)



SECTION AA  
(FOR FP-2, FP-4 & FP-

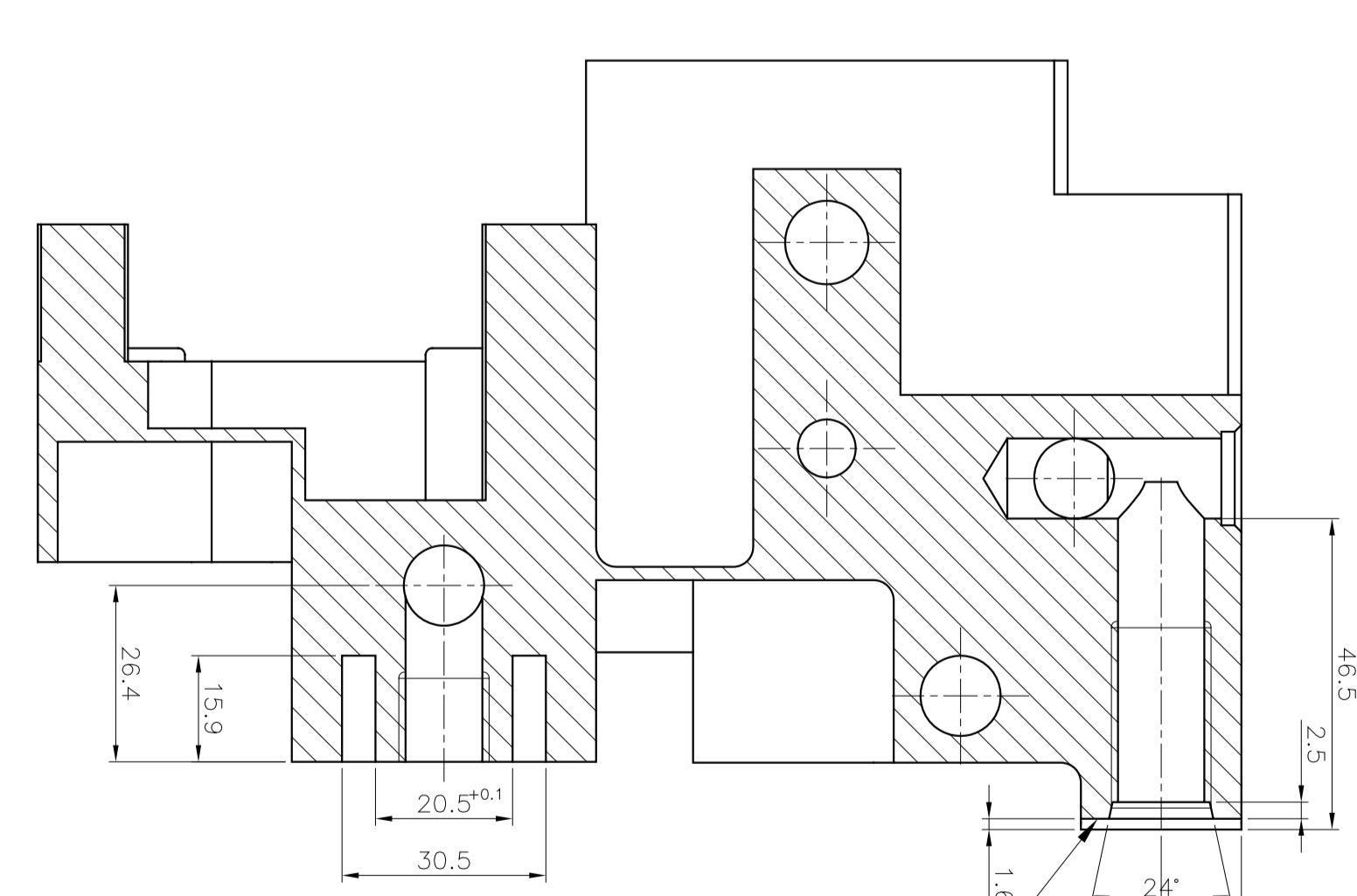


SECTION E



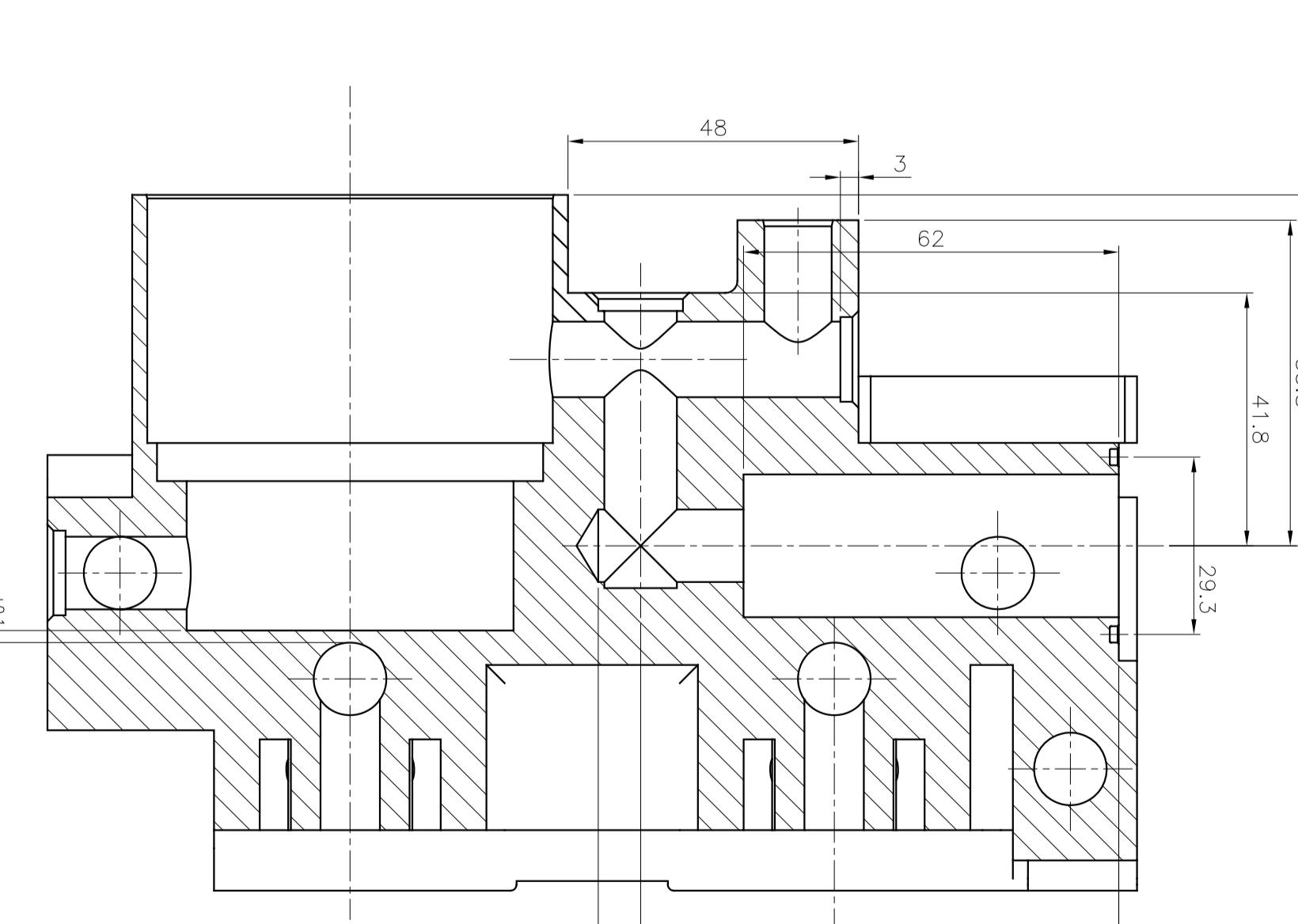
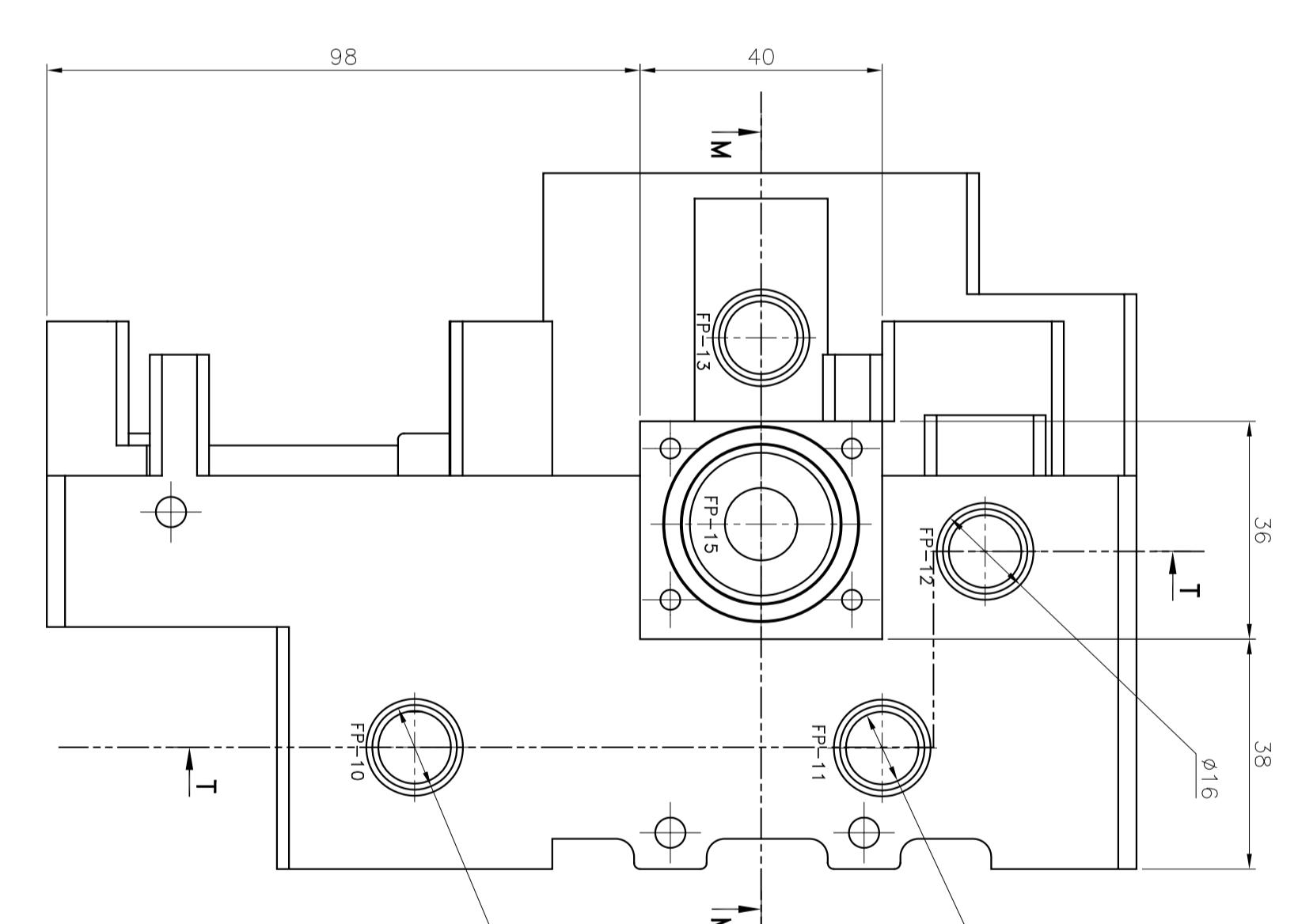
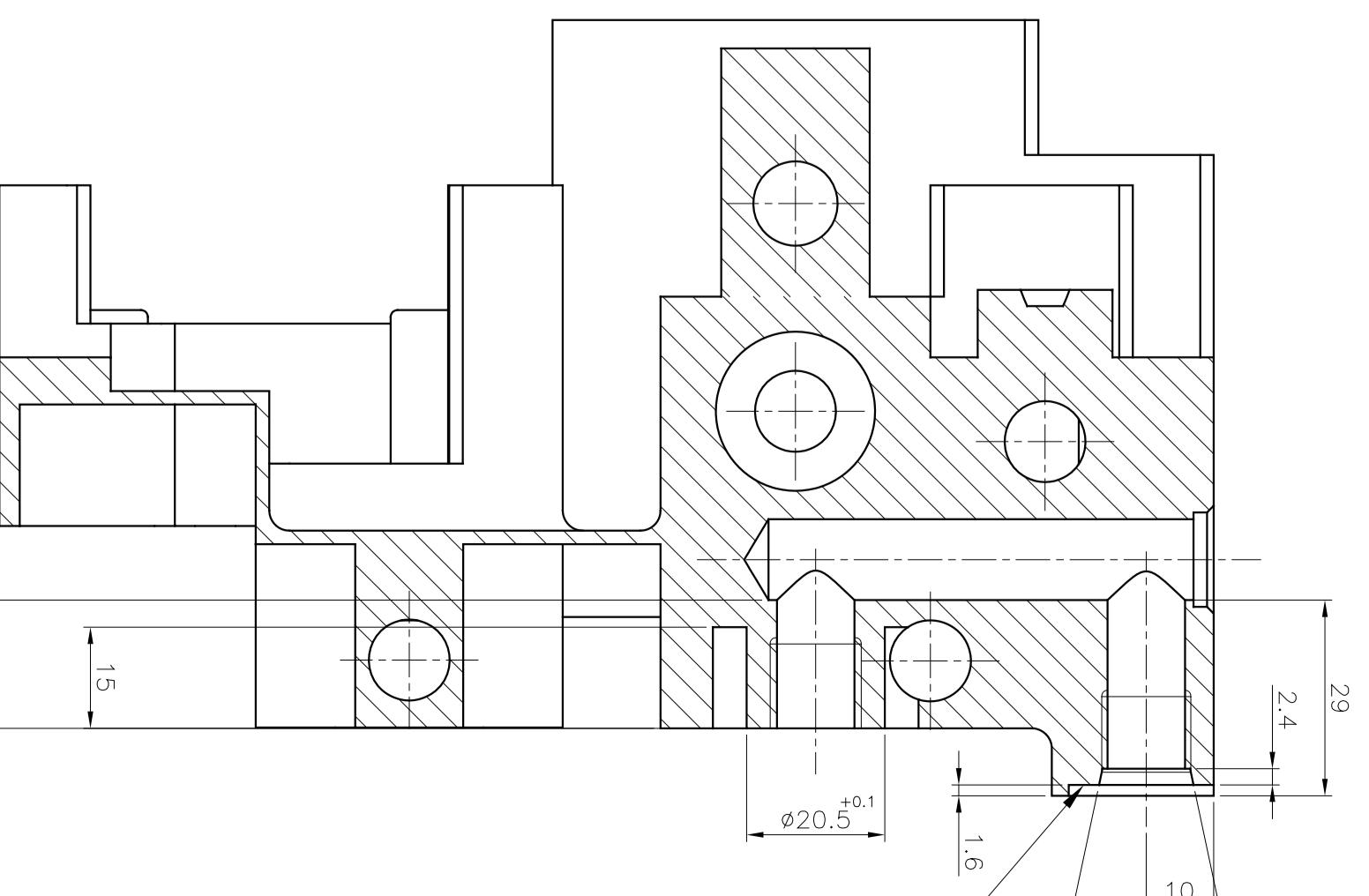
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## SECTION

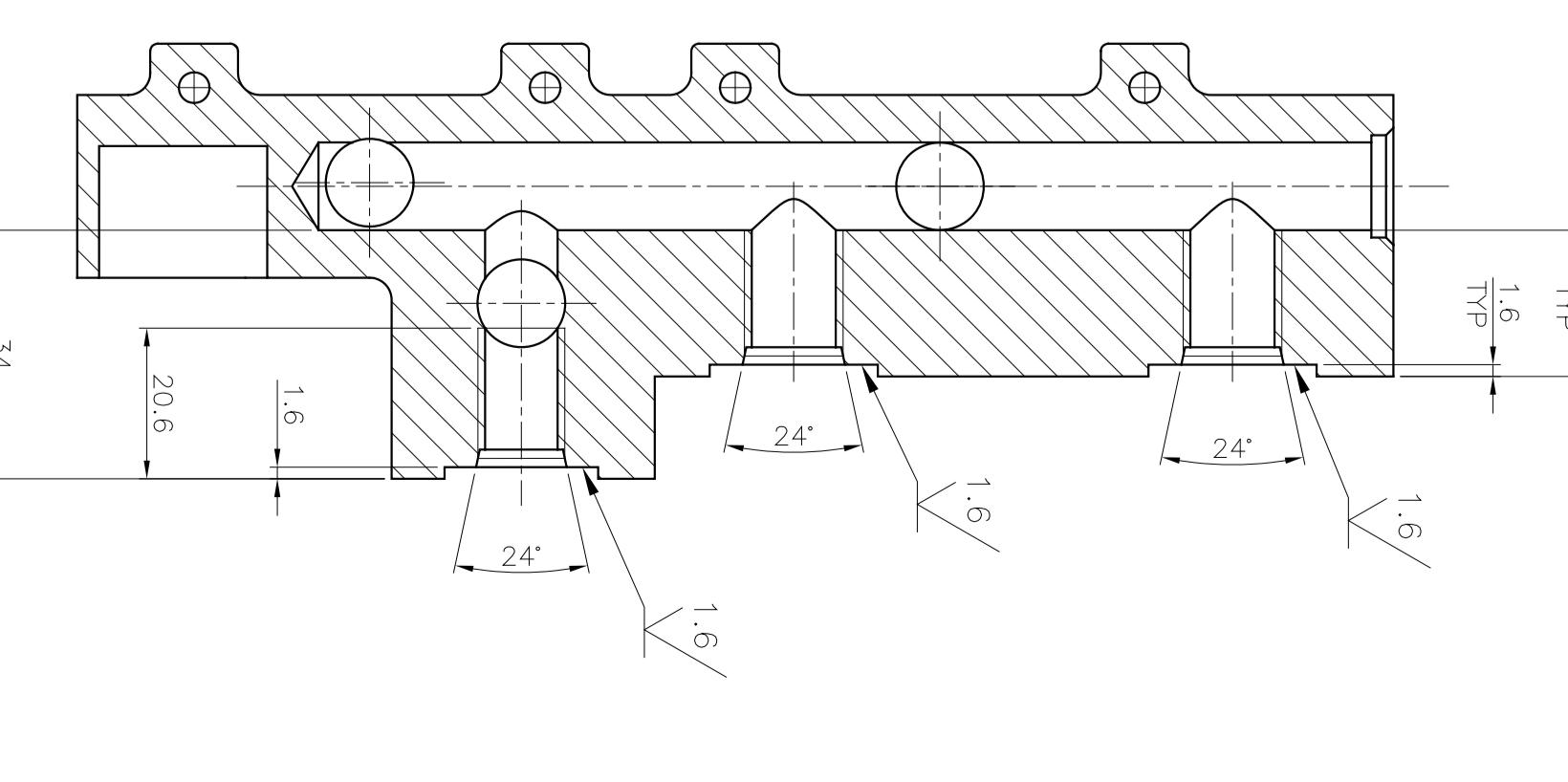


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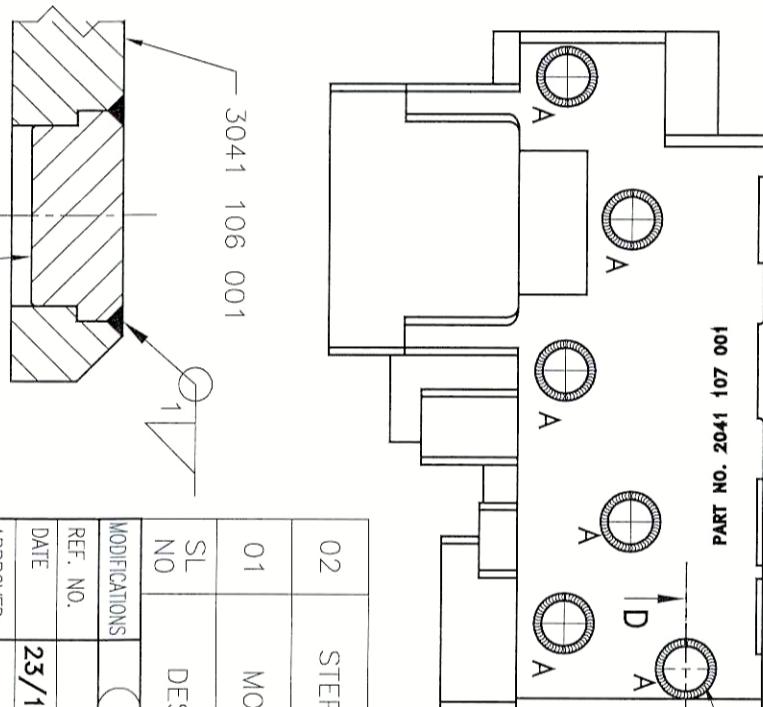
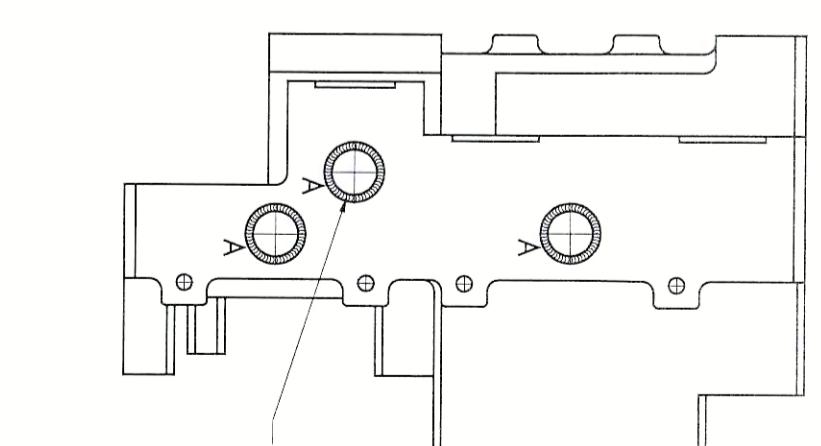
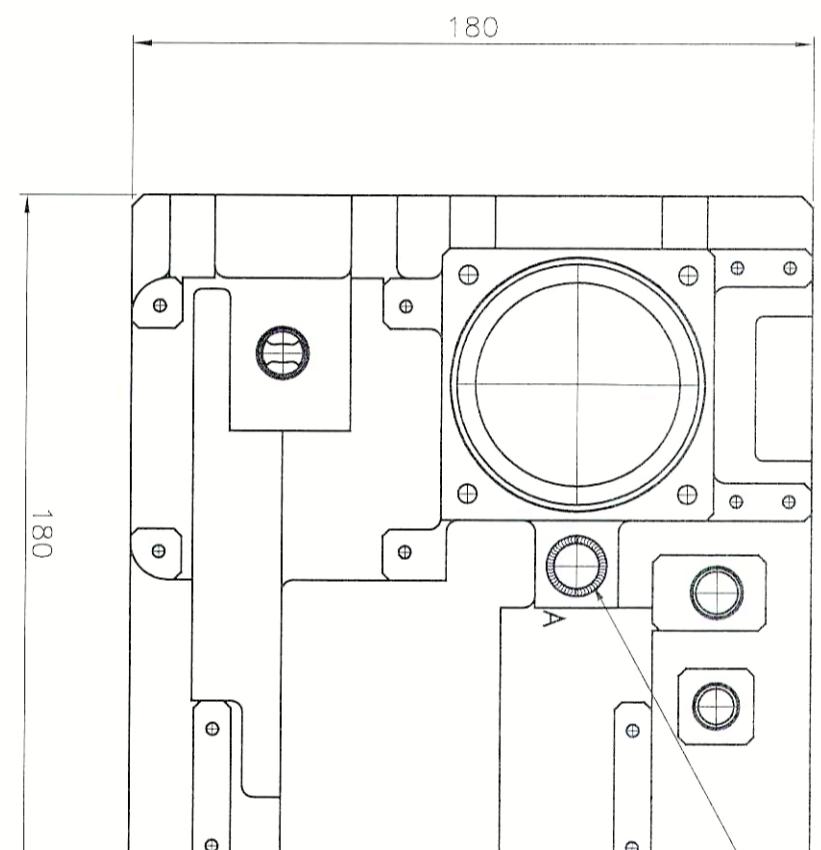
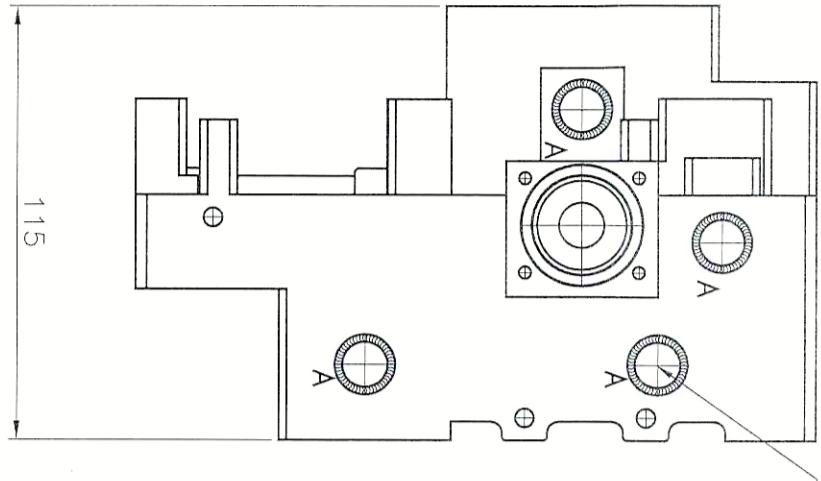
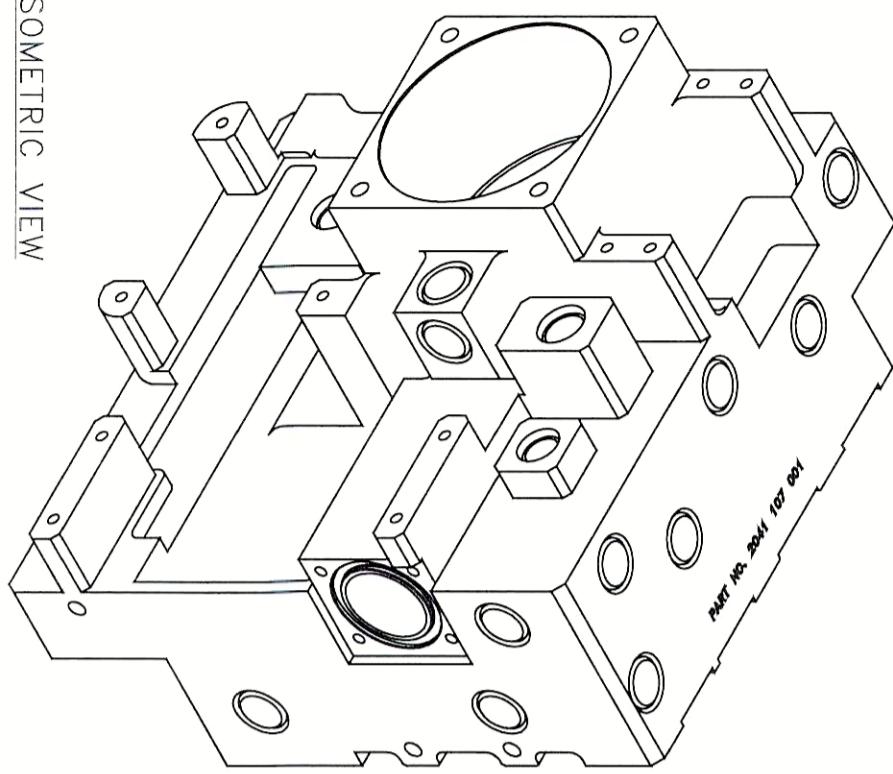
## SECTION G



## (FOR FP-13 & FP-15)



NOTE:—  
1. FOR OTHER DIMENSIONAL DETAILS REFER SHEET 01 OF  
2. SPOT FACING OVER HATCHED AREA AT 'M' PLACES



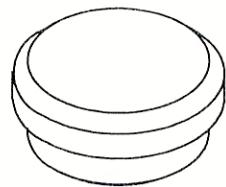
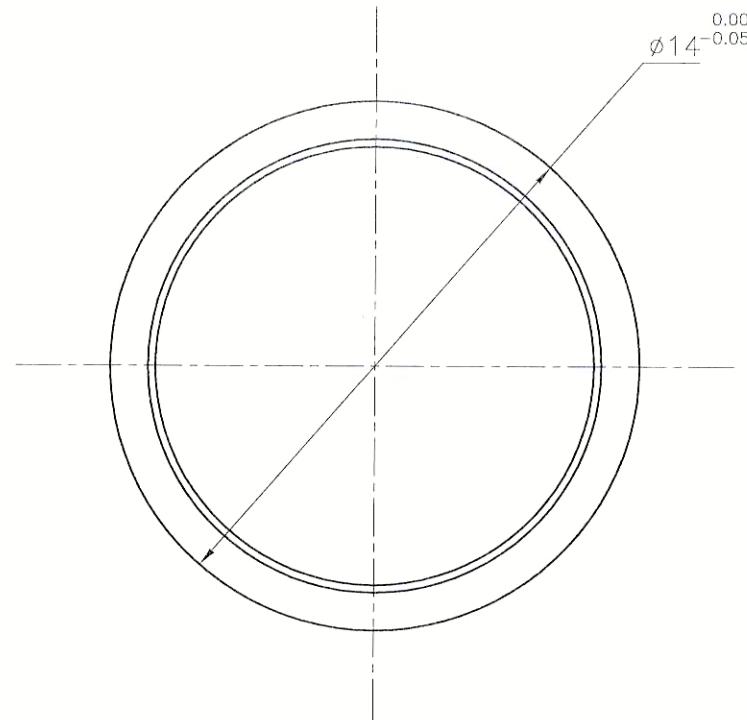
NOTE:

1. STEPPED PLUG TO BE INSERTED AT HOLE LOCATION SHOWN AT 'A' AND FILLET WELDED.  
 2. WELDING FILLER MATERIAL TO BE - AWS/ER 4043.  
 3. FILLET WELD ALL AROUND AS SHOWN & DRESS TO FLUSH.  
 4. PRESSURE TESTING OF MONOBLOCK TO BE CARRIED OUT TO A PROOF PRESSURE OF 6 BAR AT ONE MINUTE.

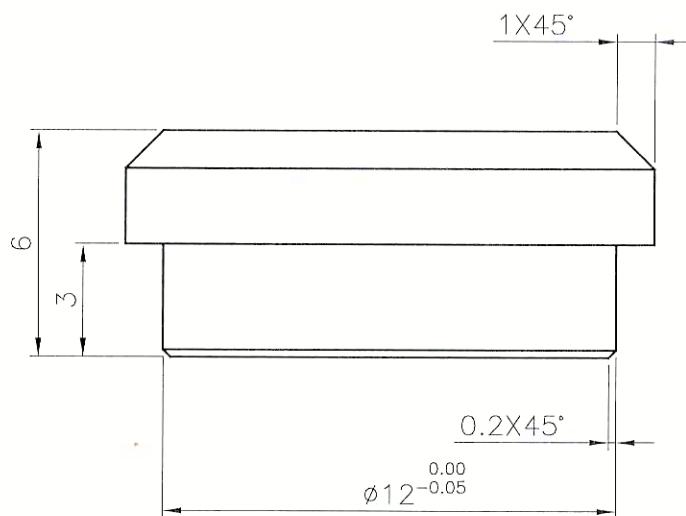
PART NO. 2041 107 001					
MODIFICATIONS	REF. NO.	DATE	APPROVED	DEFENCE AVIONICS RESEARCH ESTABLISHMENT	PROJECT
02	STEPPED PLUG	3041 106 002	01	SATYENDRA NAGARAJ	041
01	MONOBLOCK	3041 106 001	MONOBLOCK	CKD	SHIVAM
SL NO	DESCRIPTION	DRG NO. OR DASH NO	MATERIAL	NO OFF	APPD
					SREENATH
UNLESS OTHERWISE STATED	MATL & SPEC.	HEAT TREATMENT		RCMA	
DIMENSIONS IN mm	AS PER IS: 2102-1993	PROT TREATMENT	---		
TOL ON WC FACES & ANGLES	---	WEIGHT	3.04 KG ± 5%	NEXT ASSY	
GRADE: 10	---	SIZE	01		---
TOL ON SHEET METAL	---	NO OFF/ASSY			
GRADE: 10	---				
PROJECTION	SCALE	TITLE		SHT SIZE	DRG NO
	1:2	MONOBLOCK ASSY		A3	2041 006 001
				SHT 01	OF 01
				SHTS	

ISOMETRIC VIEW

NTS



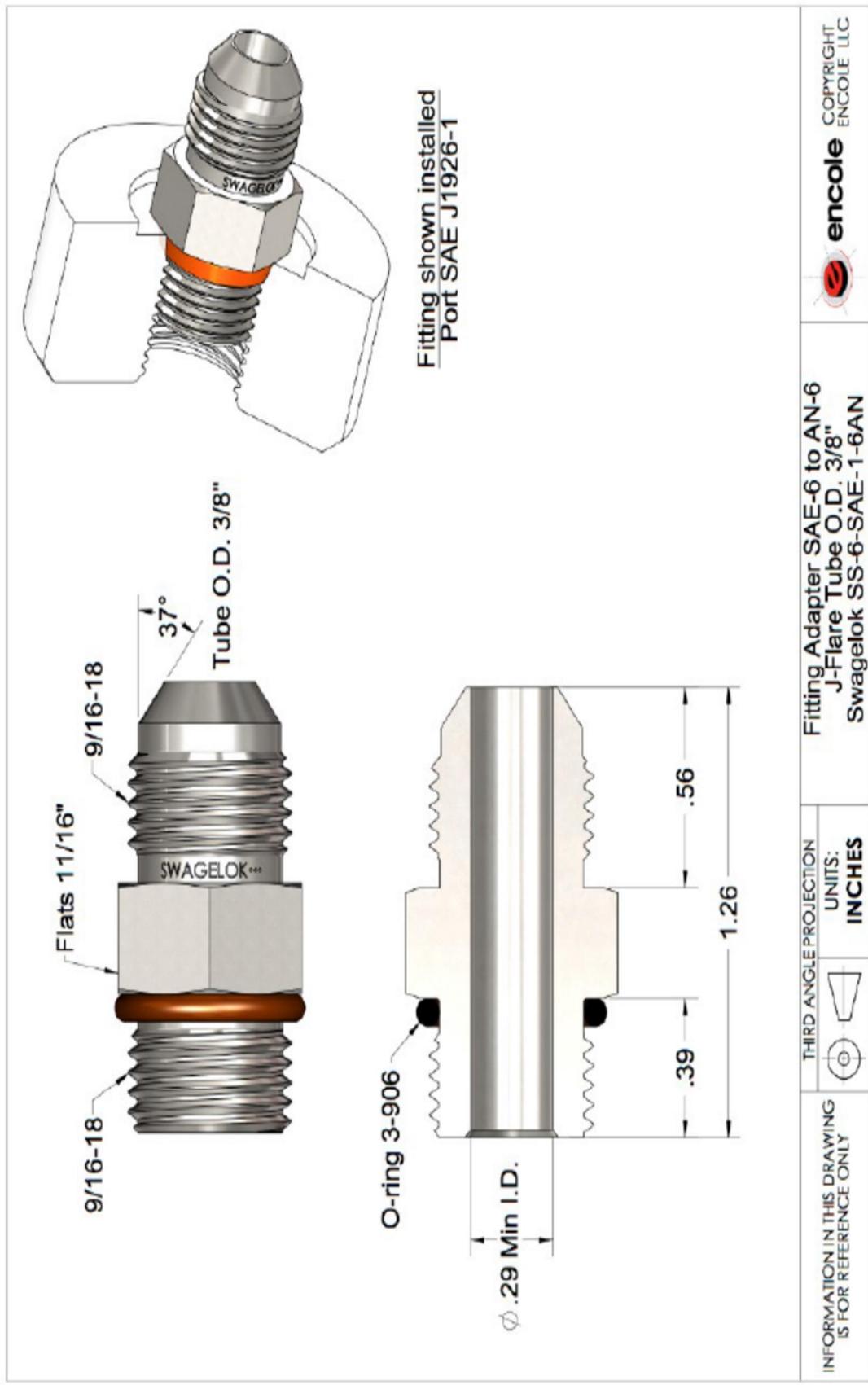
ISOMETRIC VIEW  
SCALE 2:1



NOTE:-

1. CHROMATE CONVERSION ALL OVER AS PER MIL-C-5541 CLASS 1A,
2. DIMENSIONS GIVEN ARE AFTER PLATING.

MODIFICATIONS	○	○	○	○	 <small>DEFENCE AVIONICS RESEARCH ESTABLISHMENT</small>	DRN	SATYENDRA
REF. NO.						CKD	NAGARAJ
DATE	18/12/19					DESIGN	SHIVAM
APPROVED						APPD	SREENATH
UNLESS OTHERWISE STATED DIMENSIONS IN mm TOL ON M/C FACES & ANGLES AS PER IS: 2102-1993 GRADE: MEDIUM TOL ON SHEET METAL GRADE:	MATL & SPEC. AL ALLOY AA 6061 T6	HEAT TREATMENT HARDNESS 90 ±5 BHN	PROT TREATMENT SEE NOTE	RCMA			
		SIZE ----	WEIGHT 2.0 ±0.5 GRAM				NEXT ASSY
			NO OFF/ASSY 14				2041 006 001
PROJECTION	SCALE 5:1	TITLE STEPPED PLUG	SHT SIZE A4	DRG NO 3041 006 002			
				SHT 01 OF 01 SHTS			

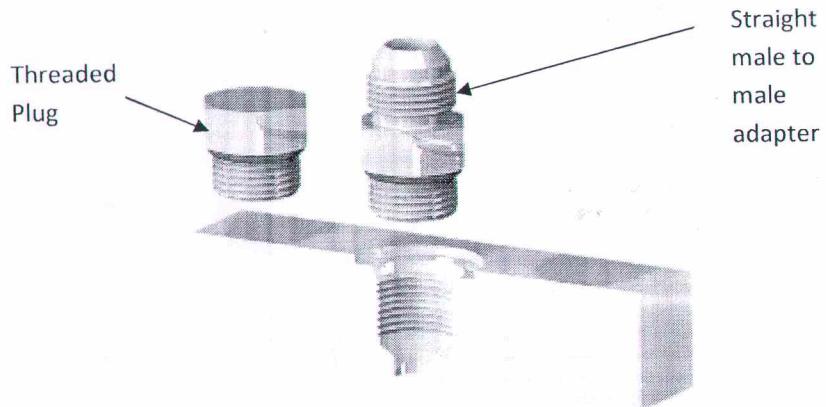


**Fig 4 – Adapters with O –rings ( For Reference only )**

### **Coolant circulation unit development**

Please note the following changes regarding fabrication of monoblock assembly –

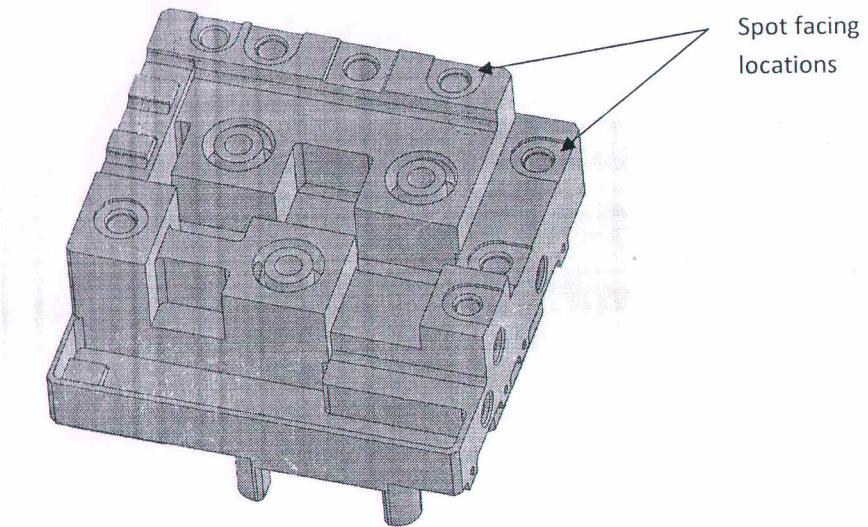
1. Adapter -6 port size shall be 7/16 -20 UNF same as pressure port. A threaded plug shall be used to close it while testing.



*Straight Thread Port Assembly*

**Fig 1 – Threaded Plug**

2. Spot facing shall be done at seating location of Adapter 1 to 6, QDC, pressure relief valve, Temperature sensor port, pressure sensor port and accumulator inlet port as shown in the drawings to ensure perpendicularity of the hole.



**Fig 2 – Spot facing Location**

3. Fluid path shall be closed with the help welding stepped plug (Drawing attached) . Suitable grooves has been provided in the mono block.

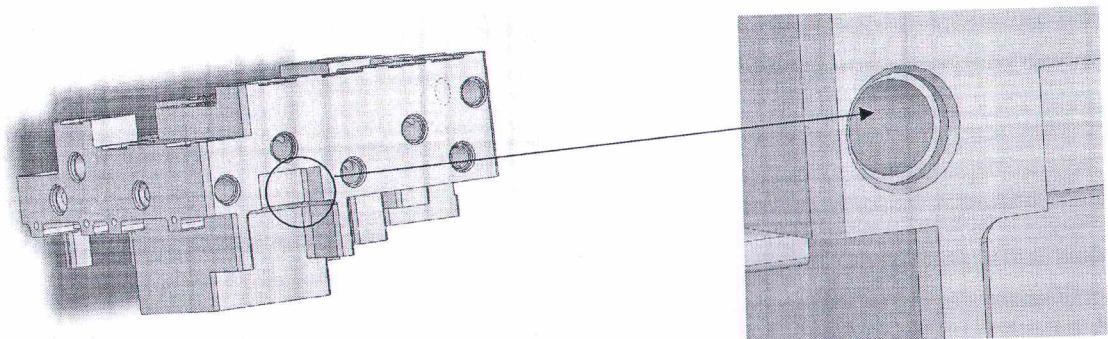


Fig 3– Groove for Plug Welding

4. Pump housing is critical from assembly point of view. All Dimensional tolerances provided in the drawings shall be maintained strictly.
5. SS Helicoil inserts shall be provided as per the attached drawings.
6. Adapters/fittings (Suitable sizes) shall be purchased along with the O-rings as shown in the figure below-

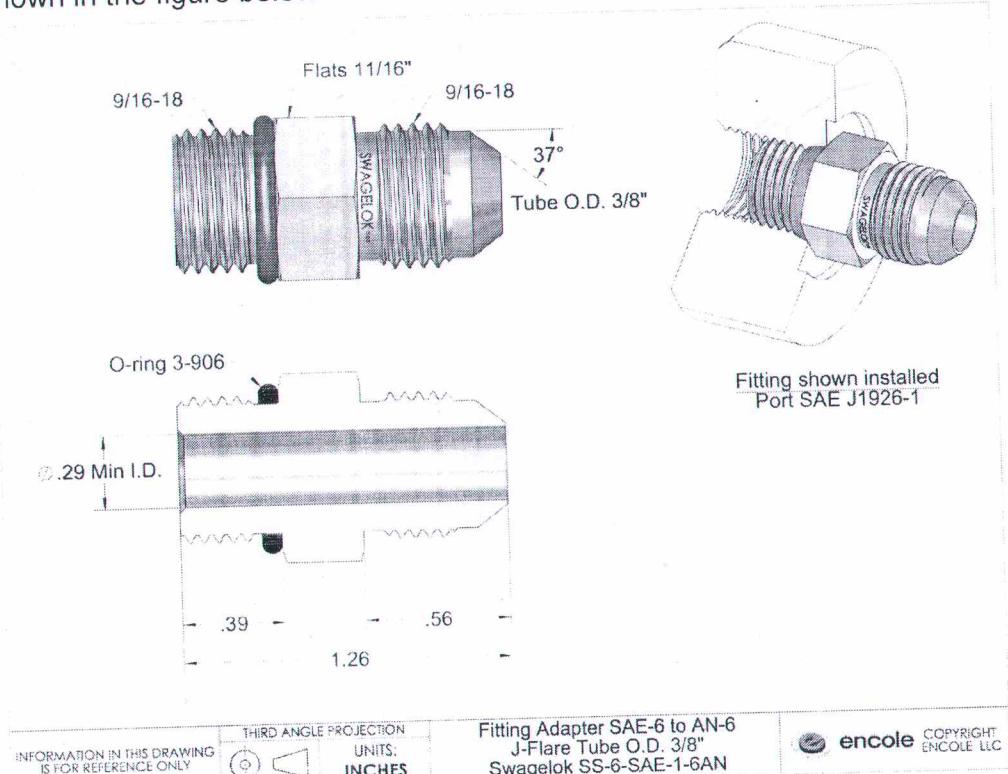


Fig 4 – Adapters with O –rings ( For Reference only )

7. Following table has been used as reference to provide spot facing diameters-

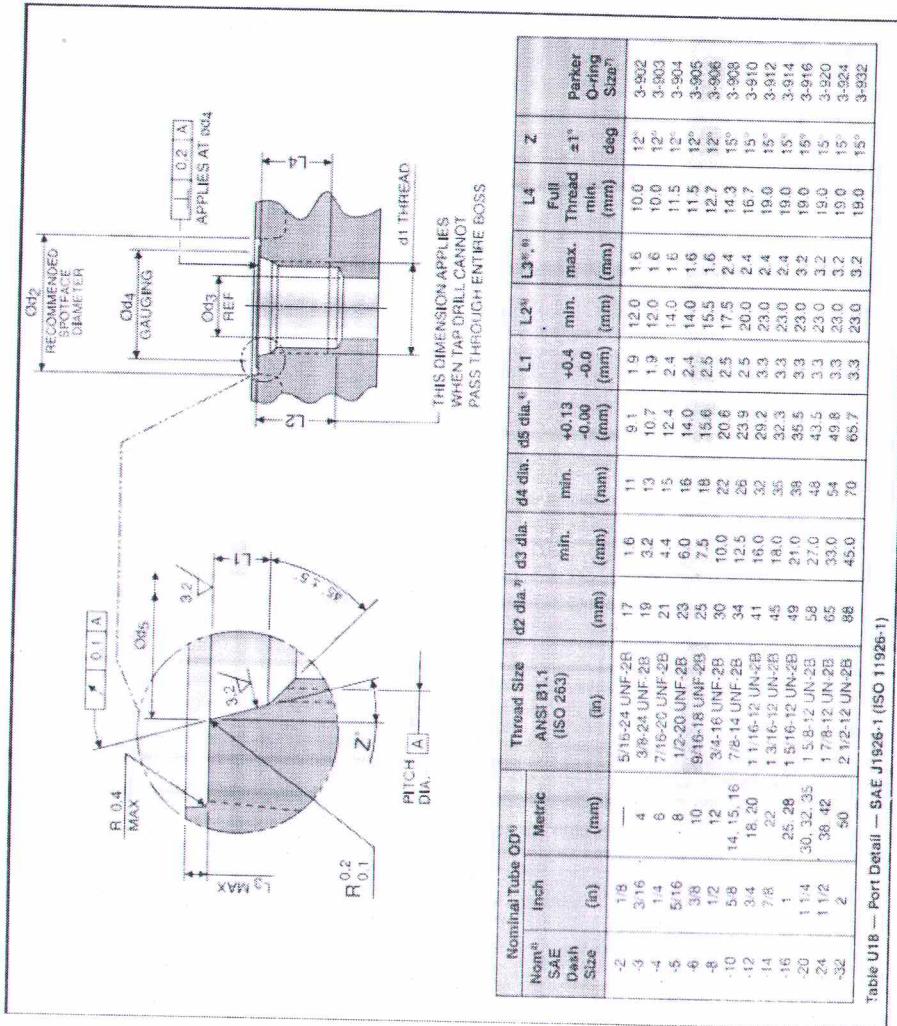


Fig 5 – Table for Spot facing diameters of UNF thread