

भारत सरकार		GOVERNMENT OF INDIA
अंतरिक्ष विभाग (अ.वि.)		DEPARTMENT OF SPACE(DOS)
सतीश धवन अंतरिक्ष केंद्र शार		SATISH DHAWAN SPACE CENTRE SHAR
श्रीहरिकोटा-524124		SRIHARIKOTA-524124
क्रय एवं भंडार		PURCHASE & STORES
फोन नं : 08623-225127		Ph No: 08623-225127
ईमेल: hps.p@shar.gov.in		E-mail: hps.p@shar.gov.in

निविदा सूचना सं. TENDER NOTICE NO. SDSC SHAR/HPS/PT/SMP&ETF/74/2026-2027

भारत के राष्ट्रपति की ओर से प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए ऑनलाइन निविदाएं आमंत्रित करते हैं:-

On behalf of President of India, Head Purchase and Stores, SDSC SHAR, SRIHARIKOTA invites on line quotations for the following.

क्र.सं. SI No	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty.
01.	SDSC SHAR/SMP&ETF PURCHASE/SMP&ETF/2026001271 [जन निविदा Public Tender – दो भाग Two Part]	Fabrication & Supply of HPS3 Axial Thrust Measurement System	2 Line Items

निविदा दस्तावेजों को डाउनलोड करने की अंतिम तिथि Last Date for downloading of tender documents : 29.09.2026 at 16:00 hrs.

ऑनलाइन निविदा जमा करने की अंतिम तिथि Due Date for submission of bids online : 29.09.2026 at 16:00 hrs.

निविदाएं खोलने की नियत तिथि Due Date for opening of tenders : 29.09.2026 at 16:02 hrs.

निविदाकार के लिए निर्देश Instructions to Tenderers:

निविदाएं ईजीपीएस के माध्यम से ही भेजी जाएं तथा कोई निविदा शुल्क लागू नहीं होगा।
Bids shall be submitted on line through EGPS only and No tender fee shall be applicable.

- कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलग्नक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.
- इच्छुक निविदाकार इसरो की ई-खरीद वेबसाइट इसरो न्यू ई-प्रोकुरमेंट (www.eproc.isro.gov.in) से ई-निविदा डाउनलोड और अपनी निविदा ई-खरीद पोर्टल पर ऑनलाइन जमा कर सकते हैं। डाक / वाहक / स्वयं द्वारा प्राप्त निविदाओं पर विचार नहीं किया जाएगा। / Interested tenderers can download the e-tender from ISRO e-procurement website ISRO NEW E-PROCUREMENT (www.eproc.isro.gov.in) and submit the offer on line in the e-procurement portal. Offers sent physically by post/courier/in person will not be considered.
- निविदा दस्तावेज इसरो की वेबसाइट www.isro.gov.in, इसरो न्यू ई-प्रोकुरमेंट वेबसाइट (www.eproc.isro.gov.in) तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट www.shar.gov.in पर भी उपलब्ध हैं। इन्हें केवल ई-खरीद पोर्टल से डाउनलोड और निविदा ऑनलाइन जमा कर सकते हैं। / Tender documents are also available on ISRO website www.isro.gov.in ISRO New e-procurement website (www.eproc.isro.gov.in) and SDSC SHAR, Sriharikota website www.shar.gov.in. The same can be down loaded and offer submitted on line in the new e-procurement portal only.
- निर्धारित तिथि/समय के पश्चात प्राप्त बोलियों पर विचार नहीं किया जाएगा। / Quotations received after the due date/time will not be considered.
- इच्छुक विक्रेता विवरण जानने के लिए निविदा खोले जाने वाले सत्र में शामिल हो सकते हैं। निविदा के मूल्यांकन पर विचार करने के लिए उनकी उपस्थिति अनिवार्य नहीं है। / Interested vendors can attend the Bid opening sessions to know the details. Presence not mandatory to consider the quote for evaluation.
- प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.
- GeM ARPTS Report ID: **GEM/GARPTS/20082026/26MX9TC07MVN**

दिनांक DT: 08.09.2026

प्रधान क्रय एवं भंडार
HEAD PURCHASE AND STORES

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)
TIRUPATI**

**Tender for Fabrication and Supply of HPS3 Axial Thrust Measurement
System**

Bids to be submitted online

**Tender No.: SDSC SHAR/SMP&ETF PURCHASE/SH202600127101 dated 07-09-
2026**

A. Tender Details

Tender No :	SDSC SHAR/SMP&ETF PURCHASE/SH202600127101
Tender Date :	08-09-2026
Tender Classification:	GOODS
Purchase Entity :	SMP&ETF PURCHASE
Centre :	SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)

Fabrication and Supply of HPS3 Axial Thrust Measurement System

Fabrication and Supply of HPS3 Axial Thrust Measurement System (GEM/GARPTS/20082026/26MX9TC07MVN DATED 20.08.2026)

A.1 Tender Schedule

Bid Submission Start Date :	08-09-2026 11:45
Bid Clarification Due Date :	15-09-2026 14:00
Bid Submission Due Date :	29-09-2026 16:00
Bid Opening Date :	29-09-2026 16:02
Price Bid Opening Date :	27-10-2026 16:00

B. Tender Attachments

NA

Instructions To Vendors

1. STANDARD TERMS & CONDITIONS

1. Tele No.08623-225174/225127/226366.

Fax No.08623-225170/22-5028.

E-Mail ID : hps@shar.gov.in, sselvan@shar.gov.in, srinivas123@shar.gov.in.

1. Instruction to Indigenous Suppliers:

a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our Normal payment term is 100% within 30 days after receipt and acceptance of the item at our site. Please confirm acceptance in your quotation.

b) GST/IGST: Please specify GST percentage and HSN code in your offer. Our GST No. is. 37AAAGS1366J1Z1.

c) Purchase / Price preference to MSEs

Purchase/Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 + 15% may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply up to 25% of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

Micro & Small Enterprises which have technical capability to deliver the goods & Services as per prescribed technical & quality specifications and may not be able to meet the qualification criterion relating to prior experience-prior turnover may be relaxed as per guidelines issued by Ministry of MSMEs & as amended from time to time.

Interested vendors shall specifically claim the benefit with supporting documents.

d) Purchase / Price preference to Make-in-India Products:

Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document 50%. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs. 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or chartered accountant

for OEMs other than companies as per the Public Procurement (preference to Make-in-India) order 2017 dated 16.09.2020. In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

2. Instruction to Foreign Suppliers:

- a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L/C, and all bank charges shall be to your account. Confirm acceptance.
- b) Please specify whether any export clearance is required in case of an order on you.
- c) Warranty/Guarantee applicable for the item shall be mentioned in your offer
- d) Special Certification for packing Material : as per Plant Quarantine (Regulation of Control into India) Order 2003, Articles packed with packing material of plant origin viz., hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, pear or sphagnum moss etc., will be allowed entry by Customs only with a Phytosanitary Certificate. In case if a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.
- e) Confirm whether any Export License is required and for which End User Certificate is to be provided by us, in case of an Order on you. (Enclose format for EUC, if applicable)
- f) Either Indian Agent on behalf of the foreign principals or the foreign principal directly can quote against this order, but not both. In either case an Indian agent cannot represent more than one principal against the same tender.
- g) In case the quote is in INR we prefer to execute the same on HSS Basis and for which Concessional Customs duty as per Notification no.50/2017 Customs dated 30.06.2017, Serial No.539(A) as amended by Notification no.05/2018 dated 25.01.2018. In case the quote is on Indian Rupee (Outside High Sea Sale), the price shall include taxes and duties if any. We shall not able to provide any duty or IGST tax exemption/concession certificates. If the item quote is of USA make, please quote for all-inclusive price since we prefer to get the item on FOR destination basis.
- h) Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

Common terms to Indigenous and foreign suppliers:

3.Warranty

You shall provide applicable warranty for the items offered by you without fail. For the applicable period you shall provide necessary warranty certificate.

4.Performance Bank Guarantee

Towards the performance of the systems during the warranty period you shall submit a performance bank guarantee equivalent to 3% of the order value to cover the warranty period. This PBG shall be interest free and the same shall be returned to you on successful completion of all contractual obligations. The said PBG shall have a further claim period of 2 months.

5.Security Deposit

On acceptance of the order, you shall submit an interest free amount equivalent to 3% of the total contract/order value towards security deposit. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee/Demand Draft/FDR receipts duly endorsed in the name of the centre. The Security Deposit will be returned to you on successful completion of the Contractual obligations; failing which it shall be forfeited/adjusted.

6.Offer Validity

Your offer shall be valid for 120 days in case of 2 part / 90 days in case of single part from the date of tender opening. In case you offer validity is less than the mentioned above, the said offer is liable for rejection which may please be noted.

7.Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage @ 0.5%(zero point five percent) of the order value or part thereof the un-delivered items for each calendar weeks of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10% (ten percent) of the order value.

FORCE MAJEURE:

Should a part or whole work covered under this contract be delayed in delivery/completion of work due to reasons of Force majeure which shall include legal lockouts, strikes, riots, civil commotion, fire, accidents, quarantines, epidemic, acts of God & War, stoppage of deliveries by the Government , freight embargoes etc; the delivery period/completion of work referred to in this Contract shall be extended by a period not in excess of duration of such Force Majeure. The occurrence shall be notified by either party within reasonable time.

8.Offers received through post, courier, fax or email will not be considered.

9. Technical and commercial bid (Part-I) shall not contain any price details. Optional accessories or other price details, if any shall be uploaded in Supporting documents related to Price Bid, to be opened along with Price Bid.

10. In respect of FIM being issued, the fabricator shall submit Bank Guarantee for equivalent sum compulsorily. In case, submission of Bank Guarantee is not possible, the reasons there for shall be clearly mentioned. However, for such cases the fabricators at their cost shall secure such FIM through Insurance Policy with Director, SDSC SHAR as beneficiary. In case of PSU and Government Organization, Indemnity Bond in lieu of Bank Guarantee is acceptable. Balance FIM/Scrap, if any shall be returned along with the supply of the items. Please confirm acceptance in your quotation.

11. SDSC SHAR shall have the right to place part order among the parties for the items for which they are the lowest.

12. Arbitration:

In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved

dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre only.

Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the DEPARTMENT or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.

2. INSTRUCTIONS TO TWO PART TENDER

1. We are proposing to invite Tenders in Two Parts viz., Part-I Techno and Commercial & Part-II Price. All Tenderers are requested to follow carefully the following instructions before preparing their offer.

PART- I- TECHNO COMMERCIAL BID:

(1) This part should contain detailed Specifications of the items quoted by you along with Technical Literature and Leaflets if any.

(2) All the Commercial terms and Conditions applicable also should be indicated separately under separate heads.

(3) The Commercial terms such as delivery terms, delivery period, payment terms, warranty, validity of the offer, Installation & Commissioning, Duties and Taxes etc shall come into this.

(4) Either Technical Specifications or Terms & Conditions as above should be very clearly reflected items wise with reference to the items called for in the tender.

(5) Please note that Prices should not be indicated in this part.

(6) Any deviations from the Technical Specifications and Commercial Terms shall be indicated separately.

PART II-PRICE BID:

(1) The prices applicable for the items, item wise in response to the tender shall come into this part.

(2) Tender shall indicate very clearly item wise prices with reference to their Technical Offer.

Note: 1. PLEASE NOTE THAT THE OFFERS SUBMITTED CONTRADICTORY TO ABOVE INSTRUCTIONS WILL BE LIABLE FOR REJECTION. PLEASE ENSURE OFFERS ARE SUBMITTED WITHIN THE DUE DATE.

2. BEING TWO PART TENDER, WE REQUEST YOU NOT TO DISCLOSE / INDICATE ANY OF THE PRICE VALUE WHILE SEEKING / PROVIDING CLARIFICATION. YOU SHOULD INDICATE ONLY IN PERCENTAGE. IN CASE IF YOU DISCLOSE ANY OF THE PRICE AMOUNT YOUR OFFER WILL BE REJECTED.

3. Instruction to Vendors

1. Instructions to tenderers

TeleNo.08623-225127/6366

Fax No.08623-22-5028

e-Mail ID : hps@shar.gov.in, sselvan@shar.gov.in, keshavamurthy.sr@shar.gov.in

1) Interested tenderers may, at their option, login to <https://eproc.vssc.gov.in> and submit your offers.

2) TENDER FEE IS NOT APPLICABLE.

3) EARNEST MONEY DEPOSIT IS NOT APPLICABLE IF NOT MENTIONED IN THE RFP SPECIFICATION.

4) Indian agents while quoting on behalf of their principals are requested to attach Principals original quote, necessary authorization letter from their Principals, copy of agency agreement etc. in their bid.

5) TWO PART BIDS: In case of Two part tender, price details shall not be uploaded in the Technical & Commercial Bids (Part I), failing to which the bid will be treated as INVALID.

6) The offer should be valid for a minimum period of 120 days for 2 part / 90 days for single part from the date of opening.

7) Due date & time: Sufficient time has been allotted for Bid submission. Vendors are requested to complete Bid submission well in advance. Last minute requests for due date extension citing server problems etc. will not be entertained. Bids will not be entertained after the due date and time.

7)(A). Request for the extension of the due date will not be considered.

8)(a) Bid Opening for Public Tender: In case of Public Tender-Two Part Tenders: Technical and Commercial Bids will be opened on the first day specified for Tender opening. Interested vendors can attend the tender opening session to know the bidding details (Bidders presence is not mandatory to consider the quote for evaluation). Price Bid opening of the selected vendors will be scheduled later and it will be intimated to the selected Bidder (s).

(b) For Limited Tender: Bidders participation is not allowed.

9) Prices are required to be quoted according to the units indicated.

10) Preference will be given to those tenderers offering supplies from ready stocks and on the basis of FOR destination delivery at site.

11) (a) All available technical literature, catalogues and other data in support of the specifications and detail of the items should be furnished as attachments.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser

shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensions details are available the same should be indicated in your offer.

(d) Specifications: Stores offered should strictly conform to our specifications. Deviations, if any, should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples wherever necessary. Test certificates wherever necessary should be attached. Whenever options are called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate response for the same.

12) The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of quantity offered and the tenderers shall supply the same at the rates quoted.

13) All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.

14) The tenderer will be required to furnish a document containing the name of his bankers as well as the latest income-tax clearance certificate duly counter signed by the Income-tax Officer of the Circle concerned under the Seal of his office, if required by the Purchaser.

15) The Purchaser reserves the right to place order on the successful tenderers for additional quantity up to 25% of the quantity offered by them at the rates quoted.

16) Sr. Head, Purchase and Stores, SDSC SHAR SRIHARIKOTA reserves the right to accept or reject any bid in part or full without assigning any reason thereof.

17) Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

C. Bid Templates

C.1 Technical Bid - Fabrication and Supply of HPS3 Axial Thrust Measurement System

1. FABRICATION Supply of HPS3 Axial thrust measurement system Annexure specifications & drawings

[Document : Drawings](#)

[Document : Annexure-A](#)

[Document : Annexure-C](#)

[Document : specifications](#)

[Document : Annexure-B](#)

2. Fabrication activities Site Fabrication works for Intermediate Frame (6B/HPS3/HAT/ 06) & Calibration Frame & Test bed Joists (6B/HPS3/HAT/ 09)

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Test stand system	As per specifications and drawing attached	Yes / No / Explain		

Supporting Documents required from Vendor

1. Documents related to S.No17 of tender specifications

2. filled and signed Un-priced bid format as per 16.2

3. filled and signed Price bid format as per 16.3 (Price Bid Related)

4. Filled and signed Annexure-B document

5. signed and stamped copy of specification document and drawing sheets

6. DOCUMENTS

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	all items are to be properly packed and sent for dispatch with all necessary documents	Yes / No / Explain	
2	DELIVERY TERM: FOR SRIHARIKOTA Please quote your rates on FOR-SDSC SHAR, Sriharikota basis including P&F & freight charges. If you quote YES or ACCEPTED or NOTED or AS PER TENDER SPECIFICATIONS, it means your prices are FOR-Sriharikota basis including P&F and FREIGHT charges. Even if you quote P&F and FREIGHT charges are extra in price bid or at any other place, this only holds good.	Yes / No / Explain	
3	DELIVERY SCHEDULE: (i) All the item shall be completed and delivered within 150 days from the date of release of Order (Item Sl.No:1 of the Tender). (ii) The site fabrication works shall be completed within 30 days for date of site clearance (i.e. For Sl. No. 2 of Tender). The site clearance will be given to party within 3 months from date of supply based on the scheduled testing activities.	Yes / No / Explain	
4	Evaluation Criteria: Order will be placed on total value wise L1 offer basis. Vendors should mandatory quote for all the line items. Part tenders will be summarily rejected.	Yes / No / Explain	
5	Please mention your GST registration details: GSTIN of SDSC SHAR: 37HYDF00385A1DZ	Yes / No / Explain	

6	Taxes: GST/IGST @ 5% is applicable as per below notifications. As per the Notification No. 9/2025-Central Tax (Rate) dt:17.09.2025 S.No.462 (Schedule I, 88 or any other chapter) issued by Ministry of Finance (Dept. of Revenue) & Government of Andhra Pradesh, Revenue (Commercial Taxes) Department, G.O.MS.No. 345 Dated: 20.09.2025 S.No.462 (Schedule I, 88 or any other chapter) and as per the Notification No. 9/2025-Integrated Tax (Rate) dt:17.09.2025 S.No.462 (Schedule I, 88 or any other chapter) issued by Ministry of Finance (Dept. of Revenue), SDSC SHAR is eligible to avail GST/IGST @5% for the procurements related to Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for launch vehicles and satellites and payloads. we will issue only End User Certificate for availing GST/IGST @5%. Hence, kindly confirm your acceptance and submit your price quotation accordingly. PLEASE CLICK YES, IF TAX/GST IS EXTRA TO YOUR PRICE, THEN ONLY PUT THE GST RATE IN TAX COLUMN IN PRICE BID. ALSO MENTION GST EXTRA IN REMARKS COLUMN IN PRICE BID. PLEASE CLICK NO, IF YOUR PRICES ARE INCLUSIVE OF GST, IN GST COLUMN PUT 0 (ZERO) IN PRICE BID . ALSO, MENTION GST IS INCLUDED IN PRICE IN REMARKS COLUMN. (HSN/SAC CODE SHALL BE INDICATED FOR EACH ITEM.)	Yes / No / Explain	
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7	Guarantee: The offered items shall have guarantee for a period of Twelve Months from the date of receipt and acceptance against any manufacturing defects/ bad workmanship. If any defects are noticed during the guarantee period, due to the fabrication and manufacturing, defects shall be resolved at free of cost (expeditiously repair, or replace the defective Goods or parts thereof) at the ultimate destination.	Yes / No / Explain	
8	PAYMENT TERM: (i) 100% of supply value (S. No.- 1 of Tender) within 30 days against receipt and acceptance of items at SDSC SHAR. (ii) 100% value of site fabrication works (S. No. - 2 of Tender) within 30 days after its completion at SDSC SHAR.	Yes / No / Explain	
9	LIQUIDATED DAMAGE: Since delivery is the essence of this order, in case of delay in completion of total scope of work beyond the stipulated delivery period, Liquidated Damage will be levied @ 1/2% per week or part thereof on undelivered portion as pre-estimated damages subject to a maximum of 10% of total order value.	Yes / No / Explain	
10	PERFORMANCE BANK GUARANTEE (PBG): A Bank Guarantee for 03% of the order value shall be provided along with supply towards the performance of the system. PBG may be furnished in the form of Account Payee Demand Draft, Fixed Deposit Receipt from a scheduled commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a scheduled commercial bank executed on Rs.200/- non-judicial stamp paper as per the format issued by SDSC SHAR or online payment in an acceptable form valid till the successful completion of warranty period plus 60 days. This will not carry any interest and shall be returned to you after successful completion of warranty period against your request. In case of non-performance/poor performance the Bank Guarantee shall be forfeited or other forms of guarantee shall be encashed. Further appropriate penal and legal action shall also be initiated.	Yes / No / Explain	

11	SECURITY DEPOSIT: If Order value exceeds Rs. 5 Lakhs, Security Deposit shall be submitted at 03% (or as notified by Govt. Of India/ISRO from time to time) of the value of the Purchase Order as per the format issued by the purchaser for satisfactory execution of the Purchase Order/Contract within 15 days of award/PO release. Security Deposit may be furnished in the form of Account Payee Demand Draft, Fixed Deposit Receipt from a scheduled commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a scheduled Commercial bank executed on Rs.200/- non-judicial stamp paper as per the format issued by SDSC SHAR or online payment in an acceptable form and shall be valid for a period of sixty days beyond the date for completion of the Purchase Order/Contract. The bank guarantee or fixed deposit receipt submitted by the tenderer/Contractor shall be verified immediately from the issuing bank. In case of non-performance/poor performance the Bank Guarantee shall be forfeited and in case the vendor fails to furnish the security deposit within the specified date or extended due date, the Purchase Order/Contract shall be cancelled, EMD, if any, made earlier shall be forfeited or other forms of guarantee shall be encashed. Further appropriate penal and legal action shall also be initiated.	Yes / No / Explain	
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12	COMBINED BANK GUARANTEE (Performance Security): In case, if parties are unable to provide two separate BGs, i.e., one for SD & one for PBG, they can submit a combined BG for SD & PBG for 03% (or as notified by Govt. Of India/ISRO from time to time) of the value of the Purchase Order within 15 days of award/ release of PO as per the format issued by the purchaser. Combined Bank Guarantee may be furnished in the form of Account Payee Demand Draft, Fixed Deposit Receipt from a scheduled commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a scheduled Commercial bank executed on Rs.200/- non-judicial stamp paper as per the format issued by SDSC SHAR or online payment in an acceptable form and shall be valid till the completion of total contractual obligation (i.e., Supply period PLUS commissioning period (if applicable) PLUS warranty period PLUS 60 days). This will not carry any interest and shall be returned to you after successful completion of contractual obligations against your request. In case of non-performance/poor performance the Bank Guarantee shall be forfeited and in case if the vendor fails to furnish the security deposit within the specified date or extended due date, the Purchase Order/Contract liable to be cancelled. In case of non-performance/poor performance the Bank Guarantee shall be forfeited and in case the vendor fails to furnish the security deposit within the specified date or extended due date, the Purchase Order/Contract shall be cancelled, EMD, if any, made earlier shall be forfeited or other forms of guarantee shall be encashed. Further appropriate penal and legal action shall also be initiated.	Yes / No / Explain	
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13	FORCE MAJEURE: A Force Majeure (FM) means extraordinary events or circumstance beyond human control such as an event described as an act of God (like a natural calamity) or events such as a war, strike, riots, crimes (but not including negligence or wrong-doing, predictable/seasonal rain and any other events specifically excluded in the clause). An FM clause in the contract frees both parties from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. An FM clause does not excuse a party's non-performance entirely, but only suspends it for the duration of the FM. The firm has to give notice of FM as soon as it occurs (say, not later than 14 days after its occurrence), and it cannot be claimed ex-post facto. There may be a FM situation affecting the purchase organisation only. In such a situation, the purchase organisation is to communicate with the supplier along similar lines as above for further necessary action. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of FM for a period exceeding 90 (Ninety) days, either party may at its option terminate the contract without any financial repercussion on either side. Notwithstanding the punitive provisions contained in the contract for delay or breach of contract, the supplier would not be liable for imposition of any such sanction so long as the delay and/ or failure of the supplier in fulfilling its obligations under the contract is the result of an event covered in the FM clause.	Yes / No / Explain	
14	Compliance to the Technical specifications shall be submitted.	Yes / No / Explain	
15	Vendors should quoted prices in INR only	Yes / No / Explain	
16	The price quoted shall be firm and fixed till completion of contract period and total scope of work.	Yes / No / Explain	
17	The Purchase Order / Contract shall be governed by Indian Law and jurisdiction shall lie in the Courts of Andhra Pradesh, India.	Yes / No / Explain	

18	Commercial terms and conditions quoted by the vendor in the Commercial Bid (Vendor specified terms) of tender will only be considered. Department will not consider the commercial terms quoted any where else in the tender or in any document attached by the bidder. However, department can consider if the same is beneficial. Bidders are requested to make a note and comply.	Yes / No / Explain	
19	Counter terms and conditions offered by the bidders shall not be deemed to have been accepted by the Purchaser unless specific written acceptance thereof is obtained from the Purchaser.	Yes / No / Explain	
20	GeMARPTS:	Yes / No / Explain	
21	NOTE: Being a Two-Part Tender, Price of any kind shall not be disclosed in Technical Bid (Part-I) or during clarifications if any sought as part of tender evaluation, otherwise offer will be REJECTED summarily.	Yes / No / Explain	
22	Price Bid opening date mentioned in the Tender document is tentative. However, Price bid will be opened after completion of Technical evaluation. The same will be notified to technically qualified bidders.	Yes / No / Explain	
23	Remarks, if any:	Yes / No / Explain	
24	Bidders shall ensure that for tenders involving supply of multiple items, weighted average of all items to be taken while calculating the local content.	Yes / No / Explain	
25	"Purchase preference to MSE/MII-Class-I local suppliers will be as per notification No.F.1/4/2021-PPD dated 18-05-2023 and its directives/amendments thereof issued by Ministry of Finance, Department of Expenditure, Public Procurement Division".	Yes / No / Explain	
26	Safe delivery of the ordered item with proper transport worthy pack shall be ensured.	Yes / No / Explain	

27	Public Procurement Policy for MSEs: Purchaser reserves the right to give preference for procurement of goods in terms of product reservation and preferential / mandatory purchase policy as notified by Government of India from time to time. Bidders claiming any preference shall submit relevant and valid registration certificate along with the tender in terms of the relevant Orders/Notifications issued by appropriate Authority/Government. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of Bidder Turnover criteria and Experience Criteria. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer. If the bidder is a Startup, the bidder shall be exempted from the requirement of Bidder Turnover criteria and Experience Criteria. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents (DPIIT registration) to prove his eligibility for exemption must be uploaded for evaluation by the buyer.	Yes / No / Explain	
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28	Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 PLUS 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY.	Yes / No / Explain	
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29	Make-In-India (MII) Clause: For this procurement, provisions contained in Government Public Procurement Order No. P-45021/2/2017-PP(BE-II)-Part(4)Vol.II dated 19.07.2024 its latest directives/amendments there of shall be followed. Accordingly, you are requested to indicate the percentage of local content in the material, clearly mentioning the details of location(s) at which value addition is made in line with clause 9 to O.M dated 19.07.2024 referred above. It may be noted that Local Content shall not include services such as Transportation, Insurance, Installation, Commissioning, Training and after sales service support like AMC/CMC etc. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in-India) order.	Yes / No / Explain	
30	The Bidder shall give self-certification for local content in the quoted item (goods/works/services) at the time of tendering. However, at the time of execution of the project, for all contracts above INR 10 Crore, the contractor/ supplier shall be required to give local content certification duly certified by cost/ chartered accountant in practice. For cases where it is not possible to provide certification by Cost/ Chartered Accountant at the time of execution of project, the supplier shall be permitted to provide the certificate for local content from Cost/Chartered Accountant after completion of the contract, within time limit acceptable to the procuring entity. In case the contractor/supplier does not meet the stipulated local content requirement and the category of the supplier changes from Class-I to Class-I or from Class-II to Non-local, a penalty upto 10% of the contract value shall be imposed.	Yes / No / Explain	

31	The bidder shall provide compliance to Order No. F.No.6/18/2019 PPD dated 23.07.2020 and amendments thereof by Ministry of Finance, Department of Expenditure, Public Procurement Division regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order. In this regard, you shall certify that the bidder entity is not from such a country or, is from such a country, has been registered with the Competent Authority as per the format issued along with the tender.	Yes / No / Explain	
32	VALIDITY OF OFFER: Being two part tender, validity of the offers/ tenders should be 120 days from the date of opening of Part-1. Tenders shorter than offer validity mentioned above will not be considered for evaluation.	Yes / No / Explain	
33	Do you have Unique GeM Seller ID? If YES, provide details. If NO, As per Office Memorandum No 6/9/2020-PPD dated 24/08/2020 of Department of Expenditure, it is mandatory for sellers providing Goods and Services to Central Government Organizations to be registered on GeM and obtain a Unique GeM Seller ID, at the time of Placement of Order/acceptance of contract. Tenderers shall ensure the same.	Yes / No / Explain	
34	Please furnish Contact details i.e. Name of the focal point for this tender, E-mail id, Mobile no/ Landline no. etc. for further communication.	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	FABRICATIO N Supply of HPS3 Axial thrust measurement system Annexure specifications & drawings	1.00 Lot		-		

2	Fabrication activities Site Fabrication works for Intermediate Frame (6B/HPS3/HA T/ 06) & Calibration Frame &Test bed Joists (6B/HPS3/HA T/ 09)	1.00 Lot		-		
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Common charges (Applicable for all items)

P&F CHARGES	
FREIGHT CHARGES	

Specifications for Fabrication and Supply of HPS3 Axial Thrust Measurement System

1. Scope of the TENDERER:

Fabrication and supply of Single Component Axial Thrust Measurement System as per specifications mentioned in this document. Components as per the drawings provided (Drawing no: 6B/HPS3/HAT/01 to 09 – total 10 sheets), bought out items are per Annexure-A & C and Compliance Statement as per Annexure-B provided.

- 1.1 Complete understanding of functional requirements of the above items, interfaces and thereby ensuring satisfactory operation of the system.
- 1.2 Carrying out fabrication & machining of the above items as per approved fabrication drawings.
- 1.3 The system shall be realized strictly as per given technical specifications, manufacturing / fabrication drawings and bill of materials. TENDERER may suggest any improvement for the betterment of the operation of the system, which shall be reviewed by ISRO as necessary.
- 1.4 All necessary facilities including tools, tackles, safety appliances, measuring & testing equipment/ instruments, accessories & material handling equipment, etc. shall be provided by the TENDERER to enable stage wise inspection of the system during fabrication, erection, testing and commissioning at site by ISRO.
- 1.5 The TENDERER shall be solely responsible for obtaining necessary clearances, if any, from various statutory bodies including those of Central & State Government, as applicable, during the course of manufacture/fabrication, testing, transportation of the equipment at site.
- 1.6 Transportation of fabricated items from supplier site to SDSC SHAR, Test Facilities site, unloading and handing over to the purchaser.

2. Scope of the TENDERER:

Table-1 : List of Drawings

S. No	Component	Drawing No
1	General Arrangement	6B/HPS3/HAT/ 01
2	Wall Frame	6B/HPS3/HAT/ 04
3	Thrust Frame	6B/HPS3/HAT/ 03
4	Intermediate Frame	6B/HPS3/HAT/ 06
5	Swing Bench System	6B/HPS3/HAT/ 05 (sheet 1 & 2)
6	Suspension Frame	6B/HPS3/HAT/ 08
7	Pre-load Assembly	6B/HPS3/HAT/ 06
8	Calibration Frame & Joists	6B/HPS3/HAT/ 09
9	Measurement link & components	6B/HPS3/HAT/ 02

3. Applicable Codes & Specifications:

The following specifications, standards and codes are made as a part of this specification. All standards, specifications and codes of practices referred to herein shall be the latest editions including all applicable official amendments and revisions.

a) Materials

- i) IS : 814 Covered Electrodes for Manual Metal Arc Welding of Carbon and Carbon Manganese Steel
- ii) IS: 1363 Hexagon Head Bolts, Screws and Nuts of product (Parts 1 to 3) Grade C (Size range M5 to M64)
- iii) IS: 1367 Technical Supply Conditions for Threaded Fasteners (All Parts)
- iv) IS: 2062 Steel for General Structural Purposes
- v) IS: 2004 Forgings for General Structural Purposes
- vi) EN 24 or equivalent 40Ni6Cr4Mo3as per IS: 4367
- vii) A 106/A106M Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service

b) Codes of Practice

- i) IS : 800 Code of Practice for General Construction in Steel
- ii) IS : 816 Code of Practice for use of Metal Arc Welding for General construction in Mild Steel
- iii) IS : 822 Code of Procedure for Inspection of Welds
- iv) IS : 3658 Code of Practice for Liquid Penetrant Flaw Detection
- v) IS : 7215 Tolerances for Fabrication of Steel Structures
- vi) A 388/A 388M Standard Practice for Ultrasonic Examination of Steel Forgings

4. Steel Materials

Steel materials shall comply with the specifications laid down under clause 2 and/or as called for on the design drawings.

All materials used shall be new, unused and free from defects.

- i) Forging & Normalizing: 20C8 as per IS 2004:1991 shall be used wherever specified.
- ii) EN24 in condition – T shall be used wherever specified.
- iii) ASTM A 106 Gr. B for all pipes.
- iv) For the remaining parts, material shall be as specified in the drawings.

5. Fabrication:

5.1 General:

The systems shall conform to the technical requirements covered in this specification and the relevant manufacturing/approved drawings/standards (latest revision) and bill of materials in respect of dimensions, sizes, material of construction, manufacturing, and inspection. All workmanship and finish shall be of the best quality and shall conform to the best approved method of fabrication. All materials shall be finished straight and shall be machined/ground smooth true and square where so specified. All holes and edges shall be free of burrs. Shearing and chipping shall be neatly and accurately done and all portions of work exposed to view shall be neatly finished. Unless otherwise directed/ approved, reference may be made to relevant IS codes for providing standard fabrication tolerance. Material at the shops shall be kept clean and protected from weather.

5.1.2 All materials shall be straight and, if necessary, before being worked shall be straightened and/or flattened by pressure and shall be free from twists. Heating or forging shall not be resorted to without the prior approval of the DEPARTMENT in writing.

5.1.3 Cutting, punching, drilling, welding and fabrication tolerances shall be generally as per relevant IS codes.

5.2 Welding:

5.2.1 Welding procedure shall be submitted to DEPARTMENT for approval. All applicable standard mentioned in clause 3 shall be followed. Welding shall be entrusted to only qualified and experienced welders who shall be periodically tested and graded as per IS 817, IS: 7310 (Part 1) and IS: 7318(Part 1).

5.2.2 Wherever weld reinforcement interferes with proper fit-up between components to be assembled for welding, these welds shall be ground flush prior to assembly.

5.2.3 Approval of the welding procedure by the DEPARTMENT shall not relieve the TENDERER of his responsibility for correct and sound welding without undue distortion in the finished structure.

5.2.4 No welding shall be done when the surface of the members is wet nor during periods of high wind.

5.2.5 Each layer of a multiple layer weld except root and surfaces runs may be moderately peened with light blows from a blunt tool. Care shall be exercised to prevent scaling or flaking of weld and base metal from overpeening.

5.2.6 Base metal shall be preheated to the temperature as per relevant IS codes.

5.2.7 Electrodes other than low-hydrogen electrodes shall not be permitted for thicknesses of 32 mm and above. For EN 24 welding suitable weld electrodes are to be used. Special electrodes to be used for welding dissimilar materials after obtaining approval from DEPARTMENT and the details of the same shall be incorporated in Quality Assurance Plan (QAP).

5.2.8 All welds shall be inspected for flaws by method described under clause 7 "Inspection".

5.2.9 The correction of defective welds shall be carried out as directed by the DEPARTMENT without damaging the parent metal. When a crack in the weld is removed, magnetic particle inspection or any other equally positive means as prescribed by the DEPARTMENT shall be used to ensure that the whole of the crack and material upto

25 mm beyond each end of the crack has been removed. Cost of all such tests and operations incidental to correction shall be to the TENDERER's account.

5.3 Machining:

- 5.3.1 In general, all the machining onwelded structures shall be carried out after heat treatment / stress relieving.
- 5.3.2 TENDERER shall carryout the machining work as specified in the drawings. All drilled & tapped holes shall be properly de burred.
- 5.3.3 Tolerance and Surface finish:
Unless otherwise specified, surface finish as per IS standards have to be followed.
- 5.3.4 End Milling:
Where compression joints are specified to be designed for bearing, the bearing surfaces shall be milled true and square to ensure proper bearing and alignment.
- 5.3.5 TENDERER shall follow proper sequence for welding, drilling & machining in order to achieve specified dimensions and tolerances mentioned in the drawings. Under no circumstances the TENDERER should resort to welding of parts to achieve final dimensions/tolerances mentioned in assembly drawings.

6. Painting Scheme:

HPS3 Test Stand Components shall be painted as per the following scheme.

- 1. Thrust Frame, Saddle Assembly, Cradle Pipe- **Golden Yellow**
- 2. Wall Frame, Pillar Assembly, Suspension Frame – **Phirozi Blue**
- 3. Intermediate Frame – **Smoke Grey**
- 4. All other Machined Components–**Black**

The following painting scheme shall be followed:

- 1. Inorganic zinc silicate, DFT-65 microns (min) at shop floor ---- **One coat**
- 2. Polyurethane, DFT – 35 microns (min) at shop floor ---- **Two coats**

The following brands are acceptable.

- 1. Grand poly coat
- 2. Berger Paints
- 3. Asian Paints
- 4. Bombay Paints
- 5. Nerolac Paints
- 6. MRF paints
- 7. German polymers and coating

Note: All the machined surfaces shall be cleaned and two layers of suitable rust protection compound (preferably Black Japan) shall be applied for corrosion protection.

TENDERER shall ensure that all the components are painted/rust protected and packed properly before dispatch. In case of any shortfall noticed in this regard during receipt of items at our site, the TENDERER should arrange for rectification of the same at his own cost.

7. General Inspection

- 7.1 The TENDERER shall give due notice to the DEPARTMENT in advance of the works getting ready for inspection. All rejected material shall be promptly removed from the shop and replaced with new material for the DEPARTMENT's approval/ inspection. The fact that certain material has been accepted at the TENDERER's shop shall not invalidate final rejection at site by the DEPARTMENT if it fails to conform to the requirements of these specifications, to be in proper condition or has fabrication inaccuracies which prevents proper assembly nor shall it invalidate any claim which the DEPARTMENT may make because of defective or unsatisfactory materials and/or workmanship.
- 7.2 No materials shall be painted or dispatched to site without inspection and approval by the DEPARTMENT unless such inspection is waived in writing.
- 7.3 The TENDERER shall provide all the testing and inspection tools/services and facilities for shop work except where otherwise specified. It is to be strictly noted that providing necessary tools/services during any stage of inspection will be the responsibility of TENDERER and any lapse in this regard will result in rejection of the item.
- 7.4 Material testing:
If MIL test reports are not available for any steel materials the same shall be got tested by the TENDERER to the DEPARTMENT's satisfaction to demonstrate conformity with the relevant specification.
- 7.5 UT shall be done for all forgings and flexures (before machining) as per ASTM Standard - A388/A 388M-08
- 7.6 *Detailed Quality Assurance Plan (QAP)* to be prepared by TENDERER prior to fabrication & testing and shall be submitted to the DEPARTMENT for approval well in advance. During the course of fabrication different stages of inspection are to be identified. At every stage clearance has to be obtained from the DEPARTMENT.
- 7.7 Site visit shall be planned prior to commissioning of sub-systems to understand the site conditions for effective work execution.

8. Inspection for Welding

TENDERER shall satisfy himself and ISRO as to the quality of welds by visual and liquid dye-penetrant test inspection as applicable and shall submit the subsequent reports for examination.

The Procedure for testing the preparation of surfaces of the welded area shall be as per relevant Indian Codes and standards or other equivalents. All non-destructive tests shall be carried out by qualified operators. All defects shown shall be repaired and rechecked.

Extent of Testing

The general welding guidelines shall be followed.

- 100 % visual inspection for all welds.
- 100 % Liquid dye-penetrant inspection test for all joints except gusset & stiffener plate joints.

9. Visual Inspection

The component shall be checked for conformity with the detailed drawings, dimensional accuracy, surface finish, fit & alignment and other related documents/specifications/codes. Particular attention shall be given to material, fit & installation, workmanship, cleanliness and completeness.

Following indications are unacceptable:

- Cracks on external surface.
- Undercut on surface, which is more than 1 mm deep.
- Lack of fusion on surface of weldments.

Important note: None of components shall be painted prior to visual/dimension inspection. The TENDERER should protect all components from corrosion by applying oil/grease suitably.

10. Inspection for Machining

All the components shall be machined as per the surface finish indicated in the drawings. Any deviation on machined component from the drawing shall be brought to the notice of ISRO immediately. TENDERER shall not take any unilateral decision on his own in order to salvage the item.

10.1 Dimensional record to be maintained and sketches to be added as required.

10.2 Refer IS 2102-1993 Part-I for tolerance for linear and angular dimensions without individual tolerance indication & Part-II for geometrical tolerance for features without individual tolerance indication. After complete inspection of a component, a summary sheet shall be prepared and maintained. All the necessary tools and instruments shall be arranged by the party.

11. Paint Inspection

The inspection consisting of the following stages shall be offered to ISRO. No materials shall be painted without inspection and approval by the DEPARTMENT unless such inspection is waived.

- i) Determination of surface preparation.
- ii) Dry film thickness after completion of primer application
- iii) Dry film thickness after completion of final coat of paint

Necessary inspection equipment like paint thickness measuring gauges and other tools required are to be supplied by the TENDERER.

12. Erection & Commissioning:

12.1 Installation of HPS3 axial thrust measurement system has to be carried out inside vacuum chamber. The items are to be erected as per site dimensions by carrying out fabrication works like cutting, grinding, welding at site as part of installation as shown in the general arrangement of the system

12.2 The cost towards this has to be included in the bid and quoted as lumpsum along with the supply.

(i). Under Tenderer Scope:

- a. Procurement of raw material required for the joists and gas cutting of the same to the required size as per the approved drawings.

- b. Each part shall be made of the specified material as given in the fabrication drawings.
- c. Qualified welders shall carry out all welding works as per standard ASME section 9 welding procedures.
- d. All the sharp edges shall be chamfered to 1mm x 45 degree unless otherwise specified.
- e. Painting of the items as per the approved painting procedure as given below:
 - ✓ Surface preparation shall comply with IS-1477 part-II and this standard shall be considered as the minimum standard acceptable, wherever not specifically mentioned.
 - ✓ Each coat applied shall be free of runs, sags, blisters, bubbles and mud cracking; variations in color and gloss, excessive film build up, foreign contaminants, etc. Special care shall be taken to ensure complete coverage and proper thickness on welds, corners, sharp edges, bolts and nuts.

Color for the Joists – Smoke Grey

- ✓ All the required works as per the tender specifications.

(ii) Under Department scope:

- Electricity required for machine tools like grinders, welding machine etc., will be provided at the nearest available power point free of cost as per the departmental norms.
- Suitable Crane/ Other material handling equipment, Ladders required during erection of the shelter extension will be provided free of cost as per the departmental norms.

The actual quantities of work shall be ordered by department as per the final drawings released for fabrication. No claim shall be entertained from the TENDERER, if the actual quantities or items of work differ from those indicated herein, except where stated otherwise. Rates quoted shall remain firm for an increase in quantity (or) overall weight of components resulting upto 5% of the value of the work awarded.

13. Guarantee

TENDERER shall produce a Guarantee Certificate for a period of 12 months from the date of receipt and acceptance at our site, against defective materials and workmanship. Problems faced during the guarantee period due to the fabrication and manufacturing defects shall be solved by the TENDERER at free of cost (including replacement of defective material, if required).

14. Delivery

1. All the items shall be completed and delivered within 150 days from the date of order (i.e. For sl. No. 1 of Tender)
2. The site fabrication works shall be completed within 30 days for date of site clearance (i.e. For Sl. No. 2 of Tender). The site clearance will be given to party within 3 months from date of supply based on the scheduled testing activities.

15. Quality Assurance Plan (QAP) & CLIP Inspection

Activity	Schedule
Quality Assurance Plan (QAP)	The supplier shall submit detailed QAP within 10 days on request from DEPARTMENT. The DEPARTMENT will approve the QAP submitted by supplier after review within 7 days.
CLIP Inspection	The supplier shall give inspection call as per the stages identified in QAP. The final CLIP inspection call shall be given well in advance. The purchaser shall nominate the engineer from CLIP within 5 days to carry out the inspection at party's site.

16 Bid/Offer Submission details:

Supplier shall present the bids on two-part basis as highlighted below:

- ✓ **Part-I: Techno-Commercial bid**
- ✓ **Part-II: Price bid indicating the price**

16.1 Part-I: Techno-Commercial bid:

The tenderer shall necessarily present the following in techno-commercial bid:

- a) The tenderer shall furnish point-wise confirmation **(Technical Compliance for the specifications given in Annexure- B and for the Bidder qualification criteria as given in Section-17)** for the technical specifications given in the enquiry. However, change of specifications/ deviations (if any) shall be brought out in the offer with detailed justification. Suppliers are expected to furnish quotations with best match to design standards, materials of construction and other technical specifications.
- b) Tenderer need to furnish the details related to commercial terms indicating payment terms, details of bank guarantee in case of advance payments etc.
- c) Mode of dispatch of the item to SDSC SHAR shall be by Road.
- d) Bidder need to submit Un-priced price bid copy (as highlighted below) indicating the description of all the cost elements considered, without indicating the price. Tenderer shall note that indication of price in the techno-commercial bid shall lead to dis-qualification of bid.
- e) The price bids will be opened only after evaluation and acceptance of the techno-commercial bid of the respective tenderer.
- f) Tenderer need to sign and with his seal in all pages of tender document and submit the same along with Techno-commercial bid (Part-I), indicating that he has gone through the full document and accepts for all the terms and conditions given in the tender document.

16.2 Format of Un-Priced Price Bid:

(To be submitted in Techno-commercial bid: Part-I)

Confirmation of item wise cost breaks up by the supplier.

SI No	Description	Qty. (Lot)	Unit Price	Total Price	Taxes if any	Total Cost including Tax	Cost mentioned in price bid (YES/NO)
1.	Supply of HPS3 Axial thrust measurement system	1	Un-priced	Un-priced	Un-priced	Unprice d	To be filled by tenderer
2.	Site Fabrication works for Intermediate Frame (6B/HPS3/HAT/ 06) & Calibration Frame &Test bed Joists (6B/HPS3/HAT/ 09)	1	Un-priced	Un-priced	Un-priced	Unprice d	To be filled by tenderer

16.3 Part-II: Price bid indicating the price:

The party need to submit the Part-II Price bid in the below given format

SI No	Description	Qty. (Lot)	Unit Price	Total Price	Taxes if any	Total Cost including Tax
1.	Supply of HPS3 Axial thrust measurement system	1	To be filled by tenderer	To be filled by tenderer	To be filled by tenderer	To be filled by tenderer
2.	Site Fabrication works for Intermediate Frame (6B/HPS3/HAT/ 06) & Calibration Frame &Test bed Joists (6B/HPS3/HAT/ 09)	1	To be filled by tenderer	To be filled by tenderer	To be filled by tenderer	To be filled by tenderer

Note: Total price of item shall be inclusive of all costs (Eg. GST, Testing, Packing & Forwarding, transportation, erection and commissioning and any other charges as applicable)

17. Bidder Qualification Criteria

The Bidder should be in the field of fabrication of heavy structures, assembly, inspection, and testing during the last five years ending with 31-03-2026 and having at least:

- i. Single order value not less than Rs.35 Lakhs (or)
- ii. Two orders of value not less than Rs.20 Lakhs

Details of the at least 3 purchase orders and completion certificates shall be submitted along with the offer for proof of above.

18. Payment Terms:

Our payment terms are given below:

- a) 100% of supply value (S. No.- 1 of Tender) against receipt and acceptance of items at SDSC SHAR
- b) 100% value of site fabrication works (S. No. - 2 of Tender) after its completion at SDSC SHAR.

Payments will be made independently for Sl. No. 1 & 2 within 30 days after acceptance of items/ completion of site works at purchaser's (SDSC-SHAR, Sriharikota) site.

Annexure-A

LIST OF BOUGHT OUT ITEMS

Item No: 1

12t Capacity Two Legged Wire Rope

(Conforming to IS 2762: Wire Rope Slings and Sling Legs)

- Wire Rope Make : Usha Martin
- Wire Rope Specification : 6 x 37 steel core (CWR) with grade 1960 (as per IS 2266)
- Wire Rope diameter : 24 mm
- Type : Mechanically spliced Two-leg wire rope slings with main ring at one end, ordinary thimbles at other.
- Lifting Capacity : 12 t
- Effective Length : 6 m
- Ferrule : Conforming to IS 10942
- Master Links (Ring) : Conforming to IS 2760.
- **Total quantity required : 02 sets.**

Item No: 2

Wire ropes & Accessories for pre-load suspension & Turnbuckles:

- a) Wire rope (16 mm diameter) with ordinary thimbles having effective length of 1500mm long – 4 nos.
- b) Wire rope (16 mm diameter) with ordinary thimbles having effective length of 2000 mm long – 4 nos.
- c) Turnbuckle – 5 t capacity with jaw & jaw type ends having length range 955 mm-1412 mm – 10 nos.
- d) D-shackles – 20 nos. with load capacity of 5 t

Item No: 3

EYE BOLTS

Sl.no	Description	Specification	Qty Required
1.	Eye bolt – 1.6 t (As per IS: 4190)	M24	20 Nos.
2.	Eye bolt - 0.63 t (As per IS: 4190)	M16	20 Nos.

Item No: 4

Maintenance-free Axial Spherical plain bearings, Make: INA/SKF/FAG/LUK/EQUIVALENT – 1 No.

- Capacity : 2000 kN (Static load rating) or higher
- Shaft Diameter : 100 mm
- Overall Height : 87 mm or lower
- Shaft Misalignment : $\pm 8^\circ$
- Sliding contact surface : Hard chromium/PTFE fabric.
- Total quantity required : 01

Item No: 5**Double Acting Hydraulic Cylinders**

- Capacity : 668kN (Pull)/1386 kN (Push) or higher
- Stroke length : 150 mm or higher
- Fully closed Height : 385 mm
- Outside diameter : 205 mm or lower
- Operating pressure : 700 bar (Maximum).
- Thread in Jack Housing : Suited to Part-3 Calibration Frame Interface (6B/HPS3/HAT/09) with interface plate of 60 Thk and free holes on matching PCD.
- End fittings for hose : 3/8" NPTF and QC/DC as per standard.
- **Total quantity required : 01**
- *One spare kit consisting of O-rings & oil seals shall be provided for the jack.*

Drawing of the jack shall be supplied after placement of P.O for approval.

Item No: 6

Conductive rubber sheets as per the specifications and dimensions given below.

Specifications:

Shore-A Hardness : 65-70

Resistance : < 50 kilo Ohms

Test Method : BS 2050

Dimensions:

Sl. no	Dimensions	Qty Required
1.	4000mm x 200 mm x 10 mm thk	2 Nos.
2.	4000 mm x 200 mm x 5 mm thk	4 Nos.

Note: Load test / Material test certificates shall be provided for all bought-out items

Annexure- B

(TO BE FILLED AND SUBMITTED BY TENDERER ALONG WITH HIS OFFER)

COMPLIANCE STATEMENT BY THE TENDERER

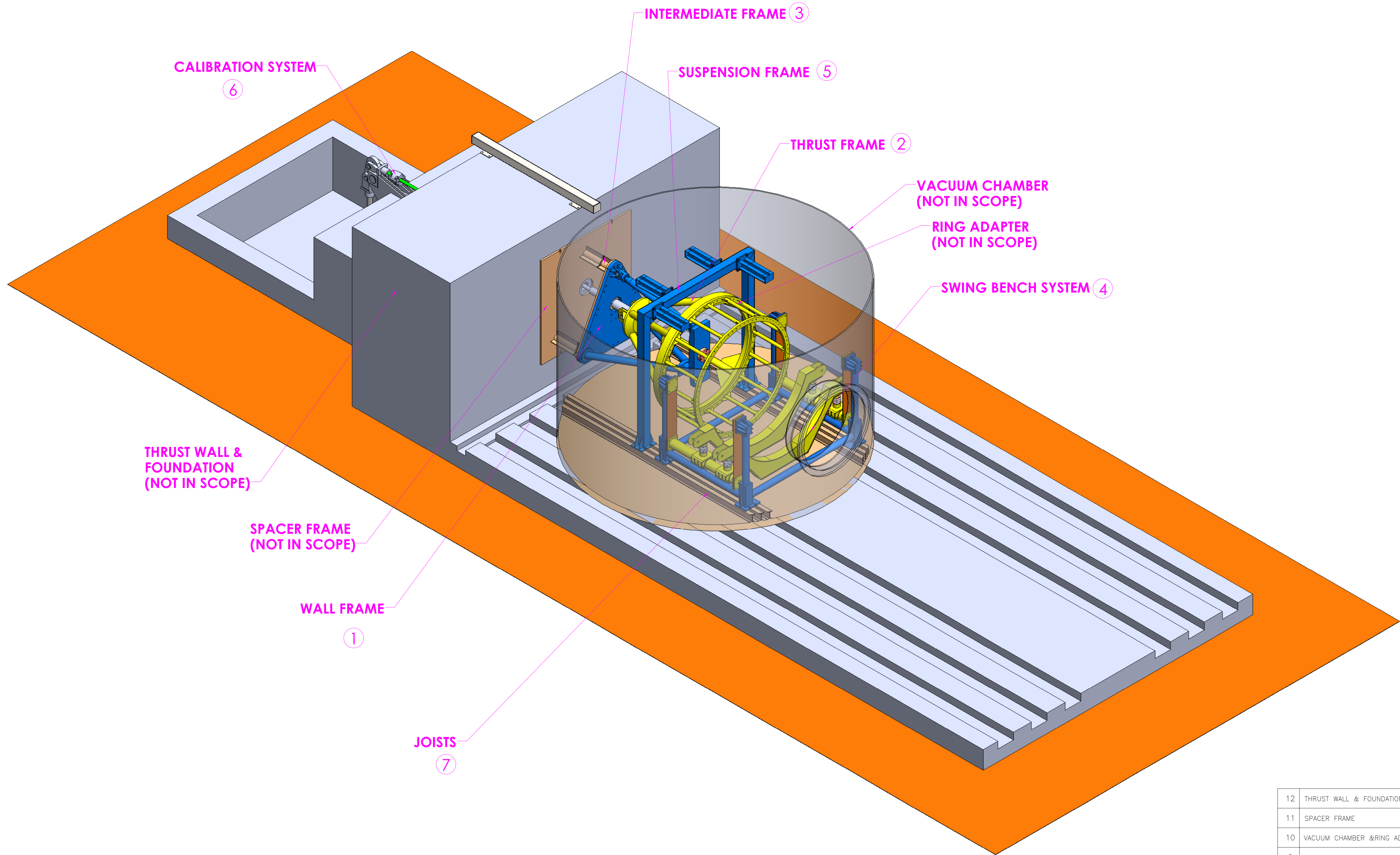
Sl.no	Description	To be Filled by Tenderer
1	Conformance to Material of construction parts of as per Section-3&4 of Tender Specifications/drawings.	
2	Conformance to all the technical requirements of fabrication as per Tender Specifications	
3	Conformation to all machining specifications as per Section-5.3 of Tender Specifications	
4	Submission of detailed quality assurance plan (QAP) prior to fabrication & testing for approval.	
5	Conformation to erection and commissioning as per section 12 of Tender Specifications	
6	Confirm all pages of tender document is signed with seal indicating that the bidder has read all the tender specifications and accepts all of them.	
7	Pre-delivery inspection has to be planned at Party site for final clearances and should be included in QAP accordingly while submitting	
8	Item are to be supplied as per the Annexure-A & C	

	SIGNATURE	:	
	NAME	:	
	DESIGNATION	:	
SEAL OF THE COMPANY	DATE	:	

Annexure- C

LIST OF FASTENERS to be supplied

Sl. no	Description	Minimum Thread Length (mm)	Property class	Drawing No	Qty (nos.)	Make
1	M36 X 260 Long Allen Bolt with 2 Nuts & 2 washers	50	10.9	6B/HPS3/HAT/02	10	Unbrako/PFL
2	M12 X 70 Long Allen Bolts with 2 Nuts & 2 washers	50	10.9	6B/HPS3/HAT/02	20	Unbrako/PFL
3	M16 X 220 Long Allen Bolts with 2 Nuts & 2 washers	60	10.9	6B/HPS3/HAT/03	30	Unbrako/PFL
4	M20 X 110 Long Hexagonal Bolts with 2 Nuts & 2 washers	50	10.9	6B/HPS3/HAT/04	30	Unbrako/PFL
5	M20 X 70 Long Hexagonal Bolts with 2 Nuts & 2 washers	60	10.9	6B/HPS3/HAT/05	40	Unbrako/PFL
6	M36 X 180 Long Hexagonal Bolts with 2 Nuts & 2 washers	50	10.9	6B/HPS3/HAT/05	10	Unbrako/PFL
7	M12 X 25 Long Hexagonal Bolts with 2 Nuts & 2 washers	25	10.9	6B/HPS3/HAT/08	20	Unbrako/PFL
8	M36X 160 Long Hexagonal Bolts with 2 Nuts & 2 washers	50	10.9	6B/HPS3/HAT/09	15	Unbrako/PFL



GENERAL INSTRUCTIONS FOR SUPPLIER:

1. THE SEQUENCE OF FABRICATION/ERECTION OF THE INDIVIDUAL COMPONENTS IS LISTED IN THE RESPECTIVE DRAWINGS.
2. THE PART LIST GIVES THE SUMMARY OF ALL THE COMPONENTS REQUIRED TO COMPLETE THE ASSEMBLY.
3. ALL THE FASTENERS, BOLTS & WASHERS ARE LISTED IN ANNEXURE-1. LENGTH OF THE FASTENERS TO BE ENSURED AT FABRICATOR SITE DURING TRIAL ASSEMBLY BEFORE SUPPLY.
4. ANY CHANGE IN THE MATERIAL/DIMENSIONS IN ANY OF THE COMPONENTS HAS TO BE MADE ONLY AFTER PRIOR APPROVAL FROM THE DESIGNER AS PER REVISED DRAWING PROVIDED.
5. PAINTING TO BE CARRIED OUT AS PER THE PAINTING SCHEME MENTIONED IN TENDER SPECIFICATIONS

- NOTE:
1. ALL CRITICAL WELDS ARE TO BE QUALIFIED WITH DP TESTING / ULTRASONIC TESTING / RADIOGRAPHY
 2. ALL SHARP CORNERS ARE TO BE CHAFERED SUITABLY
 3. ALL WELDS ARE 6 mm UNLESS OTHERWISE SPECIFIED
 4. STRESS RELIEVING IS TO BE DONE FOR ALL THE PARTS WHEREVER HEAVY MACHNING /WELDING IS INVOLVED
 5. CHECK FOR THE STATUS OF DRAWING BEFORE FABRICATION / MACHNING

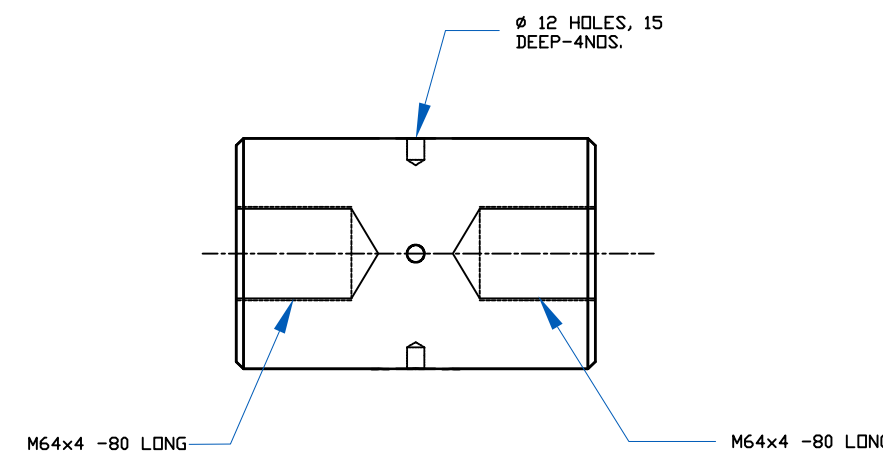
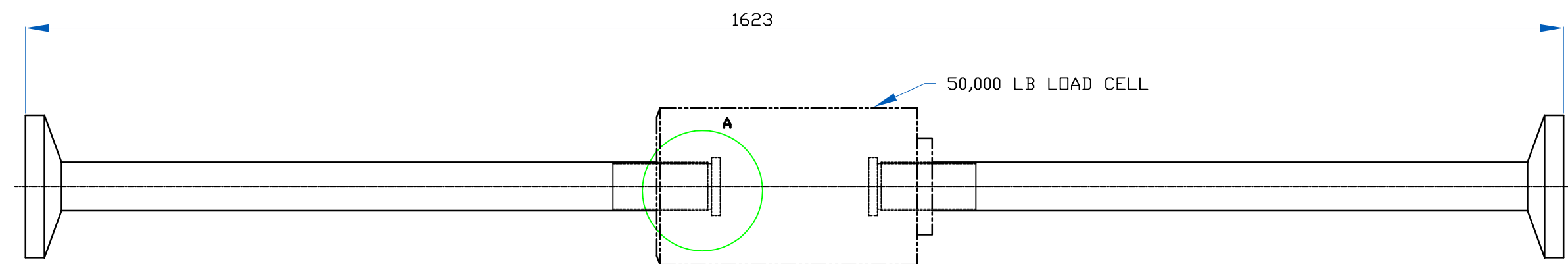
STATUS	
DISCUSSION / REVIEW	
TENDER PURPOSE	FOR TENDER PURPOSE ONLY
FABRICATION	

REVISIONS		ZONE	SIGN	DATE
DO NOT SCALE THE DRAWING ASK IF IN DOUBT UNLESS OTHERWISE SHOWN ALL DIMENSIONS ARE IN MILLIMETERS REMOVE SHARP EDGES & BURRS CHAMFER 1 M.M. X 45° MACHINING FINISH IN MICRONS :- ▽ 8 - 25 ▽▽ 1.6 - 8 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ < 0.025		DEVIATION FOR NON TOLERANCED DIMENSIONS (IS -2102)		
		DIAMETERS & LENGTHS		
		UPTO & INCL 6 +0.1		
		6 - 30 +0.2		
		30 - 120 +0.3		
		LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.		
		120 - 315 +0.5		
		315 - 1000 +0.8		
		1000 - 2000 +1.2		
		2000 - 4000 +2.0		
		4000 & ABOVE +3.0		
		1 - 6 ± 1'-00		
		6 - 30 ± 0'-30		
		30-120 ± 0'-20		
		120-400 ± 0'-10		

TOTAL WEIGHT : 8435 Kgs. (Approx)

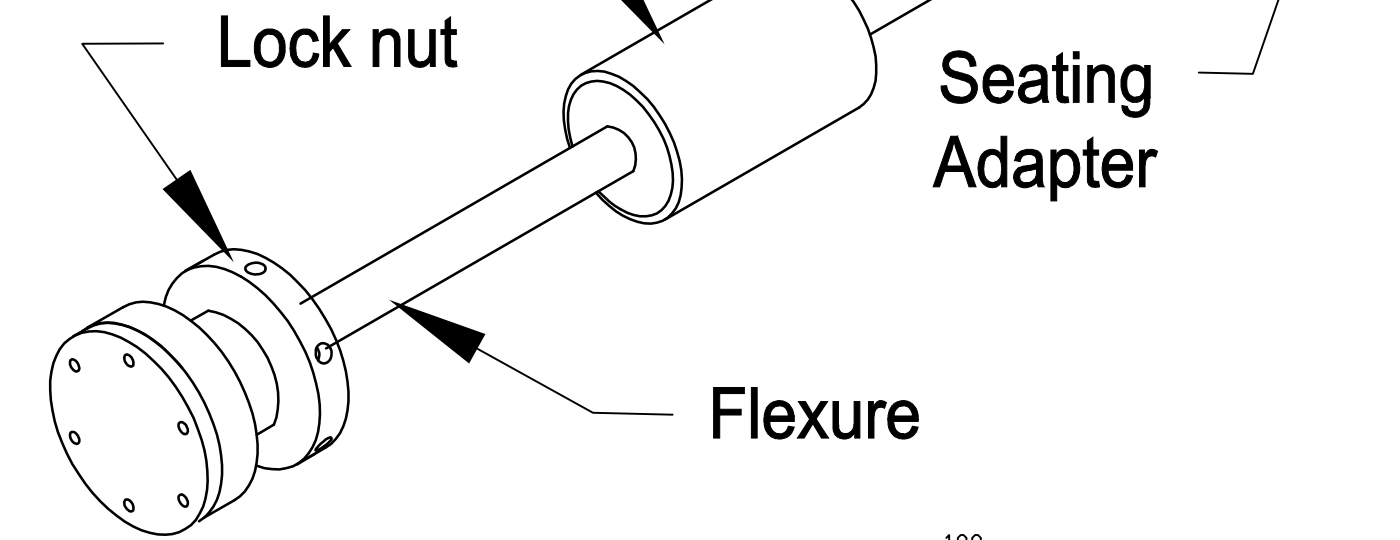
12	THRUST WALL & FOUNDATION	-	-	-	NOT IN SCOPE OF SUPPLY
11	SPACER FRAME	-	-	-	NOT IN SCOPE OF SUPPLY
10	VACUUM CHAMBER &RING ADAPTER	-	-	-	NOT IN SCOPE OF SUPPLY
9	FASTENERS	AS PER ANNEXURE-A	1 LOT	-	
8	MEASUREMENT LINK & COMPONENTS	EN-24, IS 2062 E250	1	810	DWG: HAT/02
7	CALIBRATION FRAME & JOISTS	IS 2062 E250 IS808	1	880	DWG: HAT/09
6	PRELOAD ASSEMBLY	EN-24, IS 2062 E250	1	965	DWG: HAT/06
5	SUSPENSION FRAMES	IS : 2062 E250	1	455	DWG: HAT/08
4	SWING BENCH SYSTEM	IS: 2062 E250, IS : 2004 2008 ASTM A106 GR. B (ECCA UNWELDED)	1	2480	DWG: HAT/05
3	INTERMEDIATE FRAME	IS: 2062 E250, IS : 2004 2008 ASTM A106 GR. B	1	335	DWG: HAT/07
2	THRUST FRAME	IS: 2062 E250, IS : 2004 2008 ASTM A106 GR. B	1	1125	DWG: HAT/03
1	WALL FRAME	IS: 2062 E250, IS : 2004 2008 ASTM A106 GR. B	1	1385	DWG: HAT/04
S.NO	DESCRIPTION	MATERIAL	QTY	W.T (Kg)	REMARKS

TITLE				PROJECTION	
HPS3 AXIAL THRUST MEASUREMENT SYSTEM (30T CAPACITY)				FIRST ANGLE	
SATISH DHAWAN SPACE CENTRE				SHEET 1 OF 1	
SMP & ETF				SHEET 1 OF 1	
I.S.R.O				SHEET 1 OF 1	
SRIHARIKOTA				SHEET 1 OF 1	
SCALE		1 : 25		SHEET 1 OF 1	
DRG. NO.		68/HPS3/HAT/01		SHEET 1 OF 1	



ADAPTER-1

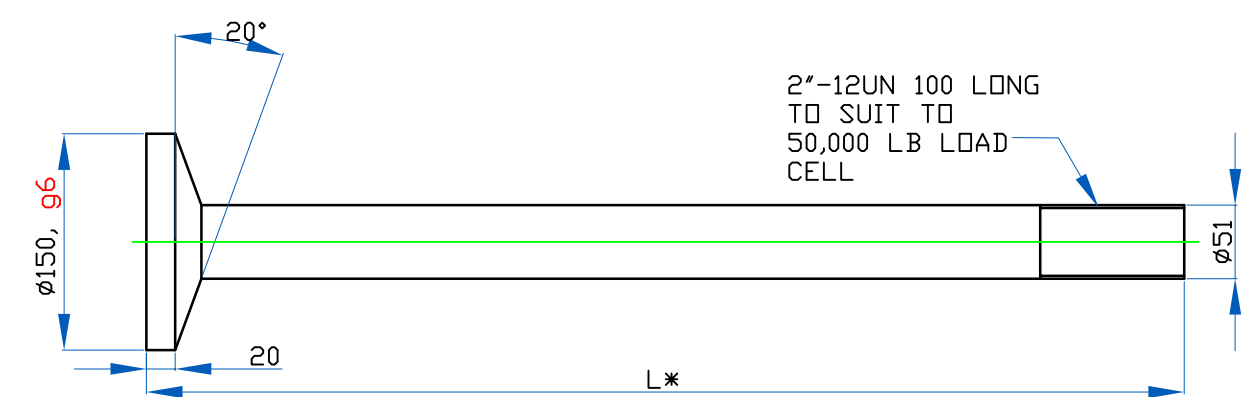
50,000 lb
BLH load cell
(NOT IN SCOPE)



Lock nut

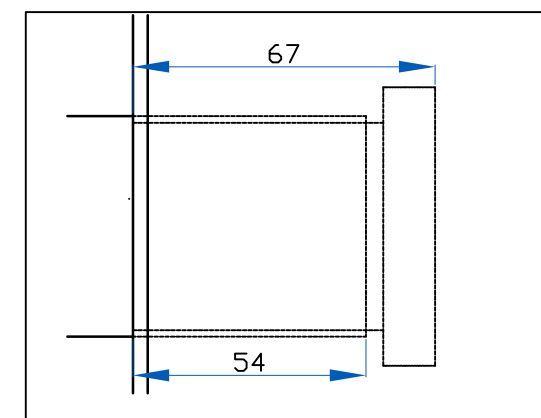
Seating Adapter

Flexure

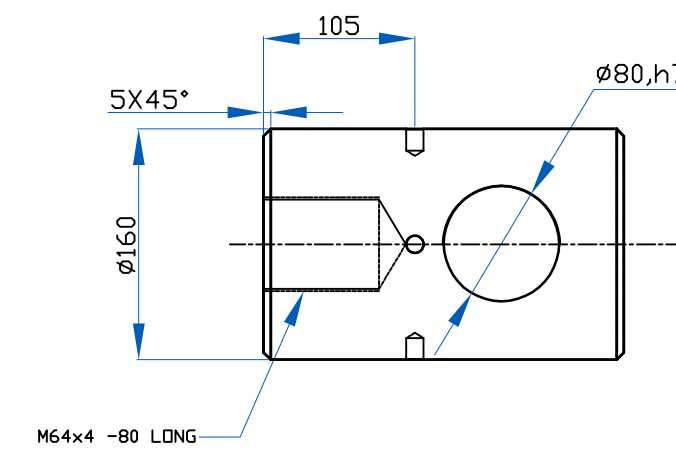


Sl. No	L	Qty.
1	667 mm	4 Nos.
2	720 mm	2 Nos.

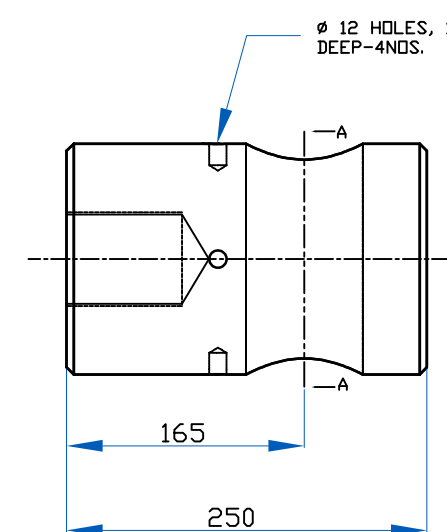
FLEXURE



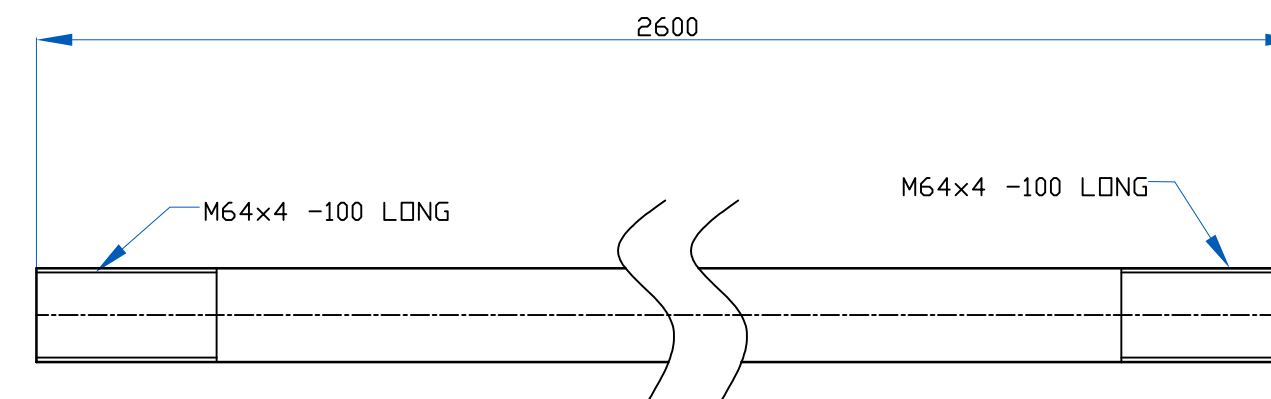
DETAIL-A



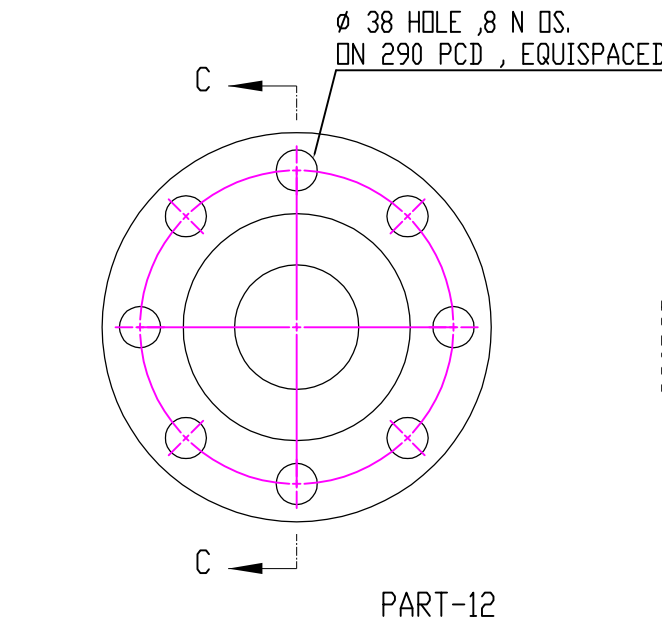
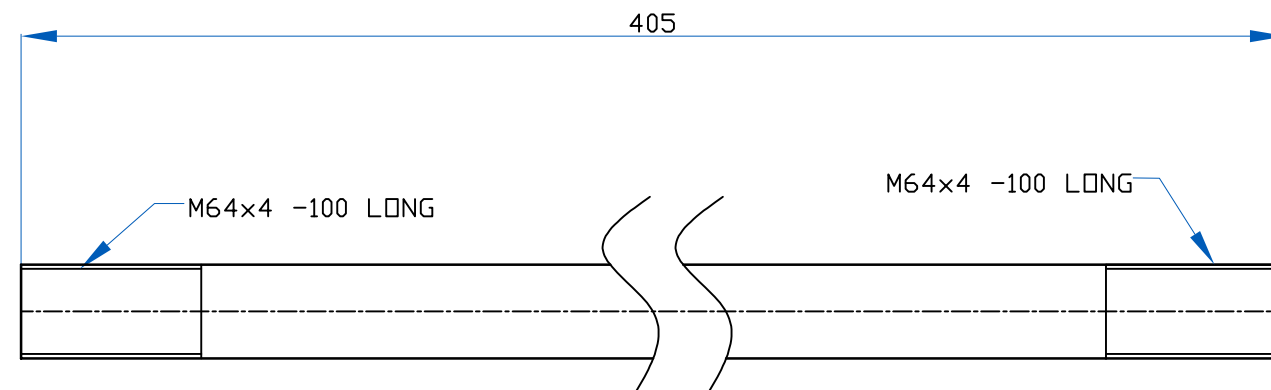
TIEROD ADAPTER



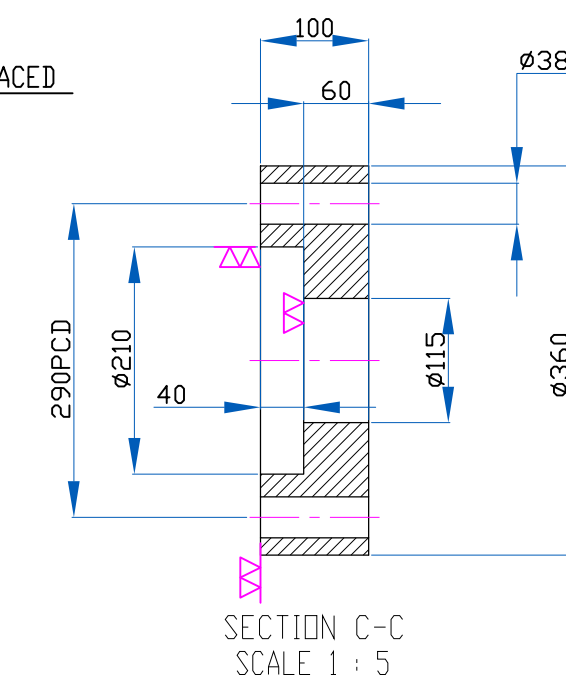
TIE ROD-1



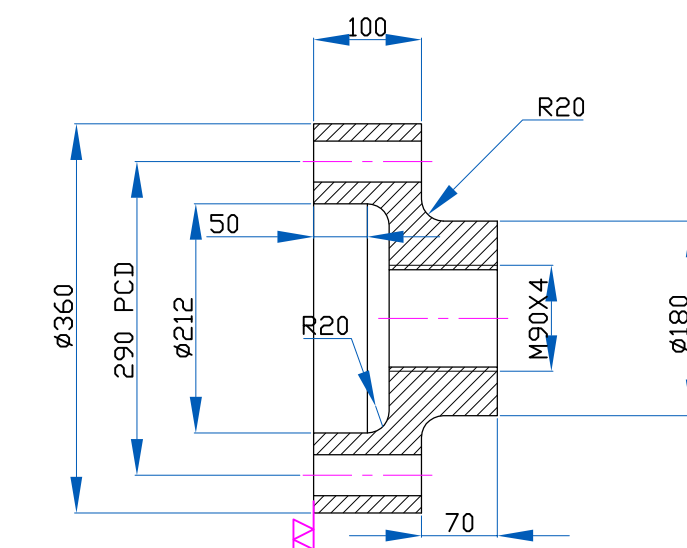
TIE ROD-2



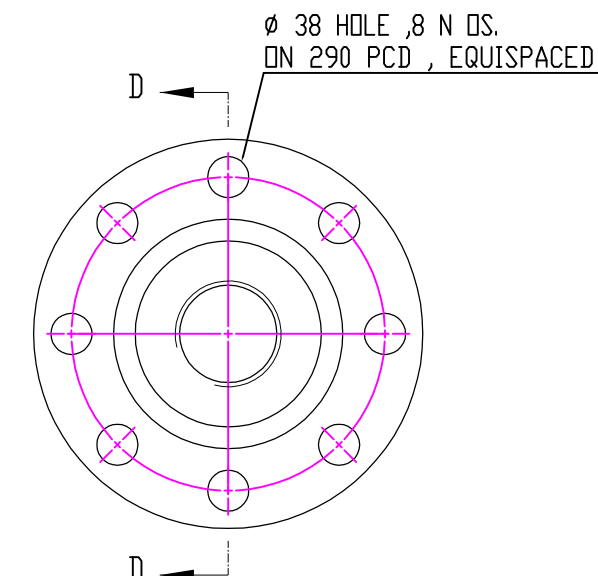
BEARING HOUSING



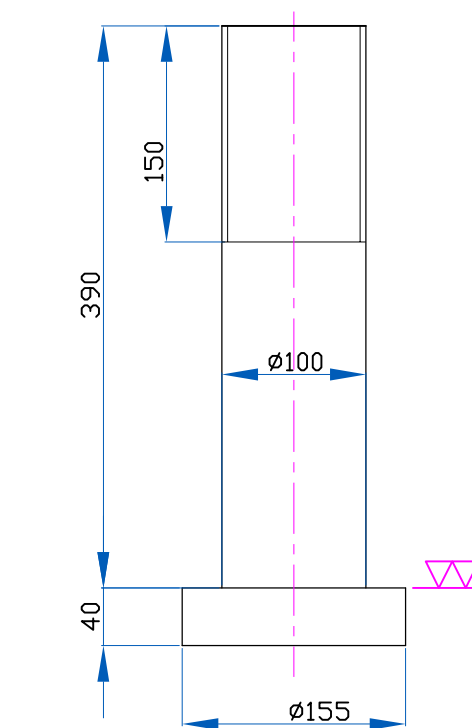
CALIBRATION ADAPTER



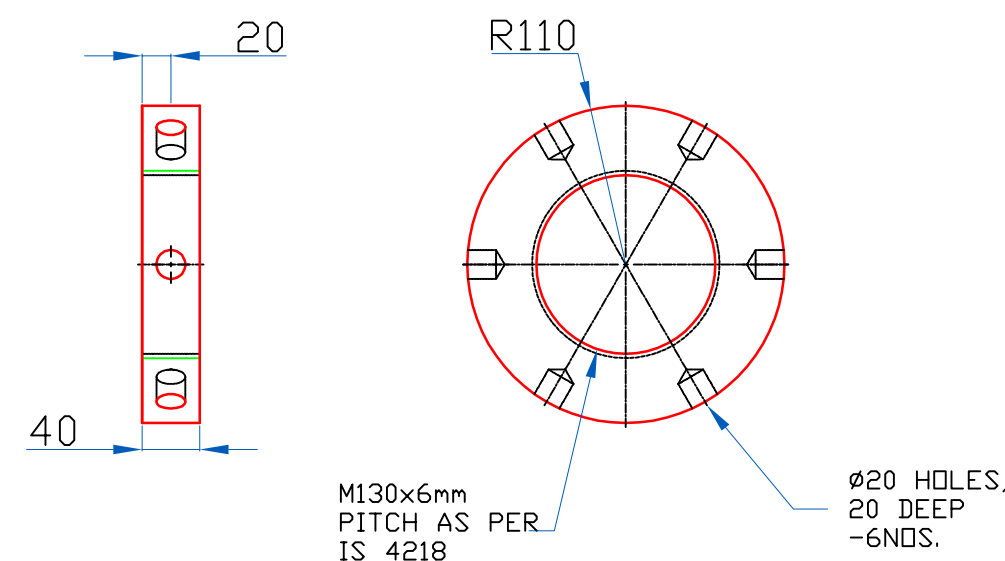
ADAPTER-2



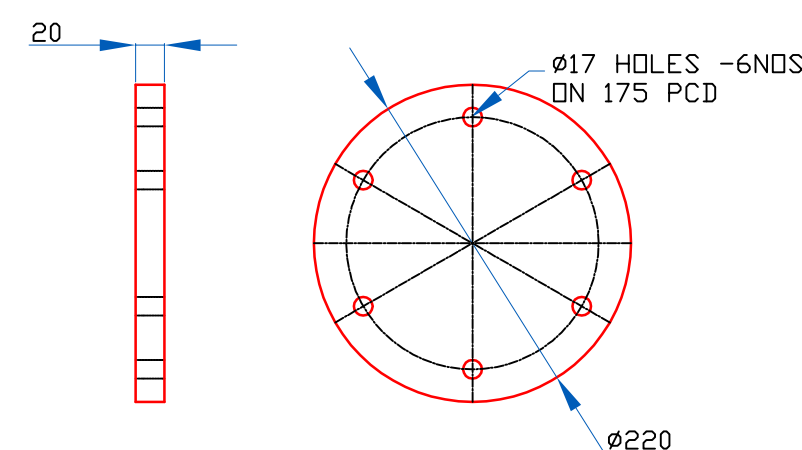
BEARING SHAFT



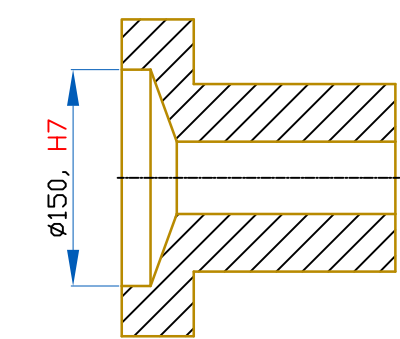
LOCK NUT



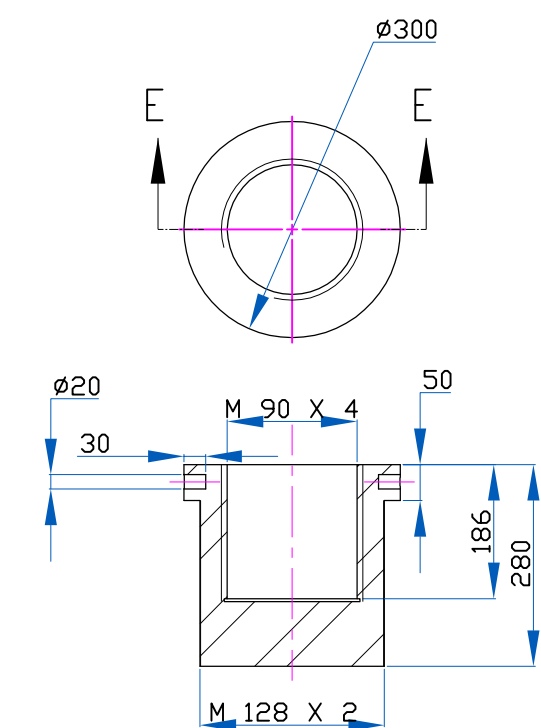
COVER PLATE



SECTION B-B

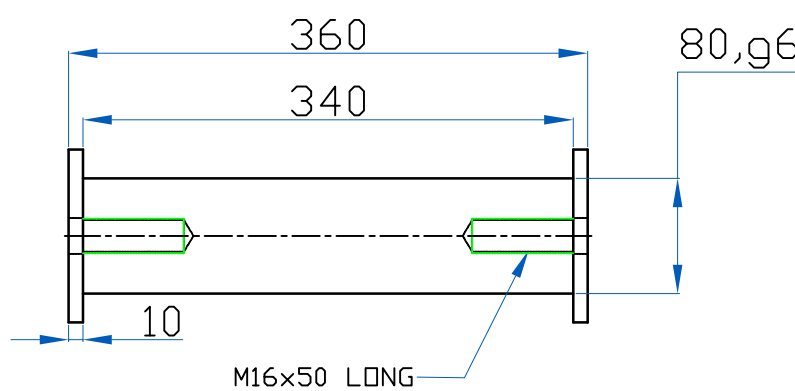


JACK ADAPTER



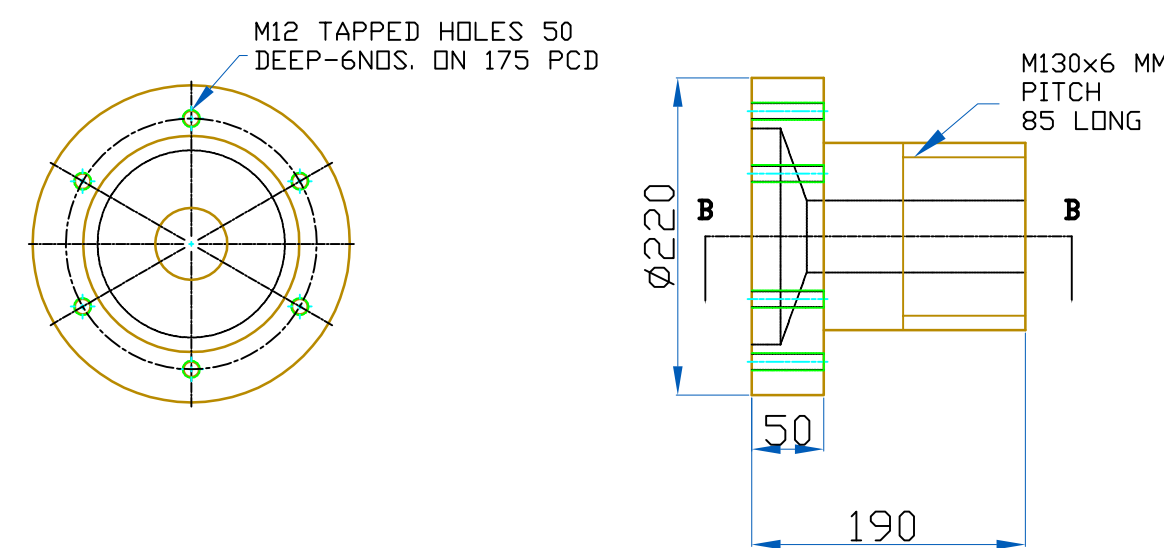
SECTION E-E
SCALE 1 : 5

JACK ADAPTER



PIN

SEATING ADAPTER



NOTE:
1. ALL WELDS ARE TO BE QUALIFIED WITH DP TESTING
2. ALL SHARP CORNERS ARE TO BE CHAFERED SUITABLY
3. ALL WELDS ARE 6 mm UNLESS OTHERWISE SPECIFIED
4. STRESS RELIEVING IS TO BE DONE FOR ALL THE PARTS WHEREVER HEAVY MACHINING /WELDING IS INVOLVED
5. CHECK FOR THE STATUS OF DRAWING BEFORE FABRICATION / MACHINING

STATUS	
DISCUSSION / REVIEW	
TENDER PURPOSE	ONLY FOR TENDER
FABRICATION	

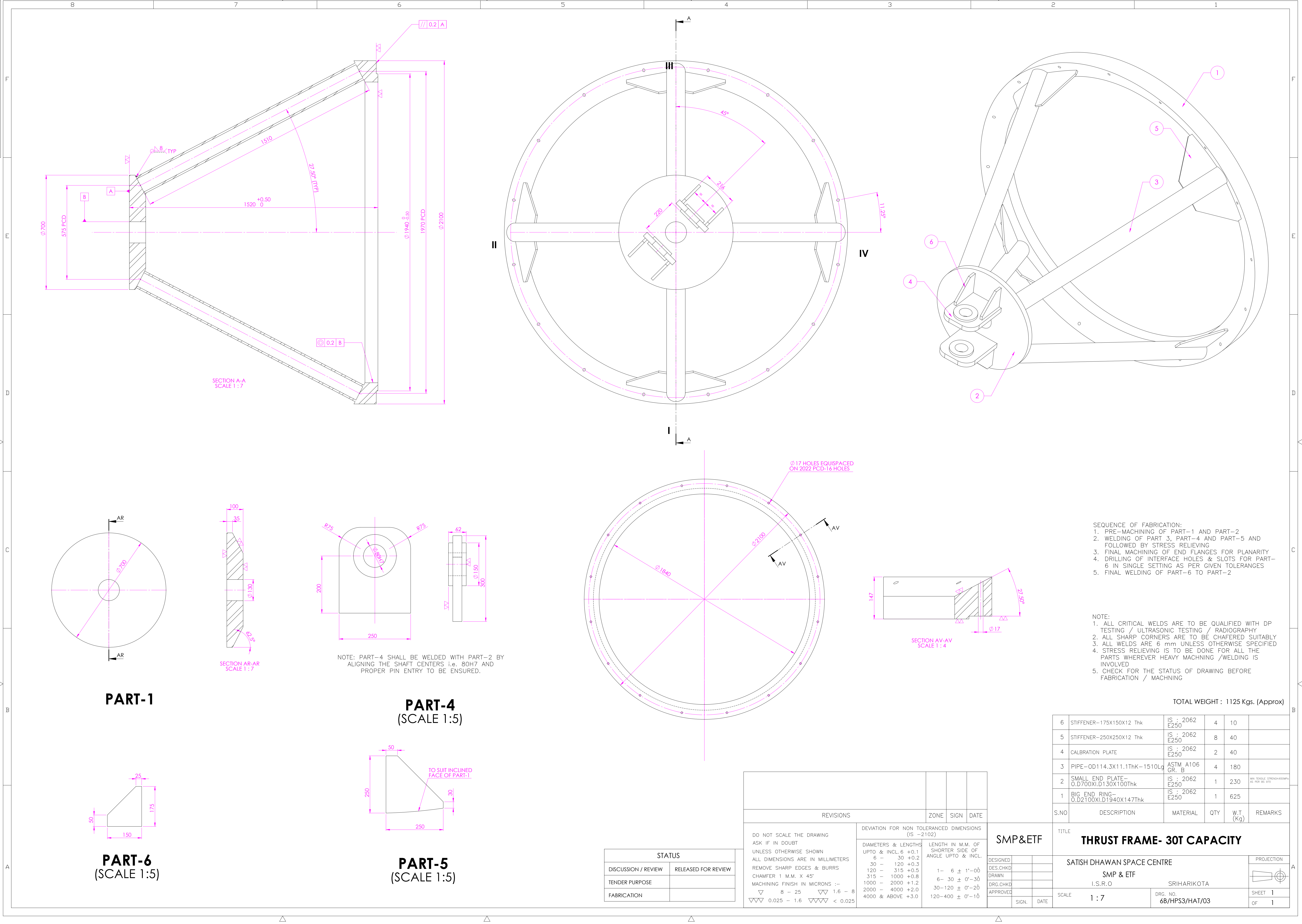
DO NOT SCALE THE DRAWING
ASK IF IN DOUBT
UNLESS OTHERWISE SHOWN
ALL DIMENSIONS ARE IN MILLIMETERS
REMOVE SHARP EDGES & BURRS
CHAMFER 1 M.M. X 45°
MACHINING FINISH IN MICRONS :-
▽ 8 - 25 ▽ 1.6 - 8
▽▽ 0.025 - 1.6 ▽▽▽ < 0.025

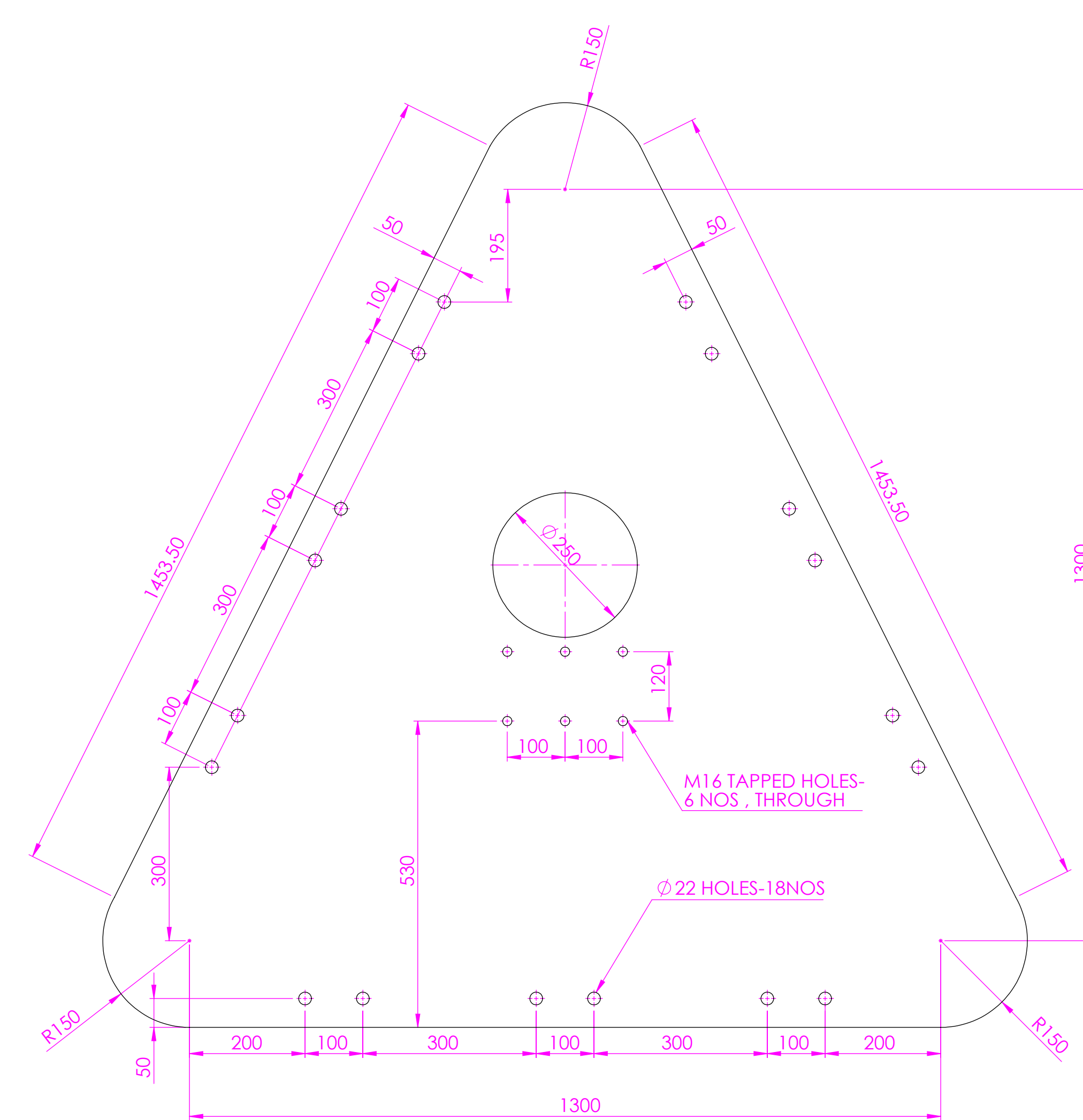
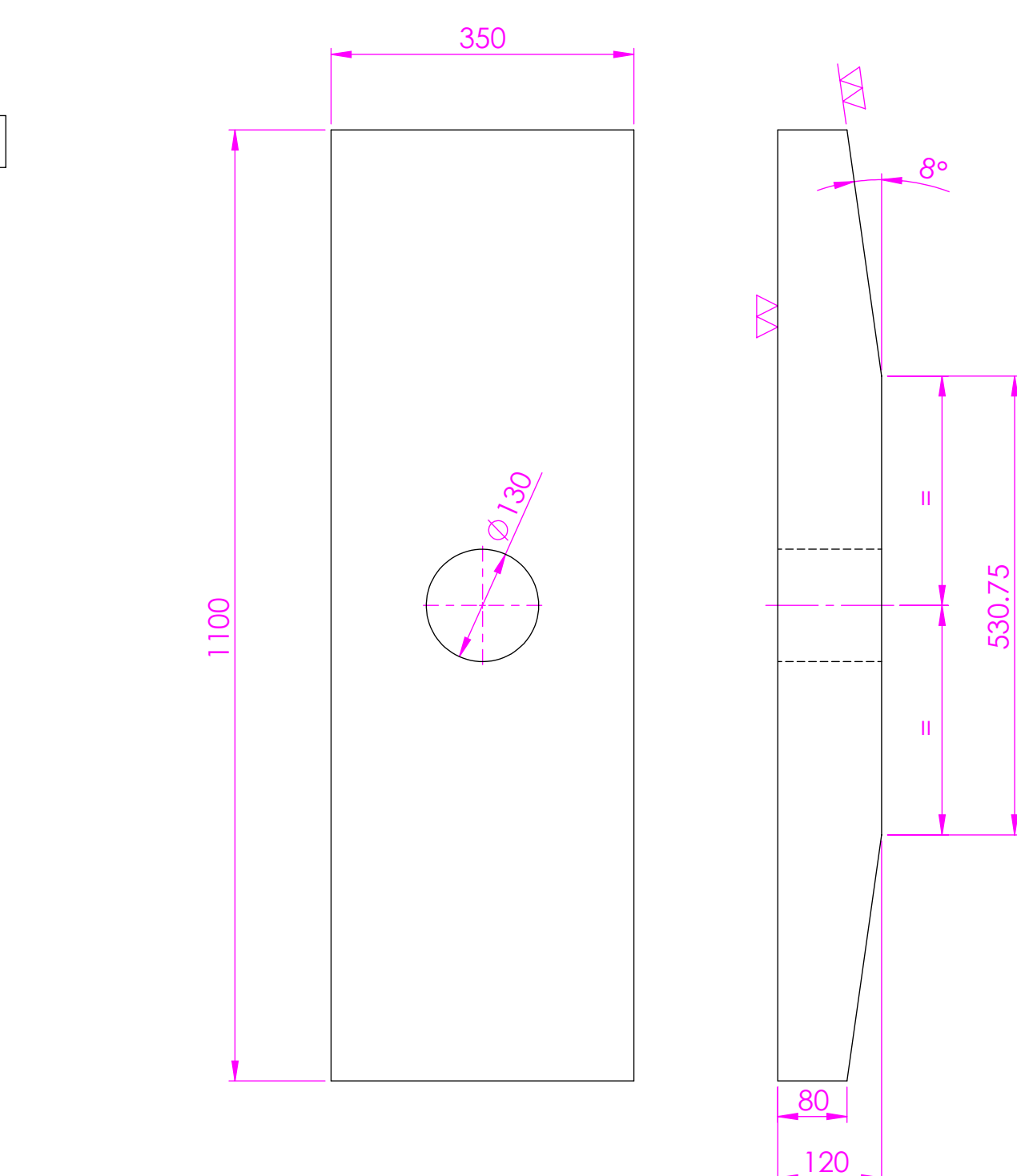
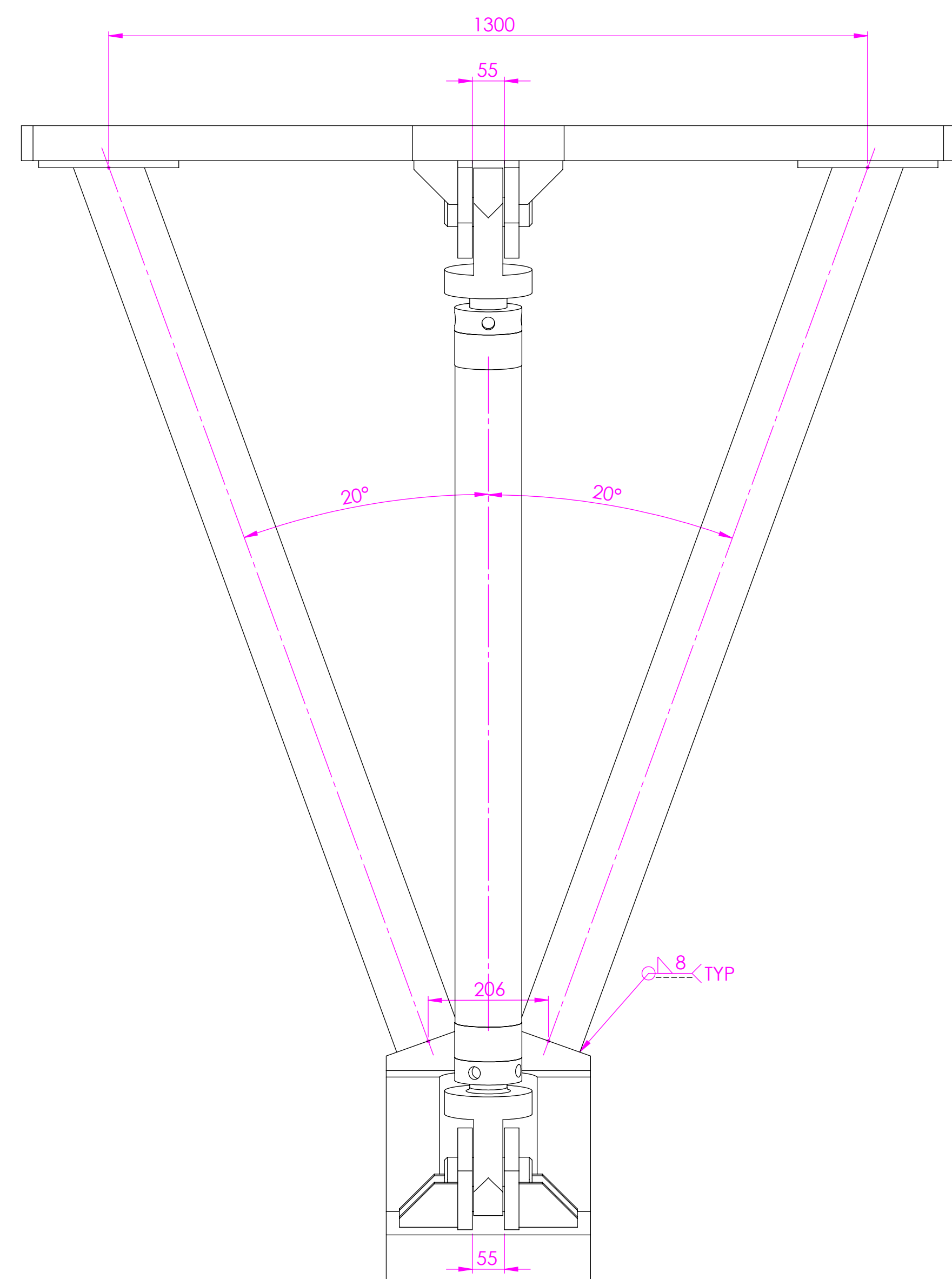
DEVIATION FOR NON TOLERANCED DIMENSIONS (IS -2102)	
DIAMETERS & LENGTHS UPTO & INCL. 6 +0.1 -0	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 +0.2 -0	1 - 6 ± 1'-00'
30 - 120 +0.3 -0	6 - 30 ± 0'-30'
120 - 315 +0.5 -0	30 - 120 ± 0'-20'
315 - 1000 +0.8 -0	120 - 400 ± 0'-10'
1000 - 2000 +1.2 -0	
2000 - 4000 +2.0 -0	
4000 & ABOVE +3.0 -0	

SMP&ETF	
DESIGNED	
DES.CKHD	
DRAWN	
DRG.CKHD	
APPROVED	
SIGN.	DATE

WEIGHT: 810 kg (APPROX)					
11	BEARING SHAFT	EN-24	1	30	CONDITION-T
10	PIN	EN-24	1	20	CONDITION-T
11	JACK ADAPTER	IS : 2062 Gr. B	1	10	
10	BEARING HOUSING	IS : 2062 Gr. B	2	120	
9	ADAPTER-2	IS : 2062 Gr. B	2	130	
8	CALIBRATION ADAPTER	IS : 2062 Gr. B	1	50	
7	ADAPTER-1	IS : 2062 Gr. B	2	35	
6	TIE ROD 1&2 (1 No. EACH)	IS : 2062 Gr. B	1	100	
5	TIE ROD ADAPTER	IS : 2062	1	50	DIMENSIONS AS PER IS:12778 WITH WEB THICKNESS OF 7MM OR MORE
4	FLEXURES	EN-24	8	110	CONDITION-T
3	LOCK NUT	ASTM A 106 Gr. B	4	40	
2	SEATING ADAPTER	IS : 2062 Gr. B	4	100	
1	COVER PLATE	IS : 2062 Gr. B	2	15	
S.NO	DESCRIPTION	MATERIAL	QTY	W.T (Kg)	REMARKS

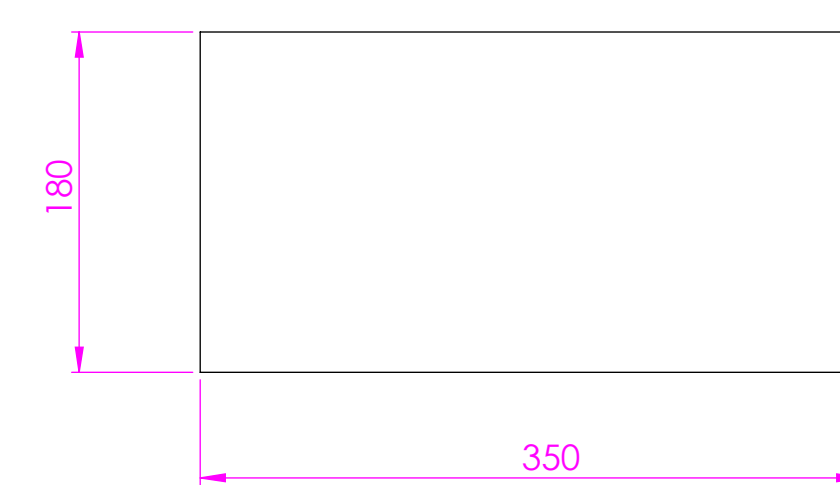
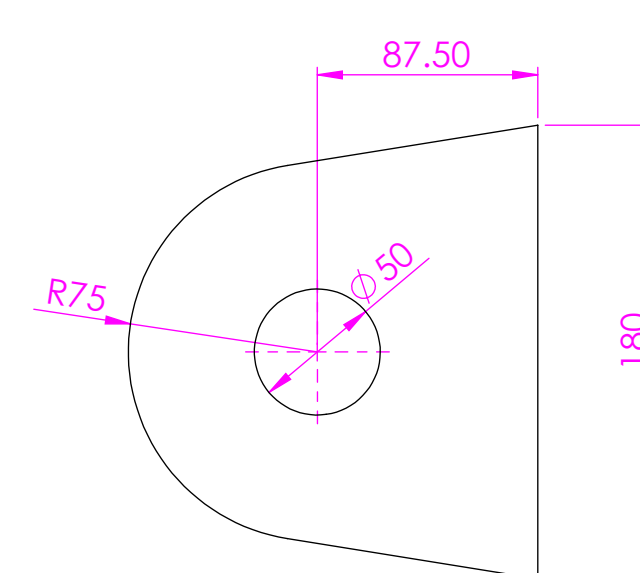
MEASUREMENT LINK & COMPONENTS					PROJECTION
SATISH DHAWAN SPACE CENTRE SRIHARIKOTA I.S.R.O					
SCALE		DRG. NO. 6B/HPS3/HAT/02		SHEET 1 OF 1	





A right trapezoid is shown with a horizontal top base of length 75 and a horizontal bottom base of length 15. The left vertical side is the height, labeled 75. The right vertical side is labeled 15. A diagonal line connects the bottom-left corner to the top-right corner.

PART-11
(SCALE 2:3)

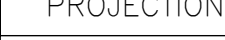


NOTE:

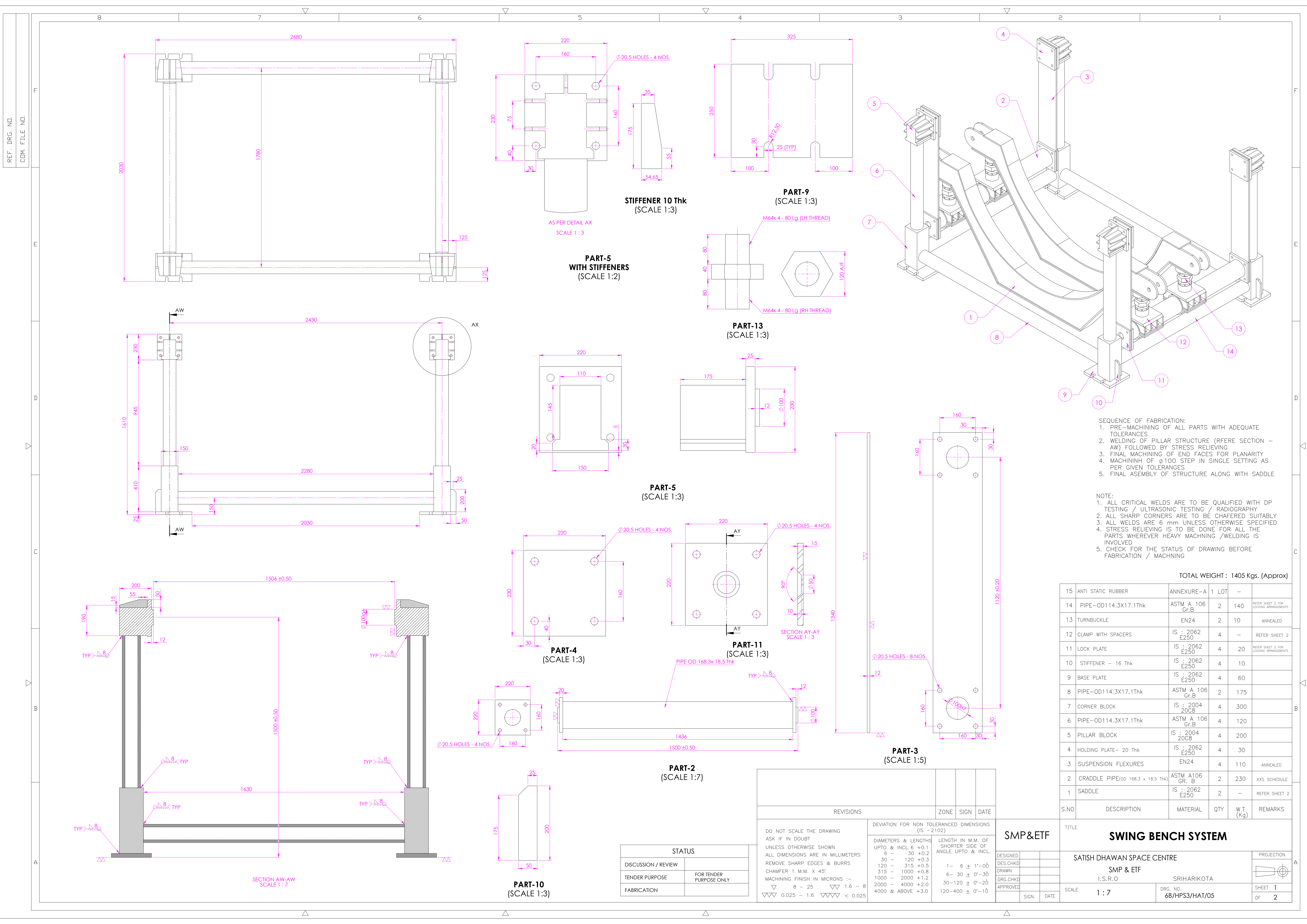
1. ALL CRITICAL WELDS ARE TO BE QUALIFIED WITH DP TESTING / ULTRASONIC TESTING / RADIOGRAPHY
2. ALL SHARP CORNERS ARE TO BE CHAMFERED SUITABLY
3. ALL WELDS ARE 6 mm UNLESS OTHERWISE SPECIFIED
4. STRESS RELIEVING IS TO BE DONE FOR ALL THE PARTS WHEREVER HEAVY MACHINING /WELDING IS INVOLVED
5. CHECK FOR THE STATUS OF DRAWING BEFORE FABRICATION / MACHINING

15	STIFFENER-20 Thk	IS : 2062 E250	4	15	
14	PLATE-25 Thk	IS : 2062 E250	2	10	
13	LOCK NUT	IS : 2062 E250	2	10	
12	REMOVABLE PIPE	IS : 2062 E250	1	55	
11	STIFFENER-20 Thk	IS : 2062 E250	4	10	ANNEALED
10	PIN- ϕ 50 x 150 Lg	EN-24	2	5	
9	EYE WITH THREAD	IS : 2004 20C8	2	35	
8	PLATE-25 Thk	IS : 2062 E250	2	10	
7	BIG END PLATE-60 Thk	IS : 2062 E250	1	700	
6	BACK-UP PLATE - ϕ 240x12 Thk	IS : 2062 E250	2	10	
5	PIPE-OD114.3X17.1Thk--~1650Lg	IS : 2062 E250	2	150	
4	STIFFENER- 250x90x20Thk	IS : 2062 E250	2	8	
3	SUPPORT BLOCK	IS : 2004 20C8	1	27	
2	PIPE-OD168.3X21.95ThK--250Lg	ASTM A106 GR. B	1	20	XXS SCHEDULE
1	SMALL END BLOCK	IS : 2004 20C8	1	320	
S.NO	DESCRIPTION	MATERIAL	QTY	W.T (Kgs)	REMARKS

REVISIONS		ZONE	SIGN	DATE
DO NOT SCALE THE DRAWING ASK IF IN DOUBT UNLESS OTHERWISE SHOWN ALL DIMENSIONS ARE IN MILLIMETERS REMOVE SHARP EDGES & BURRS CHAMFER 1 M.M. X 45° MACHINING FINISH IN MICRONS :- ▽ 8 - 25 ▽ 1.6 - 8 ▽▽ 0.025 - 1.6 ▽▽▽ 0.025		DEVIATION FOR NON TOLERANCED DIMENSIONS (IS - 2102)		
		DIAMETERS & LENGTHS		
		UPTO & INCL. 6 +0.1		
		6 - 30 +0.2		
		30 - 120 +0.3		
		LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.		
		120 - 315 +0.5		
		315 - 1000 +0.8		
		1000 - 2000 +1.2		
		2000 - 4000 +2.0		
		4000 & ABOVE +3.0		
		1 - 6 ± 1°-00		
		6 - 30 ± 0°-30		
		30-120 ± 0°-20		
		120-400 ± 0°-10		

TITLE		WALL FRAME- 30T CAPACITY			
SATISH DHAWAN SPACE CENTRE				PROJECTION	
SMP & ETF					
I.S.R.O		SRIHARIKOTA			
SCALE	1 : 7	DRG. NO.	6R/HPS3/HAT/04	SHEET	1
				OF	1

SHEET	1
OF	1



- SEQUENCE OF FABRICATION:
1. PRE-MACHINING OF ALL PARTS WITH ADEQUATE TOLERANCES
 2. WELDING OF PILLAR STRUCTURE (REFER SECTION - AW) FOLLOWED BY STRESS RELIEVING
 3. FINAL MACHINING OF END FACES FOR PLANARITY
 4. MACHINING OF $\phi 100$ STEP IN SINGLE SETTING AS PER GIVEN TOLERANCES
 5. FINAL ASSEMBLY OF STRUCTURE ALONG WITH SADDLE

- NOTE:
1. ALL CRITICAL WELDS ARE TO BE QUALIFIED WITH DP TESTING / ULTRASONIC TESTING / RADIOGRAPHY
 2. ALL SHARP CORNERS ARE TO BE CHAFERED SUITABLY
 3. ALL WELDS ARE 6 mm UNLESS OTHERWISE SPECIFIED
 4. STRESS RELIEVING IS TO BE DONE FOR ALL THE PARTS WHEREVER HEAVY MACHINING / WELDING IS INVOLVED
 5. CHECK FOR THE STATUS OF DRAWING BEFORE FABRICATION / MACHINING

TOTAL WEIGHT : 1405 Kgs. (Approx)

15	ANTI STATIC RUBBER	ANNEXURE-A	1	LOT	-		
14	PIPE-OD114.3X17.1Thk	ASTM A 106 Gr.B	2	140		REFER SHEET 2 FOR LOCKING ARRANGEMENTS	
13	TURNBUCKLE	EN24	2	10		ANNEALED	
12	CLAMP WITH SPACERS	IS : 2062 E250	4	-		REFER SHEET 2	
11	LOCK PLATE	IS : 2062 E250	4	20		REFER SHEET 2 FOR LOCKING ARRANGEMENTS	
10	STIFFENER - 16 Thk	IS : 2062 E250	4	10			
9	BASE PLATE	IS : 2062 E250	4	60			
8	PIPE-OD114.3X17.1Thk	ASTM A 106 Gr.B	2	175			
7	CORNER BLOCK	IS : 2004 2008	4	300			
6	PIPE-OD114.3X17.1Thk	ASTM A 106 Gr.B	4	120			
5	PILLAR BLOCK	IS : 2004 2008	4	200			
4	HOLDING PLATE- 20 Thk	IS : 2062 E250	4	30			
3	SUSPENSION FLEXURES	EN24	4	110		ANNEALED	
2	CRADLE PIPE(OD 168.3 x 18.5 Thk)	ASTM A106 GR. B	2	230		XXS SCHEDULE	
1	SADDLE	IS : 2062 E250	2	-		REFER SHEET 2	
S.NO	DESCRIPTION	MATERIAL	QTY	W.T (Kg)	REMARKS		

SWING BENCH SYSTEM

SATISH DHAWAN SPACE CENTRE

SMP & ETF

I.S.R.O

SRIHARIKOTA

SCALE

1 : 7

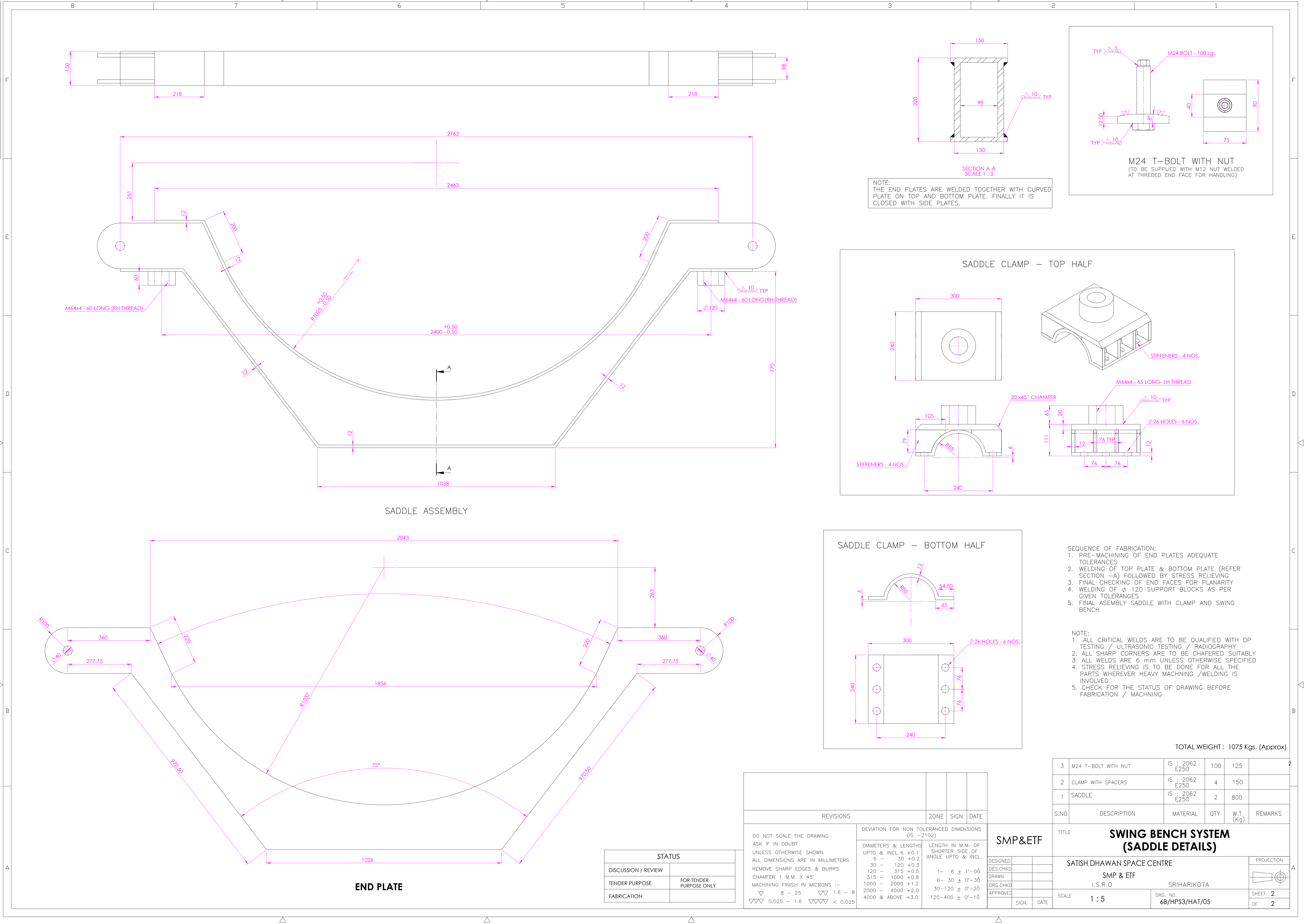
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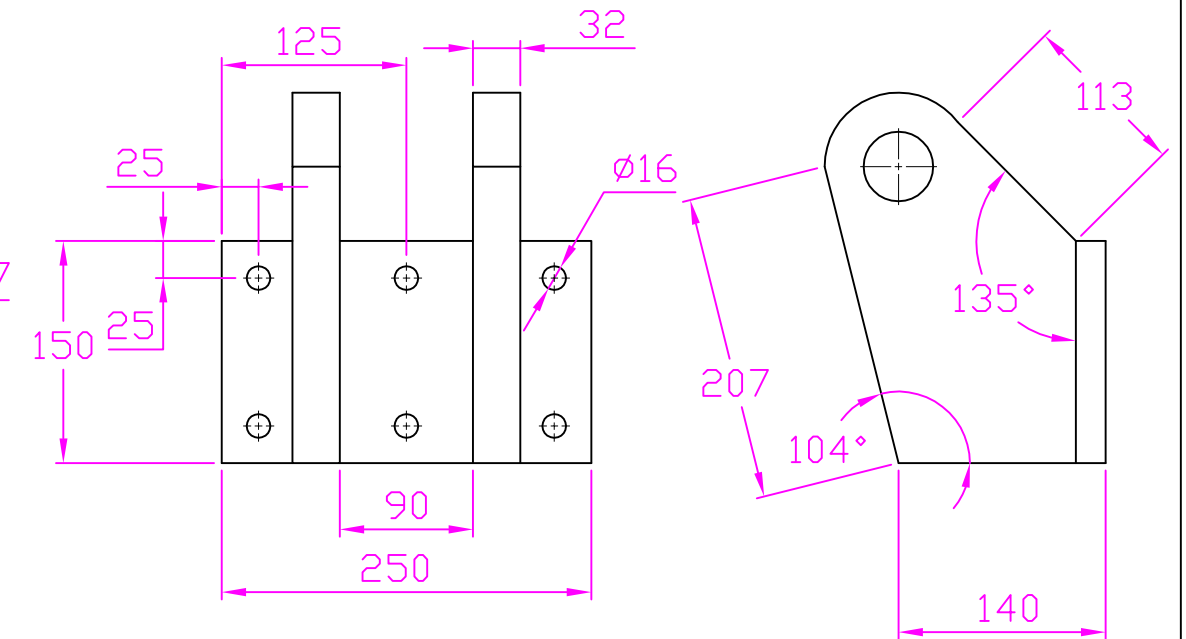
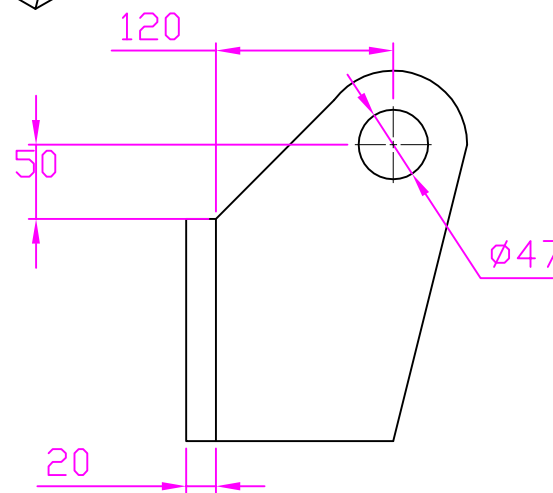
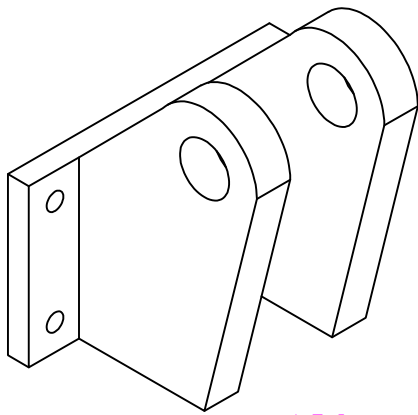
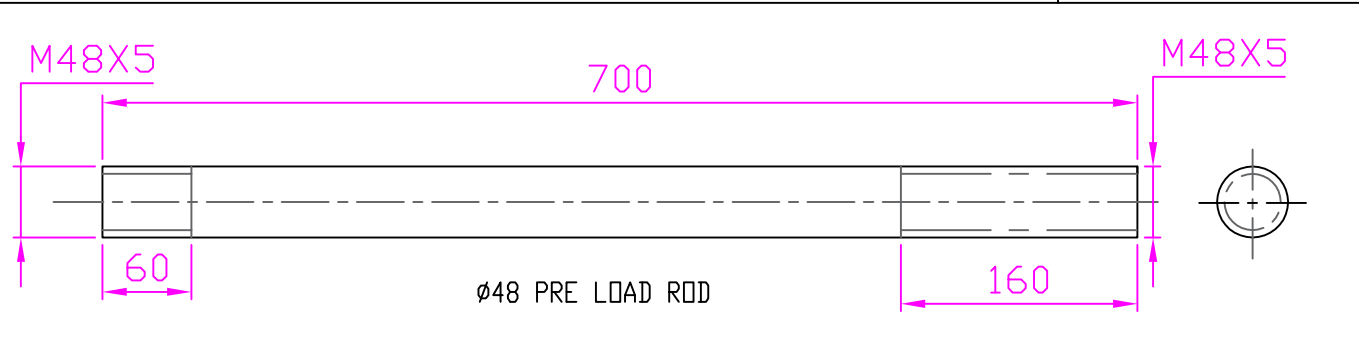
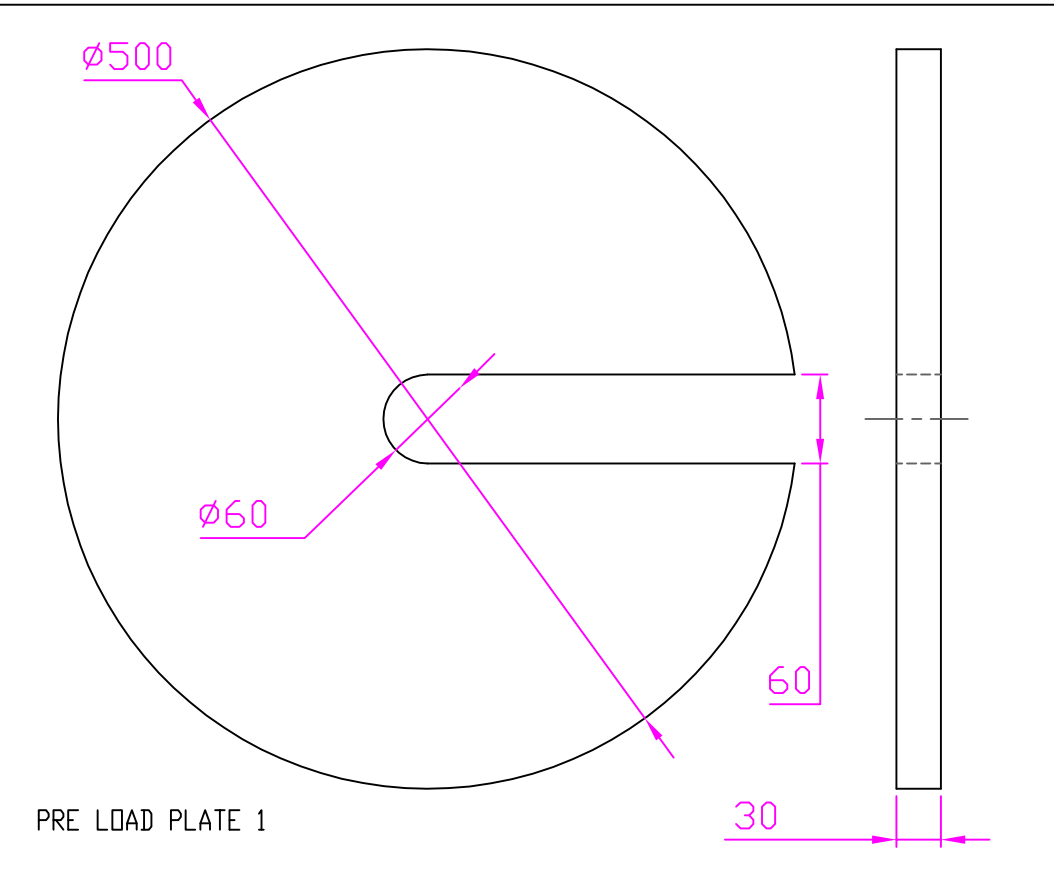
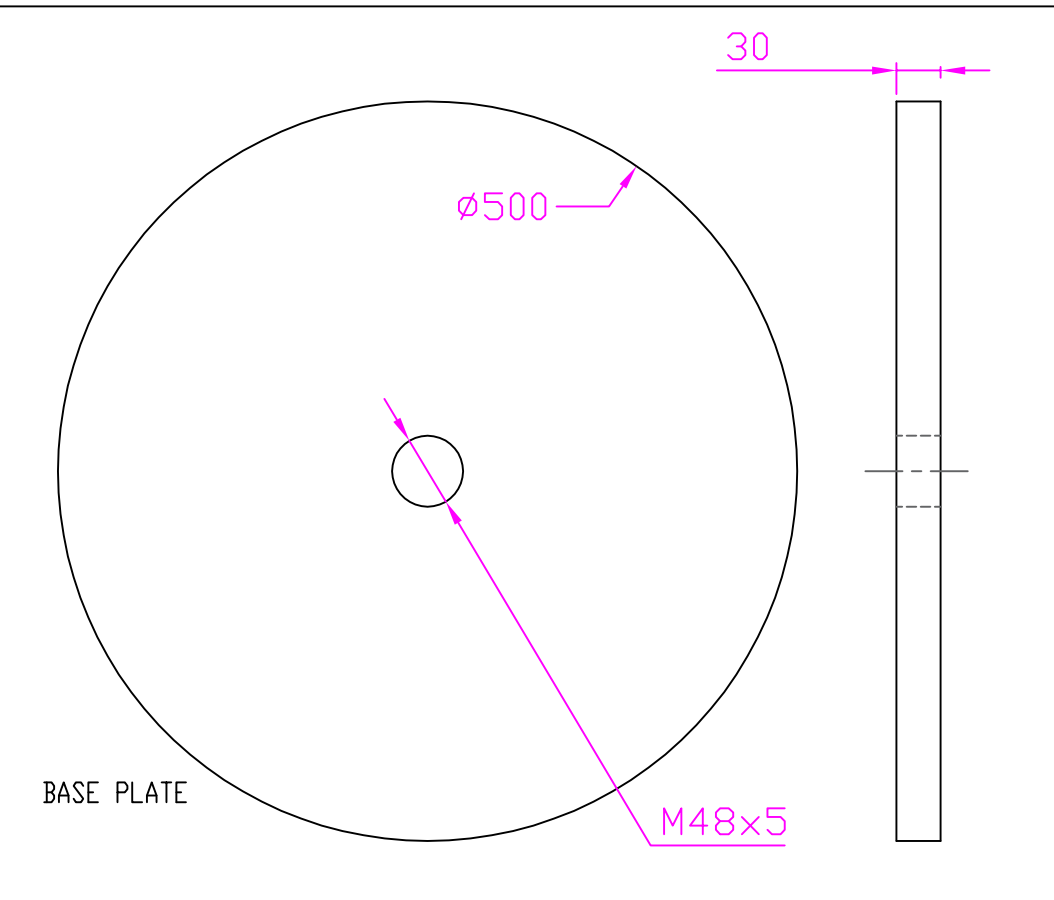
68/HPS3/HAT/05

PROJECTION

SHEET 1

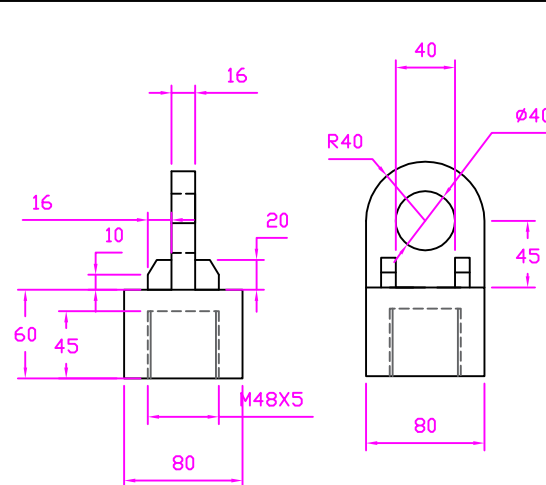
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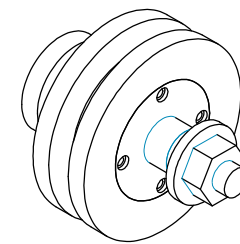


- Note:
1. All Dimensions are in mm
 2. Remove all chamfers and burrs by 3x45 deg. chamfering
 3. All welds are of 6mm size unless otherwise specified
 4. One ton wire rope has to be supplied along with pulley bracket

PULLEY BRACKET



PRE LOAD HOOK



PULLEY ASSEMBLY

NOTE:
PULLEY ASSEMBLY IS TO BE SUPPLIED WITH SUITABLE SHAT AND BALL BEARING SUITING TO 1 TON LOAD & INTERFACING WITH PULLEY BRACKET

STATUS

DISCUSSION / REVIEW	
TENDER PURPOSE	ONLY FOR TENDER
FABRICATION	

WIEGHT OF THE FINISHED PRODUCT: 965 kg (Approx)

6	PULLEY ASSEMBLY (1 TON CAPACITY)	IS 2062 Gr-A	1	15	
5	PULLEY BRACKET	IS 2062 Gr-A	1	25	
4	PRE LOAD HOOK	IS 2062 Gr-A	2	5	
3	PRE LOAD PLATE 1	IS 2062 E250	20	860	
2	48 PRE LOAD ROD	IS 2062 E250	1	15	
1	BASE PLATE	IS 2062 E250	1	45	
PART No.	DESCRIPTION	MATERIAL	QTY	WT(kg)	REMARKS

DO NOT SCALE THE DRAWING
ASK IF IN DOUBT
ALL DIMENSIONS ARE IN MILLIMETERS
REMOVE SHARP EDGES & BURRS
CHAMFER 1 MM X 45 °
MACHINING FINISH IN MICRONS

▽ 8 -25
1.6 -8
0.025 -1.6
< 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS-2012)

DIAMETER & LENGTHS UPTO & INCL 6 ± 0.1	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL
6 - 30 ± 0.2	1 - ± 0° - 00'
30 - 120 ± 0.3	6 - 30 0° - 30'
120 - 315 ± 0.5	30 - 120 0° - 20'
315 - 1000 ± 0.8	120 - 400 ± 0° - 10'
1000 - 2000 ± 1.2	
2000 - 4000 ± 2.0	
4000 & ABOVE ± 3.0	

1 - ± 0° - 00'	LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL
6 - 30 0° - 30'	
30 - 120 0° - 20'	
120 - 400 ± 0° - 10'	

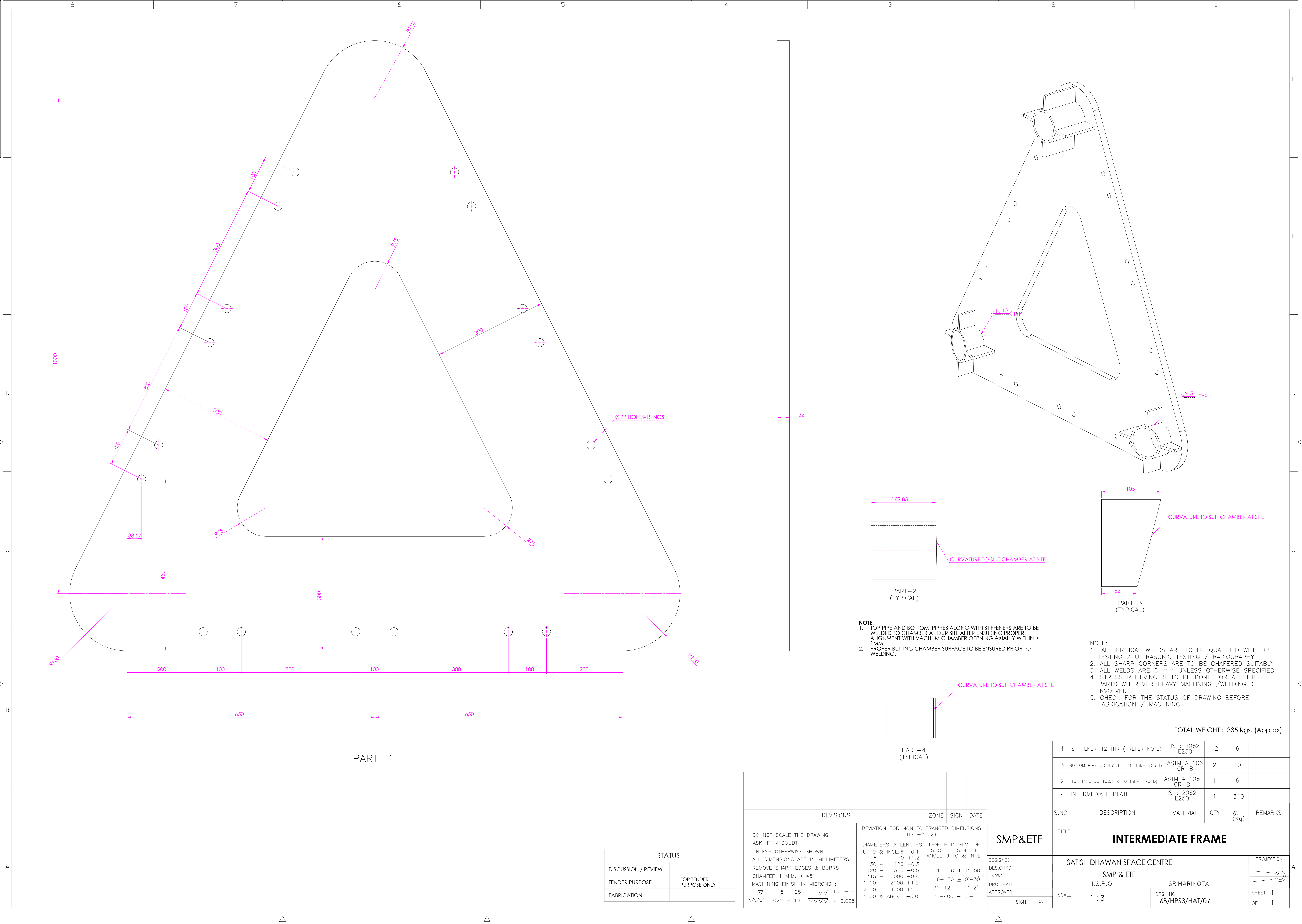
DEBURR AND BREAK SHARP EDGES

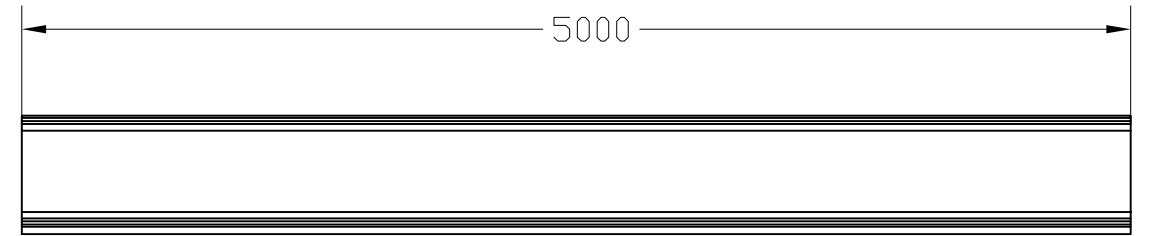
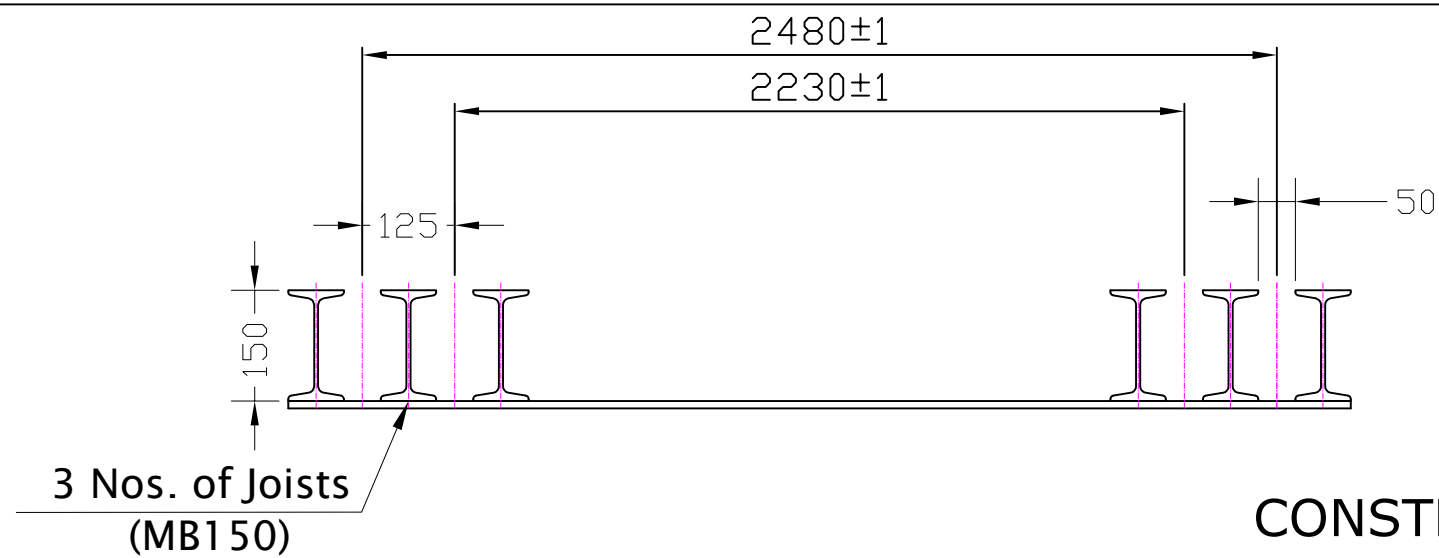
DESIGNED	NAME	SIGNATURE	DATE
DES. CHKD.			
DRAWN			
DRG. CHKD.			
APPROVED			

TITLE: PRELOAD ASSEMBLY

INDIAN SPACE RESEARCH ORGANISATION
SDSC-SHAR :: SRIHARIKOTA

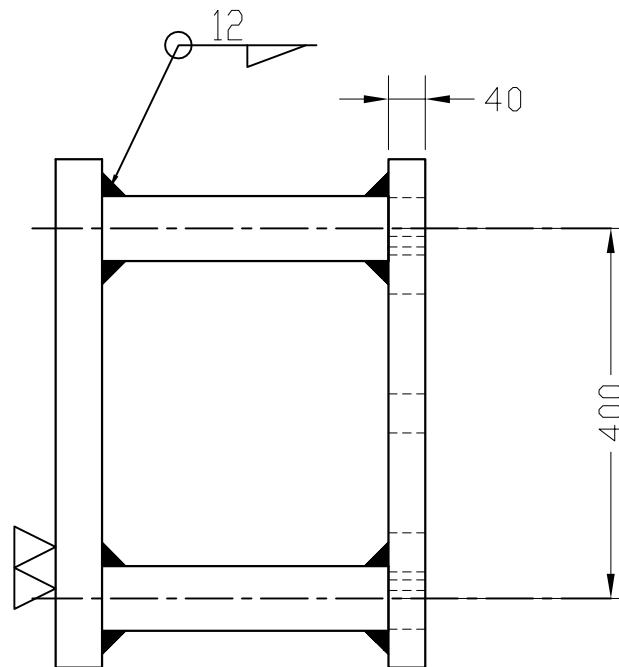
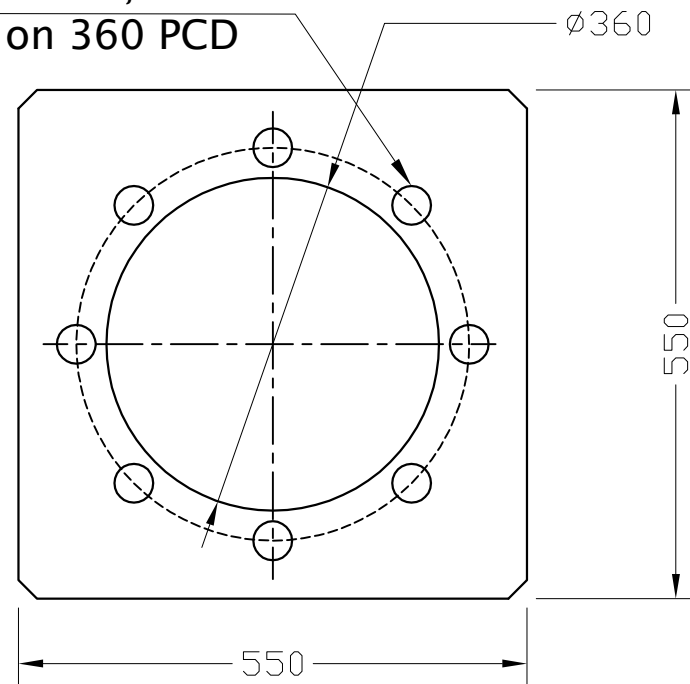
DWG NO.	6B/HPS3/HAT/06	A3
SCALE- NTS		SHEET 1 OF 1





CONSTRUCTION OF JOISTS

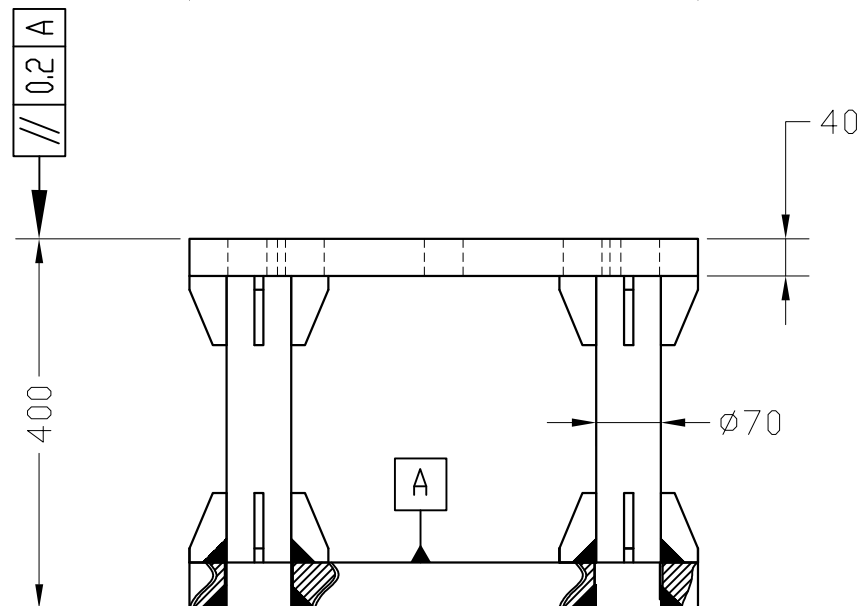
Ø40 Through Holes, 8 Nos.
equispaced on 360 PCD



PROCEDURE:

1. REMOVE EXISTING JOISTS AND SOLE PLATES.
2. GRINDING AND LEVELING OF SURFACE WITHIN 1 MM BENEATH JOISTS.
3. PREPARATION OF JOISTS & SOLE PLATE MATCHING CHAMBER CURVATURE.
4. CONTINUOUS WELDING OF JOISTS & SOLE PLATE WITH 6MM THK WELD.
5. INTERCONNECTING OF JOISTS FOR EVERY 1M USING 25 NB PIPE
6. ENSURING POCKETS FOR CLEANING WATER INSIDE JOISTS & INSERTION OF T-BOLTS.

WIEGT OF THE FINISHED
PRODUCT: 880 kg (Approx)



CALIBRATION FRAME

STATUS	
DISCUSSION / REVIEW	
TENDER PURPOSE	ONLY FOR TENDER
FABRICATION	

DO NOT SCALE THE DRAWING
ASK IF IN DOUBT
ALL DIMENSIONS ARE IN MILLIMETERS
REMOVE SHARP EDGES & BURRS
CHAMFER 1 MM X 45°
MACHINING FINISH IN MICRONS

8 - 25
1.6 - 8
0.025 - 1.6
< 0.025

4	JOISTS	IS 2062 E250	1 set	700	MB 150 - 30 M 12 THK PLATE -350m x10m
3	TOP PLATE	IS 2062 E250	1	40	
2	Ø70 ROD	IS 2062 E250	4	40	
1	BASE PLATE	IS 2062 E250	1	100	
PART No.	DESCRIPTION	MATERIAL	QTY	WT(kg)	REMARKS
DEVIATION FOR NON TOLERANCED DIMENSIONS (IS-2012)		SMP&ETF		TITLE: CALIBRATION FRAME & JOISTS	
DIAMETER & LENGTHS UPTO & INCL 6 ± 0.1 6 - 30 ± 0.2 30 - 120 ± 0.3 120 - 315 ± 0.5 315 - 1000 ± 0.8 1000 - 2000 ± 1.2 2000 - 4000 ± 2.0 4000 & ABOVE ± 3.0		LENGTH IN MM OF SHORTER SIDE OF ANGLE UPTO & INCL 1 - 61° - 00' 6 - 30° - 30' 30 - 120° - 20' 120 - 400° - 10'		INDIAN SPACE RESEARCH ORGANISATION SDSC-SHAR :: SRIHARIKOTA	
DESIGNED		NAME	SIGNATURE	DATE	DWG NO. 6B/HPS3/HAT/09 SCALE- NTS
DES. CHKD.					
DRAWN					
DRG. CHKD.					
APPROVED					SHEET 1 OF 1